

Environmental Assessment and Review Framework

Project Number: 55201-001
April 2022

Bangladesh: Coastal Towns Climate Resilience Sector Project – Project Proposed Loans and Grant

Prepared by Local Government Engineering Department, Government of Bangladesh, for the Asian Development Bank.

CURRENCY EQUIVALENTS

(as of 23 Mar 2022)

Currency unit	–	Bangladesh Taka (BDT)
BDT1.00	=	\$0.0116
\$1.00	=	BDT85.963

ABBREVIATIONS

ADB	–	Asian Development Bank
AP	–	affected person
DOE	–	Department of Environment
EARF	–	environmental assessment and review framework
ECA	–	Environmental Conservation Act
ECC	–	environmental clearance certificate
ECR	–	Environmental Conservation Rules
EIA	–	environmental impact assessment
EMP	–	environmental management plan
ETP	–	effluent treatment plant
GRC	–	grievance redress committee
GRM	–	grievance redress Mechanism
IEE	–	initial environmental examination
LCC	–	location clearance certificate
LGED	–	Local Government Engineering Department
O&M	–	operations and maintenance
PMU	–	project management unit
PPTA	–	project preparatory technical assistance
REA	–	rapid environmental assessment
RP	–	resettlement plan
SPS	–	safeguard policy statement
ToR	–	terms of reference

NOTE

In this report, "\$" refers to United States dollars.

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I. INTRODUCTION

A. Background

1. The ADB supported Coastal Towns Infrastructure Environmental Infrastructure Project (CTEIP) in 10 coastal towns effectively commenced in September 2014 which will be completed in June 2022. As a continuity of the project ADB extended his support to Coastal Towns Climate Resilience Sector Project (CTCRSP) which will strengthen climate resilience and disaster preparedness in 22 (twenty-two) vulnerable coastal *pourashavas* (secondary towns) of Bangladesh. The towns were selected based on their vulnerability, population size, density, and level of past investments. The project takes a holistic and integrated approach to urban development and will (i) provide climate-resilient municipal infrastructure, and (ii) strengthen institutional capacity, local governance, and knowledge-based public awareness, for improved urban planning and service delivery considering climate change and disaster risks. Key infrastructure investments include (i) drainage, (ii) water supply, (iii) sanitation, (iv) cyclone shelters, and (v) other municipal infrastructure including emergency access roads and bridges, solid waste management, bus terminals, slum improvements, boat landings, and markets. Investments will benefit the poor and women. The Ministry of Local Government, Rural Development and Cooperatives (MLGRDC) acting through its Local Government Engineering Department (LGED) will be the Executing Agency. *Pourashavas* are the implementing agencies of the project.

2. Coastal towns are particularly at risk from the impacts of climate change due to high levels of poverty and limited capacity of *pourashavas* (urban local governments) to invest in resilience. The *pourashavas* lack resilient infrastructure, clubbed with haphazard urbanization, lack of stormwater drains, poor solid waste management system further worsens the condition of these towns. Most of the coastal towns are situated on the riverbanks of low-lying tidal zones at an average elevation of 1.0–1.5 meters (m) from the sea level¹ and coastal flooding is a key hazard faced by these towns. Inadequate basic municipal infrastructure to respond to increasing climate risk threatens both quality of life and the economic growth of coastal towns. This calls for an integrated approach for coastal town development that promotes risk-informed planning and investment for building resilience.

B. Coastal Towns Climate Resilience Sector Project

3. The project will be aligned with the following impacts: higher and sustainable growth trajectories achieved in the face of the various weather-related natural hazards and risks, and improved livability of coastal towns.² The outcome of the project will be climate and disaster resilience of coastal towns strengthened including benefiting the poor and women. The project directly supports to achieve project outcomes through three outputs.

4. **Output 1: Municipal infrastructure for resilience improved.** Municipal infrastructure will include (i) 25 elderly, women, children, and persons with disability friendly cyclone shelters with early warning system; (ii) 247.7 kms roads with drainage, bridges, and culverts rehabilitated or constructed for improved connectivity and access to emergency services in the event of disasters caused by natural hazards including access to cyclone shelter; (iii) climate-resilient

¹ Sowmen Rahman and Mohammed Ataur Rahman. Climate Extremes and Challenges to Infrastructure Development in Coastal Cities in Bangladesh. Volume 7, March 2015, Pages 96–108

² Government of Bangladesh, General Economics Division, Bangladesh Planning Commission Ministry of Planning. 2020. Making Vision 2041 a Reality – Perspective Plan of Bangladesh, 2021–2041. Dhaka.

infrastructure including 201.0 stormwater drainages, at least 3 nature-based solutions, water bodies restoration, and 4 integrated waste management (IWM) developed rehabilitated or constructed for improved urban flood risk management including; (iv) gender-responsive and socially inclusive urban public spaces improved; (vi) slum improvement program implemented; and (vi) EWCD-friendly sanitation facilities constructed for poor households. Output 1 will also support development of EWCD-friendly socio-economic infrastructures including (i) local markets; (ii) bus terminals; and (iii) other priority roads, bridges, culverts, and boat landing stations.

5. **Output 2: Resilient livelihood enhanced.** Output 2 includes: (i) climate vulnerable households covered in the graduation program in six project towns; (ii) women, including person with disabilities, reported increased skills for resilient livelihood; and (iii) inventory of productive assets of vulnerable households documented and insured. The Graduation Approach and Program will be adopted to ensure livelihood resilience.³

6. **Output 3: Institutional capacity, governance, and climate-awareness strengthened.** Output 3 includes: (i) risk-informed urban development plans and poverty reduction action plans of project towns submitted to *pourashavas* council; (ii) staff of LGED and *pourashavas* including 90% eligible women staff reported increased knowledge on climate and disaster risk assessment to inform the urban development plans and to enforce development control regulations linked with natural hazards; (iii) knowledge and capacity of LGED and *pourashavas*' staff including 90% of women staff on nature-based solutions and green solution application developed;⁴ (iv) disaster management committee on disaster preparedness measures, cyclone shelter management committees, and standing committees on women and children affairs, poverty reduction and slum improvement in project *pourashavas* operationalized for improving municipal governance and sustainable service deliver;⁵ (v) revenues enhancement plan adopted by each project *pourashava* to improve municipal finance systems; (vi) computerized tax records and billing systems made functional; (vii) annual gender responsive operation and maintenance (O&M) plans approved and at least 75% of the required annual budget is allocated and spent; and (viii) gender responsive urban space guidelines developed. Output 3 supports to enhance public awareness, behavior change, and community mobilization in light of emergencies such as coronavirus disease (COVID-19) and cyclone Amphan in 2020. It will also support training and capacity building of LGED and *pourashavas* to institutionalize information technology-based remote monitoring through strengthening LGED's geographic information systems section, monitoring and evaluation unit, and project management unit.

7. The scope of the project will include nine infrastructure categories: (i) roads, bridges and culverts, (ii) solid waste management, (iii) cyclone shelters, (iv) drainage and flood control, (v) water supply, (vi) sanitation, and local socio-economic developments such as (vii) markets, (viii) bus terminals, and (ix) boat landing stations.

³ The graduation program originated in Bangladesh and has since been adopted in several countries as a holistic, time-bound interventions to lift households from poverty through: (i) social assistance to support immediate needs; (ii) livelihood promotion; (iii) financial inclusion; and (iv) social empowerment.

⁴ Nature-based solutions promote actions to protect, sustainably manage and restore natural and modified ecosystems in ways that address societal challenges effectively and adaptively, to provide both human well-being and biodiversity benefits. (Source: IUCN (2020). Guidance for using the IUCN Global Standard for Nature-based Solutions. A user-friendly framework for the verification, design and scaling up of Nature-based Solutions. First edition. Gland, Switzerland: IUCN.).

⁵ A risk-informed performance-based budget allocation strategy will be adopted to promote governance-led infrastructure improvement to ensure sustainable urban services. The *pourashava* will need to fulfil a set of performance criteria to receive fund for infrastructure improvement. Performance criteria is elaborated in project administration manual (footnote 27).

8. The proposed CTCRSP is to be implemented in 22 *pourashavas* (local governments). District wise location of the CTCRSP towns is summarized in Table 1.

Table 1: District wise *Pourashavas* where Project (CTCRSP) will be implemented

District	Town (<i>Pourashava</i>)	District	Town (<i>Pourashava</i>)
1. Barisal	1. Bakerganj	5. Bhola	1. Charfassion
	2. Mehendiganj		2. Lalmohan
	3. Banaripara		3. Borhanuddin
	4. Muladi	6. Jhalokathi	4. Jhalokathi
	5. Gouranadi		5. Nalchity
2. Bagerhat	6. Bagerhat	7. Satkhira	6. Kalaroa
	7. Morelganj	8. Khulna	7. Paikgacha
3. Patuakhali	8. Patuakhali		8. Chalna (Dacope)
	9. Kuakata	9. Pirojpur	9. Swarupkathi
4. Shariatpur	10. Zanjira	10. Barguna	10. Patharghata
	11. Bhedarganj		11. Betagi

9. CTCRSP is proposed under a sector lending modality and requires the preparation of an environmental assessment and review framework (EARF) in accordance with the requirements of ADB SPS 2009. Selection of subprojects will be based on the criteria in this EARF.

C. Purpose of EARF

10. The EARF provides guidance on safeguard screening, assessment, institutional arrangements, and processes to be followed for components of the project, where design takes place after Board approval. The subproject selection will be in accordance with the environmental project selection criteria as outlined in this EARF. The borrower will agree with ADB on screening and categorization, environmental assessment, preparation and implementation, monitoring, and updating existing safeguard plans for the subprojects to facilitate compliance with the requirements specified in ADB Safeguard Policy Statement (SPS, 2009) and government rules and laws. The IEEs prepared as part of the Project Preparation Study outlined mitigation measures for some minor potential negative environmental impacts, and monitoring plans for both construction and post-project maintenance phases, and it is expected that the EARF will support the integration of these measures and practices in the project design.

11. This EARF (i) describes the project and its components; (ii) explains the general anticipated environmental impacts and mitigation measures for the subprojects which will be financed under the project after ADB Board approval; (iii) specifies the requirements that will be followed in relation to screening and categorization, assessment, and planning, including arrangements for meaningful consultation with affected people and other stakeholders and information disclosure requirements; (iv) assesses the capability of the project proponents to implement national laws and ADB's requirements, and identifies needs for capacity building; (v) specifies implementation procedures, institutional arrangements, and capacity development requirements; and (vi) specifies monitoring and reporting requirements.

12. The EARF ensures that all subprojects, in the entirety of their project cycle, will not deteriorate or interfere with the environmental sensitivity of a project area, but rather improve environmental quality.

D. Environmental Categorization

13. As part of the preparation for a sector loan project, environmental assessment for five sample subprojects in three project towns⁶ has been conducted and five initial environmental examination reports (IEEs) including with environmental management plans (EMPs)^{7,8} were prepared in accordance with requirements of ADB SPS. The IEEs concluded that the project is unlikely to have significant adverse impacts that are diverse, irreversible, or unprecedented. The potential adverse environmental impacts are of small-scale, short-term, and localized and are mainly related to the construction period, which can be minimized/mitigated by the appropriate mitigating measures and environmentally sound engineering and construction practices. Therefore, the project has been classified as Category B for environment. It is likely that future subprojects will seek to replicate the sample subprojects in other town areas thus are expected to be category B due to the low-impact nature of such works. No subprojects or components considered as Category A for environment (i.e., those with significant impacts regarded as diverse, irreversible and unprecedented) will be considered.

II. ASSESSMENT OF LEGAL FRAMEWORK AND INSTITUTIONAL CAPACITY

A. Legal Framework and Regulations

14. Implementation of all subprojects will be governed by the environmental acts, rules, policies, and regulations of the Government of Bangladesh. These regulations impose restrictions on the activities to minimize/mitigate likely impacts on the environment. Many of these are cross-sectoral and several of them are directly related to environmental issues. The most important of these are the Environment Conservation Act, 1995 (ECA, 1995), and the Environment Conservation Rules (ECR, 1997).

15. In addition to the Environmental Conservation Act and Rules, there are several other policies, plans and strategies which deal with the water sector, coastal areas, and climate change. These are the Forest Act 1927 (last modified 30 April 2000); National Water Policy, 1999; Coastal Zone Policy, 2005; Coastal Development Strategy, 2006; Bangladesh Climate Change Strategy and Action Plan, 2009; and National Safe Drinking Water Supply and Sanitation Policy of 1998. Table 2 provides salient features and applicability of the legislations and Table 1 presents specific requirements for the project. Appendix 1 provides the environmental standards for air, surface water, groundwater, drinking water, emissions, noise and vehicular exhaust.

⁶ The three towns include Bagerhat, Jhalokathi, and Kuakata.

⁷ Five draft initial environmental examinations (IEEs) with environmental management plans (EMPs) were prepared for the following sample subprojects: (i) Bagerhat Drainage, (ii) Bagerhat Solid Waste Management, (iii) Jhalokathi Cyclone Shelter, (iv) Jhalokathi Roads, and (v) Kuakata Roads. The sample IEEs prepared will provide a good sample which can be followed for preparation of environmental assessments in subsequent subprojects.

⁸ *ECA Amendment 2000* focuses on ascertaining responsibility for compensation in cases of damage to ecosystems, increased provision of punitive measures both for fines and imprisonment and the authority to take cognizance of offences. *ECA Amendment 2002* elaborates restrictions on polluting automobiles; restrictions on the sale, production of environmentally harmful items like polythene bags; assistance from law enforcement agencies for environmental actions; break up of punitive measures; and authority to try environmental cases. In *ECA Amendment 2010*, no individual or institution (government or semi-government/non-government/self-governing) can cut any hill or hillock; fill-up or changed any remarked water body however in case of national interest; the mentioned activities can be done after getting clearance from respective the departments.

Table 2: Applicable Government of Bangladesh Environmental Legislations

Laws, Regulations, and Standards	Details	Relevance to the Project
National Environmental Policy, 2018	The central theme of the policy is to ensure protection and improvement in environment. The policy gives a thrust to sustainable development and long-term use of natural resources. The National Environment Policy contains policy statements and strategic options with regard to population and land-use management, management and utilization of natural resources and other socio-economic sectors, as well as the necessary arrangements for the implementation of the policy.	Subprojects will have site-specific impacts and will require implementation of mitigation measures to ensure protection and improvement of the environment.
Environmental Conservation Act of 1995 and amendments in 2000, 2002 and 2010a	Provides for the conservation of environment, improvement of environmental standards and control and mitigation of environmental pollution. This act provides for (i) remedial measures for injury to ecosystem; (ii) provides for any affected person due to environmental pollution to apply to Department of Environment (DOE) for remediation of the damage; (iii) discharge of excessive environmental pollutants; (iv) inspection of any activity for testing any equipment or plant for compliance to the environment act, including power to take samples for compliance; (v) power to make rules and standards with reference to environment; and (vi) penalty for non-conformance to environment act under the various sections.	Restriction on operations which cannot be initiated in ecological critical areas Regulation on vehicles emitting smoke which is harmful to the environment Follow standards on quality of air, water, noise and soil Sets limits for discharging and emitting waste
Environmental Conservation Rules of 1997 and amendments in 2002 and 2003	Sets out the procedure for obtaining environmental clearance Classifies projects according to location and impact on the environment.	Subprojects will require environmental clearances and compliance with environmental quality standards
Environment Court Act, 2000 and subsequent amendments in 2003	Establishment of Environment Court for trial of an offence or for compensation under environmental law, such as environment pollution.	Option to affected persons for grievances related to environmental safeguards.
The Forest Act (1927) and Forest (Amendment) Act (2000)	An act to control trespassing, illegal resource extraction and provide a framework for the forestry revenue collection system;	Requires clearances for any project within forest areas and clearances for any felling, extraction, and transport of forest produce.
National Forest Policy (2016 draft)	To conserve existing forests and bring about 20% of the country's land area under the Forestation Programme and	Incorporate tree planting in the subproject

Laws, Regulations, and Standards	Details	Relevance to the Project
	increase reserved forests by 10% per year until 2015.	Clearance for any felling, extraction, and transport of forest produce
The Bangladesh Wildlife (Conservation & Security) Act, 2012	To conserve and protect wildlife in Bangladesh including designation of protected areas. Protection of wildlife is provided with lists of species with four schedules: first, second, third and fourth schedule. The fourth schedule species have the highest level of protection.	Consultation and necessary permits required if the project will pass through the wildlife sanctuaries and other protected areas.
National Safe Drinking Water Supply and Sanitation Policy of 1998	Ensures access to safe water and sanitation services at an affordable cost.	<p><i>Pourashavas</i> and water sanitation authorities will take actions to prevent wastage of water. They will take necessary steps to increase public awareness to prevent misuse of water</p> <p><i>Pourashavas</i> shall be responsible for solid waste collection, disposal and their management</p>
National Water Act 2013 Water Rule 2018	Ensures Bangladesh water sources are free from any type of pollution. Pollution from water in urban outfalls and reservoirs, e.g., lakes, canals, ponds and ditches may result in amenity losses, fisheries depletion, health problems and fish and aquatic species contamination.	Secure clearance certificate on water resource development subprojects
Wetland Protection Act 2000	Advocates protection against degradation and resuscitation of natural waterbodies such as lakes, ponds, beels, khals, tanks, etc. affected by man-made interventions or other causes. Prevents the filling of publicly owned water bodies and depressions in urban areas for preservation of the natural aquifers and environment. Prevents unplanned construction on riverbanks and indiscriminate clearance of vegetation on newly accreted land.	The related works with the different subprojects may impact natural water bodies. The subprojects' EMPs ensure measures are in place to protect natural water bodies and prevent draining or filling into these water bodies during construction.
National Land Use Policy, 2001	Sets out guidelines for improved land-use and zoning regulations. The main objective of this policy is to ensure criteria-based uses of land and to provide guidelines for usage of land for the purpose of agriculture, housing, afforestation, commercial and industrial establishments, rail and highway and for tea and rubber gardens.	Compliance with land use and zoning regulations
Bangladesh Labor Law, 2006	It is a comprehensive law covering labour issues such as: conditions of service and employment, youth employment, benefits including maternal	Compliance to provisions on employment standards, occupational health and safety, welfare and social

Laws, Regulations, and Standards	Details	Relevance to the Project
	benefits, compensation for injuries, trade unions and industrial relations, disputes, participation of workers in company's profits, regulation of safety of dock workers, penalty procedures, administration and inspection. This Act pertains to the occupational rights and safety of factory workers and the provision of a comfortable environment for working. It also includes rules on registration of labourers, misconduct rules, income and benefits, health and fire safety, factory plan.	protection, labor relations and social dialogue, and enforcement. Prohibition of employment of children and adolescents.
Bangladesh Labor Rules, 2015	Includes rules on registration of laborers, misconduct rules, income and benefits, health and fire safety, factory plan.	Contractors to implement occupational health and safety measures. Contractor will be liable for compensation for work-related injuries.
The Pourashava Act 2009 / Ordinance issued for the amendment of local government (municipality) ordinance, 2009 and 2010; The Pourashava Ordinance, 1977; Municipal Administration Ordinance, 1960	Provides guidance for subproject integrated community and workers health and hygiene at the construction and operation and maintenance stages of the project.	Coordinate with pourashava committees on disaster management measures, water and sanitation and waste management.
Bangladesh Climate Change Strategy and Action Plan of 2009	Enhances the capacity of government ministries, civil society and private sector to meet the challenges of climate change.	Integrate adaptation measures for buildings in consideration of extreme climatic events.
Building Construction (Amendment) Act and Building Construction Rules, Bangladesh National Building Code	Regulates technical details of building construction and to maintain standards of building construction.	Follow specifications to ensure structural integrity of buildings.
Standing Order on Disaster, 1999 (Updated 2010)	Enhances capacity at all tiers of government administrative and social structures for coping with and recovering from disasters.	Geographical information system (GIS) technology will be applied at the planning stage to select location of cyclone shelter considering habitation, communication facilities, distance from the nearest cyclone center, etc.

Laws, Regulations, and Standards	Details	Relevance to the Project
		Advice from the concerned District Committee should be obtained prior to final decision
National Disaster Management Act of 2012	Establishes a framework for managing disasters in a comprehensive way.	Setting-up emergency response procedures.
Public Health (Emergency Provisions) Ordinance, 1994	The ordinance calls for special provisions with regard to public health. Whereas an emergency has arisen, it is necessary to make special provision for preventing the spread of human disease, safeguarding public health and providing them adequate medical service and other services essential to the health of respective community and workers in particular during the construction related work.	Relevant especially during the construction phase.
The Employees State Insurance Act, 1948	It must be noted that health, injury and sickness benefit should be paid to people, particularly respective workers at workplace under the Act.	Relevant to the welfare of workers under the project.
Solid Waste Management Rules 2021	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.	IWM subprojects need to comply with all design and site selection criteria provided under the Rules. All subprojects will generate solid wastes and will implement measures to comply with the IWM rules.

16. **Government of Bangladesh Environmental Assessment Procedures.** Under the Environmental Conservation Rules (ECR) 1997 industrial units and projects are classified into four categories according to “their site and impact on the environment”, and each category (green, orange-A, orange-B and red) requires a different level of environmental assessment as a prerequisite for granting the ECC that allows the project to proceed. The ECA indicates that all industrial units or projects must obtain a Location Clearance Certificate (LCC) and Environmental Clearance Certificate (ECC) from the Department of Environment (DOE).

17. Schedule 1 of the law provides a classification for industrial projects and types of development that are common in Bangladesh. Table 3 indicates that subproject components that are likely to be classified in green, orange or red categories. The likely categorization of the other components not mentioned is deduced from similar developments that are mentioned and from their likely impacts.

Table 3: Likely Government of Bangladesh Classification of Subproject Components

	Subproject	Component	Equivalent in Schedule I of ECR	DOE Classification
1.	Roads, bridges and culverts	Road provisions (include new road, road resurfacing, roadside footpath, roadside drains, road signs, road/pavement markings, intersection improvement, or high mast lighting)	Construction, re-construction and extension of road (feeder road, local road)	Orange – B
		Bridges	Construction, re-construction and extension of bridge (length below 100 meters)	Orange – B
			Construction, re-construction and extension of bridge (length above 100 meters)	Red
		Culverts	No similar facility	Orange – B (because impacts likely to be similar to roads and bridges less than 100 m)
2.	Solid waste management	Community storage bins Secondary transfer station	No similar facility	Green (because bins and STS are small and unlikely to have major impacts)
		Waste disposal (includes sanitary landfill, composting site, or access road)	Land-filling by industrial, household and commercial wastes	Red
3.	Cyclone shelters	New or refurbishment of cyclone shelters	Hotel, multi-storied commercial and apartment building	Orange – B
4.	Boat landing stations	New or refurbishment of boat landing stations	Engineering works (up to 10 hundred thousand Taka capital)	Orange – B
5.	Markets	New or refurbishment of markets		
6.	Bus terminals	New or refurbishment of bus terminals		
7.	Drainage and flood control	Primary network (includes domestic connections or primary drains)	Engineering works (up to 10 hundred thousand Taka capital)	Red
		Secondary network (includes secondary drains)		
		Tertiary network (includes main drains and drainage outfalls)		

	Subproject	Component	Equivalent in Schedule I of ECR	DOE Classification
8.	Water supply	Source augmentation (includes tube wells, surface water intake, overhead or ground reservoir, pumps and pump house, water treatment plant [WTP] or chlorination facility)	Engineering works (up to 10 hundred thousand Taka capital)	Red
		Water transmission (includes pumping main, overhead reservoir, or pumps and pump houses)	Water, power and gas distribution line laying/relaying/extension.	Red
		Network improvements (include ring main, distribution/ carrier mains, bulk valves and flow meter, household connections or household meters)		
9.	Sanitation	Toilet facilities and latrines	Public toilet	Orange – B
		Septage and wastewater treatment plants	Sewage treatment plant	Red

18. Rule 7 of the ECR indicates that the application for ECC must be made to the relevant DOE Divisional Officer (Figure 1), and the application will include the following:

19. Green category projects:

- (i) Completed Application for ECC, and the appropriate fee, (shown in Schedule 13);
- (ii) General information about the project;
- (iii) Exact description of the raw materials to be used and the product to be manufactured (where relevant); and
- (iv) No objection certificate from the local authority.

20. Orange A category projects:

- (i) Same requirements as Green Category projects, plus the following:
- (ii) Process flow diagram;
- (iii) Layout plan (showing location of effluent treatment plant [ETP]);
- (iv) Effluent discharge arrangement; and
- (v) Outlines of the plan for relocation and rehabilitation (if applicable).

21. Orange B category projects:

- (i) Completed Application for ECC, and the appropriate fee;
- (ii) Report on the feasibility of the project;

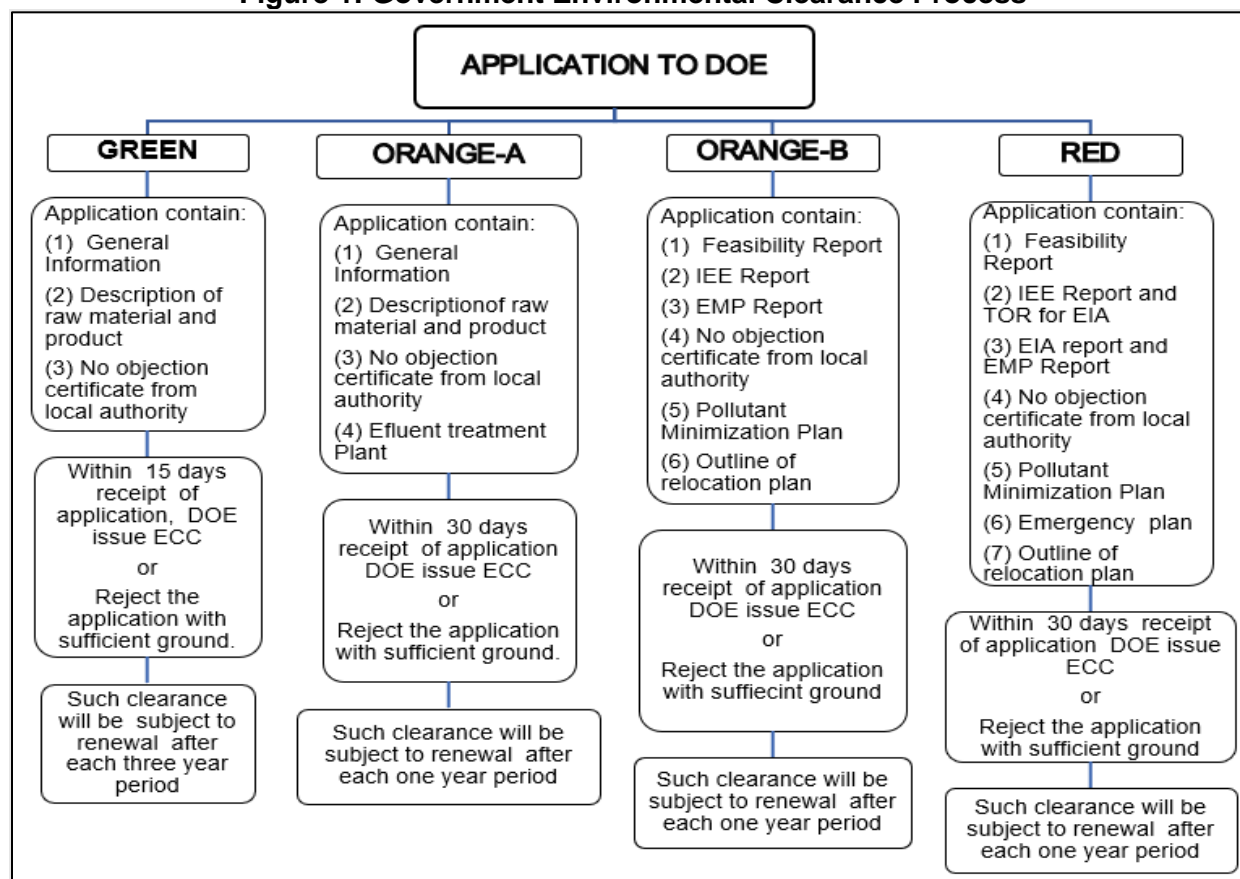
- (iii) Report on the IEE for the project, plus Process Flow Diagram, and in the case of an industrial project: layout plan (showing ETP), and ETP design;
- (iv) Report on the environmental management plan (EMP);
- (v) No objection certificate from the local authority;
- (vi) Emergency plan relating to adverse environmental impact and plan for mitigation of the effect of pollution; and
- (vii) Outline of the relocation and rehabilitation plan (where applicable).

22. Red category projects:

- (i) Same requirements as Orange Category B, except that Item 3 (IEE) is amended to read as follows:
Report on the IEE for the project, and Terms of Reference for the EIA; or EIA report prepared on the basis of ToR previously approved by DOE, plus (in the case of an industrial project): layout plan showing location of ETP, process flow diagram, design and time schedule of the ETP.

23. Under the ECR DOE has 60 days to respond to receipt of the ECC application for a Red Category project and 30 days for an Orange-B Category Project.

Figure 1: Government Environmental Clearance Process



DOE = Department of Environment, ECC = environmental clearance certificate, EIA = environmental impact assessment, EMP = environmental management plan, IEE = initial environmental examination, TOR = terms of reference.

B. Applicable International Environmental Agreements

24. Aside from the legal framework on environment, Bangladesh is also a party to several international conventions, treaties and protocols related to environmental protection. The applicable international conventions, treaties and protocols are described in Table 4.

Table 4: International Environmental Agreements Relevant to Coastal Towns Climate Resilience Sector Project

International Environmental Agreement	Signed/Year Ratified	Details	Relevance
United Nations Framework Convention on Climate Change (UNFCCC)	22.10.2001 13.11.2003 (amended)	Parties to take precautionary measures to anticipate, prevent or minimize the causes of climate change and mitigate its adverse effects.	The different subprojects are subject to impact of climate change. Engineering designs of the subprojects consider climate change impacts, such as flooding and temperature rise. A climate change assessment is a part of the project processing, which covers all subprojects.
Paris Convention on Protection of the World Cultural and Natural Heritage, 1972	1983	Parties to ensure the protection and conservation of the cultural and natural heritage situated on territory of, and primarily belonging to, the State	The related works with the different subprojects may impact undiscovered cultural and natural heritage relics during construction phase. The environmental management plans (EMPs) of subprojects ensure measures for chance finds.
Ramsar Convention on Wetlands of International Importance, 1971	1992	Parties to conserve and wisely use wetlands (i.e., maintaining their ecological character) as a contribution towards achieving sustainable development locally and throughout the world	The related works with the different subprojects may impact wetlands. The subprojects' EMPs ensure measures are in place to protect significant wetland and prevent draining or filling into the wetlands during construction.
Convention on Biological Diversity, 1992	1994	Parties to require the environmental assessment of projects that are likely to have significant adverse effects on biological diversity with a view of avoiding or minimizing such effects	Biodiversity sites and species not previously identified might be discovered during construction works at the different sites. The subprojects' EMPs ensure measures to protect biodiversity, if any, during construction and post-construction activities.

25. **Comparative ADB SPS requirements and government laws and regulation on environmental assessment.** There are no major gaps between the ADB SPS 2009 requirements and the GoB's requirements on environmental assessment. Screening, categorization, environmental assessment and environmental management plan preparation, implementation and compliance monitoring are required. However, analysis of alternatives and public consultation and disclosure are not mandatory under the GoB's ECR (1997).

C. Institutional Capacity

26. Local Government Engineering Department (LGED) is responsible for the conduct of IEE and preparation of corresponding IEE reports, and monitoring of safeguards issues for all subprojects and components. The LGED will also be responsible for providing support and guidance to *pourashavas* concerning performance criteria and *pourashava* development planning.

27. LGED has been implementing various ADB-funded urban development projects in the last two decades. Examples are UGIIP, which was approved in 2002 and carried out in phases with the third phase currently being implemented; and CRDP, which was approved in 2010 and likewise carried out in phases with the second phase currently being implemented. Experiences with these projects have supported LGED in gaining the knowledge on environmental assessment, management, implementation, monitoring and reporting of projects in accordance with the requirements of ADB SPS. For this reason, LGED has since developed and strengthened its capacity at all levels in ensuring that environmental safeguards following ADB SPS principles are integrated into the designs and implementation strategies of its projects.

28. For the proposed CTCRSP, LGED will ensure efficiently implementing the necessary environmental management and monitoring requirements of the project. LGED will likewise continue to provide *pourashavas* with the required assistance in implementing environmental management and monitoring at the field level.

29. In recognizing the need for improvement of implementation capacity, the executing and implementing agencies of the project will continue to require capacity building measures for (i) a better understanding of new and evolving project-related environmental issues; and (ii) to strengthen their role in implementation of mitigation measures and subsequent monitoring. Training and awareness workshops are included in the project with the primary focus of enabling the LGED and *pourashava* staff to conduct assessments of potential environmental impacts and carry out environmental monitoring and implement the EMPs. After participating in such activities, the participants will be able to make environmental assessments for subsequent subprojects, conduct monitoring of EMPs, understand government and ADB requirements for environmental assessment, management, and monitoring (short- and long-term), and incorporate environmental features into future project designs, specifications, and tender/contract documents and carry out necessary checks and balances during project implementation.

III. ANTICIPATED ENVIRONMENTAL IMPACTS

30. Preliminary lists of subprojects have been identified and environmental impacts during design, pre-construction, construction, and operation will be reviewed and assessed for each project. During project construction and implementation, impacts on the physical environment such as water, air, soil, and noise, and on the biological environment, like flora and fauna and socioeconomic environment, will be carefully assessed by the project environmental specialists. A UNESCO world heritage site “Historic Mosque City of Bagerhat / Khalifatabad”, is located about 2-3 km west of project town of Bagerhat, where roadside drains, and solid waste management facility are proposed under the project. No impacts envisaged as the proposed works are located at least 1.5 km away from the heritage area boundary.

31. As the subprojects will be of small scale and often involve improvement or rehabilitation of the existing system and facilities, it is anticipated that impacts will be temporary and of short duration. In such cases, mitigation measures i.e., control of air, dust pollution, checking of water and noise pollution, and protection of biological environment can address adverse impacts. Other measures, such as preparation and implementation of traffic management plans during pipe-laying, will also be done in coordination with the consultant teams, local police, contractors, and the public. Occupational and community health and safety measures and other health and hygienic conditions, including careful handling of public utilities along with social aspects, will be considered, and impacts and mitigation measures elaborated on in the EMPs.

32. Anticipated environmental impacts for the assessed subprojects are provided in the IEE reports. For subsequent subprojects to be funded by the project, anticipated impacts during design, construction, and operation are identified in Appendix 2.

IV. ENVIRONMENTAL ASSESSMENT FOR SUBPROJECTS AND/OR COMPONENTS

A. Environmental Guidelines for Project Selection

33. **Climate Change Resilient Infrastructure.** The project will mainstream climate risk reduction into policy formulation and infrastructure development. A key feature is climate change and disaster resilient designs to ensure that infrastructures are less vulnerable to floods, storm surge, landslides and impacts of other extreme weather events. Climate change risks and adaptation assessments will be part of the planning and design the subprojects. The project will also utilize ADB guidelines related to climate proofing of investments in the design of subprojects, including ADB Guidelines on Climate Proofing Investment in the water sector, transport sector, energy sector etc.,

34. **Exclusion Criteria.** No Category A projects per ADB SPS will be considered for implementation under CTCRSP. Subprojects that would directly affect environmentally protected areas, and highly valued cultural property and fall under Category A shall be strictly avoided or the subproject component(s) causing potential impacts relocated or suitable alternatives derived. CTCRSP will not include and/or involve any activities listed in ADB's Prohibited Investment Activities List. The following criteria will be used for excluding sites which might have significant negative environmental impacts:

- (i) Projects located in ecologically sensitive areas such as protected areas (national parks, wildlife sanctuaries), notified wetlands or wetlands of significant value, critical habitats
- (ii) Project with potentially significant impacts on mangroves, wetlands, estuaries, buffer zones of protected areas etc.,
- (iii) Projects with potential for disrupting the life and property of the indigenous or tribal population
- (iv) Projects that need for significant amount of land acquisition and compensation
- (v) Projects located in world heritage sites, and/or within 1 km from the outer boundary of the world heritage area
- (vi) Projects located within monuments/sites protected by Department of Archeology
- (vii) Projects which may potentially lead to encroachment/damage of physical cultural resources with significant value and/or places recognized by government agencies (e.g., Department of Archeology), which may include places of worship, cultural heritage sites, graves/cemeteries, historical monuments, etc.

- (viii) Projects likely to have significant adverse environmental impacts that are irreversible, diverse, or unprecedented, and may affect an area larger than the sites or facilities subject to physical works (i.e., category A projects as per ADB SPS 2009) will be excluded from CTCRSP
- (ix) Activities listed in ADB's Prohibited Investment Activities List (see Appendix 5 of ADB SPS).

35. **Subproject Selection Criteria.** Guidelines for project selection in Table 5 provide further guidance to avoid or minimize adverse impacts during the identification and finalization of subprojects.

Table 5: Environmental Criteria for Subproject Selection

Environmental Selection Guidelines	Remarks
1. Overall selection guidelines - applicable to all subprojects	
(i) Comply with all requirements of relevant national and local laws, rules, and guidelines, including obtaining environmental clearance certificate (ECC) from DOE for all subprojects classified as red / orange / green per Bangladesh Environmental Conservation Act, 1995	See Section II of this EARF
(ii) Comply with all requirements of ADB SPS 2009 and follow procedures set in this environmental assessment and review framework (EARF)	See Section II of this EARF
(iii) Subproject design should reflect inputs from public consultation	
(iv) Avoid locations in forests, mangrove areas, estuaries, buffer zones of protected areas	if unavoidable: - Approval from concerned authority - Alternative site analysis to justify site selection - confirm via detailed baseline and impact assessment that the project will not lead to significant impacts on respective areas - EMP to include measures to avoid, minimize, mitigate impacts, and monitoring actions to confirm mitigation
(v) Avoid locations within 100 m of protected monuments/sites protected by department of archeology, government of Bangladesh (vi) Avoid locations within 1.5-2 km of UNESCO notified protected monuments / world heritage sites	If unavoidable - conduct heritage assessment study by engaging a competent expert, and integrate recommendations into design, construction, and operation - ensure that no damage / disruption to such places/monuments - obtain necessary clearance and permissions - EMP to include measures to avoid destruction / disturbance of such places - Provide "chance find" procedures in the EMP that include a pre-approved management and conservation approach for materials that may be discovered during project implementation.
(vii) Avoid tree-cutting where possible. Retain mature roadside trees which are important/valuable or historically significant. If any trees will have to be	For any tree to be cut, consider replacement of 2:1. See Appendix 4 of this EARF (Local Government Engineering Department of

Environmental Selection Guidelines	Remarks
<p>removed, plant two new trees for every one that is lost.</p> <p>(viii) Preference shall be given to planting indigenous or local tree species.</p>	<p>Bangladesh's Tree Plantation and Conservation and Tree Resources Distribution Activities Implementation Manual dated April 2003).</p>
<p>(ix) Ensure all planning and design interventions and decisions are made in consultation with local communities and include women. Reflect inputs from public consultation and disclosure for site selection.</p>	<p>All consultations should be documented, and concerns expressed by public addressed in IEEs.</p>
<p>(x) Synchronize all road improvement and pipe laying works (to extent possible) to minimize disturbance and optimize use of resources (e.g., water pipes laid prior to road improvements).</p>	<p>Coordinate planning of works with <i>pourashava</i>.</p>
<p>(xi) If subproject includes existing facilities⁹ to be rehabilitated or expanded and/or associated Facilities¹⁰, conduct environmental audit and/or environmental due diligence per ADB SPS part of IEE.</p>	<p>For non-compliances, provide corrective action for each area of concern including cost and schedule to be included in the subproject EMP.</p>
2. Water supply	
<p>(i) Utilize water sources at sustainable levels of abstraction only (i.e., without significant reductions in the quantity or quality of the source overall).</p>	
<p>(ii) Avoid over pumping of ground water in coastal aquifers leading to salinization and ground subsidence</p>	
<p>(iii) Avoid using water sources that may be polluted by upstream users.</p>	
<p>(iv) Avoid water-use conflicts by not abstracting water that is used for other purposes (e.g., irrigation).</p>	<p>Obtain No Objection Certificate (NOC) from Irrigation Department and/or Bangladesh Water Development Board</p>
<p>(v) Locate all new facilities/buildings at sites where there is low risk of flooding or other hazards that might impair functioning of or present a risk of damage to water treatment plants, tanks/reservoirs, or their environs.</p>	<p>Flood statistics data of the project area needs to be reviewed. Location restriction may be reviewed depending on site availability, and flood or other hazards control planning.</p> <p>Conduct climate change adaptation studies that include climate change projections for each subproject and consider results in locating, designing, constructing and operating these infrastructures.</p>
<p>(vi) Must not include usage of pipes that are manufactured from asbestos concrete, and avoid</p>	<p>Refer to ADB's Good Practice Guidance for the Management and Control of Asbestos¹¹.</p>

⁹ ADB SPS Appendix 4 para 12 on Existing Facilities

¹⁰ ADB SPS Appendix 1 para 6 defines associated facilities as "not funded as part of the project (funding may be provided separately by the borrower/client or by third parties), and whose viability and existence depend exclusively on the project and whose goods or services are essential for successful operation of the project"

¹¹ <https://www.adb.org/sites/default/files/publication/783636/good-practice-management-control-asbestos.pdf>

Environmental Selection Guidelines	Remarks
disturbance to existing asbestos concrete pipes (left in ground as it is untouched)	
(vii) Ensure water to be supplied to consumers will meet national drinking water standards at all the times.	
(viii) Include measures to address additional sewage/domestic wastewater due to improved/new water supply system	
(ix) Design treatment plants with adequate facilities to manage process wastewater and sludge	
(x) Project design to address health and safety hazards to workers from handling and management of disinfection chemicals (such as chlorine), and other contaminants, and biological and physical hazards	
3. Sanitation & septage management	
(i) Ensure toilets are a provided with water supply and power supply for hygienic, safe, and uninterrupted	
(ii) Design toilet as leak proof, and connect outlet to a community sewer (if available) or to a septic tank (water sealed)	
(iii) Design septic tanks as water sealed compartments to avoided contamination of groundwater/land	
(iv) Locate septic tanks where there is proper access to a mobile suction hose equipment to allow removal of contents periodically for further treatment and disposal	
(v) Locate sanitation facilities (public toilets and septic tanks) preferably (a) 20 m from any source of water supply; (b) 30 m from drainage lines and (c) 100 m to a designated waterway.	Distance restriction may be reviewed depending on the technology adopted for the sanitation facilities and treatment of septage, site plant availability, and buffer zone planning.
(vi) Ensure septage collection system is fully mechanized; prohibit manual collection	
(vii) No multiple handling or transfer of septage; once a vacuum truck collected sludge from septic tanks, it shall directly transport and download contents into septage treatment plant; there shall be no intermediate transfer of contents from one container/vehicle to other, either mechanically or otherwise.	
(viii) Locate septage treatment plants preferably 500 m from any inhabited areas, so that people are not affected by odor or other nuisance from the septage treatment plant.	this distance may be reviewed based on the proposed septage treatment process and potential for odour and emissions Provide a green buffer zone of 10-20 m wide all around the STP with trees in multi rows
(ix) Locate at sites septage treatment plant where there is a suitable means of disposal for the treated wastewater effluent and bio-solids.	Ensure that treated wastewater disposal into water bodies does not affects its quality, and its usage.

Environmental Selection Guidelines	Remarks
	Include design measures to ensure the safe disposal of bio-solids without causing environmental hazards, and if possible, to promote its safe and beneficial use as an agricultural fertilizer. Any wastewater and bio-solids reuse shall be to improve soil properties and sustain soil fertility and avoid any contamination risks.
(x) Do not locate septage treatment plants where there is risk of hazards such as floods, landslides etc.,	-
(xi) Ensure no immediate drinking water intakes downstream of discharge point of effluent from sanitation facilities	Include design measures and consider relocating existing deep tube wells.
(xii) Hazardous working conditions in some places of the facility due to lack of oxygen and flammable nature of methane emissions will be detrimental to the health and safety of workers and facility. Put in place standard operating procedures with appropriate equipment, and workers are provided with necessary training and personnel protection equipment to safeguard health and safety	
4. Solid waste management	
(i) Solid waste management facilities including collection, transportation, storage, processing, landfill shall be designed, constructed and operated applying pollution prevention and control technologies and practices consistent with international good practice, as reflected in internationally recognized standards such as the World Bank Group's Environment, Health and Safety (EHS) Guidelines. The sector specific guidelines on "waste management facilities" ¹² together with "General EHS Guidelines" ¹³ should be used.	<ul style="list-style-type: none"> • If Government of Bangladesh regulations differ from these levels and measures, the more stringent of the two should be applied. • If less stringent levels or measures are appropriate in view of specific project circumstances, PMU shall provide full and detailed justification for any proposed alternatives that are consistent with the requirements presented in the SPS.
(ii) Duly consider 3Rs (reduce-reuse-recycle) strategy in design and implementation of SWM system	<ul style="list-style-type: none"> •
(iii) Ensure transfer stations are not located close (more than 30 m) to residences, schools, hospitals, places of worship (such as churches, temples or mosques), and historical and cultural places.	Appropriate design measures to be adopted if this cannot be adhered to.

¹²<https://www.ifc.org/wps/wcm/connect/456bbb17-b961-45b3-b0a7-c1bd1c7163e0/1-6%2BWaste%2BManagement.pdf?MOD=AJPERES&CVID=nPtgwEW>

¹³ <https://www.ifc.org/wps/wcm/connect/29f5137d-6e17-4660-b1f9-02bf561935e5/Final%2B-%2BGeneral%2BEHS%2BGuidelines.pdf?MOD=AJPERES&CVID=nPtguVM>

Environmental Selection Guidelines	Remarks
(iv) Ensure that waste collection and transportation system is designed to avoid / minimize issues related to spillage, aesthetics, manual and multiple handling, delayed collection/transportation etc.,	
(v) Ensure that solid waste system is designed to avoid / mitigate public health hazards from odor, smoke from fire, and diseases transmitted by flies, insects, birds and rats	
(vi) Ensure all landfills are not constructed in areas where the groundwater table is less than 2 meters below ground level.	
(vii) Ensure that the site shall be large enough to last for 20-25 years and shall be developed as small “landfill cells” in a phased manner with the provision to use and close the facility as required.	
(viii) Locate solid waste management facilities where it will not lead to land use conflicts	
(ix) Ensure the design includes a ‘no development’ buffer zone around the solid waste processing and disposal facility (for facilities exceeding 5 tons per day of installed capacity).	This buffer zone be maintained within the total area of the solid waste processing and disposal facility. The buffer zone shall be prescribed on a case-to-case basis by the local body in consultation with the Department of Environment (DOE).
(x) Locate all new landfills at least 250 m from residential development project sites, shops, or any other premises used by people, thus establishing a buffer zone to reduce the effects of noise, dust, and visual appearance of the site.	-
(xi) Locate all new landfills at least 200 m from rivers, water bodies or ponds to avoid the possible travel of leachate into these water bodies.	<p>This can be relaxed on site-to-site basis based on the following:</p> <ul style="list-style-type: none"> • PMU obtained prior Location Clearance Certificate (LCC) from DOE. • Size, nature, and use of water body is such, it is feasible to implement additional measures that can contain potential contamination / degradation of water body from landfill operations, • EMP includes additional measures. <p>Conduct climate change adaptation studies that include climate change projections for each subproject and consider results in locating, designing, constructing and operating these infrastructures.</p>
(xii) Locate all new landfills at least 500 meters away from national highways, housing areas, public parks, and water-supplying wells.	

Environmental Selection Guidelines	Remarks
(xiii) Locate all new landfills at least three kilometers away from airports or airbases.	
(xiv) Locate all new facilities/buildings at sites where there is low risk of flooding or other hazards that might impair functioning of, or present a risk of damage to the facilities, or their environs.	<p>Flood data of the project area needs to be reviewed. Location restriction may be reviewed depending on site availability, and flood or other hazards control planning.</p> <p>Conduct climate change adaptation studies that include climate change projections for each subproject and consider results in locating, designing, constructing and operating these infrastructures.</p>
(xv) Ensure a buffer zone is provided around the landfill with the distance agreed upon with the regulatory agencies	
(xvi) Ensure designs and operations of new landfills are done as per norms of modern sanitary facilities and to include all essential elements necessary to prevent environmental pollution and to ensure safe handling of waste during construction and operation.	Landfills to include the following: liner system to prevent leachate, leachate collection system and control facility, gas vent system, final cover system, surface water drainage system, environmental monitoring system for air, water, soil, odor, and gas. Operations and maintenance manual (O&M) shall include closure and post-closure plan.
(xvii) Ensure that landfill is provided with proper impervious liner systems to avoid contamination of ground and/or surface water by leachates.	
(xviii) Ensure that active waste storage areas and compost plant is provided with impervious floor and covered; ensure that runoff / leachate from all active areas are connected to leachate collection system to avoid contamination of ground and/or surface water by leachates	
(xix) Solid waste treatment and disposal facility (compost and landfill) is designed to collect and treat leachate to discharge standards	
(xx) Ensure that biodegradable waste is decomposed on site in controlled conditions only – (i) ensuring adequate aeration for aerobic composting or (ii) anerobic decomposition only when produced gases can be properly captured and utilized or flared.	
(xxi) Ensure that no biodegradable wastes (except rejects from compost) are disposed into landfill which can promote generation of methane gas from decomposition of solid wastes in the absence of air	
(xxii) Provide landfill gas collection, and reuse / flaring system to ensure that such gases enter aquifers or escape through soil fissures; ensure that	

Environmental Selection Guidelines	Remarks
landfill gases are not accumulated which may lead to fires / explosion	
(xxiii) Standard operation procedures with appropriate equipment are ensured, and workers are provided with necessary training and personnel protection equipment to safeguard health and safety	
(xxiv) Train workers in recognizing, and handling hazardous waste material, including explosives, fuel, chemicals etc. safely	
(xxv) Project shall not include handling or management of hospital / biomedical waste	
(xxvi) Considering the size and capacity of towns, and scale of economies, processing and disposal facilities to be included under the project shall be limited to: (a) composting, (b) pre-processing facilities for dry recyclable wastes (shredding, baling etc.), and (d) sanitary landfill	Project shall not include facilities like that incinerators, pyrolysis-based processing units, etc.,
5. Urban roads	
(i) Include the provision of new or improved storm water drainage to remove the increased runoff caused by increasing the road surface area	
(ii) Shall not lead to alteration of surface water hydrology of waterways crossed by roads; ensure appropriate cross drainage structures	
(iii) Ensure that drainage system including cross drainage works are designed adequately considering the raised road levels that may create barrier effect	
(iv) Include tree planting preferably with indigenous or local tree species and duly considering road safety issues, alongside roads to provide a natural barrier to noise and visual impacts and include additional physical barriers where required	
6. Drainage and flood control improvement	
i. Outfalls should be to suitable drainage areas (<i>nallas</i> , canals, etc.) and avoid flooding to adjacent private lands.	
ii. Include measures to ensure the safe disposal of canal dredge (e.g., to dumpsite or landfill) without causing an environmental hazard.	
iii. Include provision for installation of regulator to control inflow/ outflow through drain to prevent backflow of water through drain (e.g., due to high water level at downstream discharge point, such as khal/ river)	

Environmental Selection Guidelines	Remarks
iv. Include measures to avoid pollution of downstream water body due to disposal of polluted water from drain	Do not allow direct connection to drain from sanitation facilities and/or wastewater with high organic load Ensure that no untreated / partially treated wastewater or industrial effluent is illegally discharged into drains by close coordination with Department of Environment Strictly follow the effluent discharge standard of DOE and consider introduction of small-scale treatment of polluted drain water before disposal (if needed)
7. Cyclone shelters	
(i) Ensure that sites selected are in areas easily accessible during the floods; design shall consider high flood levels to ensure climate resilience	
(ii) Comply with all requirements of relevant national and local laws, rules, and guidelines	See Section II of this EARF
(iii) Projects shall involve improvements within the boundary of existing facilities only. Where new facilities are required, these shall be sited on vacant government land, except as otherwise accepted by ADB and subject to compliance requirements under ADB's SPS (2009)	See resettlement framework
(iv) Ensure cyclone shelters are provided with potable water supply and sanitation facilities combined with improvements in wastewater and drainage to deal with the increased discharge of domestic wastewater. Ensure that water and waste disposal in constructed cyclone shelters are designed to national and international standards	
8. Market development	
(i) Ensure markets are provided with improvements in solid waste management, wastewater, and drainage to deal with increased generation of waste materials and discharge of wastewater. Ensure that waste and wastewater disposal in constructed markets are designed to national standards.	
(ii) Shall not be located in a flood prone area	
(iii) Ensure adequate provisions (including fire/emergency exits) for fire safety in accordance with Bangladesh National Building Code	
(iv) Provide provision of traffic circulation/traffic management or provision of parking area for the increased traffic due to market development to avoid traffic congestion in and around market area	

Environmental Selection Guidelines	Remarks
(v) Introduce provision of solar system for part of electric supply and promote energy efficient bulbs for contribution to carbon reduction	
(vi) Introduce provision of rooftop rainwater harvesting system for proper storm water management or in case of drinking water scarcity	
9. Bus terminals	
(i) Select bus terminal site with due consideration to entry and exit, and access roads; where necessary access roads should be improved to take additional traffic and improve safety	
(ii) Provide safe pedestrian access	
(iii) Provide provision of traffic circulation/traffic management or provision of parking area for the increased traffic due to bus terminal to avoid traffic congestion in and around market area	
(iv) Ensure bus/truck terminals are provided with improvements in solid waste management, wastewater, and drainage to deal with increased generation of waste materials and discharge of wastewater.	
(v) Ensure adequate provisions (including fire/emergency exits) for fire safety in accordance with Bangladesh National Building Code	
(vi) Introduce provision of solar system for part of electric supply and promote energy efficient bulbs for contribution to carbon reduction	
(vii) Introduce provision of rooftop rainwater harvesting system for proper storm water management or in case of drinking water scarcity	
10. Boat landing stations	
(i) Locate boat landing stations away from sensitive areas with mangroves, estuaries, areas notable for biodiversity, sensitive for erosion etc.,	
(ii) Comply with all requirements of relevant national and local laws, rules, and guidelines.	See Section II of this EARF
(iii) Projects shall involve improvements within the boundary of existing facilities only. Where new facilities are required, these shall be sited on vacant government land and ROWs, except as otherwise accepted by ADB and subject to compliance requirements under ADB's SPS (2009)	See resettlement framework
(iv) Develop boat landing stations only where the need is clearly demonstrated	
(v) Shall not lead to degradation of cultural properly, loss of cultural heritage or tourism revenues	
(vi) Construction work shall not lead to siltation or contamination of coastal water from runoff from	

Environmental Selection Guidelines	Remarks
construction area, chemical/fuel leaks and spills; avoidance and containment measures shall be put in place	

B. Environmental Assessment Procedures for Projects

1. Screening and Classification/Categorization

36. As soon as sufficient information on a subproject is available, the Project Management and Supervision Consultant (PMSC) environment safeguards specialist will conduct screening to determine the works' environmental category by completing ADB's rapid environmental assessment (REA) checklists in Appendix 3 and submitting this for review to the Project Management Unit (PMU), which will determine if the component would require environmental assessment and/or environmental clearance as per national requirements. If required, PMU will contact DOE for necessary endorsement and issuance of terms of reference for the environmental impact assessment study.

37. PMU will submit completed REA checklist to ADB for review. To ensure that the project meets ADB's environmental safeguard requirements, as stipulated in the SPS 2009, projects will be screened, and the level of environmental assessment required will be determined. Eligible projects will fall into either category B or C, as projects will be of small scale and often involve improvement or rehabilitation of the existing system/facilities. While category C projects will not require an environmental assessment, environmental implications will be reviewed.

2. Preparation of Environmental Assessment Report

38. Environmental assessment documents prepared under the project will, to the extent possible, meet both ADB and Government of Bangladesh requirements in order to streamline the environmental procedures required by both ADB and government.

39. IEE is required for Category B subprojects. Appendix 1 of ADB's SPS, 2009 provides the outline and contents to be followed while preparing IEEs (Appendix 5). Also, the sample IEEs prepared during project preparation provide a good sample which can be followed for preparation of environmental assessments in subsequent subprojects.

40. Siting and designing the subproject to avoid significant damage to physical cultural resources is to be ensured. ADB SPS, 2009 requires that such resources likely to be affected by the subproject are identified, and qualified and experienced experts assess the subproject's potential impacts on these resources using field-based surveys as an integral part of the environmental assessment process. When the proposed location of a subproject component is in areas where physical cultural resources are expected to be found as determined during the environmental assessment process, chance finds procedures shall be included in the EMP. Issues regarding natural and critical habitats will be covered in the IEE report. In case of subprojects located within these areas, a review of management plans and consultation with concerned management staff, local communities, and key stakeholders will be undertaken. Pollution prevention for conservation of resources, particularly technology for management of process wastes, occupational and community health and safety, will be addressed. The IEE will also reflect meaningful consultation and disclosure process with a provision for grievance redress mechanism.

41. ADB requires that an EMP must be developed as part of the IEE. The EMP will outline specific mitigation measures, environmental monitoring requirements, and related institutional arrangements, including budget requirements for implementation. Where impacts and risks cannot be avoided or prevented, mitigation measures and actions will be identified so that the subproject is designed, constructed, and operated in compliance with applicable laws and regulations and meets the requirements specified in the EMP. The level of detail and complexity of the EMP and the priority of the identified measures and actions will be commensurate with the subproject's impacts and risks. Key considerations include mitigation of potential adverse impacts to the level of "no significant harm to third parties," the "polluter pays" principle, the precautionary approach, and adaptive management.

42. If some residual impacts are likely to remain significant after mitigation, the EMP will also include appropriate compensatory measures (offset) that aim to ensure that the project does not cause significant net degradation to the environment. Such measures may relate, for instance, to conservation of habitat and biodiversity, preservation of ambient conditions, and greenhouse gas emissions. Monetary compensation in lieu of offset is acceptable in exceptional circumstances, provided that the compensation is used to provide environmental benefits of the same nature and is commensurate with the project's residual impact.

43. All IEEs including EMPs will be prepared and submitted to ADB for review, clearance and disclosure prior to bid invitation. The bid documents will include the requirement to incorporate necessary resources to implement the EMP. The IEE including EMP will form part of the bid and contract document, and, if required, will need to be further updated during the construction phase of a subproject.

3. Environmental Audit of Existing Facilities

44. For subprojects involving facilities and/or business activities that already exist or are under construction, the executing and implementing agencies will undertake an environment audit, including on-site assessment, to identify past or present concerns related to impacts on the environment. The objective of the compliance audit is to determine whether actions were in accordance with ADB's safeguard principles and requirements for borrowers/clients, and to identify and plan appropriate measures to address outstanding compliance issues. Where noncompliance is identified, a corrective action plan agreed on by ADB and the implementing agencies will be prepared. The plan will define necessary remedial actions, the budget for such actions, and the time frame for resolution of noncompliance. The audit report (including corrective action plan, if any) will be made available to the public in accordance with the information disclosure requirements of ADB SPS, 2009. If a project involves an upgrade or expansion of existing facilities that has potential impacts on the environment, the requirements for environmental assessments and planning specified in ADB SPS, 2009 will apply in addition to compliance audit.

C. Review of Environmental Assessment Reports

45. IEEs will be reviewed initially by PMU. In the case where an environmental clearance certificate (ECC) is required, the IEEs are to be forwarded to the DOE for approval and issuance of ECC. No works shall commence until the corresponding ECC is obtained.

46. LGED will forward the IEEs for ADB's review. ADB will review draft final reports of: (i) IEEs of any subprojects that have been updated due to changes in design; and (ii) IEEs of any new subproject classified as Category B.

47. For subproject processing, the steps to be followed are shown in Table 6. It is the responsibility of the executing and implementing agencies to ensure subprojects are consistent with the legal framework, whether national or municipal/local. Compliance is required in all stages of the project including design, construction, and operation and maintenance. Stricter requirements apply in case the result of ADB's classification is different from that of the government's ECR 1997.

Table 6: Environmental Procedures for Project Processing

Project Stage	ADB Procedure^a	Government of Bangladesh Procedure
Subproject identification	Screening of potential environmental impacts using the REA checklist	Categorization according to schedule and general/specific conditions in the government's ECR 1997
	Categorization (A/B/C) of the subprojects: PMU to prepare and submit the REA checklists to ADB to confirm the subproject category	ECC application involves the completion and submission of an application form available from the DOE website. This provides basic information on the project, such as the location, construction program, raw materials, water use, etc. The proponent is also required to submit an application fee prescribed in Schedule 13 of the Rules, plus various supporting documents.
Detailed design	Preparation of IEE Updating of sample IEEs based on detailed design Conduct detailed studies / surveys such as heritage assessment study / biodiversity assessment study as required	- DOE to issue scoping and terms of reference (TOR) for the EIA/IEE
	For projects involving facilities and/or business activities that already exist or are under construction, the borrower/client will undertake an environment and/or social compliance audit, including on-site assessment, to identify past or present concerns related to impacts on the environment, and involuntary resettlement. Where non-compliance is identified, a corrective action plan agreed on by ADB and the borrower/client will be prepared. ¹⁴	- Preparation of draft EIA/IEE as per TOR

¹⁴ The plan will define necessary remedial actions, the budget for such actions, and the time frame for resolution of noncompliance. The audit report (including corrective action plan, if any) will be made available to the public in accordance with the information disclosure requirements of the Safeguard Requirements 1-3.

Project Stage	ADB Procedure ^a	Government of Bangladesh Procedure
	Public consultation will be carried out in a manner commensurate with the impacts of affected communities. The consultation process and its results are to be documented and reflected in the IEE.	There is no mention of public consultation and disclosure in the ECR, so the requirements for these activities will also be clarified with DOE. Given the importance attached to these issues by ADB, it is likely that activities conducted to comply with ADB policy may satisfy DOE requirements.
	Disclosure on ADB's website of the final IEE; updated IEEs and corrective action plans; and environmental monitoring reports. In addition, for all categories, environmental information will be in an accessible place and in a form or language understandable to affected people and other stakeholders. For illiterate people, other suitable communication methods will be used.	
	Mitigation measures specified in IEE study incorporated in project design	Mitigation measures specified in EIA/IEE study incorporated in project design
	Identify and incorporate environmental mitigation and monitoring measures (including the EMP) into bid/contract documents.	
Appraisal	EMP and other environmental covenants are incorporated into the facility framework agreement, loan/project agreement, and project administration memorandum (PAM)	
Approval	ADB to review and clear IEE prior to approval and issuance of tender documents during detailed design stage. Complete IEE disclosed to public	Determination of ECC Application. Within 15 days (green), 30 days (Orange) and 60 days (red) of receipt of the application and accompanying documents, DOE will issue the Location Clearance Certificate (LCC) or will reject the application giving reasons for its decision.

Project Stage	ADB Procedure^a	Government of Bangladesh Procedure
Contract award	Obtain necessary environmental clearances, consents, and no-objection certificates (NOCs) prior to contract award. Implementation of EMP including monitoring plans based on IEE findings to be incorporated into civil works contracts.	On receipt of the LCC the proponent is permitted to undertake land preparation and install machinery, but he/she must then submit the EIA report and apply for the ECC. Within a further 60-day period DOE will approve the EIA and issue the ECC or reject the application with reasons. Once the ECC is granted, construction work may begin.
Implementation	Submission of semi-annual monitoring report to ADB including corrective action plan where non-compliance is identified.	Post Environmental Clearance Monitoring. There is no requirement for post ECC monitoring or reporting in the Environmental Conservation Rules, but this may be stipulated by DOE as a condition of ECC approval. Certificate Renewal. For orange and red category projects the ECC must be renewed every year, for which the fee is 25% of the original application.

^a At any stage of implementing a subproject, PMU may consult with ADB for any for clarifications on ADB SPS requirements.

V. CONSULTATION, INFORMATION DISCLOSURE, AND GRIEVANCE REDRESS MECHANISM

A. Public Consultation and Information Disclosure

48. Meaningful stakeholder consultation and participation is part of the project preparation and implementation strategy. A consultation and participation program has been prepared for the project and will be implemented with the assistance of consultants. By addressing stakeholder needs, there is greater awareness of the benefits and “ownership” of the project among stakeholders, which in turn contribute to sustainability. The consultation process during the project preparation has solicited inputs from a wide range of stakeholders, including government officials, NGOs, residents of the 4 towns, marginalized/vulnerable beneficiary groups, and project-affected persons (APs).

49. Consultation, participation, and disclosure will ensure that information is provided and feedback on proposed project design is sought early, right from the project preparation phase, so that the views/preferences of stakeholders including potential beneficiaries and affected people can be adequately considered in project design, and continue at each stage of project preparation, processing, and implementation. Project-affected persons will be consulted at various stages in the project cycle to ensure: (i) incorporation of views/concerns of APs on compensation/resettlement assistance and environmental impacts and mitigation measures; (ii) inclusion of vulnerable groups in project benefits; (iii) identification of help required by APs during rehabilitation, if any; and (iv) avoidance of potential conflicts for smooth project implementation. It will also provide adequate opportunities for consultation and participation to all stakeholders and inclusion of the poor, vulnerable, marginalized, and project-affected persons in the project process. Relevant information about any major changes to project scope will be shared with beneficiaries, affected persons, vulnerable groups, and other stakeholders.

50. A variety of approaches can be adopted. At minimum, stakeholders will be consulted regarding the scope of the environmental and social impact study before work commences, and they will be informed of the likely impacts of the project and proposed mitigation once the draft IEE and resettlement plan reports are prepared. The reports will record the views of stakeholders and indicate how these have been taken into account in project development. Consultations will be held with a special focus on vulnerable groups.

51. The key stakeholders to be consulted during project preparation, EMP implementation, and project implementation include:

- (i) beneficiaries;
- (ii) elected representatives, community leaders, religious leaders, and representatives of community-based organizations;
- (iii) local NGOs;
- (iv) local government and relevant government agency representatives, including local authorities responsible for land acquisition, protection, and conservation of forests and environment, archaeological sites, religious sites, and other relevant government departments;
- (v) residents, shopkeepers, and business people who live and work alongside the roads where pipes will be laid and near sites where facilities will be built; custodians, and users of socially and culturally important buildings;
- (vi) PMU staff and consultants; and
- (v) ADB and the Government of Bangladesh.

52. **Approach for Consultations during COVID-19 Pandemic.** Meaningful consultations will continue even as the COVID-19 pandemic prevails. Consultations will be undertaken through a combination of virtual and in-face consultations. Field consultations will be undertaken only when necessary, but following relevant national safety guidelines on COVID-19 issued by the Bangladesh Ministry of Health and Family Welfare and any other government institutions, to ensure project team members and participants are not put at high risk of contracting COVID-19.

B. Information Disclosure

53. Information is disclosed through public consultation and making relevant documents available in public locations. The following documents will be submitted to ADB for disclosure on its website:

- (i) final IEE, which may include assessment or audit of existing facilities, if any;
- (ii) a new or updated IEE and corrective action plan prepared during project implementation, if any; and
- (iii) environmental monitoring reports.

54. LGED will send written endorsement to ADB for disclosing these documents on ADB's website. LGED will also disclose these documents on its website in a timely manner, as well as in other accessible place/s and in a form and language understandable to affected people and other stakeholders. For illiterate people, other suitable communication methods will be used. LGED will ensure to disclose project information and documents locally prior to scheduled consultation/s in order to provide stakeholders time to read and consult with expert/s if needed.

C. Grievance Redress Mechanism

55. **Common GRM.** A common GRM will be in place for social, environmental, or any other grievances related to the project; the resettlement plans (RPs), RSECPs and IEEs will follow the GRM described below, which is developed in consultation with key stakeholders. The GRM will provide an accessible and trusted platform for receiving and facilitating resolution of affected persons' grievances related to the project. The multi-tier GRM for the project is outlined below, each tier having time-bound schedules and with responsible persons identified to address grievances and seek appropriate persons' advice at each stage, as required.

56. Across *Pourashava*, public awareness campaigns will ensure that awareness on grievance redress procedures is delivered to the stakeholders. The project implementation unit (PIU) under the guidance of Assistant Director RPMU will conduct *pourashava*-wide awareness campaigns to ensure that poor and vulnerable households are made aware of grievance redress procedures and entitlements and will work with the PIU safeguards assistant to help ensure that their grievances are addressed.

57. Affected persons will have the flexibility of conveying grievances/suggestions by dropping grievance redress/suggestion forms in complaints/suggestion boxes that will be installed by project *pourashavas* or through telephone hotlines at accessible locations, by e-mail, by post, WhatsApp or by writing in complaints register that will be kept in *pourashava* offices. Appendix 6 has the sample grievance registration form. Careful documentation of the name of the complainant, date of receipt of the complaint, address/contact details of the person, location of the problem area, and how the problem was resolved will be undertaken. The Assistant Directors from project management unit (PMU), RPMU and Project Implementation Unit (PIU) will have the overall responsibility for timely grievance redressal on environmental and social safeguards issues and for registration of grievances, related disclosure, and communication with the aggrieved party.

58. **Grievance redress process.** In case of grievances that are immediate and urgent in the perception of the complainant, the Social Coordinator, Contractor and Social Safeguard and Environment Specialist from the project management and supervision consultants (PMSC) on-site will provide the most easily accessible or first level of contact for quick resolution of grievances. Contact phone numbers and names of the concerned PIU safeguards assistant, contractors, PMU safeguards officer, PMSC environmental and social safeguards specialists will be posted at all construction sites at visible locations.

59. **1st Level Grievance, Pourashava Level PIU.** The contractors, PIU Safeguard and Gender Focal person can immediately resolve issues on-site or at *pourashava* level in consultation with each other with the support of Administrative Officer of *Pourashava*, designated municipal ward councilor and will be required to do so within 7 days of receipt of a complaint/grievance. Assistance of ward level coordination committees (WLCC) will be sought if required for resolution of the issue, by any one or all of them jointly. The first level grievance redress team will comprise of the following members:

- (i) Chief Executive Officer or in his absence *Pourashava* Secretary
- (ii) Executive Engineer, *Pourashava* (Safeguard and Gender Focal person)
- (iii) Administrative Officer, *Pourashava*
- (iv) Municipal Ward Councilor (designated)
- (v) EHS Supervisor/Social Coordinator, Contractor

60. The town-level grievance redress team shall have at least one women member. In addition, for project-related grievances, representatives of affected persons, community-based organizations (CBOs), and eminent citizens must be invited as observers in GRC meetings. In case of any impacts on small ethnic communities (SECs), in subproject towns (example: Kuakata), the grievance redress team must have representation of the affected SECs, the chief of the SEC group as traditional arbitrator (to ensure that traditional grievance redress systems are integrated) and/or an NGO working with SECs.

61. **2nd Level Grievance, RPMU, Division Level.** All grievances that cannot be redressed within 7 days at PIU level will be brought up to the RPMU level. Second level grievance redress team headed by the Deputy Project Director, RPMU supported by the Assistant Directors (environment, social safeguard and gender) and Construction Supervision and Safeguards Engineers /Asst. Supervision and Safeguards Engineers, PMSC will attempt to resolve the grievance /complaint within 7 days. At the RPMU level, the composition of 2nd level grievance redress team will be as follows:

- (i) Deputy Project Director
- (ii) Assistant Director (Environmental Safeguards)
- (iii) Assistant Director (Social Safeguards)
- (iv) Assistant Director (Gender) *supported by* Construction Supervision and Safeguards Engineers /Asst. Supervision and Safeguards Engineers, PMSC

62. **3rd Level Grievance, PMU Level.** All grievances that cannot be redressed within 7 days at RPMU level will be brought up to the PMU level. The RPMU safeguards team will refer any unresolved or major issues to the PMU level grievance redress team, that will be headed by the Project Director and will have Deputy Project Director, social safeguard, environment safeguards and gender Assistant Directors, and PMSC, who will resolve the complaints/grievances within 15 days. The PMU level grievance team will comprise of:

- (i) Project Director, PMU
- (ii) Deputy Project Director (Safeguards)
- (iii) Assistant Director (Environment)
- (iv) Assistant Director (Social Safeguards)
- (v) Assistant Director (Gender) *supported by* Social, Environment and Gender Specialist, PMSC

63. The grievance redress process is represented in Figure below.

64. Despite the project GRM, an aggrieved person shall have access to the country's legal system at any stage and accessing the country's legal system can run parallel to accessing the GRM and is not dependent on the negative outcome of the GRM.

65. In the event that the established GRM is not in a position to resolve the issue, the affected person also can use the ADB Accountability Mechanism (AM) through directly contacting (in writing) the Complaint Receiving Officer (CRO) at ADB headquarters or the ADB Bangladesh Resident Mission (BRM). Before submitting a complaint to the Accountability Mechanism, it is necessary that an affected person makes a good faith effort to solve the problem by working with the concerned ADB operations department and/or BRM. Only after doing that, and if they are still dissatisfied, will the Accountability Mechanism consider the complaint eligible for review. The complaint can be submitted in any of the official languages of ADB's developing member

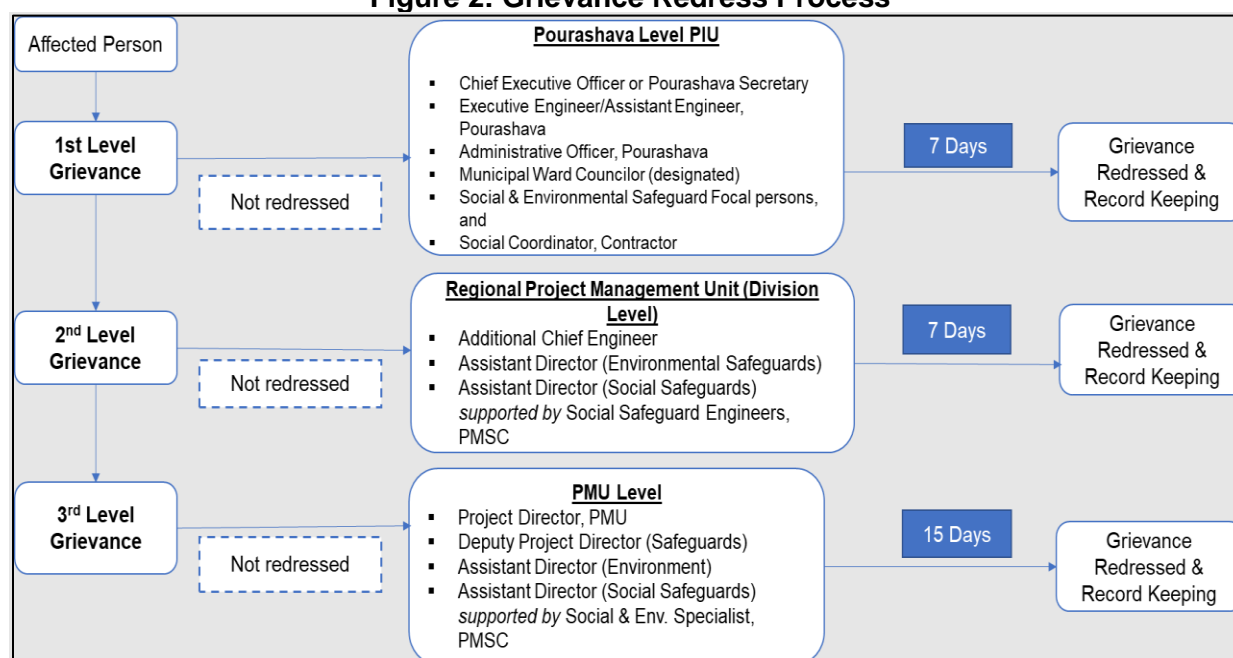
countries. The ADB Accountability Mechanism information will be included in the project-relevant information to be distributed to the affected communities, as part of the project GRM.

66. Records of all grievances received will be kept by PIU, including contact details of complainant, date the complaint was received, nature of grievance, agreed corrective actions and the date of the incident and outcome. The number of grievances recorded and resolved, and the outcomes will be displayed/disclosed in the PMU office, municipal office, and on the web, as well as reported in the safeguards monitoring reports submitted to ADB.

67. The PMU safeguard officer will periodically review the functioning of the GRM in each town and record information on the effectiveness of the mechanism, especially on the project's ability to prevent and address grievances.

68. All costs involved in resolving the complaints (meetings, consultations, communication and reporting/information dissemination) will be borne by the concerned PIU at town-level; while costs related to escalated grievances will be met by the PMU. Any transportation costs incurred by affected persons or their representatives (e.g., CBOs, SEC representative/NGOs) to attend GRC meetings will be reimbursed by the concerned PIU. Cost estimates for grievance redress are included in resettlement cost estimates.

Figure 2: Grievance Redress Process



GRC = grievance redressal committee; PIU = project implementation unit; PMSC = project management and supervision consultants; PMU = project management unit

Note: In case of project towns where impacts to SEC are assessed, the PIU-level grievance redress committee/team will have representation of the affected SECs.

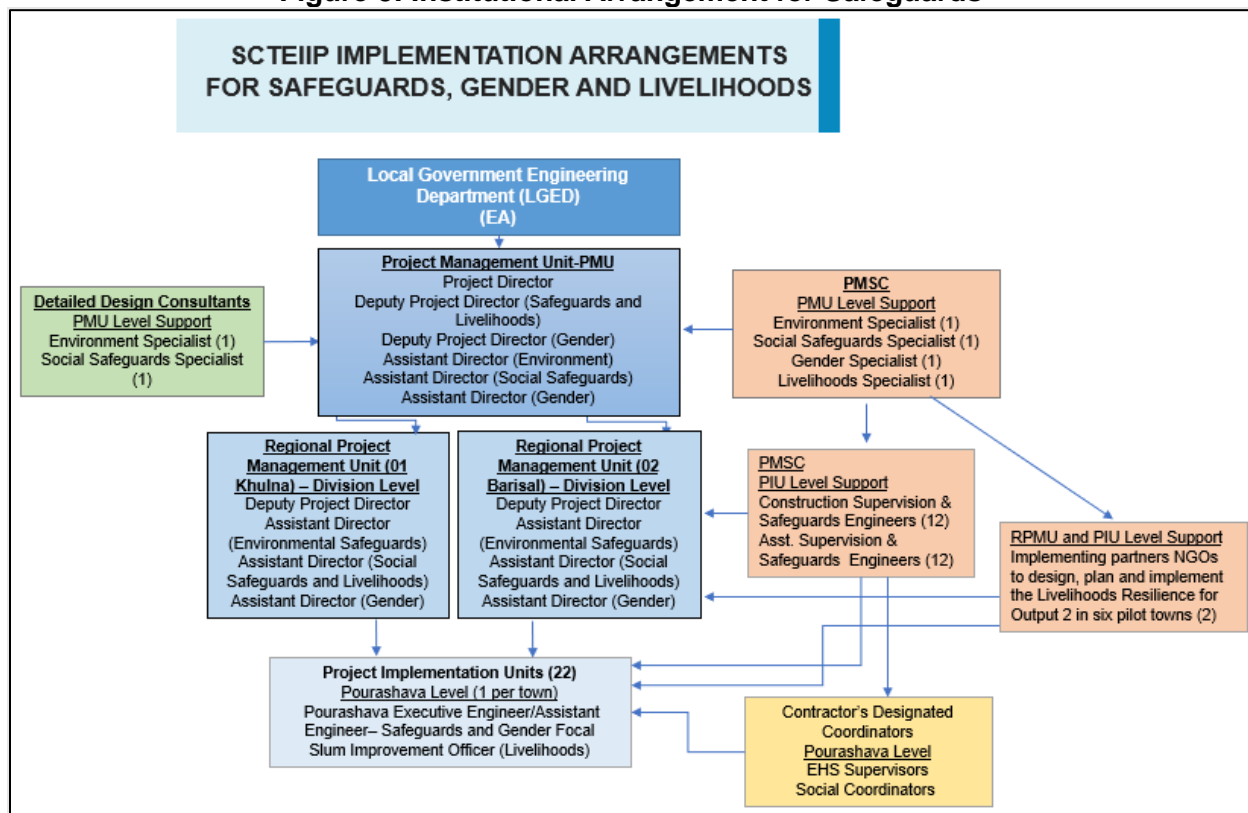
VI. INSTITUTIONAL ARRANGEMENTS AND RESPONSIBILITIES

A. Institutional Arrangements for Safeguards

69. The Ministry of Local Government, Rural Development and Cooperatives, acting through its Local Government Engineering Department (LGED), will be the Executing Agency. *Pourashavas* or towns selected to be beneficiaries of the project are the implementing agencies

70. Figure below depicts the institutional arrangement for safeguards of the overall project.

Figure 3: Institutional Arrangement for Safeguards



71. **Project Management Unit (PMU).** A PMU will be created within LGED to support the management and supervision of the project. The PMU will coordinate environment safeguards planning and implementation and ensure that the environmental assessment and review framework is followed during subproject implementation. There will be an environmental safeguards focal person in the PMU who is a permanent staff of LGED. The PMU will be assisted by two consultant teams, namely: Detailed Design Consultant (DDC) and Project Management and Supervision Consultant (PMSC). DDC and PMSC will each include an Environment Specialist and a Heritage / Archaeological Expert who will support in the efficient overall implementation of environmental safeguards of the project, through tasks described in relevant paragraphs below. The PMU will work closely with the regional PMUs (RPMUs) and project implementation units (PIUs) at the *Pourashava* level. The PMU will have the following responsibilities:

- (i) Ensure subprojects comply with the national and local statutory and legal environmental requirements, ADB SPS 2009, EARF and environmental safeguards provisions of the ADB loan covenant;
- (ii) Ensure subprojects conform to exclusion criteria and subproject selection guidelines as stipulated in this EARF;
- (iii) Review and approve the environmental categorization of future subprojects;
- (iv) Review and approve subproject IEE reports, including EMPs, and ensure that subproject IEEs and EMPs are updated based on final detailed designs and submit to ADB for review, clearance and disclosure prior to bid invitation;
- (v) Engage competent heritage experts and oversee conduct of heritage assessment study for towns such as Bagerhat where there are notified heritage areas close by,

- and implement recommendations; ensure that no works/sites are located within 1 km from the boundary of any UNESCO notified heritage area or within monuments protected by department of archaeology, government of Bangladesh
- (vi) Ensure that updated IEEs based on final detailed design are provided to the construction contractor prior to start of construction;
 - (vii) Ensure that the IEEs including EMPs are updated in case of changes in detailed design that may occur during implementation phase, and submitted to ADB for review, clearance and disclosure;
 - (viii) Ensure that IEEs with EMPs are included in bidding documents and civil works contracts;
 - (ix) Ensure that the requirement for contractors to prepare their respective Health and Safety (H&S) Plans including COVID-19 H&S Plans is included in bidding documents and civil works contracts;
 - (x) Review and approve site-specific EMPs (SEMPs) of contractors;
 - (xi) Provide oversight on environmental management aspects of the project, and ensure EMPs and SEMPs are implemented by contractors;
 - (xii) Establish a system to monitor environmental safeguards of the Project including monitoring the indicators set out in the monitoring plan of the IEE;
 - (xiii) Facilitate timely and ensure overall compliance with all national and local government rules and regulations regarding site and environmental permits/clearances/approvals as well as any other environmental requirements as relevant;
 - (xiv) Review, monitor and evaluate effectiveness with which the EMPs, SEMPs, and Health and Safety Plans are implemented, and recommend necessary corrective actions to be taken;
 - (xv) With support from PMSC, consolidate quarterly monitoring reports from the RPMUs and/or PIUs and submit semi-annual environmental monitoring reports (SEMRs) to ADB during construction;
 - (xvi) Ensure availability of budget for safeguards activities;
 - (xvii) Ensure adequate awareness campaigns, information disclosure among affected communities and timely disclosure of final IEEs/EMPs and SEMRs, including corrective action plans, if any, in project website and in a form accessible to the public;
 - (xviii) Address any grievances brought through the grievance redress mechanism (GRM) described in this IEE report in a timely manner;
 - (xix) Undertake regular review of safeguards-related loan covenants, and the compliance during project implementation; and
 - (xx) Organize periodic capacity building and training programs on safeguards for stakeholders, PMU, RPMUs, PIUs and contractors.

72. Regional Project Management Units (RPMU), Division Level. Regional project management units will be established at the Barishal and Khulna Divisions (Division level), which will be responsible for overall implementation of the subprojects in the different Pourashavas of these two Divisions. Each RPMU will be headed by Deputy Project Director. The RPMU will be staffed by an Assistant Director (Environment Safeguards), an Assistant Director (Social Safeguards) and an Assistant Director (Gender) who will assist the PMU safeguards and gender team in implementation of social and environment safeguard plans and gender action plan. The RPMU will undertake internal monitoring and supervision and record observations throughout the project period to ensure that the safeguards and mitigation measures are provided as intended.

73. The regional level environmental safeguards Assistant Director and social safeguards Assistant Director will jointly oversee safeguards implementation by the *pourashava*/town level PIU, coordinate public consultations, information disclosure, regulatory clearances and approvals, implementation of resettlement plans, EMP implementation, and grievance redressal.

74. The key tasks of the RPMU on environmental safeguards, through the RPMU Assistant Director (Environmental Safeguards) as lead and PMSC as support, will be as follows:

- (i) Supervise PMSC to coordinate with PIUs, conduct consultations with affected persons and key stakeholders, and update PMU accordingly for all subproject locations;
- (ii) Ensure and support preparation and/or updating of IEE reports by DDC and submit to PMU for review and approval, and submission to ADB;
- (iii) Support PIUs to obtain no objection certificates and/or permits required for the subprojects at the local or *pourashava* level, other than those certificates or permits that are to be obtained by the contractor;
- (iv) Provide all necessary support to heritage expert to conduct of heritage assessment study in Bagerhat, and coordinate with DDC to ensure that component sites are away from UNESCO heritage area (1.5-2 km), and in any case, no works/sites shall be located within 1 km from the boundary of the UNESCO heritage area or within monument/sites protected by department of archaeology, government of Bangladesh
- (v) Supervise PIUs to ensure no subproject civil works will commence until all relevant statutory requirements are obtained;
- (vi) Support PMU to ensure IEE report is included in bidding documents and civil works contracts;
- (vii) Guide PIUs to ensure EMPs of subprojects are implemented effectively and efficiently;
- (viii) Consolidate monthly environmental monitoring reports received from PIUs and prepare quarterly environmental monitoring reports to PMU;
- (ix) Guide PIUs to conduct continuous public consultation and awareness with affected persons and other key stakeholders;
- (x) Address any environment-related grievances brought about through the grievance redress mechanism promptly;
- (xi) Organize an induction course for the training of contractors, preparing them on EMP implementation and monitoring, grievance redress mechanism and actions towards any unanticipated environmental impacts that may occur during implementation; and
- (xii) Liaise with the district administration, and other division-level stakeholders, as and when required.

75. **Project Implementation Unit (PIU), *Pourashava*/Town Level.** The PIUs will be established and each staffed with a safeguards and gender focal person (Executive Engineer/Assistant Engineer, *pourashava*). PIUs will be assisted and will receive support from the respective RPMU environment, social and gender Assistant Directors and region level Construction Supervision and Safeguards Engineers, PMSC. The PIUs will be responsible for the implementation of the IEEs/resettlement plans/RSECPs/gender action plans. The PIU Executive Engineer (safeguards and gender focal person) with the support of Assistant Directors (social,

environment and gender), RPMU and the Construction Supervision and Safeguards Engineers, PMSC will support PMU safeguards Assistant Directors in subproject implementation. The Executive Engineer/ Assistant Engineer (safeguards and gender focal person) at PIU level will be assisted by Sub-Assistant Engineers (if available at the *pourashava* level) with the safeguard and gender tasks. The Slum Improvement Officer at the *pourashava* will be responsible for livelihood intervention tasks and responsibilities.

76. Key tasks and responsibilities of the PIU on environmental safeguards, through the PIU safeguard and gender focal person as lead and division-level PMSC as support, are as follows:

- (i) Ensure compliance with government and ADB requirements on environmental safeguards;
- (ii) Provide all necessary support to heritage expert to conduct of heritage assessment study in Bagerhat, and coordinate with DDC to ensure that component sites are away from UNESCO heritage area (1.5-2 km), and in any case, no works/sites shall be located within 1 km from the boundary of the UNESCO heritage area or within monument/sites protected by department of archaeology, government of Bangladesh
- (iii) With support from RMPU and Division-level PMSC, review and approve site-specific EMPs (SEMPs) prepared by contractor;
- (iv) Conduct regular site visits, including spot checks, to ensure the EMP and/or SEMP are properly implemented;
- (v) Review monthly reports from contractor;
- (vi) Prepare quarterly reports on all aspects concerning environmental assessment, management, and monitoring;
- (vii) Obtain approval of the quarterly reports from the Project Engineer, and submit approved reports to RPMU;
- (viii) Address any grievances brought about through the GRM as described in the IEE report in a timely manner; and
- (ix) Support all other environmental safeguards-related activities and tasks of the PMU/RPMU as may be needed.

77. **Detailed Design Consultants (DDC).** The project will be supported by the DDC, which will be staffed by an Environment Expert, Heritage / Archaeological Expert and a Social Safeguard Expert. DDC will support PMU in designing and planning of subproject components. The DDC will screen all subprojects for climate resilience, conduct technical surveys and detailed studies, heritage assessment studies, and prepare all engineering designs, bidding and safeguard documents. In collaboration with the PMSC Environmental Safeguards and Heritage Experts the tasks of the DDC Environmental Safeguards and Heritage Experts are as follows:

- (i) Screen and categorize final components of the subproject based on this EARF;
- (ii) Update/Finalize the initial environmental examination (IEE) reports including environmental management plans (EMPs) based on final detailed design of the subprojects and in accordance with ADB SPS and national laws, regulations, policies and guidelines; and
- (iii) Conduct due diligence of associated facilities and/or audit of existing facilities, if any, during the detailed design phase, as defined in ADB SPS;
- (iv) Ensure that technical design team works closely with the Heritage Expert; select subproject sites/work area as far as away from UNESCO heritage area in Bagerhat (1.5-2 km), and in any case, no works/sites shall be located within 1 km from the

boundary of the UNESCO heritage area or within monument/sites protected by department of archaeology, government of Bangladesh

- (v) Ensure that all recommendations made in the heritage assessment study are integrated into finalization of subproject sites, detailed designs, and construction methodologies

78. Project Management Supervision Consultant (PMSC). The PMSC will provide project management and supervision services to support the PMU, including overall project management and administration, construction supervision and quality control, safeguard compliance, municipal services operation and maintenance, monitoring and evaluations, and other activities as appropriate. PMSC will have an Environment Specialist who will lead environmental safeguards tasks. PMSC will also have a Heritage / Archaeological Expert to manage heritage assessment study, implementation of its recommendations on site.

79. The key responsibilities of PMSC on environmental safeguards (to be stationed at PMU level) and heritage expert (to be based on Bagerhat) are to fulfill collaborative tasks with the DDC Environment Specialist and Heritage / Archaeological Expert and provide expert support to PMU, RMPU and PIU on the following:

- (i) Screen and categorize final components of the subproject based on this EARF;
- (ii) Update/Finalize the initial environmental examination (IEE) reports including environmental management plans (EMPs) based on final detailed design of the subprojects and in accordance with ADB SPS and national laws, regulations, policies and guidelines;
- (iii) Engage heritage expert to review the works sites before the start of works, and confirm on site by joint verification with PIU and heritage management authority that project component sites such as in Bagerhat are away from UNESCO notified heritage area, and no works are located within 1 km of the boundary and are not within the within monument/sites protected by department of archaeology, government of Bangladesh
- (iv) Ensure that all recommendations made in the heritage assessment study are implemented
- (v) Conduct due diligence of associated facilities and/or audit of existing facilities, if any, during the detailed design phase, as defined in ADB SPS;
- (vi) Conduct of meaningful consultations and ensure issues/concerns/suggestions raised are incorporated in the corresponding design and updated/final IEE reports;
- (vii) Ensure relevant provisions from the updated/final IEE reports and EMPs are incorporated in the respective bid and contract documents;
- (viii) Establish grievance redressal mechanism and ensure members of the grievance committee have the necessary capacity to resolve project-related issues/concerns;
- (ix) Together with the social safeguards experts, conduct safeguards capacity building to ensure PMU, RMPU and PIU have the capacity to implement, monitor, and report on implementation of EMPs, resettlement plans and indigenous peoples plans (if any); and
- (x) Monitor implementation of EMPs at all work sites, including all potential safeguard issues identified in the safeguard documentation mentioned above;
- (xi) Monitor any unanticipated environmental risks or impacts that arise during construction, implementation or operation of the subproject that were not considered in the IEE reports and EMPs. Prepare corrective action plans and

ensure that these are implemented by the contractors and reported accordingly in environmental monitoring reports to ADB; and

80. **Civil Works Contracts and Contractors.** The IEE reports with EMPs will form part of respective bidding and contract documents and verified by PMU. The contractors will be required to designate their respective environment, health and safety officers (or equivalent) to ensure effective implementation of EMPs during civil works. Contractors are to carry out all environmental mitigation and monitoring measures outlined in their contracts and the IEE reports. The contractors will be required to submit to their respective PIUs, for review and approval, their SEMP that include the following: (i) proposed sites/locations for construction work camps, storage areas, hauling roads, lay down areas, disposal areas for solid and hazardous wastes; (ii) specific mitigation measures following the approved EMP; (iii) monitoring program per EMP; and (iv) budget for SEMP and EMP implementation. No works can commence until SEMP is approved by PIU.

81. Specifically, the contractors will have the following responsibilities, among others that will be included in the bid and contract documents:

- (i) Ensure that the infrastructure development works are carried out in an environmentally friendly manner, minimizing environmental impacts while ensuring the health and safety of all its workers and the minimizing disturbance to the surrounding environment and communities;
- (ii) Consideration of ADB SPS, national regulations and the EMP during bid preparation and cost estimation;
- (iii) Hire or designate full time Environment, Health and Safety Officer (or equivalent) responsible for compliance to ADB SPS requirements, national regulations and the EMP. The officer/staff must have a clear terms of reference and responsibilities to ensure that all environmental and social concerns are properly managed;
- (iv) Ensure regular reporting to the PIU on work progress and alert management on any potential issues or delays;
- (v) Strictly follow National COVID 19 protocols and other COVID-19 related instructions issued by the government, and immediately report to the PIU upon detection of COVID positive cases at the subproject sites;
- (vi) Obtain the necessary permits and clearances, if any is required for the contractors, to implement the subprojects;
- (vii) Ensure that all worker recruitment and OHS requirements are complied;
- (viii) Take necessary corrective action to rectify any non-conformance, including actions related to grievances;
- (ix) Institute an emergency plan for natural calamities/disasters and accidents at the site; and
- (x) Follow chance finds procedures to discovery of any physical cultural artifact.
- (xi) Comply with the requirements of heritage assessment study, and follow chance finds procedures to discovery of any physical cultural artifact.

82. A copy of the EMP/approved SEMP will be kept on-site during the construction period at all times. Non-compliance with, or any deviation from, the conditions set out in the EMP/SEMP constitutes a failure in compliance and will require corrective actions.

83. PMU will ensure that bidding and contract documents include specific provisions requiring contractors to comply with: (i) all applicable labor laws and core labor standards on (a) prohibition of child labor as defined in national legislation for construction and maintenance activities; (b)

equal pay for equal work of equal value regardless of gender, ethnicity, or caste; and (c) elimination of forced labor; and with (ii) the requirement to disseminate information on sexually transmitted diseases, including HIV/AIDS, to employees and local communities surrounding the proposed project infrastructure sites.

B. Institutional Capacity Development Program

84. The PMSC Environment Specialist and Social Safeguard Specialist will be responsible for training the PMU, RPMU, PIU and contractors. Training modules will need to cover safeguards awareness and management in accordance with both ADB and government requirements as specified below:

- (i) Environmental Safeguards
 - (a) sensitization on ADB's safeguard policy on environment;
 - (b) introduction to environment and environmental considerations in urban infrastructures;
 - (c) review of IEEs and integration into the project detailed design;
 - (d) improved coordination within nodal departments; and
 - (e) monitoring and reporting system. The contractors will be required to conduct environmental awareness and orientation of workers prior to deployment to work sites.
- (ii) Social Safeguards
 - (a) sensitization on ADB's policies on Involuntary Resettlement and Indigenous People;
 - (b) introduction to social safeguards assessment and document requirements;
 - (c) Consultation and participations requirements;
 - (d) Project GRM and ADB's Accountability Mechanism; and
 - (e) monitoring and reporting system.

85. **Methodology.** The capacity building program will be participatory to the extent possible to make it more effective, and will be achieved through combination of practical methodologies available such as lectures and workshops, learning by doing, role playing, group exercises, training by experts, on-the-job training and mentoring, and continuing team meetings and exercises. The PMSC Environment Specialist will spearhead the designing of specific programs appropriate for the target participants or stakeholders, including the execution of these programs during the different implementation phases of the project. Pre-training and post-training assessment will be an integral part of the overall program to measure its effectiveness, and identify any other needed interventions to improve effectiveness, if necessary.

86. As fundamental component for the capacity building program, basic lectures and seminar training sessions will be provided by the PMSC Environment Specialist to strengthen the awareness of project stakeholders on the requirements of ADB SPS and government environmental laws, rules and regulations. Modules will be prepared and customized based on the skills set and needs of the different stakeholders. The entire training will cover basic principles of environmental assessment and management mitigation plans and programs, implementation techniques, monitoring methods and tools. A proposed lecture and seminar training program along with the frequency of sessions is presented in the following table.

Table 7: Sample Lecture and Seminar Training Program for Environmental Management

Items	Pre-construction	Construction	
Training Title	Orientation workshop	Orientation program/ workshop for contractors and supervisory staff	Experiences and best practices sharing
Purpose	To make the participants aware of the environmental safeguard requirements of ADB and Government of Bangladesh and how the project will meet these requirements	To build the capacity of the staff for effective implementation of the designed EMPs aimed at meeting the environmental safeguard compliance of ADB and Government of Bangladesh	To share the experiences and best practices aimed at learning lessons and improving implementation of EMP
Contents	<p>Module 1: Orientation ADB Safeguards Policy Statement Government of Bangladesh Environmental Laws and Regulations</p> <p>Module 2: Environmental Assessment Process ADB environmental process, identification of impacts and mitigation measures, formulation of an environmental management plan (EMP), implementation, and monitoring requirements Review of environmental assessment report to comply with ADB requirements Incorporation of EMP into the project design and contracts</p>	<p>Roles and responsibilities of officials/contractors/consultants towards protection of the environment.</p> <p>Environmental issues during construction</p> <p>Implementation of EMP</p> <p>Monitoring of EMP implementation</p> <p>Reporting requirements</p>	<p>Experiences on EMP implementation – issues and challenges</p> <p>Best practices followed</p>
Duration	1 day	1 day	1 day on a regular period to be determined by PMU and PMSC
Participants	PMU, RPMU and PIU staff (technical and environmental) involved in the project implementation	PMU, RPMU, PIU, Contractors	PMU, RPMU, PIU, Contractors

C. Staffing Requirement and Budget

87. Costs required for implementing the EARF will cover the following activities:

- (i) Conducting environmental assessments of new subprojects, preparing and submitting reports and public consultation and disclosure;
- (ii) Application for Environmental Clearance; and
- (iii) Implementation of EMP and long-term surveys.

88. For budgeting purposes it is assumed that all new subprojects will be classified by ADB as Category B (requiring IEE), and that the report will also be deemed satisfactory by DOE. Some

subprojects may require a simpler environmental review, but this is discounted for budgeting purposes. LGED will aim to produce a single document that is acceptable to both ADB and DOE to avoid duplication of effort, and the documents prepared during the ADB loan processing and approval will be used as guides.

89. Each of the IEEs prepared to date involved approximately two weeks of effort by an experienced environmental specialist, conducting the following activities: (i) site visit to assess environmental conditions and potential impacts of the scheme; (ii) liaison with relevant government agencies to obtain any environmental/social data that might be available locally (e.g. population figures, designated sites, etc); (iii) consultation with the local community to inform them about the scheme and identify their views and concerns; (iv) assessment of impacts and development of mitigation; and (v) desk study and report preparation.

90. The infrastructures involved in each scheme are generally straightforward and will take between one to two years to build. Environmental monitoring during construction will also be straightforward and will involve periodic site observations and interviews with workers and others, plus checking and review of reports and other documents. This will be conducted by the PMU environment officer who will be assisted by a national environment specialist of the PMSC. The environment specialist of PMSC will work with the DDC environment specialist in supporting PMU for the preparation of IEEs, or environmental reviews for new subprojects. The budget therefore includes the full cost of the PMSC and DDC environment specialist consultants.

91. The cost of mitigation measures and surveys during construction stage will be incorporated into the contractor's costs, which will be binding on the contractor for implementation. The surveys will be conducted by the contractors.

92. The operation phase mitigation measures are again of good operating practices, which will be the responsibility of the PIUs. All monitoring during the operation and maintenance phase will be conducted by LGED; therefore, there are no additional costs.

93. The indicative costs of EARF implementation are shown in Table 8.

Table 8: Indicative Cost of EARF Implementation

Component	Description	Number	Cost Per Unit (USD)	Cost (USD)	Source of Funds
A. Consultants Costs¹⁵					
DDC Environment Specialist	Responsible for updating IEEs based on detailed design and preparation of new IEEs	18 person months	\$4,000	\$72,000	Remuneration and budget for travel covered in the DDC contract

¹⁵ Environment specialist consultants (DDC and PMSC) will be engaged to support the PMU environmental safeguards officer. These consultants will be engaged based on the needs during the design/implementation phase, which may be on full time basis in the initial stage of the design phase /first two years of implementation and on intermittent basis towards the end of design phase/ in the latter years until financial closure.

Component	Description	Number	Cost Per Unit (USD)	Cost (USD)	Source of Funds
DDC Heritage / Archaeological Expert	Responsible conduct of heritage assessment study and provide recommendations, and support in finalization of sites and design	3 person months	\$4,000	\$12,000	Remuneration and budget for travel covered in the DDC contract
PMSC Environment Specialist	Responsible for environmental safeguards of the project	36 person months (spread over entire project implementation period)	\$4,000	\$144,000	Remuneration and budget for travel covered in the PMSC contract
PMSC Heritage / Archaeological Expert	Responsible to review and approve heritage assessment study and implement recommendations, and guide/monitor design, construction	3 person months	\$4,000	\$12,000	Remuneration and budget for travel covered in the PMSC contract
B. Administrative Costs					
Legislation, permits, and agreements	Permit for excavation, tree-cutting permits, etc	Lump sum	\$1,000	\$1,000	These consents are to be obtained by contractor at his own expense.
	Environmental assessment and environmental clearances as per ECA and ECR requirements Obtaining right of way clearances with related national agencies.	Lump sum	\$50,000	\$50,000	LGED DPD cost for municipal infrastructures
C. Environmental Monitoring Costs					
Baseline monitoring	During detailed design stage to establish existing	Lump sum	\$10,000	\$10,000	Included in the PMSC contract

Component	Description	Number	Cost Per Unit (USD)	Cost (USD)	Source of Funds
prior to construction	environmental conditions				
	Before start of construction works	1 sample each for noise, ambient air quality, receiving/adjacent body of water	\$1,000 per subproject	\$20,000	Contractor's cost
Monitoring during construction	Sampling sites near sensitive areas (schools, hospitals, places of worship, historical/cultural areas)	Portable noise meters	Contractor's liability	Not applicable	Contractor's cost
	Sampling of ambient air quality	As may be needed	Part of contractor's budget	Part of contractor's budget	Contractor's cost
	Sampling of water quality; and/or Visual observation of receiving bodies of water	As may be needed (for sampling)	Part of contractor's budget	Part of contractor's budget	Contractor's cost
Monitoring during operation phase	Sampling (air, odor, noise, water quality) around landfill sites (IWM subprojects); and/or	As may be needed	Part of landfill operator's budget	Part of landfill operator's budget	Landfill Operator's cost
	Visual monitoring (other subprojects)		Part of Pourashava budget	Part of Pourashava budget	Pourashava cost
D. Other Costs					
Public consultations and information disclosure	Information disclosure and consultations during preconstruction and construction phase, including public awareness campaign through media	As per requirement	Lump sum	\$500,000	Covered under PMSC and ICCDC contracts
Capacity building	(i) Orientation workshop for officials involved in the project implementation on ADB Safeguards Policy	Module 1 – immediately upon engagement of the PMSC environmental safeguards specialist	Module 1 - \$500 Module 2 - \$200	\$4,700	Covered under PMSC and ICCDC contracts

Component	Description	Number	Cost Per Unit (USD)	Cost (USD)	Source of Funds
	Statement, Government of Bangladesh environmental laws and regulations, and environmental assessment process; (ii) induction course contractors, preparing them on EMP implementation and environmental monitoring requirements related to mitigation measures; and taking immediate action to remedy unexpected adverse impacts or ineffective mitigation measures found during the course of implementation; and (iii) lessons learned information sharing	Module 2 – prior to award of civil works contracts (twice a year for 4 years) Module 3 – prior to start of Phase 2 and upon completion of the project	Module 3 - \$500		
GRM implementation	Costs involved in resolving complaints (meetings, consultations, communication, and reporting/information dissemination)	Lump sum	Part of administration cost of PMUs	\$1,500 per year	PMU cost
Any unanticipated impact due to project implementation	Mitigation of any unanticipated impact arising during construction phase and defect liability period	Lump sum	Contractor's liability	As per insurance requirement	Contractor's insurance

VII. MONITORING AND REPORTING

94. PMU will monitor the overall progress of EMP implementation of the entire CTCRSP through the different subproject jurisdictions, including the drainage subproject in Bagerhat *Pourashava*. The PMU, RPMU and PIU will undertake their respective roles in site inspections

and document review to verify compliance with the EMP and SEMP, and progress toward the final outcome. The contractor will conduct day to day implementation of the SEMP.

95. The contractors of subprojects will submit monthly reports to the PIU/RPMU. The monthly reports will include compilation of copies of monitoring sheets accomplished and duly signed by the contractors' EHS Officers (or equivalent) on a daily basis. A sample daily monitoring sheet which can be used by the contractor is in Appendix 7. This monitoring sheet is indicative which can be further enhanced depending on the actual situations at subproject construction site.

96. The PIUs/RPMUs will submit quarterly environmental monitoring reports to PMU, which will include summary of monthly monitoring activities of contractors and results of any independent monitoring or inspection activities of the PIU and/or RPMU. In the conduct of these independent inspection activities, PIUs and/or RPMUs will be supported by PMSC in this regard. A sample inspection checklist is in Appendix 8. This checklist is indicative which can be further enhanced depending on the actual situations at subproject construction site.

97. PMU shall consolidate quarterly reports from the PIUs, and results of its independent monitoring or inspection activities. PMU shall accomplish semi-annual environmental monitoring report (SEMRs) starting from the effectivity date up to the end of construction phase, which shall be submitted to ADB for review and disclosure on ADB website. The template for the SEMR is attached as Appendix 9. The PMU shall prepare and submit annual environmental monitoring report during the operation phase until ADB issues a project completion report. Submission of these reports to ADB will be within thirty (30) days from the end date of reporting period.

98. In the event of unanticipated environmental impacts not considered as significant during implementation and not considered in the IEE and EMP, the PMU shall prepare a corresponding time-bound and budgeted corrective action plan acceptable to ADB, and ensure that these are implemented by the contractor/s and reported accordingly in environmental monitoring reports to ADB. If unanticipated environmental impacts deemed as significant become apparent during project implementation, the PMU will: (i) inform and seek ADB's advice; (ii) assess the significance of such unanticipated impacts; (iii) evaluate the options available to address them; and (iv) update the IEE including EMP. ADB will help the borrower mobilize the resources required to mitigate any adverse unanticipated impacts or damage.

Appendix 1: Environmental Standards and Application Fees

The standards for air, water, sound, odor and other components of the environment applicable to the project shall be determined in accordance with the standards specified in Schedules 2, 3, 4, 5, 6, and 8 of ECR, 1997.¹⁶

	Standards	ECR, 1997 (Rule 12) http://www.moef.gov.bd/html/laws/env_law/178189.pdf
1.	Air	Schedule 2
2.	Inland surface water	Schedule 3
	Drinking water	
3.	Sound	Schedule 4
4.	Sound Originating from Motor Vehicles or Mechanized Vessels	Schedule 5
5.	Emission from Motor Vehicles	Schedule 6
7.	Odor	Schedule 8

The standard limits of discharge of liquid waste and gaseous emissions applicable to the project shall be determined in accordance with the standards specified in Schedule 9 and 10

	Environmental Component	ECR, 1997 (Rule 13) http://www.moef.gov.bd/html/laws/env_law/178-189.pdf
1.	Sewage Discharge	Schedule 9
2.	Waste from Industrial Units or Projects Waste (see discharge to inland surface water and irrigated land)	Schedule 10

The fees for issuance of environmental clearance certificate and its renewal shall be payable in accordance with Schedule 13. The fees for analysis of samples of water, liquid waste, air and sound and also the information or data derived from such analysis are described in Schedule 14.

	Fees	ECR, 1997 (Rule 14 and 15) http://www.moef.gov.bd/html/laws/env_law/178-189.pdf
1.	Environmental clearance certificate or renewal	Schedule 13
2.	Supplying various analytical information or data or test results of samples of water, effluent, air and sound	Schedule 14

¹⁶ Following requirements of ADB SPS, the project shall apply pollution prevention and control technologies and practices consistent with international good practice, as reflected in EHS Guidelines. When the government regulations (e.g. environmental standards) differ from these levels and measures, the project shall achieve whichever is more stringent. If less stringent levels or measures (e.g. environmental standards) are appropriate in view of specific project circumstances, LGED through PMU will provide full and detailed justification for any proposed alternatives that are consistent with the requirements presented in ADB SPS, 2009.

¹“ SCHEDULE – 13**Fees for Environmental Clearance Certificate or Renewal**

[See Rules 7(5), 8(2) and 14]

1. Industrial unit or project

Investment (in Taka)	Fees for Environmental Clearance Certificate (in Taka)	Certificate Renewal Fee
(1)	(2)	(3)
(a) Between Tk. 100,000 and 5,00,000	Tk. 1,500	One-fourth of the fees in Column (2).
(b) Between Tk. 5,00,000 and 10,00,000	Tk. 3,000	-Do-
(c) Between Tk. 10,00,000 and 50,00,000	Tk. 5,000	-Do-
(d) Between Tk. 50,00,000 and 10,00,00,000	Tk. 10,000	-Do-

¹ Schedule-13 was substituted by Notification S.R.O. No. 234-Law/2002 dated 24/08/2002 and came into force on 26/08/2002 being the date of publication in Bangladesh Gazette extraordinary issue.

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(1)	(2)	(3)
(e) Between Tk. 10,00,000 and 2,00,000,000	Tk. 25,000	One-fourth of the fees in Column (2).
(f) Between Tk. 2,00,000,000 and 5,00,000,000	Tk. 50,000	-Do-
(g) Above Tk. 5,00,000,000	Tk. 1,00,000	-Do-

Appendix 2: Anticipated Environmental Impacts Due to Project Implementation

Impact Field	Anticipated Impact on the Environment
Design phase	
Environmental clearances	Environmental clearances, consents, and permits are required (Section II of the EARF) in order to implement the project. If not pursued on time, this can delay the project. Necessary environmental clearances and permits have to be obtained and must follow the guidelines issued by the authorities.
Climate change and disaster risk resilience	Detailed designs should consider climate change and disaster risk resilience measures
Construction phase	
Air quality	Emissions from construction vehicles, equipment, and machinery used for excavation and construction, resulting in dust and increase in concentration of vehicle-related pollutants such as carbon monoxide, sulfur oxides, particulate matter, nitrous oxides, and hydrocarbons
Surface water quality	Mobilization of settled silt materials, runoff from stockpiled materials, and chemical contamination from fuels and lubricants during construction works can contaminate downstream surface water quality.
Local drainage	Construction material/debris/wastes may block local drainage if improperly stored or disposed of, and result in local flooding/waterlogging
Noise levels	Increase in noise level due to earth-moving and excavation equipment and the transportation of equipment, materials, and people. Operation of heavy equipment and machines in the nighttime can cause nuisance to the surrounding environment/ people.
Ecological resources	Felling of the trees affects terrestrial ecological balance. Aquatic ecosystems (ponds, khals) may also be affected in case of chemical contamination/siltation
Sources of materials	Extraction of materials can disrupt natural land contours and vegetation, resulting in accelerated erosion, disturbance in natural drainage patterns, ponding and waterlogging, and water pollution.
Existing infrastructure, facilities and utilities	Telephone lines, electric poles and wires, and water pipes (old) existing within right-of-way (ROW) require shifting without disruption to services. Health risk due to closure of existing water supply, such as community tanks, water stations, and privately-owned small water pipes
Construction work camps, hot mix plants, stockpile areas, storage areas, and disposal areas	Locations may cause encroachment/impact either directly or indirectly on adjacent environments. It may also include impacts on the people who might lose their homes or livelihoods due to the project activities. Temporary air and noise pollution from machine operation, and water pollution from storage and use of fuels, oils, solvents, and lubricants. This may cause conflict with residents and problem of waste disposal and disruptions to residents.
Construction waste	Excavation works, cleaning of drainages and trenching will produce additional amounts of waste soil. Accumulation of debris waste materials and stockpiling can cause environmental visual pollution.
Social and cultural resources	Sites of social/cultural importance (schools, hospitals, religious places, tourism sites) may be disturbed by noise, dust, vibration, and impeded access. Ground disturbance can uncover and damage archaeological and historical remains.
Landscape and aesthetics	Solid wastes as well as excess construction materials create unacceptable aesthetic conditions.
Traffic	Traffic flow will be disrupted if routes for delivery of construction materials and temporary blockages during construction activities are not planned and coordinated.

Impact Field	Anticipated Impact on the Environment
Accessibility	Traffic problems and conflicts in ROW. Roads, people, and businesses may be disturbed by repeated trenching.
Income	Impede the access of residents and customers to nearby shops. Shops may lose business temporarily.
Occupational health and safety	Occupational hazards which can arise during construction (e.g., trenching, falling objects, etc.).
Community health and safety	Community hazards can arise during construction (e.g., open trenches, air quality, noise, falling objects, etc.). Trenching on concrete roads using pneumatic drills will cause noise and air pollution. Traffic accidents and vehicle collision with pedestrians during material and waste transportation
Post-construction phase	
Clean-up operations, restoration and rehabilitation	Impacts on social or sensitive receptors when post-construction requirements are not undertaken, e.g. proper closure of camp, disposal of solid waste, and restoration of land after project construction.
Operation and maintenance phase	
Environmental Clearance Certificate renewal	For orange and red category projects the ECC must be renewed every year, for which the fee is 25% of the original application.
General maintenance	Maintenance activities may cause disturbance to sensitive receptors, dust, and increase in noise level.
Economic development	Impediments to residents and businesses during routine maintenance
Biodiversity fauna and flora	The proposed development is situated within an existing built-up area . No areas of ecological diversity occur within the project location. Due to the nature and locality of the project, there is unlikely to any significant impacts on biodiversity within the area during maintenance works. The use of fertilizers and herbicides in maintenance of newly planted trees, landscape and vegetation may, however, affect the environment.
Health and safety	Danger of operations and maintenance-related injuries Safety of workers and general public must be ensured. Poor waste management practices and unhygienic conditions at the improved facilities can breed diseases. Standing water due to inadequate storm water drainage systems and inadequate waste management practices pose a health hazard by providing breeding grounds for disease vectors such as mosquitoes, flies, and rats.
Solid waste and domestic wastewater/treatment plant effluent/leachate	Solid waste residuals which may be generated during operations and maintenance activities. Sludge, backwash water and effluent will be generated from water treatment plants. Biosolids and effluent will be generated from septage treatment plants. IWM facilities (landfill) may contaminate the soil and groundwater from leaks of leachate.
Hazardous chemicals	Water treatment involves the use of chemicals for coagulation, disinfection, and water conditioning.

Appendix 3: Rapid Environmental Assessment Checklists

1. Roads, bridges and culverts

Screening Questions	Yes	No	Remarks
A. Project Siting Is the project area adjacent to or within any of the following environmentally sensitive areas?			
▪ Cultural heritage site			
▪ Protected Area			
▪ Wetland			
▪ Mangrove			
▪ Estuarine			
▪ Buffer zone of protected area			
▪ Special area for protecting biodiversity			
B. Potential Environmental Impacts Will the Project cause...			
▪ encroachment on historical/cultural areas; disfiguration of landscape by road embankments, cuts, fills, and quarries?			
▪ encroachment on precious ecology (e.g. sensitive or protected areas)?			
▪ alteration of surface water hydrology of waterways crossed by roads, resulting in increased sediment in streams affected by increased soil erosion at construction site?			
▪ deterioration of surface water quality due to silt runoff and sanitary wastes from worker-based camps and chemicals used in construction?			
▪ increased local air pollution due to rock crushing, cutting and filling works, and chemicals from asphalt processing?			
▪ risks and vulnerabilities related to occupational health and safety due to physical, chemical, biological, and radiological hazards during project construction and operation during project construction and operation?			
▪ noise and vibration due to blasting and other civil works?			
▪ dislocation or involuntary resettlement of people?			
▪ dislocation and compulsory resettlement of people living in right-of-way?			
▪ disproportionate impacts on the poor, women and children, Indigenous Peoples or other vulnerable groups?			
▪ other social concerns relating to inconveniences in living conditions in the project areas that may trigger cases of upper respiratory problems and stress?			
▪ hazardous driving conditions where construction interferes with pre-existing roads?			
▪ poor sanitation and solid waste disposal in construction camps and work sites, and possible transmission of communicable diseases (such as STI's and HIV/AIDS) from workers to local populations?			
▪ creation of temporary breeding habitats for diseases such as those transmitted by mosquitoes and rodents?			
▪ accident risks associated with increased vehicular traffic, leading to accidental spills of toxic materials?			
▪ increased noise and air pollution resulting from traffic volume?			

Screening Questions	Yes	No	Remarks
▪ increased risk of water pollution from oil, grease and fuel spills, and other materials from vehicles using the road?			
▪ social conflicts if workers from other regions or countries are hired?			
▪ large population influx during project construction and operation that causes increased burden on social infrastructure and services (such as water supply and sanitation systems)?			
▪ risks to community health and safety due to the transport, storage, and use and/or disposal of materials such as explosives, fuel and other chemicals during construction and operation?			
▪ community safety risks due to both accidental and natural causes, especially where the structural elements or components of the project are accessible to members of the affected community or where their failure could result in injury to the community throughout project construction, operation and decommissioning.			
Climate Change and Disaster Risk Questions The following questions are not for environmental categorization. They are included in this checklist to help identify potential climate and disaster risks.	Yes	No	Remarks
▪ Is the Project area subject to hazards such as earthquakes, floods, landslides, tropical cyclone winds, storm surges, tsunamis or volcanic eruptions and climate changes?			
▪ Could changes in temperature, precipitation, or extreme events patterns over the project lifespan affect technical or financial sustainability (e.g., increased erosion or landslides could increase maintenance costs, permafrost melting or increased soil moisture content could affect sub0-grade)?			
▪ Are there any demographic or socio-economic aspects of the Project area that are already vulnerable (e.g., high incidence of marginalized populations, rural-urban migrants, illegal settlements, ethnic minorities, women or children)?			
▪ Could the Project potentially increase the climate or disaster vulnerability of the surrounding area (e.g., by encouraging settlement in areas that will be more affected by floods in the future, or encouraging settlement in earthquake zones)?			

Note: Hazards are potentially damaging physical events.

2. Solid Waste Management

Screening Questions	Yes	No	Remarks
A. Project Siting Is the project area adjacent to or within any of the following environmentally sensitive areas?			
▪ Cultural heritage site			
▪ Protected Area			
▪ Wetland			
▪ Mangrove			
▪ Estuarine			
▪ Buffer zone of protected area			
▪ Special area for protecting biodiversity			
C. Potential Environmental Impacts Will the Project cause...			
▪ impacts associated with transport of wastes to the disposal site or treatment facility			

Screening Questions	Yes	No	Remarks
▪ impairment of historical/cultural monuments/areas and loss/damage to these sites?			
▪ degradation of aesthetic and property value loss?			
▪ nuisance to neighboring areas due to foul odor and influx of insects, rodents, etc.?			
▪ dislocation or involuntary resettlement of people?			
▪ disproportionate impacts on the poor, women and children, Indigenous Peoples or other vulnerable groups?			
▪ risks and vulnerabilities related occupational health and safety due to physical, chemical, biological, and radiological hazards during project construction and operation?			
▪ public health hazards from odor, smoke from fire, and diseases transmitted by flies, insects, birds and rats?			
▪ deterioration of water quality as a result of contamination of receiving waters by leachate from land disposal system?			
▪ contamination of ground and/or surface water by leachate from land disposal system?			
▪ land use conflicts?			
▪ pollution of surface and ground water from leachate coming from sanitary landfill sites or methane gas produced from decomposition of solid wastes in the absence of air, which could enter the aquifer or escape through soil fissures at places far from the landfill site?			
▪ inadequate buffer zone around landfill site to alleviate nuisances?			
▪ road blocking and/or increased traffic during construction of facilities?			
▪ noise and dust from construction activities?			
▪ temporary silt runoff due to construction?			
▪ hazards to public health due to inadequate management of landfill site caused by inadequate institutional and financial capabilities for the management of the landfill operation?			
▪ emission of potentially toxic volatile organics from land disposal site?			
▪ surface and ground water pollution from leachate and methane gas migration?			
▪ loss of deep-rooted vegetation (e.g. trees) from landfill gas?			
▪ explosion of toxic response from accumulated landfill gas in buildings?			
▪ contamination of air quality from incineration?			
▪ public health hazards from odor, smoke from fire, and diseases transmitted by flies, rodents, insects and birds, etc.?			
▪ health and safety hazards to workers from toxic gases and hazardous materials in the site?			
▪ large population influx during project construction and operation that causes increased burden on social infrastructure and services (such as water supply and sanitation systems)?			
▪ social conflicts if workers from other regions or countries are hired?			
▪ risks to community health and safety due to the transport, storage, and use and/or disposal of materials such as explosives, fuel and other chemicals during construction and operation?			

Screening Questions	Yes	No	Remarks
<ul style="list-style-type: none"> community safety risks due to both accidental and natural hazards, especially where the structural elements or components (e.g., landfill or incinerator) of the project are accessible to members of the affected community or where their failure could result in injury to the community throughout project construction, operation and decommissioning? 			
Climate Change and Disaster Risk Questions The following questions are not for environmental categorization. They are included in this checklist to help identify potential climate and disaster risks.			
<ul style="list-style-type: none"> Is the project area subject to hazards such as earthquakes, floods, landslides, tropical cyclone winds, storm surges, tsunami or volcanic eruptions and climate changes? 			
<ul style="list-style-type: none"> Could changes in temperature, precipitation, or extreme events patterns over the project lifespan affect technical or financial sustainability (e.g., increased erosion or landslides could increase maintenance costs, permafrost melting or increased soil moisture content could affect sub0-grade)? 			
<ul style="list-style-type: none"> Are there any demographic or socio-economic aspects of the Project area that are already vulnerable (e.g., high incidence of marginalized populations, rural-urban migrants, illegal settlements, ethnic minorities, women or children)? 			
<ul style="list-style-type: none"> Could the Project potentially increase the climate or disaster vulnerability of the surrounding area (e.g., by encouraging settlement in areas that will be more affected by floods in the future, or encouraging settlement in earthquake zones)? 			

Note: Hazards are potentially damaging physical events.

3. Buildings (Cyclone Shelters, Boat Landings, Markets, and Bus Terminals)

Screening Questions	Yes	No	Remarks
A. Project Siting Is the project area adjacent to or within any of the following areas:			
<ul style="list-style-type: none"> Underground utilities 			
<ul style="list-style-type: none"> Cultural heritage site 			
<ul style="list-style-type: none"> Protected Area 			
<ul style="list-style-type: none"> Wetland 			
<ul style="list-style-type: none"> Mangrove 			
<ul style="list-style-type: none"> Estuarine 			
<ul style="list-style-type: none"> Buffer zone of protected area 			
<ul style="list-style-type: none"> Special area for protecting biodiversity 			
<ul style="list-style-type: none"> Bay 			
B. Potential Environmental Impacts Will the Project cause...			
<ul style="list-style-type: none"> Encroachment on historical/cultural areas? 			
<ul style="list-style-type: none"> Encroachment on precious ecology (e.g. sensitive or protected areas)? 			
<ul style="list-style-type: none"> Impacts on the sustainability of associated sanitation and solid waste disposal systems? 			
<ul style="list-style-type: none"> Dislocation or involuntary resettlement of people? 			
<ul style="list-style-type: none"> Disproportionate impacts on the poor, women and children, Indigenous Peoples or other vulnerable groups? 			

Screening Questions	Yes	No	Remarks
▪ Accident risks associated with increased vehicular traffic, leading to loss of life?			
▪ Increased noise and air pollution resulting from increased traffic volume?			
▪ Occupational and community health and safety risks?			
▪ Risks and vulnerabilities related to occupational health and safety due to physical, chemical, biological, and radiological hazards during project construction and operation?			
▪ Generation of dust in sensitive areas during construction?			
▪ Requirements for disposal of fill, excavation, and/or spoil materials?			
▪ Noise and vibration due to blasting and other civil works?			
▪ Long-term impacts on groundwater flows as result of needing to drain the project site prior to construction?			
▪ Long-term impacts on local hydrology as a result of building hard surfaces in or near the building?			
▪ Large population influx during project construction and operation that causes increased burden on social infrastructure and services (such as water supply and sanitation systems)?			
▪ Social conflicts if workers from other regions or countries are hired?			
▪ Risks to community safety caused by fire, electric shock, or failure of the buildings safety features during operation?			
▪ Risks to community health and safety caused by management and disposal of waste?			
▪ Community safety risks due to both accidental and natural hazards, especially where the structural elements or components of the project are accessible to members of the affected community or where their failure could result in injury to the community throughout project construction, operation and decommissioning?			

Note: Hazards are potentially damaging physical events.

4. Urban Development (Drainage and Flood Control)

Screening questions	Yes	No	Remarks
A. Project siting Is the project area adjacent to or within any of the following environmentally sensitive areas?			
▪ Cultural heritage site			
▪ Protected area			
▪ Wetland			
▪ Mangrove			
▪ Estuarine			
▪ Buffer zone of protected area			
▪ Special area for protecting biodiversity			
B. Potential environmental impacts Will the project cause...			

Screening questions	Yes	No	Remarks
▪ impacts on the sustainability of associated sanitation and solid waste disposal systems and their interactions with other urban services.			
▪ deterioration of surrounding environmental conditions due to rapid urban population growth, commercial and industrial activity, and increased waste generation to the point that both manmade and natural systems are overloaded and the capacities to manage these systems are overwhelmed?			
▪ degradation of land and ecosystems (e.g. loss of wetlands and wild lands, coastal zones, watersheds and forests)?			
▪ dislocation or involuntary resettlement of people?			
▪ disproportionate impacts on the poor, women and children, Indigenous Peoples or other vulnerable group?			
▪ degradation of cultural property, and loss of cultural heritage and tourism revenues?			
▪ occupation of low-lying lands, floodplains and steep hillsides by squatters and low-income groups, and their exposure to increased health hazards and risks due to pollutive industries?			
▪ water resource problems (e.g. depletion/degradation of available water supply, deterioration for surface and ground water quality , and pollution of receiving waters?			
▪ air pollution due to urban emissions?			
▪ risks and vulnerabilities related to occupational health and safety due to physical, chemical and biological hazards during project construction and operation?			
▪ road blocking and temporary flooding due to land excavation during rainy season?			
▪ noise and dust from construction activities?			
▪ traffic disturbances due to construction material transport and wastes?			
▪ temporary silt runoff due to construction?			
▪ hazards to public health due to ambient, household and occupational pollution, thermal inversion, and smog formation?			
▪ water depletion and/or degradation?			
▪ overpaying of ground water, leading to land subsidence, lowered ground water table, and salinization?			
▪ contamination of surface and ground waters due to improper waste disposal?			
▪ pollution of receiving waters resulting in amenity losses, fisheries and marine resource depletion, and health problems?			
▪ large population influx during project construction and operation that causes increased burden on social infrastructure and services (such as water supply and sanitation systems)?			
▪ social conflicts if workers from other regions or countries are hired?			
▪ risks to community health and safety due to the transport, storage, and use and/or disposal of materials such as explosives, fuel and other chemicals during operation and construction?			
▪ community safety risks due to both accidental and natural hazards, especially where the structural elements or components of the project are accessible to members of the affected community or where their failure could result in injury to the community throughout project construction, operation and decommissioning?			

Screening questions	Yes	No	Remarks
Climate Change and Disaster Risk Questions The following questions are not for environmental categorization. They are included in this checklist to help identify potential climate and disaster risks.	Yes	No	Remarks
<ul style="list-style-type: none"> Is the project area subject to hazards such as earthquakes, floods, landslides, tropical cyclone winds, storm surges, tsunami or volcanic eruptions and climate changes? 			
<ul style="list-style-type: none"> Could changes in temperature, precipitation, or extreme events patterns over the project lifespan affect technical or financial sustainability (e.g., increased erosion or landslides could increase maintenance costs, permafrost melting or increased soil moisture content could affect sub0-grade)? 			
<ul style="list-style-type: none"> Are there any demographic or socio-economic aspects of the Project area that are already vulnerable (e.g., high incidence of marginalized populations, rural-urban migrants, illegal settlements, ethnic minorities, women or children)? 			
<ul style="list-style-type: none"> Could the Project potentially increase the climate or disaster vulnerability of the surrounding area (e.g., by encouraging settlement in areas that will be more affected by floods in the future, or encouraging settlement in earthquake zones)? 			

Note: Hazards are potentially damaging physical events.

5. Water Supply

Screening questions	Yes	No	Remarks
A. Project siting Is the project area adjacent to or within any environmentally sensitive areas?...			
<ul style="list-style-type: none"> Densely populated? 			
<ul style="list-style-type: none"> Heavy with development activities? 			
<ul style="list-style-type: none"> Cultural heritage site 			
<ul style="list-style-type: none"> Protected area 			
<ul style="list-style-type: none"> Wetland 			
<ul style="list-style-type: none"> Mangrove 			
<ul style="list-style-type: none"> Estuarine 			
<ul style="list-style-type: none"> Buffer zone of protected area 			
<ul style="list-style-type: none"> Special area for protecting biodiversity 			
<ul style="list-style-type: none"> Bay 			
B. Potential environmental impacts Will the project cause...			
<ul style="list-style-type: none"> Pollution of raw water supply from upstream wastewater discharge from communities, industries, agriculture, and soil erosion runoff? 			
<ul style="list-style-type: none"> Impairment of historical/cultural monuments/areas and loss/damage to these sites? 			
<ul style="list-style-type: none"> Hazard of land subsidence caused by excessive ground water pumping? 			
<ul style="list-style-type: none"> Social conflicts arising from displacement of communities? 			
<ul style="list-style-type: none"> Conflicts in abstraction of raw water for water supply with other beneficial water uses for surface and ground waters? 			
<ul style="list-style-type: none"> Unsatisfactory raw water supply (e.g. excessive pathogens or mineral constituents)? 			
<ul style="list-style-type: none"> Delivery of unsafe water to distribution system? 			

Screening questions	Yes	No	Remarks
▪ Inadequate protection of intake works or wells, leading to pollution of water supply?			
▪ Over pumping of ground water, leading to salinization and ground subsidence?			
▪ Excessive algal growth in storage reservoir?			
▪ Increase in production of sewage beyond capabilities of community facilities?			
▪ Inadequate disposal of sludge from water treatment plants?			
▪ Inadequate buffer zone around pumping and treatment plants to alleviate noise and other possible nuisances and protect facilities?			
▪ Impairments associated with transmission lines and access roads?			
▪ Health hazards arising from inadequate design of facilities for receiving, storing, and handling of chlorine and other hazardous chemicals.			
▪ Health and safety hazards to workers from handling and management of chlorine used for disinfection, other contaminants, and biological and physical hazards during project construction and operation?			
▪ Dislocation or involuntary resettlement of people?			
▪ Disproportionate impacts on the poor, women and children, indigenous peoples or other vulnerable groups?			
▪ Noise and dust from construction activities?			
▪ Increased road traffic due to interference of construction activities?			
▪ Continuing soil erosion/silt runoff from construction operations?			
▪ Delivery of unsafe water due to poor O&M treatment processes (especially mud accumulations in filters) and inadequate chlorination due to lack of adequate monitoring of chlorine residuals in distribution systems?			
▪ Delivery of water to distribution system, which is corrosive due to inadequate attention to feeding of corrective chemicals?			
▪ Accidental leakage of chlorine gas?			
▪ Excessive abstraction of water affecting downstream water users?			
▪ Competing uses of water?			
▪ Increased volume of sillage (wastewater from cooking and washing) and sludge from wastewater treatment plant			
▪ Large population influx during project construction and operation that causes increased burden on social infrastructure and services (such as water supply and sanitation systems)?			
▪ Social conflicts if workers from other regions or countries are hired?			
▪ Risks to community health and safety due to the transport, storage, and use and/or disposal of materials such as explosives, fuel and other chemicals during operation and construction?			
▪ Community safety risks due to both accidental and natural hazards, especially where the structural elements or components of the project are accessible to members of the affected community or where their failure could result in injury to the community throughout project construction, operation and decommissioning?			
Climate Change and Disaster Risk Questions The following questions are not for environmental categorization. They are included in this checklist to help identify potential climate and disaster risks.	Yes	No	Remarks

Screening questions	Yes	No	Remarks
▪ Is the project area subject to hazards such as earthquakes, floods, landslides, tropical cyclone winds, storm surges, tsunami or volcanic eruptions and climate changes?			
▪ Could changes in temperature, precipitation, or extreme events patterns over the project lifespan affect technical or financial sustainability (e.g., increased erosion or landslides could increase maintenance costs, permafrost melting or increased soil moisture content could affect sub0-grade)?			
▪ Are there any demographic or socio-economic aspects of the Project area that are already vulnerable (e.g., high incidence of marginalized populations, rural-urban migrants, illegal settlements, ethnic minorities, women or children)?			
▪ Could the Project potentially increase the climate or disaster vulnerability of the surrounding area (e.g., by encouraging settlement in areas that will be more affected by floods in the future, or encouraging settlement in earthquake zones)?			

Note: Hazards are potentially damaging physical events.

6. Sanitation

Screening Questions	Yes	No	Remarks
A. Project siting			
Is the project area adjacent to or within any environmentally sensitive areas?			
▪ Densely populated?			
▪ Heavy with development activities?			
▪ Cultural heritage site			
▪ Protected area			
▪ Wetland			
▪ Mangrove			
▪ Estuarine			
▪ Buffer zone of protected area			
▪ Special area for protecting biodiversity			
▪ Bay			
B. Potential Environmental Impacts Will the Project cause...			
▪ impairment of historical/cultural monuments/areas and loss/damage to these sites?			
▪ interference with other utilities and blocking of access to buildings; nuisance to neighboring areas due to noise, smell, and influx of insects, rodents, etc.?			
▪ dislocation or involuntary resettlement of people?			
▪ disproportionate impacts on the poor, women and children, Indigenous Peoples or other vulnerable groups?			
▪ impairment of downstream water quality due to inadequate sewage treatment or release of untreated sewage?			
▪ overflows and flooding of neighboring properties with raw sewage?			
▪ environmental pollution due to inadequate sludge disposal or industrial waste discharges illegally disposed in sewers?			
▪ noise and vibration due to blasting and other civil works?			

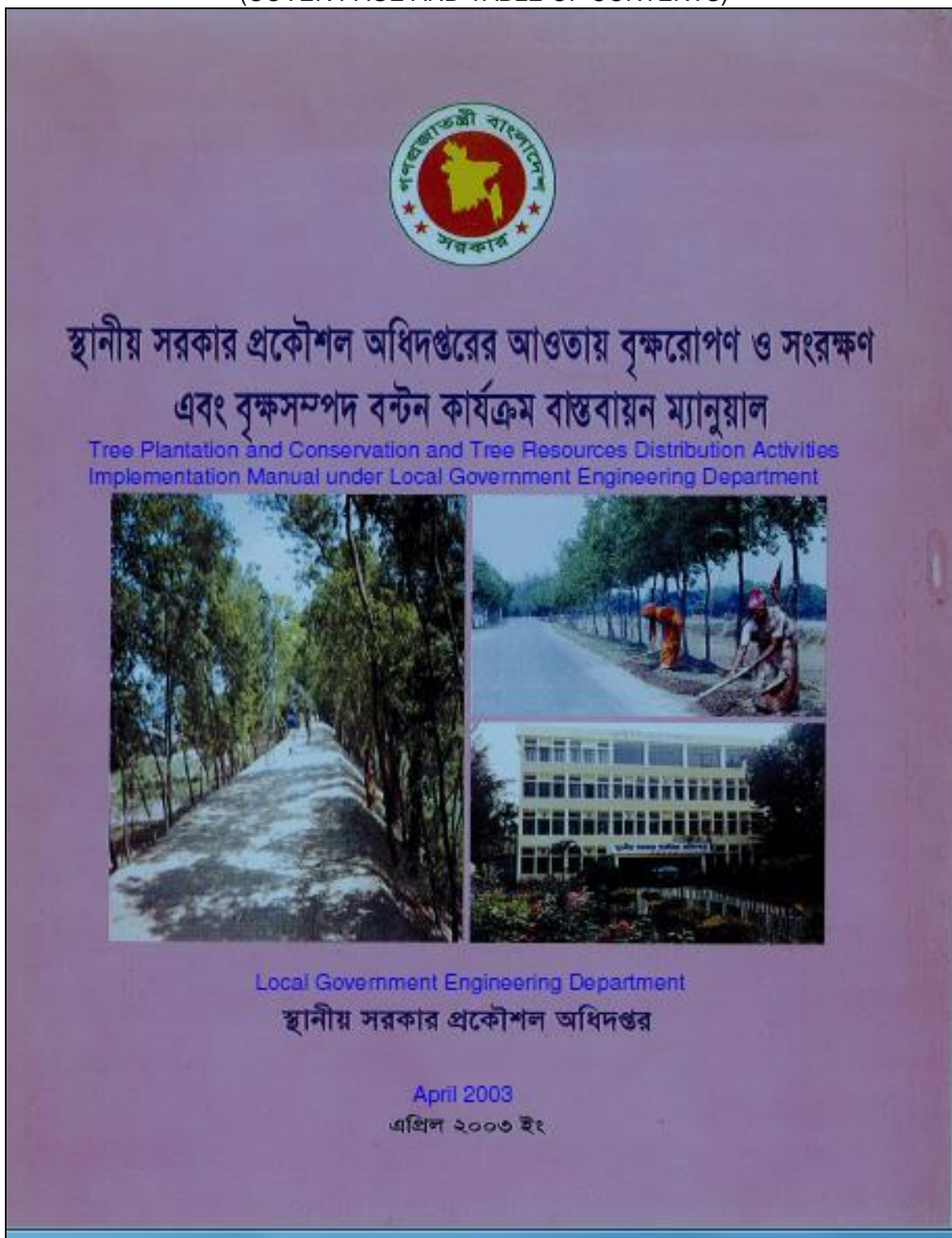
Screening Questions	Yes	No	Remarks
▪ risks and vulnerabilities related to occupational health and safety due to physical, chemical, and biological hazards during project construction and operation?			
▪ discharge of hazardous materials into sewers, resulting in damage to sewer system and danger to workers?			
▪ inadequate buffer zone around pumping and treatment plants to alleviate noise and other possible nuisances, and protect facilities?			
▪ road blocking and temporary flooding due to land excavation during the rainy season?			
▪ noise and dust from construction activities?			
▪ traffic disturbances due to construction material transport and wastes?			
▪ temporary silt runoff due to construction?			
▪ hazards to public health due to overflow flooding, and groundwater pollution due to failure of sewerage system?			
▪ deterioration of water quality due to inadequate sludge disposal or direct discharge of untreated sewage water?			
▪ contamination of surface and ground waters due to sludge disposal on land?			
▪ health and safety hazards to workers from toxic gases and hazardous materials which maybe contained in confined areas, sewage flow and exposure to pathogens in untreated sewage and unstabilized sludge?			
▪ large population increase during project construction and operation that causes increased burden on social infrastructure (such as sanitation system)?			
▪ social conflicts between construction workers from other areas and community workers?			
▪ risks to community health and safety due to the transport, storage, and use and/or disposal of materials such as explosives, fuel and other chemicals during construction and operation?			
▪ community safety risks due to both accidental and natural hazards, especially where the structural elements or components of the project are accessible to members of the affected community or where their failure could result in injury to the community throughout project construction, operation and decommissioning?			
Climate Change and Disaster Risk Questions The following questions are not for environmental categorization. They are included in this checklist to help identify potential climate and disaster risks.	Yes	No	Remarks
▪ Is the project area subject to hazards such as earthquakes, floods, landslides, tropical cyclone winds, storm surges, tsunami or volcanic eruptions and climate changes?			
▪ Could changes in temperature, precipitation, or extreme events patterns over the project lifespan affect technical or financial sustainability (e.g., increased erosion or landslides could increase maintenance costs, permafrost melting or increased soil moisture content could affect sub0-grade)?			
▪ Are there any demographic or socio-economic aspects of the Project area that are already vulnerable (e.g., high incidence of marginalized populations, rural-urban migrants, illegal settlements, ethnic minorities, women or children)?			

Screening Questions	Yes	No	Remarks
<ul style="list-style-type: none"> ▪ Could the Project potentially increase the climate or disaster vulnerability of the surrounding area (e.g., by encouraging settlement in areas that will be more affected by floods in the future, or encouraging settlement in earthquake zones)? 			

Note: Hazards are potentially damaging physical events.

Appendix 4: Local Government Engineering Division Tree Plantation Program Manual

(COVER PAGE AND TABLE OF CONTENTS)



Note: Copy of the full manual is available upon request at the LGED or PMU Office.

***Tree Plantation and Conservation and Tree Resources Distribution
Activities Implementation Manual
under
Local Government Engineering Department***

Table of Contents

- 1. Tree Plantation and Conservation In the LGED's Premises and Fallow Land**
 - 1.1 Availability of Land
 - 1.2 Estimate Preparation of Schemes
 - 1.3 Implementation
 - 1.4 Tree Resources Distribution
 - 1.5 Financing
 - 1.6 Implementing Office and Designated Officer
 - 1.7 Responsibility of the Implementing Office's Designated Officer
- 2. Roadside Tree Plantation and Conservation**
 - 2.1 Road Maintenance
 - 2.2 Tree Plantation and Caring
 - 2.3 Road Maintenance , Tree Plantation and Conservation Activities Implementation
 - 2.3.1 Road Maintenance, Tree Plantation and Conservation Scheme Identification, Scheme Preparation, Approval, Financing and Implementation Process
 - 2.3.2 Implementation adopting Lenthperson Process by Organized Women Group
 - 2.3.3 Worker Selection
 - 2.3.4 Worker Selection Policy
 - 2.3.5 Formation of the Interview Board
 - 2.3.6 Campaign
 - 2.3.7 Interviewing and Selection
 - 2.3.8 Team Formation
 - 2.3.9 Responsibility of Women Worker
 - 2.3.10 Responsibility of Co- women group Leader
 - 2.3.11 Responsibility of Women group Leader
 - 2.3.12 Recruitment of Supervisor
 - 2.3.13 Provide Appointment Letters
 - 2.3.14 Provide Equipments among Worker Women for Maintenance Work
 - 2.3.15 Initiation of Implementation of Scheme
 - 2.4 Training
 - 2.4.1 General Awareness Training for Women Workers on Road Maintenance, Plantation and Conservation
 - 2.4.2 General Awareness Training for Women Workers on Primary Health Care and Income-generating Activities
 - 2.5 Inspection and Monitoring
 - 2.5.1 Inspection and Monitoring System of Road Maintenance, Plantation and Conservation Program

- 2.6 Wage
 - 2.6.1 Wage Fixation
 - 2.6.2 Bank Account
 - 2.6.3 Wage Payment
 - 2.6.4 Compulsory Savings
- 2.7 Distribution of Income from Trees
 - 2.7.1 Tree Resources Distribution System
 - 2.7.2 Template: Tree Resources Distribution
 - 2.7.3 Contract signed for Distribution of Tree Resources among different parties according to the Adopted Policy
 - 2.7.4 Monitoring the Implementation of the Contract
- 2.8 Financing
 - 2.8.1 Source of Funding for the Program
 - 2.8.2 Financing Process
- 2.9 Description of Responsibility of Representatives of Local Government Organizations and of LGED Officials in the Implementation of Road Maintenance (off-pavement), Plantation and Conservation Program
 - 2.9.1 Responsibility of Union Parishad (UP)
 - 2.9.2 Responsibility of UP Male/Female Member
 - 2.9.3 Responsibility of UP Chairman
 - 2.9.4 Responsibility of Upazila Parishad
 - 2.9.5 Responsibility of Upazila Executive/Nirbahi Officer (UNO)
 - 2.9.6 Responsibility of LGED's Community Organizer (CO)
 - 2.9.7 Responsibility of Sub-Assistant Engineer
 - 2.9.8 Responsibility of Upazila Engineer (UE)
 - 2.9.9 Responsibility of LGED's Executive Engineer (Training)
 - 2.9.10 Responsibility of LGED's District Executive Engineer
- 3. Tree Plantation at Embankment and Canal Bank and their Conservation
 - 3.1 Selection of Proposals for Tree Plantation and Conservation at Embankment Slope and Canal Bank
 - 3.2 Implementation
 - 3.3 Selection of Tree Species
 - 3.3.1 Tree planting Distance
 - 3.3.2 Tree Sapling Planting Method
 - 3.3.3 Tree Caring and Prohibition
 - 3.3.4 Inspection and Monitoring
 - 3.4 Wages
 - 3.5 Financing
 - 3.6 Implementing Agency
 - 3.7 Tree Resources Distribution
 - 3.8 Distribution of Money from Sale of Trees Grown at Embankment Slope and Canal Bank

Annexures**A) Road**

Road/Annex – 1:	Tree Species Selection, Tree Plantation and Caution in
Road/Annex – 2:	Method of Tree Sapling Plantation
Road/Annex – 3:	Points Value for Priority Ranking
Road/Annex – 4:	Technical Report
Road/Annex – 5:	Format for Cost Estimate
Road/Annex – 6:	Appointment Letter of Women Worker
Road/Annex – 6a:	Appointment Letter of Supervisor
Road/Annex – 7:	Women Worker's acceptance Letter for Working Tools for Road Maintenance, Tree Plantation and Conservation Scheme
Road/Annex – 8:	Regular Road Maintenance and Tree Care Monitoring Register
Road/Annex – 8a:	Work Code and Description
Road/Annex – 8b:	Daily Activity Report of Regular Maintenance Work done by Women Worker
Road/Annex – 9:	Monthly Monitoring of Regular Road Maintenance and Tree Care
Road/Annex – 10:	Monthly Monitoring Summary Report
Road/Annex – 11:	Tree Resources Distribution Agreement

B) Embankment

Embankment/Annex- 1:	Proposal of Plantation at Embankment Slope and Canal Bank
Embankment/Annex- 2:	Schedule 1
Embankment/Annex- 3:	Executable at a Non-Judicial Stamp of Value of Taka 150.00
Embankment/Annex- 4:	Contractor's Responsibility and Condition of Recruitment
Embankment/Annex- 5:	Sample – Method of Tree Plantation at Embankment Slope
Embankment/Annex- 6:	Template of Monthly Progress Report

Appendix 5: Outline of an ADB IEE

Executive Summary

- I. Introduction
 - A. Background
- B. Purpose of the Initial Environment Examination
 - C. Methodology
 - D. Structure of IEE Report
- II. POLICY, LEGAL AND ADMINISTRATIVE FRAMEWORK
 - A. ADB Safeguard Policy Statement 2009
 - B. National Environmental Impact Assessment Law
 - C. Application for Environmental Clearance
 - D. Applicable Environmental Standards
 - E. Other Relevant National Laws
 - F. International Environmental Agreements
- III. Description of the Subproject
 - A. Subproject Location and Area
 - B. Subproject Scope and Components
 - C. Construction schedule
- IV. Analysis of alternatives
- V. Description of baseline environment
 - A. Subproject Location
 - B. Physical Environment
 - C. Biodiversity
 - D. Socio-economic environment
- VI. Anticipated Impacts and mitigation measures
 - A. Impacts During Design Phase
 - B. Impacts and mitigation measures during Construction Phase
 - C. Impacts and mitigation measures during Operation Phase
- VII. Public consultation and information disclosure
 - A. Public consultation
 - B. Key target stakeholders
 - C. Public Consultations Conducted
 - D. Findings of the Public Consultation
 - E. Information Disclosure
- VIII. Grievance Redress Mechanism
- IX. Environmental Management Plan
 - A. Institutional Arrangement
 - B. Environmental Management Plan (EMP)
 - C. Environmental Monitoring Program
 - D. Capacity Development Training
 - E. Environmental Management and Monitoring Plan Implementation Cost (Indicative)
- X. Monitoring and Reporting
- XI. Conclusion and recommendation

Appendix 6: SAMPLE GRIEVANCE REGISTRATION FORM

(To be available in Bangla and English)

The _____ Project welcomes complaints, suggestions, queries and comments regarding project implementation. We encourage persons with grievance to provide their name and contact information to enable us to get in touch with you for clarification and feedback.

Should you choose to include your personal details but want that information to remain confidential, please inform us by writing/typing *(CONFIDENTIAL)* above your name. Thank you.

Date		Place of Registration			
Contact Information/Personal Details					
Name		Gender	* Male * Female	Age	
Home Address					
Place					
Phone no.					
E-mail					
Complaint/Suggestion/Comment/Question Please provide the details (who, what, where, and how) of your grievance below:					
If included as attachment/note/letter, please tick here:					
How do you want us to reach you for feedback or update on your comment/grievance?					

FOR OFFICIAL USE ONLY

Registered by: (Name of Official Registering Grievance)
Mode of Communication: Note/Letter E-mail Verbal/Telephonic
Reviewed by: (Names/Positions of Officials Reviewing Grievance)
Action Taken:

Whether Action Taken Disclosed:	Yes No
Means of Disclosure:	

Appendix 7: Sample Monitoring Checklist for Contractors

Monitoring and Reporting Template Environmental Health and Safety Monitoring

A. Environmental Health and Safety Checklist

Sl. no.	Item	Exist in the worksite?		Recommendation And/ or Remarks	Time frame to comply
		Yes <input type="checkbox"/>	No <input type="checkbox"/>		
1	Site readiness (e.g., is worksite fenced and can be distinguished from general establishment? Is there an EHS professional at site? Has he/she been fulltime professional? Has he/she been present at site every day?)				
2	Site access (e.g., is site access road wide and easily accessible?)				
3	Signboard with safety warnings (e.g., with general EHS safety signboards, are COVID 19 response signboards visible at every corner of worksite?)				
4	Lighting (e.g., is every corner of the worksite is well lit?)				
5	Appropriate PPEs (Helmet, Safety Shoe, Vest, Ear plug, Mask etc.) e.g. Is every person in site is wearing appropriate PPEs?				
6	Fall protection measures (e.g., is the fall protection measures at worksite appropriate and adequate?)				
7	Fire extinguishers (e.g., are they at site? How many? Are they placed at vulnerable/most accessible places?)				
8	Housekeeping (e.g., are all workers health records kept? Is the EMP and EHS manual at site? Has the morning briefing on EHS conducted? Is there any vehicle record/material register/attendance register/complain register kept?)				
9	Garbage bins (e.g., are there garbage bins at site? Are the numbers adequate? Is waste thrown to bins? Are the bins well places?)				
10	Drinking water supply (e.g., safe drinking water for worksite been supplied? Is drinking water adequate?)				
11	Sanitation facilities (e.g., is there separate male and female toilets established? Are they adequate? Hand wash materials and water being provided at toilets? Are those toilets sanitary?)				
12	Dust protection measures (e.g., is mask provided for worksite personnel? Is water sprayed frequently as needed to suppress dust? Are sand class materials covered with plastic sheets?)				
13	Noise barrier and reduction equipment (e.g., how much noise is generated by site? Does it exceed maximum human exposure limit? Are workers provided with noise reduction gears such as ear mufflers?)				
14	Shelter (e.g., is there a site office or shelter good enough to take shelter during rain or storm event?)				
15	First aid box (e.g., is there a first aid box at site? Are the contents of the first aid box adequate for primary treatment? Is the first aid box handled by at EHS/medical professional)				

16	Toolbox meetings (e.g. are toolbox meeting regularly arranged? Are records kept?)				
17	Others (many other checklists can be formulated by the EHS professional on board)				
COVID -19 protocols on top of usual EHS checklist (this applied to campsite also)					
18	COVID-19 posters/signboards (e.g., are COVID-19 awareness/protocol posters are showing all visible corners of the site?)				
19	Entrance protocol (e.g., Is the COVID-19 worksite entrance protocol been followed as stipulated in the COVID -19 response guidance? Are adequate soaps, water has been kept at site entry? Are workers at entrance que using mask, hand gloves and hard shoes? Are disinfectant spray kept at site entry to disinfect underneath the boots of entering persons?)				
20	Vehicle entry protocol (e.g., has the vehicle disinfection protocol has been initiated?)				
21	Social distancing (e.g., are the workers maintaining social distancing all the time?)				
22	Sharing tools/machineries (e.g., are the tools and machineries are wiped to disinfect before sharing/working?)				
23	Disinfecting work area (e.g., is the worksite/ common surfaces, toilets etc. are disinfected before worksite opened in the morning? Has record being kept? Has the worksite been disinfected yesterday after closing for the day?)				
24	Restriction on worksite entry and exit (e.g., has workers being discouraged to travel frequently out of worksite or entering? Has records being kept?)				
25	Stock of disinfectant (e.g., is the stock of disinfectants, soap, PPEs are adequate at worksite?)				

*Attach photos

**Enter additional criteria as required for site specific measures

Reported by (ESC)	Checked by (TL)	Approved by (EA/IA)
Name Designation Signature Date	Name Designation Signature Date	Name Designation Signature Date
Received and agreed to comply by the representative of the contractor	Name Designation Signature Date	

B. Accident/ Incident Investigation Report

Class of Incident		Reported	
<input type="checkbox"/> Injure	<input type="checkbox"/> Property/ Plant Damage	Yes <input type="checkbox"/> No <input type="checkbox"/> Details:	
<input type="checkbox"/> Near Miss	<input type="checkbox"/> Environmental	Further Action Required	
		<input type="checkbox"/> Report to Authorities <input type="checkbox"/> Other	
Details of Incident			
Date of Incident		Time of Incident	am <input type="checkbox"/> pm <input type="checkbox"/>
Witness Name		Witness Contact	
Nature of Incident			
Location of Incident			
Description of Incident			
Details of damage to equipment/property			
Injured Person/s (if applicable)			
Name			
Address			
Date of Birth			
Occupation		Employer	
Referred/transferred to			
Recommended Preventive Action			
Details			
Completed by			
Name		Position	
Signature		Date	

C. Safety patrol/inspection report form

SITE SAFETY PATROL REPORT AND INSTRUCTION						
Date						
Inspector						
No	Location	Comment/Instruction	Photo	Corrective action	Deadline	Responsible person

Reported by (ESC)	Checked by (TL)	Approved by (EA/IA)
Name Designation Signature Date	Name Designation Signature Date	Name Designation Signature Date
Received and agreed to comply by the representative of the contractor	Name Designation Signature Date	

Appendix 8: Sample Monitoring Checklist for PMU, RPMU and PIU

SAMPLE INSPECTION CHECKLIST

(Note: This checklist is indicative which can be further enhanced depending on the project circumstances.)

[NAME OF ADB PROJECT]
SITE INSPECTION CHECKLIST

Subproject / Location:

Date: _

MONITORING/INSPECTION QUESTIONS		FINDINGS			COMMENTS / CLARIFICATIONS
1.	Supervision and Management On-Site	Yes	No	NA	
	a. Is an EHS supervisor available?				
	b. Is a copy of the SEMP available?				
	c. Are daily toolbox talks conducted on site?				
2.	The Facilities	Yes	No	NA	
	a. Are there a medical and first aid kits on site?				
	b. Are emergency contact details available on-site?				
	c. Are there PPEs available? What are they?				
	d. Are the PPEs in good condition?				
	e. Are there firefighting equipment on site?				
	f. Are there separate sanitary facilities for male and female workers?				
	g. Is drinking water supply available for workers?				
	h. Is there a rest area for workers?				
	i. Are storage areas for chemicals available and with protection? in safe locations?				
3.	Occupational Health and Safety	Yes	No	NA	
	a. Are the PPEs being used by workers?				
	b. Are excavation trenches provided with shores or protection from landslide?				
	c. Is breaktime for workers provided?				
	d. How many for each type of collection vehicle is in current use?				
4.	Community Safety	Yes	No	NA	

	a. Are excavation areas provided with barricades around them?				
	b. Are safety signages posted around the sites?				
	c. Are temporary and safe walkways for pedestrians available near work sites?				
	d. Is there a record of treated wastewater quality testing/measurement?				
5.	Solid Waste Management	Yes	No	NA	
	a. Are excavated materials placed sufficiently away from water courses?				
	b. Is solid waste segregation and management in place?				
	c. Is there a regular collection of solid wastes from work sites?				
6.	Wastewater Management	Yes	No	NA	
	a. Are there separate sanitary facilities for various types of use (septic tanks, urination, washing, etc.)?				
	b. Is any wastewater discharged to storm drains?				
	c. Is any wastewater being treated prior to discharge?				
	d. Are measures in place to avoid siltation of nearby drainage or receiving bodies of water?				
	e. Are silt traps or sedimentation ponds installed for surface runoff regularly cleaned and freed of silts or sediments?				
7.	Dust Control	Yes	No	NA	
	a. Is the construction site watered to minimize generation of dust?				
	b. Are roads within and around the construction sites sprayed with water on regular intervals?				
	c. Is there a speed control for vehicles at construction sites?				
	d. Are stockpiles of sand, cement and other construction materials covered to avoid being airborne?				
	e. Are construction vehicles carrying soils and other spoils covered?				
	f. Are generators provided with air pollution control devices?				
	g. Are all vehicles regularly maintained to minimize emission of black smoke? Do they have valid permits?				
8.	Noise Control	Yes	No	NA	

	a. Is the work only taking place between 7 am and 7 pm, week days?				
	b. Do generators operate with doors closed or provided with sound barrier around them?				
	c. Is idle equipment turned off or throttled down?				
	d. Are there noise mitigation measures adopted at construction sites?				
	e. Are neighboring residents notified in advance of any noisy activities expected at construction sites?				
9.	Traffic Management	Yes	No	NA	
	a. Are traffic signages available around the construction sites and nearby roads?				
	b. Are re-routing signages sufficient to guide motorists?				
	c. Are the excavation sites along roads provided with barricades with reflectors?				
	d. Are the excavation sites provided with sufficient lighting at night?				
10.	Recording System	Yes	No	NA	
	a. Do the contractors have recording system for SEMP implementation?				
	b. Are the daily monitoring sheets accomplished by the contractor EHS supervisor (or equivalent) properly compiled?				
	c. Are laboratory results of environmental sampling conducted since the commencement of construction activities properly compiled?				
	d. Are these records readily available at the site and to the inspection team?				

Other Issues:

Prepared by:

Name, Designation and Signature

Appendix 9: Sample Semi-Annual Environmental Monitoring Report Template

1. Introduction

- Overall project description and objectives
- Environmental category as per ADB Safeguard Policy Statement, 2009

2. Project Safeguards Team

- Identify the role/s of Safeguards Team including schedule of on-site verification of reports submitted by consultants and contractors.

Name	Designation/Office	Email Address	Contact Number
1. PMU			
2. PIUs			
3. Consultants			

3. Overall project and subproject/package progress and status

- Indicate (i) status of design – preliminary design or final design, (ii) status of implementation - under bidding, contract awarded but no works yet, contract awarded with works, civil works completed, or O&M

Package Number	Components/List of Works	Type of Contract (specify if DBO, DB or civil works)	Status of Implementation (specify if Preliminary Design, Detailed Design, On-going Construction, Completed Works, or O&M phase) ¹¹	Contract Status (specify if under bidding or contract awarded)	If On-going Construction	
					%Physical Progress	Expected Completion Date

- For package with awarded contract, provide name/s and contact details of contractor/s' nodal person/s for environmental safeguards.

Package-wise Contractor/s' Nodal Persons for Environmental Safeguards

Package Name	IEE Cleared by ADB (provide date)	Contractor	HSE Nodal Person	Email Address	Contact Number

4. Status of IEE per Subproject/Package

- Provide status of updated/final IEE^[2] per package.

Package-wise Implementation Status

Package Number	Final IEE based on Detailed Design				Site-specific EMP (or Construction EMP) approved by Project Director? ^[3] (Yes/No)	Remarks
	Not yet due (detailed design not yet completed)	Submitted to ADB (provide date of submission)	Disclosed on project website (provide link)	Final IEE provided to Contractor/s (Yes/No)		

5. Compliance status with National/State/Local statutory environmental requirements^[4]

Package No.	Statutory Environmental Requirements ^[5]	Status of Compliance (Specify if obtained, submitted and awaiting approval, application not yet submitted)	Validity Date(s) (if already obtained)	Action Required	Specific Conditions that will require environmental monitoring ^[6]

6. Compliance status with environmental loan covenants

Schedule No. and Item (see Project Loan Agreement and list provisions relevant to environmental safeguards, core labor standards and occupational health and safety)	Covenant	Status of Compliance	Action Required

7. Compliance status with the environmental management plan (refer to EMP tables in approved IEE/s)

- Confirm in IEE/s if contractors are required to submit site-specific EMP (SEMP)/construction EMPs (CEMP). If not, describe the methodology of monitoring each package under implementation.
- Provide over-all compliance of the contractors with SEMP/CEMP. This should be supported by contractors' monthly monitoring reports to PIU(s) and/or verification reports of PIU(s) or project consultants. Include as appendix supporting documents such as **signed** monthly environmental site inspection reports prepared by consultants and/or contractors.

Overall Compliance with SEMP/CEMP

Package No.	Status of SEMP/CEMP Implementation (Excellent/ Satisfactory/ Partially Satisfactory/ Below Satisfactory)	Action Proposed and Additional Measures Required

- Provide description based on site observations and records:
 - Confirm if any dust was noted to escape the site boundaries and identify dust suppression techniques followed for site/s.
 - Identify muddy water was escaping site boundaries or muddy tracks were seen on adjacent roads.
 - Identify type of erosion and sediment control measures installed on site/s, condition of erosion and sediment control measures including if these were intact following heavy rain;
 - Identify designated areas for concrete works, chemical storage, construction materials, and refueling. Attach photographs of each area.
 - Confirm spill kits on site and site procedure for handling emergencies.
 - Identify any chemical stored on site and provide information on storage condition. Attach photograph.
 - Describe management of stockpiles in each work site (construction materials, excavated soils, spoils, etc.). Provide photographs.
 - Describe management of solid and liquid wastes on-site (quantity generated, transport, storage and disposal). Provide photographs.
 - Provide information on barricades, signages, and on-site boards. Provide photographs.
 - Provide information on workers labor camp(s). Provide photographs.
 - Provide information on work-related accidents and incidents. Describe actions implemented.
 - Provide information on if there are any activities being undertaken out of working hours and how that is being managed.
- Provide list of trainings on environmental safeguards, core labor standards, and OSH conducted during the reporting period. Include ADB-organized workshop, trainings, seminars, etc)

Trainings, Workshops and Seminars Conducted

Date	Topic	Conducted by	No. of Participants (Total)	No. of Participants (Female)	Remarks

Provide the monitoring results as per the parameters outlined in the approved EMP (or site-specific EMP/construction EMP when applicable).

Summary of Environmental Monitoring Activities (for the Reporting Period)^[7]

Impacts (List from SEMP/CEMP)	Mitigation Measures (List from SEMP/CEMP)	Parameters Monitored (As identified in the SEMP/CEMP)	Method of Monitoring (Visual, Actual Sampling, etc)	Location of Monitoring (Provide GPS Coordinates ^[8])	Date of Monitoring Conducted	Person Who Conducted the Monitoring
Design Phase						
Pre-Construction Phase						
Construction Phase						
Operational Phase						

8. Monitoring of environmental IMPACTS on PROJECT SURROUNDINGS

- Confirm records of pre-work condition of roads, agricultural land or other infrastructure prior to starting to transport materials and construction.

Package No.	Status of Pre-Work Conditions (Recorded / Not Recorded)	Baseline Environmental Conditions (air, water, noise) Documented (Yes / No)	Action Proposed and Additional Measures Required

- Provide information on monitoring activities conducted during reporting period. If not conducted, provide justification. Compare results with baseline and internationally recognized standards.^[9]

Air Quality Monitoring Results

Site No.	Date of Testing	Site Location (Provide GPS Coordinates) ^[10]	Parameters (as required by statutory clearances or as mentioned in the IEE)			Remarks
			PM10 µg/m ³	SO ₂ µg/m ³	NO ₂ µg/m ³	

Water Quality Monitoring Results

Site No.	Date of Sampling	Site Location	Parameters (as required by statutory clearances or as mentioned in the IEE)						Remarks
			pH	Conductivity µS/cm	BOD mg/L	TS mg/L	TN mg/L	TP mg/L	

Noise Quality Monitoring Results

Site No.	Date of Testing	Site Location	LA _{eq} (dBA) (as required by statutory clearances or as mentioned in the IEE)		Remarks
			Day Time	Night Time	

9. Information Disclosure and Consultations

- Confirm PMU/PIU/contractors provide project-related information to stakeholders, communities and/or affected people before and during construction works.^[11]
Provide information on consultations conducted during reporting period such dates, topics discussed, type of consultation, issues/concerns raised, safeguards team member present. Attach minutes of meetings (ensure English translation is provided), attendance sheet, and photos.

Date of Consultation	Location	Number of Participants (specify total, male and female)	Issues/Concerns Raised	Response to issues/concerns

10. Grievance Redress Mechanism

- Grievance Redress Mechanism.** Provide information on establishment of grievance redress mechanism and capacity of grievance redress committee to address project-

related issues/complaints. Include as appendix Notification of the GRM (package-wise if applicable).

-
- **Complaints Received during the Reporting Period.** Provide information on number, nature, and resolution of complaints received during reporting period. Attach records as per GRM in the approved IEE. Identify safeguards team member/s involved in the GRM process. Attach minutes of meetings (ensure English translation is provided).

11. Summary of Key Issues/Concerns Identified During the Reporting Period and Remedial Actions

- Provide corrective action plan which should include all issues/concerns, actions required to be implemented, responsible entities, and target dates.

12. Status of Corrective Actions from Previous SEMR(S)

- Provide information on corrective actions to be implemented as reported in the previous SEMR(s). Include status of implementation of feedbacks/comments/suggestions as provided by ADB, if any.

Corrective Action Plan Status

Issues/Concerns	Corrective Action	Status	Remarks

13. Appendixes

Photos

Records of consultations

Copies of environmental clearances and permits (if not provided in the previous SEMR)

Environmental site inspection report (if not provided in the previous SEMR)

Other

^[1] If on-going construction, include %physical progress and expected date of completion

^[2] IEE prepared based on preliminary design and cleared by ADB with condition that updated/Final IEE based on detailed design will be submitted.

^[3] Works will not be allowed until SEMP/CEMP is approved by project implementation unit or project management unit.

^[4] All statutory clearance/s, no-objection certificates, permit/s, etc. should be obtained prior to award of contract/s. Attach as appendix all clearance obtained during the reporting period. If already reported, specify in the "remarks" column.

^[5] Specify statutory requirements: environmental clearance? Permit/consent to establish? Forest clearance? Workers/Labor permit, etc.

^[6] *Example: Environmental Clearance requires ambient air quality monitoring, Forest Clearance/Tree-cutting Permit requires 2 trees for every tree, etc.*

^[7] Attach Laboratory Results and Sampling Map/Locations

^[8] If GPS coordinate is not available, provide landmark(s) and/or chainage.

^[9] ADB Safeguard Policy Statement (SPS) Appendix 1, para 33: During the design, construction, and operation of the project the borrower/client will apply pollution prevention and control technologies and practices consistent with international good practice, as reflected in internationally recognized standards such as the World Bank Group's Environment, Health and Safety Guidelines. These standards contain performance levels and measures that are normally acceptable and applicable to projects. When host country regulations differ from these levels and measures, the borrower/client will achieve whichever is more stringent. If less stringent levels or measures are appropriate in

view of specific project circumstances, the borrower/client will provide full and detailed justification for any proposed alternatives that are consistent with the requirements presented in the SPS.

110 If GPS coordinate is not available, provide landmark(s) and/or chainage.

111 Check EMP requirement on information disclosure. At a minimum, PIU thru the contractor should notify communities/affected persons/sensitive receptors 7 days and again 1 day before start of works.