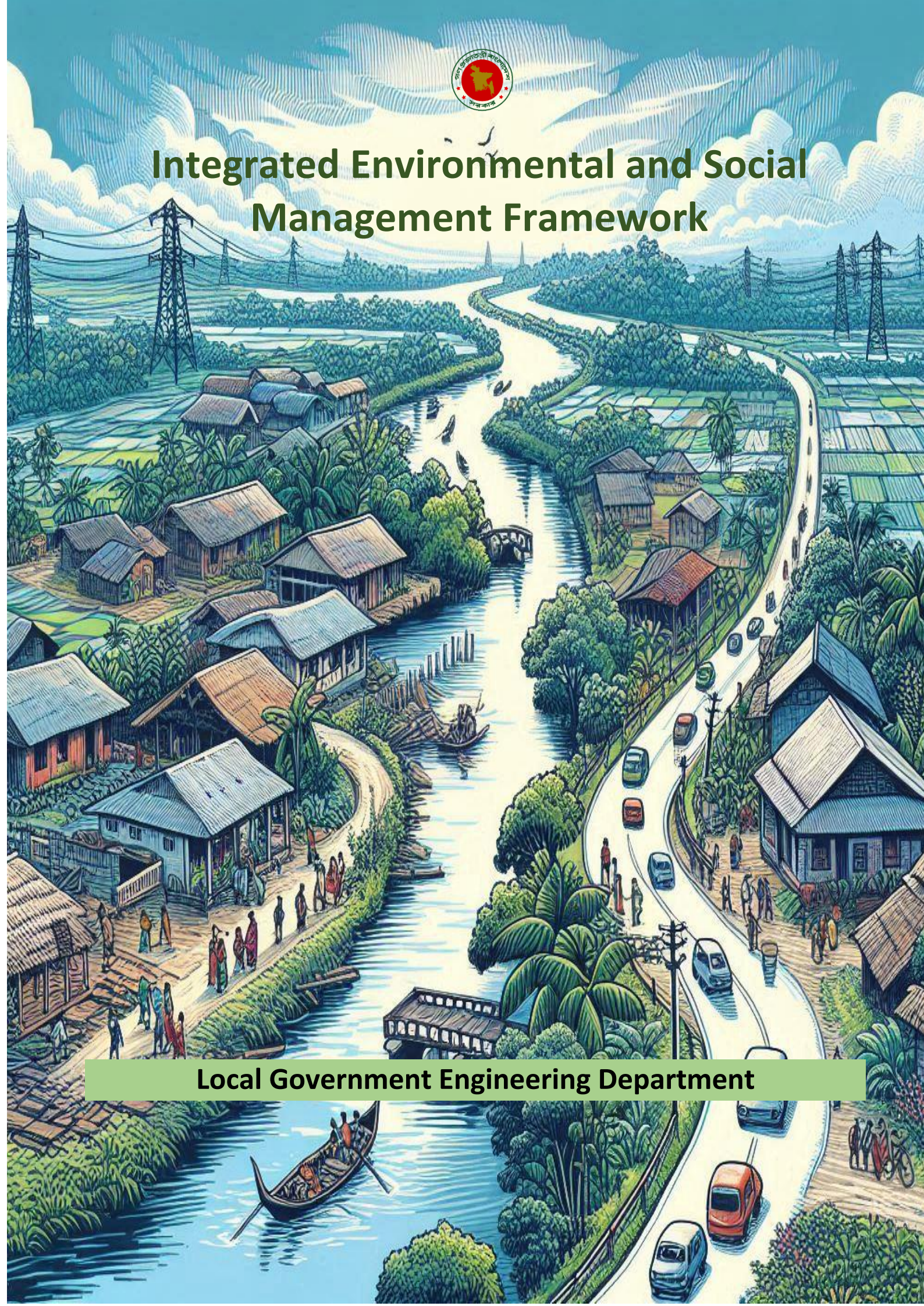




# Integrated Environmental and Social Management Framework

Local Government Engineering Department



## **AUTHORS**

Md. Maksudul Amin, Environmental and Social Safeguards Specialist, FAO Bangladesh

Md. Arfanuzzaman, Climate Change MRV Expert, FAO Bangladesh

## **CONTRIBUTORS**

Mohammad Nazmul Hasan Chowdhury, Project Director, CRIMP, LGED

Taufique Kibria, Executive Engineer, Planning Unit, LGED

**Mir Tanweer Husain, Deputy Project Director, CRDP-II, LGED (Focal Person)**

Md. Mamun Khan, Executive Engineer, Cox's Bazar, LGED

Mohammad Qamruzzaman, Assistant Chief Engineer, LGED

Fatema Ismat Ara, Senior Assistant Engineer, CReLIC, LGED

Abinass Hossneara, Senior Assistant Engineer, BEZA Bridge Project, LGED

## **REVIEWERS**

Md. Jasim Uddin, Superintending Engineer, Planning & Research Unit, LGED

Mir Tanweer Husain, Deputy Project Director, CRDP-II, LGED (Focal Person)

Nur Ahamed Khondaker, Assistant FAO Representative (Programme), FAO Bangladesh

Crispus Njeru, International Climate Change Specialist, FAO Bangladesh

Beau Damen, Natural Resource Officer, FAO Regional Office for Asia and the Pacific, Bangkok

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## **DISCLAIMER**

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## Executive Summary

The Local Government Engineering Department (LGED), under the Ministry of Local Government Rural Development and Cooperatives, is one of the largest and most prestigious engineering departments in the country. Its journey began in the 1960s as the Rural Works Programme. Today, LGED and rural development are inextricably linked. It makes a significant contribution to economic development and the country's GDP growth.

Environmental and social impact are a crucial component of every development project, and any construction project may result in the amplification of these impacts. Sustainable development primarily focuses on social inclusion and environmental preservation. Environmental and social protection is a requirement for every development project as a means to ensure inclusivity, ownership and promote adaptation and mitigation actions related to climate change and related catastrophes.

LGED executes a range of projects and initiatives, such as small-scale water resource management, cyclone shelters, school buildings, and road infrastructure. In general, the GoB project of LGED does not adhere to any set rules or handbook regarding preserving the environment and promoting social inclusion. There is absence of unified Environment and Social Safeguard (ESS) framework by LGED to identify critical environmental and social concerns within the course of formulation, implementation and evaluation of its different projects. Maintaining distinct environmental and social safeguard documents for each development partner, rather than a unified set of principles covering environmental and social safeguards, incurs additional costs and time for the same task.

Bangladesh is driven to protect the environment and biodiversity since the Constitution's 15th amendment, Article 18A, makes this mandatory. Hence, the focus of this IESMF document is environmental preservation, water resource management, biodiversity conservation, social inclusion, and community involvement, most of which constitute elements of ESS. It specifically seeks to strengthen the environmental and social management system in all projects and programs of LGED. The major goal of IESMF is to ensure that people and the environment are protected from any potential adverse impacts of LGED programs and projects. Alternatively, it is designed to support managing and improving LGED's environmental and social performance. By incorporating environmental and social considerations into project design and execution, international environmental and social safeguard standards and regulations can be ensured in LGED programming. The specific objectives of this IESMF are

- Maximize social and environmental opportunities and benefits;
- Avoid adverse impacts to people, the environment and biodiversity;
- Minimize, mitigate, and manage adverse impacts where avoidance is not possible;
- Enhance equitable access to development benefits and opportunities;
- Identify, evaluate and manage the environmental and social risks and impacts of LGED programming;
- Set minimum requirements on how social and environmental factors must be integrated into programming;

It is important to note that there are a number of national and international policy, planning and legal documents on which this document is constructed. Moreover, LGED's IESMF also integrated the environmental and social safeguard policy documents and guidelines of multilateral and bi-lateral development partners along with other development agencies to ensure uniformity. The Bangladesh Environmental Conservation Rules 2023, Environmental Conservation Act 1995, National Adaptation Plan 2022, 8<sup>th</sup> Five Year Plan, Delta Plan 2100 are also discussed in this document. Besides this, various international convention and treaties which are ratified by Bangladesh Government are also considered like Paris agreement, Ramsar Convention and Convention on Biological Diversity.

This IESMF is a strategic plan for mitigating the unintended negative effects of all project and program activities while achieving beneficial environmental and social outcomes. It also allows organizations to include environmental and social factors while they plan, make decisions, and perform their regular activities. In addition, it will be able to systematically, coherently, and transparently integrate environmental and social issues at the level of facilitation and operations, as well as at the level of activities and policies. Environmental and social due diligence and risk assessment at the activity level, and a management structure adapted to the specifics of the operations are embedded to this framework taking into account the potential for adverse effects on the environment and the social fabric. Three basic principles are set out in this framework to ensure the key principles such as **Sustainability and resilience; Do no harm” to “Do good”** and **Leave No One Behind**. Additionally, four core thematic areas have been included in this framework which are **Environment; Climate Crisis; Economic Feasibility; and Social Changes and Opportunities**. Environmental and social due diligence and risk assessment at the activity level, and a management structure adapted to the specifics of the operations, taking into account the potential for adverse effects on the environment and the social fabric.

The IESMF suggested to carry out a thorough assessment following the prescribed format and checklist after identification of environment risk and impact. After that, the determination of impact magnitude and sensitivity will be calculated following the respective criteria set in the documents. The process and format for Environmental and Social Management and Monitoring Plan (ESMP) has been articulated in this document. The ESMP will be prepared with recommendations for mitigation measures to lessen the effect of the negative impacts, compensation measures for the negative impacts that cannot be mitigated, enhancement measures to increase the benefits of the positive impacts, and an emergency plan to address natural hazards and unavoidable events.

This document concludes with a suggestion for an institutional setup to execute this framework. The Environment and Gender Unit of LGED will be the primary executive authority in charge of mainstreaming this framework, with support from the Chief Engineer and additional Chief Engineers. In contrast, Upazila Engineers will be the most important stakeholders in the field for the framework's practical implementation. To ensure efficient and successful implementation, PDs, XENs, and SEs will act as the framework's primary monitoring executives. The execution of this arrangement will be driven primarily by environmental specialists and social safeguard specialists.

Building institutional capacity of LGED is essential for mainstreaming the ESMP. Because environmental and social challenges emerge at the conceptual phase of any project, it is critical to make LGED officials and other stakeholders aware of this framework. Everyone on the execution authority panel must understand the framework's conditions, as well as its implementation tools and approaches. The Environment and Gender unit of LGED must prepare a capacity building plan, organize dialogue and workshop, share field experiences, promote innovative ideas, stocktake the good practices and lesson learned, and develop knowledge products to improve the knowledge and skills of LGED officials.

The annexure contains several detailed checklists, different kinds of assessment formats, reporting formats, analysis tables, lists of best practices, enhancement measures, suggested mitigation measures, and relevant examples to help with the better implementation of IESMF.

## Acronyms and Abbreviations

|        |  |
|--------|--|
| BCCSAP | : Bangladesh Climate Change Strategy and Action Plan       |
| BDP    | : Bangladesh Delta Plan                                    |
| BNBC   | : Bangladesh National Building Code                        |
| BoQ    | : Bill of Quantity   |
| CBD    | : Convention on Biological Diversity                       |
| DoE    | : Department of Environment                                |
| ECR    | : Environmental Conservation Rules                         |
| EIA    | : Environmental Impact Assessment                          |
| ESIA   | : Environmental and Social Impact Assessment               |
| ESMP   | : Environmental and Social Management Plan                 |
| ESS    | : Environment and Social Safeguard                         |
| FPIC   | : Free Prior and Informed Consent                          |
| GCF    | : Green Climate Fund                                       |
| GDP    | : Gross Domestic Products                                  |
| GHG    | : Green House Gas  |
| IEE    | : Initial Environmental Examination                        |
| IESMF  | : Integrated Environmental and Social Management Framework |
| IPCC   | : Intergovernmental Panel on Climate Change                |
| LGEB   | : Local Government Engineering Bureau                      |
| LGED   | : Local Government Engineering Department                  |
| LGIs   | : Local Government Institutions                            |
| MoEFCC | : Ministry of Environment, Forest and Climate Change       |
| MoWR   | : Ministry of Water Resources                              |
| NAP    | : National Adaptation Plan                                 |
| NDC    | : Nationally Determined Contributions                      |
| NEP    | : National Environmental Policy                            |
| NWMP   | : National Water Management Plan                           |
| PTI    | : Primary Training Centers                                 |
| RAP    | : Resettlement Action Plan                                 |
| RWP    | : Rural Works Programme                                    |
| SDG    | : Sustainable Development Goals                            |
| SEMP   | : Site-specific Environmental Management Plan              |
| SEPP   | : Small Ethnic People's Plan                               |
| SSWR   | : Small-Scale Water Resources                              |
| TIP    | : Thana Irrigation Programme                               |
| TPP    | : Tribal Peoples Plan                                      |
| TTDC   | : Thana Training and Development Centre                    |
| UDHR   | : Universal Declaration of Human Rights                    |
| UNFCCC | : United Nation Framework Convention on Climate Change     |

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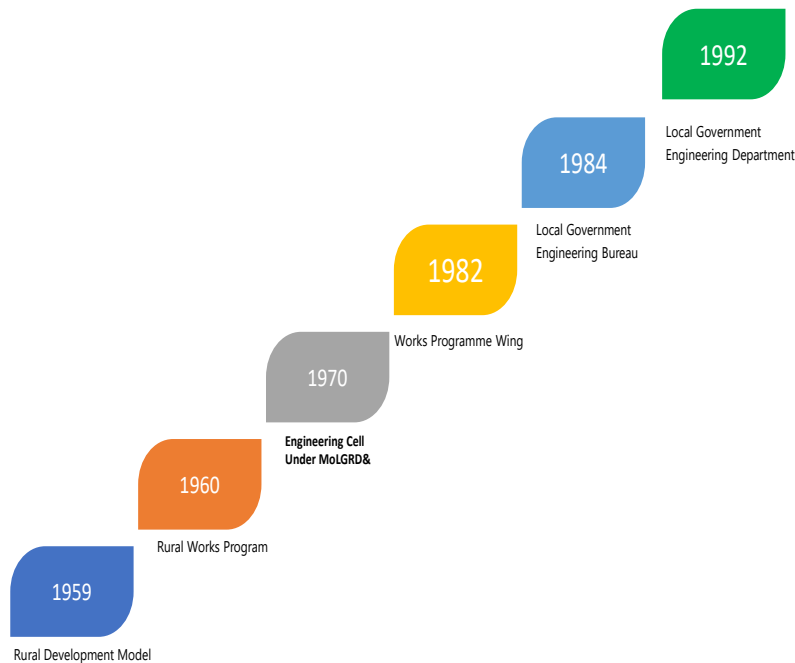
# Chapter 1: Introduction

## 1.1 Institutional History and Evolution of LGED

The Local Government Engineering Department (LGED), under the Ministry of Local Government Rural Development and Cooperatives, is one of the largest and most eminent engineering agencies in the country. It began its journey in the 60s as Rural Works Programme and with the course of time, its activities expanded from remote hard-to-reach areas of the country to the city centers. Now LGED and rural development are an inextricable part of each other. At present, Bangladesh is just one step away from the LDC graduation where the Local Government Engineering Department (LGED) has significant contribution. Today, LGED is a brand name for rural development in Bangladesh after passing a long and challenging journey. Agriculture is the main driving force of Bangladesh's economy and LGED has developed the market communication channel for the distribution of this product through the development of rural road network and growth centre, local markets. LGED started its journey through the adoption of the Cumilla model for rural development. The Cumilla Model was a rural development programme launched in 1959<sup>1</sup> The Comilla Model is a system for promoting rural development that is founded on the notion of grassroots cooperative engagement by the people. It was put through a pilot program in Bangladesh.<sup>2</sup> This model was



Fig 1.1: Evolution of LGED



encompassing four separate program which are Thana Training and Development Centre (TTDC); Rural Works Programme (RWP); Thana Irrigation Programme (TIP); and Two-Tier Cooperatives. Therefore, the Comilla Model paved the way for development of the rural roads in the country under the RWP and LGED started implementing rural road improvement projects with support from the donors and the GoB.

<sup>1</sup> Allama Mashriqi and Dr. Akhtar Hameed Khan: Two Legends of Pakistan", by Nasim Yousaf, ISBN 1-4010-9097-4 (2003)<http://www.nasimyousaf.info>

<sup>2</sup> Arthur F Raper, *Rural Development in Action: The Comprehensive Experiment at Comilla, East Pakistan*, Cornell University Press: Ithaca (1970). p. vii. [SBN 8014-0570-X](https://www.sbn.gov.bd/)

The Rural Works Programme included in the Cumilla model was to develop rural infrastructures. Later, in the 70s an Engineering Cell was created under the Ministry of Local Government, Rural Development & Cooperatives for implementation of the programmes. In 1982 it was transformed into the 'Works Programme Wing' under the development budget. Works Programme Wing was reconstituted as Local Government Engineering Bureau (LGEB) in 1984 under the revenue budget. LGEB was finally given the shape of a full-fledged department renaming it as Local Government Engineering Department (LGED) in 1992.

### **1.2 Vision of LGED**

Development and management of local infrastructure for increasing farm/non-farm production, generating employment, improving socio-economic condition, promoting local governance, reducing poverty and acting as an agent of change at the local level.

### **1.3 Institutional Mandate and Operational Areas of LGED**

The prime responsibility of LGED in strengthening of rural economy through the development of rural road networks and improvement of rural markets and growth centers are visible across the country. The infrastructure contribution is enormous in achieving ever-increasing national growth. The rural inhabitants' access to paved roads within two kilometers is obviously playing a vibrant role to thrive the lifestyle of the rural people. Additionally, easy access to markets, schools, and other government facilities increases daily economic activities consequently reducing poverty.

At the beginning of the journey, LGED was involved in only rural infrastructure development but later the operations of the department expanded at a faster pace. LGED performs its functions through three major sectors- Rural, Urban and Small-Scale Water Resources for creating local-level infrastructural facilities thus contributing towards the goal of attaining economic growth. LGED is also involved in providing technical assistance, capacity building and strengthening the governance of the Local Government Institutions (LGIs) including Municipalities and City Corporations. LGED's role in augmenting agricultural and fish production through small-scale water resources (SSWR) development projects is remarkable<sup>3</sup>. These initiatives have created short and long-term employment opportunities for the low-income community of rural marginalized. Local stakeholders are included while planning and implementing the schemes and, in the operation, and maintenance.

LGED also develops infrastructure databases, maps, technical specifications and manuals required for development projects. LGED is very keen on the capacity development of their own employees as well as others who are associated with them. As a result, regular training programs regarding diversified engineering and social aspects are conducted by LGED. Members of the Local Government Institutions (LGIs) are noteworthy stakeholders in this regard.

### **Rural Development:**

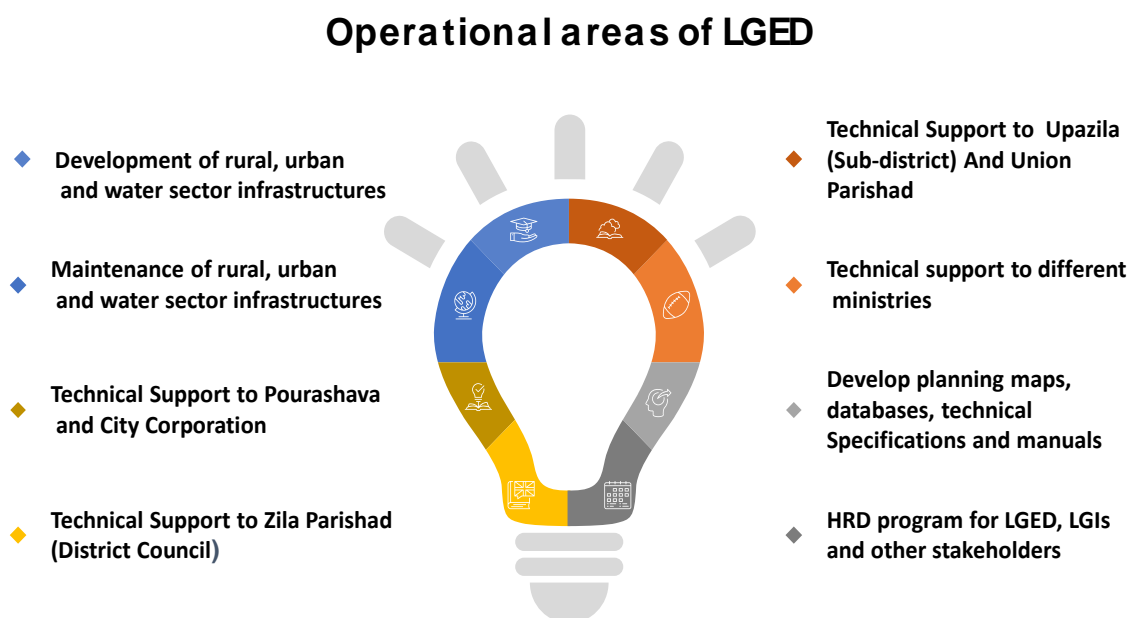
Rural infrastructure development is a specialty of LGED, bearing a well-staffed engineering department with a national and global reputation. According to a World Bank study in 2016, the majority of individuals who live in distant rural areas from capital and major cities have access to metaled roads, connected to highways within two kilometers. In order to inject momentum into the village economy, trade, and commerce, growth centers and rural markets are also being built. These infrastructures in place have helped farmers transport their products to nearby markets in time and

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<sup>3</sup> LGED web site: [https://www.lged.gov.bd/site/page/3e418392-17e4-42cc-8063-9f5ba96b5115/-](https://www.lged.gov.bd/site/page/3e418392-17e4-42cc-8063-9f5ba96b5115/)

efficiently and resulted in producers gaining fair prices for fresh agricultural produce. Increased income and opening employment opportunities have helped to reduce both rural and peri-urban poverty.

Fig 1.2: Operational area of LGED



In order to provide residents with access to services from local government agencies located under one roof, LGED constructs the Union Parishad and Upazila Complex structures. These structures have optimized access to government services by bringing government services closer to the citizenry who most deserve them.

Cyclonic storms and tidal surges are common along Bangladesh's coastline in the Bay of Bengal. To protect coastal communities' lives and property from natural disasters, LGED builds multipurpose cyclone shelters that also serve as elementary classrooms, helping to expand education. Shelter link roads are built to provide easy access to shelters during natural disasters. The shelters are outfitted with all of the necessary amenities, including clean drinking water, separate restrooms for men and women, solar electricity, space for new moms and their babies, and provisions for storing cow sheds at the shelter during a natural disaster.

**Urban infrastructure development:**

LGED has achieved another milestone in the construction of urban infrastructure. Bangladesh is experiencing a large rural-to-urban migration. Cities and towns are becoming increasingly crucial to national growth as a result of rising urbanization. More than 60% of the country's GDP is contributed by cities and towns, which are home to 28% of the nation's total population. Unplanned urbanization has a negative effect on the natural and social environment. Housing, water and sanitation, waste management, education, health, and transportation are all major challenges in meeting the needs of the growing urban population. To address these difficulties, LGED works with cities and city

corporations on a variety of programs targeted at improving service delivery, physical infrastructure (including master plans), governance, and capacity.

**Small-scale water resources development:**

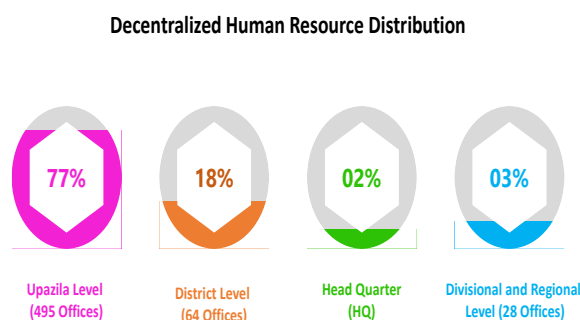
Bangladesh is an agrarian country blessed with an abundance of rivers and water sources. With the aim of increasing agricultural production by utilizing surface water, LGED started a number of small-scale water resource schemes in the 1980s as part of rural development programs. In the middle of the 1990s, the first modest effort to develop water resources was launched. LGED later began implementing small-scale water resource development projects across the country with close stakeholder involvement, in accordance with the 1999 National Water Policy (NWP) and the 2001 National Water Management Plan (NWMP). LGED was assigned the responsibility of functioning in the command area of up to 1000 hectares.

The small-scale water resources projects include tasks like irrigation, pisciculture, and building embankments to shield crops from floods. Additionally, earthen mounds (Killa) are constructed to shield harvested crops from flooding. The government's efforts to reduce poverty and, more importantly, the nation's food autarky were advanced by small-scale water resource initiatives that occurred at the country's grassroots, households and communities.

**LGED's involvement with other ministries:**

LGED not only works on its own programs, but it also helps other ministries expand their infrastructure. Notably, the Primary Schools and Primary Training Centers (PTI) that LGED, under the Ministry of Primary and Mass Education, built across the nation are assisting in assuring quality education and achieving 100% enrolment in the school. PTIs are working to raise educational standards even higher.

Fig 1.3: Human Resource Distribution



LGED is also in charge of carrying out the Ministry of Liberation War Affairs' Upazila Freedom Fighters Complex Building Construction Project. The "Bir Nibash" (house of hero) housing project is being built for bankrupt liberation fighters so that the brave sons of the earth can live with honor and dignity. Additionally, LGED is carrying out a variety of projects started by the Ministry of Agriculture, Ministry of Environment Forest and Climate Change, Ministry of Land, and Ministry of Chattogram Hill tracts Affairs.

When conducting its business, LGED considers gender equality, innovation, and social and environmental safety. In order to achieve the goals of the government's Eighth Five Year Plan, Vision 2021, and the Sustainable Development Goals (SDG) of the United Nations, LGED is putting integrated programs into action. These coordinated initiatives will help Bangladesh to move forward and advance further after the LDC graduation.

The key success of LGED is that the majority of employees (77%) are based in Upazila, which is a wonderful example of decentralization. However, its headquarters barely employs 2% of the total workforce. LGED follows a chain of command to execute infrastructure projects. A detailed organogram has been attached in annex 1.

#### **1.4 Rational and Objectives of IESMF**

The conclusive evidence that climate change is already having a significant influence on society, economy, and natural systems is found in the IPCC's progressively more dire reports<sup>4</sup>. The 6<sup>th</sup> assessment report of IPCC stated that "Evidence of observed impacts, projected risks, levels and trends in vulnerability, and adaptation limits, demonstrate that worldwide climate resilient development action is more urgent than previously assessed in AR5". It is well-informed that Bangladesh is an innocent victim to climate change. Due to various factors like geographical location, dense population, dependence on nature for livelihood and obviously poverty intensify the vulnerability to climate change. Even while the negative effects of climate change make it challenging for the country's development initiatives and plans to progress the economy, the GDP of the nation is still on the rise.

Sustainable development prioritizes social inclusion and environmental preservation. Every development project must include environmental and social protection measures to ensure inclusion, ownership, and promote adaptation and mitigation initiatives in response to climate change and related disasters. LGED executes a range of projects and initiatives, such as those for small-scale water resource management, cyclone shelters, school buildings, and road and road infrastructure. Each of these projects has its own finance arrangements as well as Environment and Social Safeguard (ESS) standards. It is widely acknowledged that social and environmental impact are critical components of all development projects, and every building project may exacerbate these effects. When land, water, soil, and forest resources are the primary focus, environmental and socioeconomic concerns become more delicate.

In general, the LGED GoB project adheres to the ECR but does not follow any guidelines or handbooks for environmental preservation and social inclusion. LGED lacks a single ESS framework for identifying critical environmental and social concerns when developing, implementing, and evaluating its many projects. Maintaining distinct environmental and social safeguard documents for each development partner, rather than a unified set of policies covering environmental and social safeguards, incurs additional costs and time for the same job. Furthermore, any document on environmental and social management shall be used as a reference from project inception to completion. The activities of LGED, on the other hand, are in line with national policy and planning, including the 8th FYP, NAP, NDC, BDP 2100, and BCCSAP. LGED also supports achievement of national SDG targets. The main focus of these planning documents is on environmental preservation, water resource management, biodiversity conservation, social inclusion, and community involvement, most of which constitute elements of ESS. Additionally, Bangladesh is driven to protect the environment and biodiversity since the Constitution's 15th amendment, Article 18A, makes this mandatory. Six main themes are at the center of the 8th FYP's development strategy where one of the core themes is "sustainable development pathway that is resilient to disaster and climate change; entails sustainable use of natural resources; and successfully manages the inevitable urbanization transition"<sup>5</sup>. Therefore, it is imperative that LGED

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<sup>4</sup>Saleemul Huq, Md. Bodrud-Doza, Khandker Tarin Tahsin, Mizan R Khan; What does the IPCC Working Group II say about Bangladesh in its Sixth Assessment Report? ICCCAD, Policy Brief, March 2022

<sup>5</sup> 8<sup>th</sup> FYP, ERD, MoF, Bangladesh

create a policy statement to protect social and environmental issues in order to maintain sustainable growth.

The IESMF will offer the background information required for environmental and social considerations, and a checklist of potential issues of project activities to be taken into account. It will also incorporate these issues into the project design for socially sustainable implementation, as well as directions on how to create specific assessments and plans. The IESMF will be a live document that will be routinely reviewed and amended as necessary.

There is no central policy document or guideline on environmental and social safeguards for Bangladesh as well as LGED; however, there is an 'Environment and Gender' section in the LGED under the human resource unit led by an executive engineer. Because development partner-sponsored projects have their own environmental and social safeguard standards, LGED aims to establish its own Integrated Environmental and Social Management Framework (IESMF) which will contribute to Article 18A of the Bangladesh Constitution, which mandates environmental and biodiversity protection. This IESMF seeks to strengthen the environmental and social management system in all projects and programs of LGED. The major goal of this IESMF is to ensure that people and the environment are protected from any potential adverse impacts of LGED programs and projects. It is designed to support, manage and improve LGED's environmental and social performance. By providing a set of tools, the IESMF seeks to ensure that the requirements related to the sustainable use of natural resources and the protection of the environment, and livelihoods are integrated into the definition, preparation and implementation of LGED programming<sup>6</sup>. The specific objectives of this IESMF are

- Maximize social and environmental opportunities and benefits;
- Avoid adverse impacts to people and the environment;
- Minimize, mitigate, and manage adverse impacts where avoidance is not possible;
- Enhance equitable access to development benefits; and
- Identify, evaluate and manage the environmental and social risks and impacts of LGED programming;
- Set minimum requirements on how social and environmental factors must be integrated into programming;

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<sup>6</sup> FAO. 2022. Framework for Environmental and Social Management. Rome. <https://doi.org/10.4060/cb9870en>

## Chapter 2: Background Legal and Policy Framework

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### 2.1 National Policy Landscape

Bangladesh is elegant in terms of formulation of policy documents, legal structures, and regulatory frameworks. The following table displays Bangladesh's legal and policy strength in relation to environmental and social safeguard concerns. This IESM framework has been developed following all this evidence. The most pertinent legal and policy framework with regard to LGED has been briefly explored here. The list of documents is attached in annex 2.

#### 2.1.1 *Constitution of the People's Republic of Bangladesh*

Bangladesh Government is very keen to observe and safeguard environmental, social and biodiversity issues in the country. As a result, Bangladesh has entered in a new dimension by including the issue of 'protection and improvement of environment and biodiversity' section in the constitution. In Article 18A it is clearly stated that "The state shall endeavor to protect and improve the environment and to preserve and safeguard the natural resources, biodiversity, wetlands, forest and wildlife for the present and future citizens". It is also important to mention here that through the same amendment, Article 23A has also been inserted under the section 'The culture of tribes, minor races, ethnic sects and communities'. Article 23A stated t "The State shall take steps to protect and develop the unique local culture and tradition of the tribes, minor races, ethnic sects and communities". All entities of the government, including LGED, are required to comply with these articles in their institutional mandates.

#### 2.1.2 *National Environmental Policy (NEP) 1992, 2013 and 2018*

Assuring the preservation and enhancement of the environment is the key objective of the 1992 Environment Policy. In light of its applicability, the Government of Bangladesh is required to ratify international conventions and agreements. A number of important environmental ideas, including the precautionary approach and Environmental Impact Assessment (EIA), have been adopted under the National Environment Policy. It also outlines the extent and magnitude of environmental degradation that has become a fact of life in the world in general, and in Bangladesh in particular. According to the NEP 2013, the main obstacles to environmental protection include population increase, poverty, illiteracy, a lack of healthcare facilities and awareness, a shortage of arable land, unplanned urbanization and development, and industrialization. The NEP 2013 properly highlights how climate change poses a threat to infrastructure, public health, biodiversity, and agriculture.

The MoEFCC formulated the National Environment Policy 2018 with a vision to ensure sustainable development for the nation through environmental conservation, pollution control, conservation of biodiversity and climate actions. Specific objectives of this policy instrument, among other, included expansion of climate adaptation measures, reduction in emission, and sustainable management of natural resources including water. It suggested policy actions for rainwater harvesting, flood control measures, pollution control in the water resources, limiting groundwater abstraction, maintaining a functional Integrated Water Resource Management (IWRM) adoption of a participatory water management, and economic valuation of all water resources.

#### 2.1.3 *Environmental Conservation Act 1995 with Amendments and Environmental Conservation Rules 1997:*

The most significant pieces of legislation concerning industrial water pollution are probably the 1995 Bangladesh Environmental Conservation Act and the following 1997 Rules. The Environmental Conservation Act of 1995 states that the Act's goals are "conservation, improvement of quality

standards, and control through mitigation of pollution of the environment." The Environment Conservation Rules of 1997, on the other hand, categorize various projects and industries and specify the types of environmental assessments that must be performed in relation to each category of projects or industries. All industrial units or projects must now acquire "environmental clearance" from the DoE following gazette of the 1995 Act. According to their location and environmental impact, all industrial projects and units have been grouped into four groups for this purpose (Schedule 1 of the Rules). The Environmental Conservation Act (1995) includes provisions for the conservation of ecosystems, even though its primary focus is on pollution-causing actions and processes. In accordance with the legislation, the government may designate some regions as "ecologically critical areas" and may specify which operations and procedures cannot be started or continued there.

#### *Environmental Conservation Act (Amendment 2000)*

The Bangladesh Environment Conservation Act 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.

#### *The Bangladesh Environment Conservation Act (Amendment 2003):*

Under this amendment, it is stated that the Environment Court can dispose of environment-related cases as well as general litigation and also can exercise the power and functions of the general civil courts in Bangladesh.

#### *The Bangladesh Environment Conservation Act, (Amendment 2010)*

In the amendment, a number of additions and substitutions have been included in a different section. The emphasis is provided on the management of wetlands and hills, hazardous waste and penalties. Under this amendment "Ecologically critical Area" means such areas which are rich in unique biodiversity or due to the importance of environmental perspective necessary to protect or conserve from destructive activities under section 5 of this act.

#### *2.1.4 Environmental Conservation Rules 2023*

The Environmental Conservation Rules (ECR)-2023, gazette on March 5, 2023. Some issues have been elaborately described in this ECR. The color code of industrial/project categories for environmental clearance has changed. The number of categories of Schedule 1 has been increased from 186 to 254. One remarkable change is coal-fired power plants having a capacity of up to 50MW and gas-fired plants having a capacity of up to 100MW will no longer require Environmental Impact Assessment (EIA) as both of them are now in the 'Orange' category industry. In the previous ECR (e.g. ECR 97), Regional/National/International Road Construction/Expansion/Reconstruction was in 'Red Category', but in this new ECR the term become simple which is only "Road Construction & Expansion". The road construction or expansion which a length between 5-10 km (5-10 km) is under 'Orange' category and which length is more than 10 km (>10km) will be under 'Red Category'. For Bridge/Flyover Construction/Re-Const/ Expansion, the category will be 'Orange' if the length becomes 100-500 meters, and more than 500 meters will be under 'Red' category. The respective table shows in annex 3.

#### *2.1.5 Bangladesh Biodiversity Act 2017:*

To meet its international commitments under the Convention on Biological Diversity (CBD), Bangladesh has implemented the Bangladesh Biological Diversity Act of 2017, 25 years after the

convention's adoption. The conservation of biodiversity and biosafety issues were already broadly covered by existing environmental laws; therefore, the main significance of this Act resides in the introduction of an access and benefit sharing system. By requiring the creation of a national biodiversity record and documentation, the Act encourages studies of biodiversity and biological resources, which can lead to biotechnological innovations and their commercial application.

#### *2.1.6 The National Water Policy 1999 and Water Act 2013*

The National Water Policy of 1999 is the active and guiding policy document that gives guidance to all institutions involved in the development, management, and exploitation of the nation's water resources, as well as agencies operating in the water sector. To meet the nation's water needs and maintain water security at all socioeconomic levels, the policy paper places a strong emphasis on the development and usage of safe groundwater and surface water resources. The Bangladesh Water Act 2013 provides the country with the required legal framework for water management and conservation. It is also the main tool used to support national water governance. The Act provides essential provisions for the integrated development, management, abstraction, distribution, use, protection and conservation of water resources in the country<sup>7</sup>. Surface water, groundwater, marine water, precipitation, and atmospheric water are all included as potential sources of water.

#### *2.1.7. Bangladesh Water Rules 2018*

The Water Act of 2013 is expanded upon by the Bangladesh Water Rules of 2018, which also provide the essential administrative framework for the administration of water resources by the designated government agencies, primarily MoWR and its implementing partners. The administrative framework includes a list of competent government authorities and their roles, as well as the procedural requirements for carrying out infrastructure development and water resources activities. In order to facilitate monitoring and auditing after task implementation, The Water Rules 2018 proposes a variety of standard templates for water administration for different reasons.

#### *2.1.8 Bangladesh National Building Code (BNBC) 2020*

The Bangladesh National Building Code 2020 was adopted in 2021 to establish a legal requirement for construction to adhere to structural design requirements. In this BNBC 2020, a new chapter titled "Energy Efficiency and Sustainability" has been added. The code encourages sustainable construction methods, allows for the efficiency and conservation of energy, water, and building materials, and promotes resource efficiency. It also incorporates the design and construction of buildings using building concepts that have a positive environmental impact. This code has made it plain that it agrees with the challenges of climate change, and as a result, it acknowledges that the built environment, including buildings, has a significant impact on both the natural environment and quality of life. The code added benefits of sustainable design principles including resource and energy efficiency, healthy buildings and materials, ecologically and socially sensitive land use and strengthened local economics and the communities, objectives vital for the future development of Bangladesh<sup>8</sup>.

#### *2.1.9 Bangladesh Delta Plan 2100*

A long-term, comprehensive vision statement for managing the nation's water resources and land assets, the Bangladesh Delta Plan 2100 (BDP 2100) is intended to serve as a guide for all development

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<sup>7</sup> Bangladesh Water Act 2013

<sup>8</sup> BNBC 2020, Part iii, Chapter 4

goals up to 2100.<sup>9</sup> BDP 2100 is built upon the core vision for sustainable and climate resilience water resources management which is integral to natural resource management and ecosystem-based livelihood of the people. BDP 2100 developed a flexible and adaptive strategy with three high-level and six detailed national goals to address future water, climate change, and other environmental concerns while tying together short-, medium-, and long-term expected outcomes. BDP 2100 is envisioned as a long term integrated and holistic plan that takes a long-term view on water resource management as well as environmental challenges. The term 'environmental sustainability' is also included in the mission statement of this long-term plan. In the national level strategies, it is also mentioned that ensuring the economic development without degrading the environment.

#### *2.1.10 Perspective Plan 2021-2041*

The Perspective Plan 2021-2041 is the key policy instrument to support the accomplishment of the government's vision for 2041 and transform Bangladesh into a middle-income country. The Plan focused on controlling air and water (surface water) pollution, application of geospatial data analysis, and conservation and enhancement of biodiversity. Additionally, with the realization of the impact of climate change, the instrument recommended the adoption of essential adaptation and mitigation measures in different sectors. It is important to mention here that this plan has super emphasis on managing the environment and climate change for sustainable growth and climate resilient development.

#### *2.1.11. Bangladesh Climate Change Strategy and Action Plan (BCCSAP) 2009:*

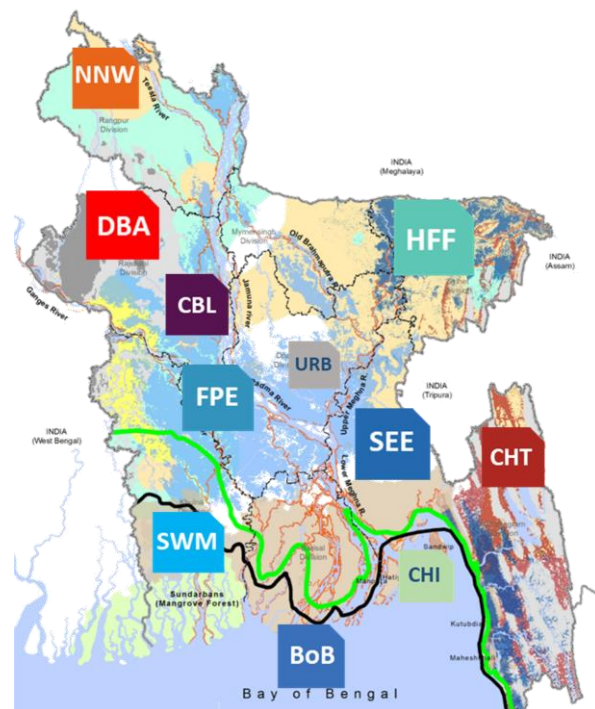
The Ministry of Environment, Forest, and Climate Change developed the Bangladesh Climate Change Strategy and Action Plan 2009 to assist in implementing the urgent and immediate adaptation needs that were described in NAPA (2005). There are 44 programs spread over 6 theme categories in this action plan. The goal of the "Infrastructure" thematic area has been to create new infrastructure that is climate resilient and maintain the current infrastructure while taking climate and disaster risks into account. It is significant to note that the updated BCCSAP will be available soon. Environmental conservation and sustainable economic growth and development have also been embedded in this strategy document.

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<sup>9</sup> General Economic Division, 2018; Bangladesh Delta Plan 2100. Vol 1

### 2.1.12. National Adaptation Plan (NAP) 2022:

This is a dedicated action plan for response to climate change adaptation which has been developed by the Ministry of Environment Forest and Climate Change (MoEFCC) in 2022. NAP formulation follows suit from the National Adaptation Program of Action (NAPA) in 2005 and Bangladesh Climate Change Strategy and Action Plan (BCCSAP) in 2009 to streamline further and reinforce adaptation efforts in the country<sup>10</sup>. It is aiming for a viable path towards attaining climate-resilient development and subsequently reducing climate risks and vulnerabilities. The NAP primarily encompasses 8 distinct sectors where infrastructure is an integral part of each. It has 113 interventions where projected cost of USD 230 for the period of 2023-2025 which will be implemented through short (the 2030s), medium (2041s), and long term (2050s) strategies. NAP has identified 11 climate stress areas and 8 priority sectors. Out of 113 interventions, LGED has involvement in 51 interventions as supporting implementing entity with other agencies. Moreover, LGED has been identified by NAP as a lead agency for implementations in 3 interventions under the priority sector 'Disaster, Social Safety and Security'. In the vision of NAP, it is committed to promotion sustainable nature-based solutions for balancing economic growth and environmental sustainability.



SWM: Southwestern coastal area and Sundarbans; SEE: Southeast and eastern coastal area; CHT: Chattogram Hill Tracts; FPE: River, floodplain and erosion prone area; HFF: Haor and flash floods area; DBA: Drought prone and Barind Area; NNW: Northern north-western region; CBL: Chalan Beel and low-lying area of north-

### 2.1.13 Nationally Determined Contribution (NDC):

Though Bangladesh's top goal is adaptation, the country responded to the Paris Agreement by submitting its INDC to the UNFCCC on September 25, 2015, for the three sectors of power, industry, and transportation. Bangladesh then created the NDC Implementation Roadmap and Action Plan in 2018<sup>11</sup>. As part of the global initiative, Bangladesh has updated the NDC incorporating additional sectors following IPCC guidelines. The updated NDC, which was submitted on August 26, 2021, covered energy, industrial processes and product use (IPPU), agriculture, forestry, and other land use (AFOLU), and waste. The NDC calls for a number of mitigation actions that will help limit the country's GHG emissions. It should be kept in mind that the last updated NDC has no stake for LGED, but the Ministry of Local Government, Rural Development and Cooperatives is one of the implementing ministries of NDC. LGED needs to coordinate with NDC team to explore their contribution and scope for mitigation action in the country.

<sup>10</sup> National Adaptation Plan

<sup>11</sup> Nationally Determined Contribution (NDC) updated, 2021

### 2.1.15. *National Child Labour Elimination Policy 2010:*

A healthy and natural childhood is something that every child is entitled to. However, a lot of children in our nation are denied access to this fundamental right. By removing children from all forms of child labour, including dangerous jobs and the worst forms of child labour, this policy's major goal is to make significant changes in the lives of children. While operating on the project, LGED should respect this policy and adhere to the guiding principles.

## **2.2 International Policy Landscape**

Although Bangladesh places a high focus on development, it also recognizes the necessity of managing water resources, protecting the environment, and conserving biodiversity. Bangladesh has ratified numerous international agreements and treaties as a result. The conventions and treaties that Bangladesh has ratified are listed in annex 4 and some of the most relevant are briefly described here.

### 2.2.2 *RIO Declaration on Environment and Development:*

Reaffirming the Stockholm Declaration of the United Nations Conference on the Human Environment, which was adopted on June 16, 1972, provided a new framework for global environmental action. It was held in Rio de Janeiro, Brazil, in 1992 and is also known as the "Earth Summit." According to Principle 3 of the 27 principles, "The right to development must be fulfilled so as to equitably meet the developmental and environmental needs of present and future generations." Principle 4 stresses once more that "environmental protection shall constitute an integral part of the development process and cannot be considered in isolation from it" in order to "achieve sustainable development".

### 2.2.3 *United Nations Framework Convention on Climate Change (UNFCCC):*

The United Nations Framework Convention on Climate Change provides the basis for concerted international action to mitigate climate change and to adapt to its impacts. Its provisions are far-sighted, innovative and firmly embedded in the concept of sustainable development. The Convention entered into force on 21 March 1994. Bangladesh as a Party signed the Convention on 09 June 1992 and ratified on 15 April 1994. It is the parent treaty of the Paris Agreement (2015) and Kyoto Protocol (1997). The main aim of the Paris Agreement is to keep the global average temperature rise this century as close as possible to 1.5 degree Celsius above pre-industrial levels. The ultimate objective of all three agreements under the UNFCCC is to stabilize greenhouse gas concentrations in the atmosphere at a level that will prevent dangerous human interference with the climate system, in a time frame which allows ecosystems to adapt naturally. How do they recognize ESS safeguards within the framework articles?

### 2.2.3. *Ramsar Convention:*

The Ramsar Convention is the oldest multilateral international conservation convention which deals with only one habitat or ecosystem type. It is also known as the Convention on Wetlands. The convention was signed in Ramsar (Iran) in 1971 and came into force in December 1975. This convention provides a framework for international cooperation for the conservation of wetland habitats. The convention entered into force in Bangladesh on 21 September 1992. Bangladesh currently has 2 sites designated as Ramsar Sites (Sundarbans Reserved Forest, Tanguar Haor) with surface area of 611,200 hectares. It is applicable for wetlands in and around the project influence area; mitigation measures included in ESMP address potential impacts on wetlands and associated resources as well. DoE is the enforcing authority for it.

#### 2.2.4. *Working Environment (Air Pollution, Noise and Vibration) Convention:*

Working Environment (Air Pollution, Noise and Vibration) Convention, 1977 is an International Labour Organization Convention. It was established in 1977, with the preamble stating, 'Having decided upon the adoption of certain proposals with regard to the working environment: atmospheric pollution, noise and vibration'. Protect workers against occupational hazards in the working environment. Generally applicable to the construction and O&M activities under the project. Appropriate mitigation and protective measures have been included in the ESMP. This convention is a central guideline for ESS standards through guidance on workplace protection. It is very important to note that LGED should respect this convention during the construction work which deals with atmospheric pollution, noise and vibration.

#### 2.2.5. *Universal Declaration of Human Rights:*

The Universal Declaration of Human Rights (UDHR) is a milestone document in the history of human rights. Drafted by representatives with different legal and cultural backgrounds from all regions of the world, the Declaration was proclaimed by the United Nations General Assembly in Paris on 10 December 1948. It sets out, for the first time, fundamental human rights to be universally protected. Article 24 of this declaration describes that everyone has the right to rest and leisure, including reasonable limitation of working hours and periodic holidays with pay.

### **2.3 Sectoral Policy Documents of Development Partners**

The majority of the development partners each have their own set of policies or rules for safeguarding the environment and community. Screening for risks, categorizing those risks, suggesting mitigation measures, establishing standards and good practices, and compiling a list of actions that are prohibited are the primary components. In addition to this, the guiding documents include several distinct types of checklists, monitoring formats, reporting structures, and technical consideration lists. For occupational health and safety, instant healthcare facilities, hazard categorizations, safety tools and signs will be described in this document.

All the sectoral policy documents from development partners, various United Nations agencies, I/NGOs, and like-minded Government entities will be incorporated into this IESMF (Integrated Environment and Social Management Framework), including all of the basic principles, standards, and critical components related to environmental and social protection concerns. It will serve as a guide for LGED for the entirety of the lifecycle of any project from concept to project handover. The table below shows the development partners with their relevant ESS guidelines. The list and some of the most relevant documents are briefly described in annex 5.

LGED has been experienced in working with more than a dozen of development partners including the World Bank and ADB. Most of the development partners have their own ESS guidelines. By practice, LGED follows the respective ESS guidelines/policy while working with the development partners. Generally, the practice is very limited to following the environmental and social safeguard issues (except gender and resettlement) for any government-supported project. Each project supported by development partner must have the scope of environmental and social safeguard officer who are responsible for ensuring the issues related to ESS. So, ESS is not new subject for LGED rather they are used to implement the ESS issues.

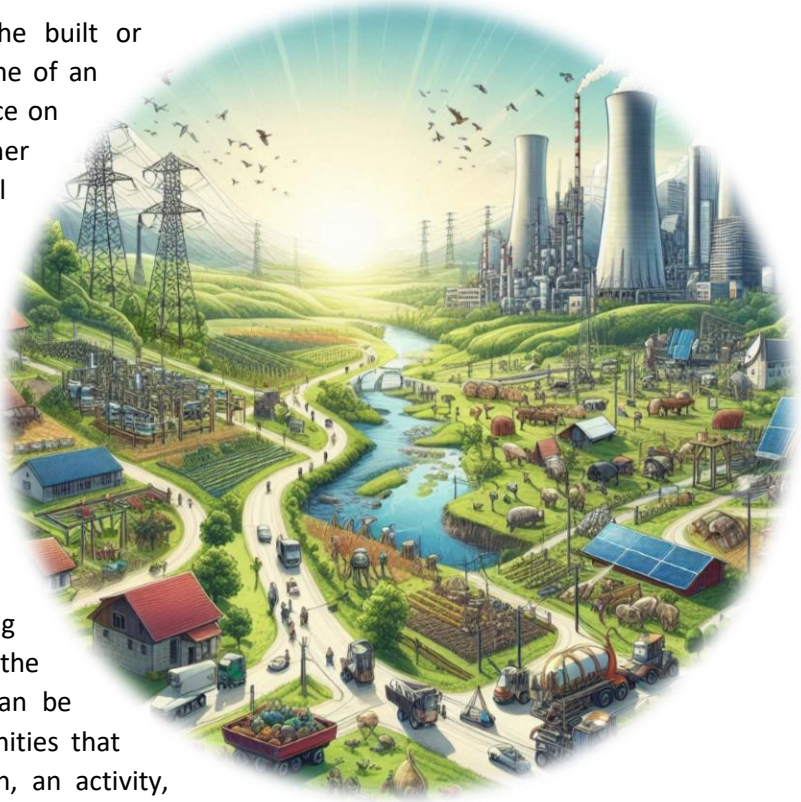


## Chapter 3: Framework for Environmental and Social Safeguard

### 3.1 Environmental impacts

The Environmental Conservation Act 1995 stipulates as “**environment**” means the inter-relationship existing between water, air, soil and physical property and their relationship with human beings, other animals, plants and micro-organisms. The same act also illustrates as “**pollution**” means the contamination or alteration of the physical, chemical or biological properties of air, water or soil, including changes in their temperature, taste, odour, density, or any other characteristics, or such other activity which, by way of discharging any liquid, gaseous, solid, radioactive or other substances into air, water or soil or any component of the environment, destroys or causes injury or harm to public health or to domestic, commercial, industrial, agricultural, recreational or other useful activity, or which by such discharge destroys or causes injury or harm to air, water, soil, livestock, wild animal, bird, fish, plant or other forms of life.<sup>12</sup> Additionally, the same act also states that the “**conservation of environment**” means improvement of the qualitative and quantitative characteristics of different components of the environment as well as prevention of degradation of those components.

Environmental impacts are alterations to the built or natural environment that are a direct outcome of an activity and that may have a negative influence on the wildlife, fish, fisheries, fish, and other residents of the ecosystem. Environmental impacts include pollution, contamination, or destruction that happen as a result of an action and can have both immediate and long-term effects. The majority of negative environmental effects are directly related to problems with public health and quality of life.<sup>13</sup> Environmental and social impacts refer by the GCF’s Revised Environmental and Social Policy as “any change, potential or actual, to (i) the physical, natural, or cultural environment, and (ii) impacts on surrounding community and workers, resulting from the activities to be supported. Social impact can be defined as the effect on people and communities that happens as a result of an action or inaction, an activity, project, programme or policy. Therefore, it is crucial to keep the aspects listed above in mind during each stage of the execution of any activities or projects the organization undertakes. As a result, this IESMF serves as a guide for each stakeholder regarding the potential environmental and social risks associated with the projects.



<sup>12</sup> Bangladesh Environment Conservation Act, 1995

<sup>13</sup> Thomas Abdallah, Sustainable Mass Transit, 2017, Page 45-59; <https://doi.org/10.1016/B978-0-12-811299-1.00004-6>

### 3.2 Basic Principles of IESMF

This IESMF is a high-level plan to mitigate any unforeseen negative effects of all project and program activities and attain positive environmental and social results. It also gives organizations a chance to think about environmental and social factors during the planning, decision-making, and implementation phases of their daily activities. In addition, it is now able to systematically, coherently, and transparently integrate environmental and social issues at the level of facilitation and operations, as well as at the level of activities and policies. Through its environmental and social management practices, this organization ensures environmental and social sustainability, builds institutional capacity, and engages stakeholders at the facility and operations levels to reduce or eliminate negative environmental impacts. Environmental and social due diligence and risk assessment at the activity level, and a management structure adapted to the specifics of the operations, taking into account the potential for adverse effects on the environment and the social fabric. And at the policy level, by defining the policies and processes for integrating sustainability considerations into the strategies and decisions.

The following guiding principles are established to address environmental and social risks resulting from the execution of diversified project activities.

- **Sustainability and Resilience:** The goals of the 2030 Agenda include ensuring the long-term preservation of the environment and all of its natural and cultural resources, fostering equitable and sustainable economic growth, eradicating all forms of poverty, and improving human well-being. Resilience is a crucial component of sustainability and a guiding principle in the development of integrated and efficient strategies for lowering risks and averting crises and disasters. Additionally, LGED practices a shared vision and an integrated strategy for sustainability that takes social, economic, and environmental aspects into account. In this approach, LGED assists Bangladesh to more effectively prevent, anticipate, withstand, adapt and transform the multiple threats and crises that affect the continuous development process and national growth.
- **“Do no harm” to “Do good”:** Set forth the ways to not only include safeguard measures of "do no harm" but also focus on recognizing opportunities to "do good" and improve environmental and social outcomes.
- **Leave no one behind:** Leave no one behind, the guiding principle of the 2030 Agenda for Sustainable Development, mandates that actions that expressly address the needs and rights of those who are marginalized, vulnerable, or disadvantaged be given top priority. It is crucial to promote justice in both the process and the results in order to overcome inequities. The goal of LGED interventions is to help the most vulnerable communities find resilient and long-lasting solutions to poverty. With a view to leaving no one behind and overcoming inequalities, LGED assist country as part of its mandate to end hunger, poverty and build resilience to numerous risks, including the impacts of climate change. These policies and practices will promote inclusive, resilient, and sustainable production, diversify livelihoods, and create decent rural employment.

### 3.3 Core Thematic Area of IESMF

There is no question that the environment as well as the social challenges are at the core of this framework. Beyond these, there have been relatively few other thematic groups given the same level of consideration as these. The key to successfully implementing any mitigation measures or alternative solutions for any environmental and social challenges is to ensure that they are economically feasible. On the other hand, the climate issue is the primary force that is pushing the development process. This is true for all elements of the process. These thematic areas are essential for ensuring sustainable development. As a direct result of this, the subject areas that are being discussed here are being regarded as the guardrail for this policy framework. The figure shows the relationship of the core thematic area of this IESMF.



### 3.4 Scope of IESMF

The key entry points of LGED's IESMF are listed below.

- i. LGED's Policy and Strategies
- ii. LGED's Operations and Management
- iii. All projects and programs of LGED

### 3.5 Environmental and Social Performance standards:

This IESMF, which takes a risk- and outcome-based approach, is meant to help projects manage and improve their environmental and social performance. The IESMF's goal is to ensure that the needs of sustainable natural resource use, environmental protection, and livelihood preservation are integrated into the definition, preparation, and implementation of project activities across the country by providing a set of instruments. In order to effectively screen for and manage risks and potential repercussions, this IESMF establishes a total of 9 Environment and Social Standards. Screening, Assessment and Management of Environmental, Climate and Social Risks and Impacts have been considered as a basic driving standard for this framework. It establishes the criteria for the risk screening and risk categorization processes along with the procedures and management conditions for each risk category. This IESMF integrates the respective environmental and social performance standards of the World Bank group. The following tables are given here. These standards will be applicable when the risks and impacts related to the respective standard are triggered during the screening of project activities. The standard sample screening format of environmental and social impact assessment are found in annex 6.

### 3.5.1 Environmental and Social Standard 1: Screening, Assessment and Management of Environmental, Climate and Social Risks and Impacts

This is the basic standard for the management of environmental and climate risk considering the social aspects. In order to achieve environmental and social outcomes that are compatible with the Environmental and Social Standards, these standard lays out the duties of the organization for assessing, managing, and monitoring the risks and impacts related to the environment and society at each step of a project.

| Description  | Objective   | Scope   |
|--|---|---|
| <p><b>This standard is designed to help the organization to manage the risks and impacts of a project, and improve their environmental and social performance, through a risk and outcome based approach. The desired outcomes for the project are described in the objectives of each ESS, followed by specific requirements to help Borrowers achieve these objectives through means that are appropriate to the nature and scale of the project and proportionate to the level of environmental and social risks and impacts.</b></p> | <ul style="list-style-type: none"> <li>•To identify, evaluate and manage the environment and social risks and impacts of the project in a manner consistent with the ESSs.</li> <li>•To adopt a mitigation hierarchy approach to:               <ul style="list-style-type: none"> <li>(a) Anticipate and avoid risks and impacts;</li> <li>(b) Where avoidance is not possible, minimize or reduce risks and impacts to acceptable levels;</li> <li>(c) Once risks and impacts have been minimized or reduced, mitigate; and</li> <li>(d) Where significant residual impacts remain, compensate for or offset them, where technically and financially feasible<sup>14</sup>.</li> </ul> </li> <li>•To adopt differentiated measures so that adverse impacts do not fall disproportionately on the disadvantaged or vulnerable, and they are not disadvantaged in sharing development benefits and opportunities resulting from the project.</li> <li>•To utilize national environmental and social institutions, systems, laws, regulations and procedures in the assessment, development and implementation of projects, whenever appropriate.</li> </ul> | <p>This performance standard is applicable for all projects and programs of the organization.</p> |

<sup>14</sup> See glossary

**Requirements:**

| Sl. No | Extent                              | Requirement   |
|--------|-------------------------------------|---|
| 1      | Environmental and social assessment | <ul style="list-style-type: none"> <li>○ An environmental and social assessment of the project will be carried out to assess the environmental and social risks and impacts of the project throughout the project life cycle. The assessment will be proportionate to the potential risks and impacts of the project and will assess, in an integrated way including direct, indirect and cumulative environmental and social risks and impacts throughout the project life cycle. It will also follow the identified issues for the rest of the individual standards.</li> <li>○ The environmental and social assessment will be based on current information, including an accurate description and delineation of the project and any associated aspects, and environmental and social baseline data at an appropriate level of detail sufficient to inform characterization and identification of risks and impacts and mitigation measures. The assessment will evaluate the project’s potential environmental and social risks and impacts; examine project alternatives; identify ways of improving project selection, siting, planning, design and implementation in order to apply the mitigation hierarchy for adverse environmental and social impacts and seek opportunities to enhance the positive impacts of the project. The environmental and social assessment will include stakeholder engagement as an integral part of the assessment, in accordance with performance standard 8.</li> <li>○ It will be ensured that the environmental and social assessment takes into account in an appropriate manner all issues relevant to the project, including: the country’s applicable policy framework, national laws and regulations, and institutional capabilities relating to the environment and social issues; variations in country conditions and project context; country environmental or social studies; national environmental or social action plans; and obligations of the country directly applicable to the project under relevant international treaties and agreements.</li> <li>○ The environmental and social assessment will take into account all relevant environmental and social risks and impacts of the project. a) Environmental risks are those related to climate change and other transboundary or global risks and impacts; any material threat to the protection, conservation, maintenance and restoration of natural habitats and biodiversity; and those related to ecosystem services and the use of living natural resources, such as fisheries and forests; b) Social risks are those impacts fall disproportionately on</li> </ul> |

|          |   |   |
|----------|---|---|
|          |   | <p>individuals and groups who, because of their particular circumstances, may be disadvantaged or vulnerable; any prejudice or discrimination toward individuals or groups in providing access to development resources and project benefits, particularly in the case of those who may be disadvantaged or vulnerable; negative economic and social impacts relating to the involuntary taking of land or restrictions on land use; risks or impacts associated with land and natural resource tenure and use, including potential project impacts on local land use patterns and tenurial arrangements, land access and availability, food security and land values, and any corresponding risks related to conflict or contestation over land and natural resources; impacts on the health, safety and well-being of workers and project-affected communities; and risks to cultural heritage.</p> <ul style="list-style-type: none"> <li>○ The environmental and social assessment will consider potentially significant project-related transboundary and global risks and impacts, such as impacts from effluents and emissions, increased use or contamination of international waterways, emissions of short- and long-lived climate pollutants, climate change mitigation, adaptation and resilience issues, and impacts on threatened or depleted migratory species and their habitats</li> </ul> |
| <b>2</b> | Environmental and Social Commitment Plan (ESCP) | <ul style="list-style-type: none"> <li>○ An environmental and social commitment plan will be developed and implemented which will set out measures and actions required for the project to achieve compliance with the performance standards over a specified timeframe.</li> <li>○ It will be an accurate summary of the material measures and actions required to avoid, minimize, reduce or otherwise mitigate the potential environmental and social risks and impacts of the project. A completion date for each action will be specified in the ESCP.</li> <li>○ The ESCP will set out a process that allows for adaptive management of proposed project changes or unforeseen circumstances.</li> </ul>  |
| <b>3</b> | Project monitoring and reporting                | <ul style="list-style-type: none"> <li>○ Monitoring will normally include recording information to track performance and establishing relevant operational controls to verify and compare compliance and progress. Monitoring will be adjusted according to performance experience, as well as actions requested by relevant regulatory authorities and feedback from stakeholders such as community members.</li> <li>○ Based on the results of the monitoring, it will identify any necessary corrective and preventive actions, and will incorporate these in an amended ESCP or the relevant management tool in an acceptable manner for all.</li> </ul>  |

|          |   |  |
|----------|---|--|
| <b>4</b> | Stakeholder engagement and information disclosure | <ul style="list-style-type: none"> <li>○ The project authority will continue to engage with and provide sufficient information to stakeholders throughout the life cycle of the project, in a manner appropriate to the nature of their interests and the potential environmental and social risks and impacts of the project.</li> <li>○ If there are significant changes to the project that result in additional risks and impacts, particularly where these will impact project-affected parties, the project authority will provide information on such risks and impacts and consult with project-affected parties as to how these risks and impacts will be mitigated and will also disclose an updated ESCP, setting out the mitigation measures.</li> </ul> |
|----------|---|--|

### 3.5.1.1 Risk Screening and Categorization under the Environmental and Social Performance Standard 1:

Risk screening and categorization is the first step to manage the environmental and social risks associated with the proposed projects or programs. The following table shows the factors or requirements of screening the environmental and social risk results from any project executed. Anticipated Environmental and Social Impacts for LGED’s activities are found in annex 7.

| Sl. No | Considering factors for screening  |
|--------|--|
| 1      | Risk screening starts from the planning phase and ends even after the accomplishment the of project.   |
| 2      | Identify potential environmental and social risks and impacts caused by the project, including the risks referred to in the guiding principles of this IESMF.  |
| 3      | As soon as possible in the screening process, marginalized, vulnerable or disadvantaged groups that are, or may be, affected by the activities of the project shall be identified. while this has been done, the associated risks and impacts shall be assessed to ensure that various mitigation measures are incorporated to ensure that risks and impacts do not fall disproportionately on specific groups and that these groups do not face discrimination or prejudice in accessing and sharing the benefits and resources derived from the activities of the project. |

Based on the activities of the programme or project, and the nature, significance and likelihood of the potential direct, indirect, cumulative environmental and social risks and impacts that have been identified during the screening process, programmes and projects are classified as high, moderate and low risk. The following table shows the necessary features of risk categorization.

| Sl. No | Risk Categorization features   | Risk Category    |
|--------|--|------------------|
| 1      | ○ The impacts are long-term, permanent and/or irreversible, and impossible to avoid entirely due to the nature of the project; | <b>High Risk</b> |

|          |   |                      |
|----------|---|----------------------|
|          | <ul style="list-style-type: none"> <li>○ The geographical area or size of the human population, including the proportion relative to the project location and population, likely to be impacted is medium to very large;</li> <li>○ The impacts will be significant and cumulative;</li> <li>○ There is a high probability of serious adverse effects to human health, livelihoods and/or the environment;</li> <li>○ The area likely to be impacted includes sensitive and valuable ecosystems and habitats (e.g. legally protected or internationally recognized areas of high biodiversity value; areas with minority groups; areas of significant cultural heritage; and densely populated urban areas);</li> <li>○ Some of the serious adverse risks and impacts of the project activities cannot be mitigated or require complex and/or unproven mitigation measures, compensatory measures or technology, or sophisticated social analysis and follow-up actions;</li> <li>○ There are concerns that the adverse social impacts of the project, and the associated measures to mitigate these impacts, may give rise to significant social conflict or harm, or present significant risks to human health and security;</li> <li>○ There are several factors outside the control of the project that are both likely to occur and could have significant environmental or social impacts that affect the outcomes of the project.</li> </ul> |                      |
| <b>2</b> | <ul style="list-style-type: none"> <li>○ The impacts are predictable and expected to be temporary and/or reversible;</li> <li>○ The impacts are low in magnitude, affecting a low number of people;</li> <li>○ The impacts are site-specific, with no likelihood the impacts will extend beyond the actual footprint of the project;</li> <li>○ There is low probability of serious adverse effects to human health, livelihoods and/or the environment.</li> <li>○ Mitigation Measures can be designed more readily than projects with high risk.</li> </ul>   | <b>Moderate Risk</b> |
| <b>3</b> | <ul style="list-style-type: none"> <li>○ The project has no or minimal potential negative environmental and social impacts.</li> <li>○ It will not be controversial in terms of the interests of key stakeholders.</li> <li>○ In case of negligible impacts, the risk remains low because there are widely known and readily available good practices that can be used to address these impacts, and the beneficiaries of the project have a proven track record of applying these good practices.</li> </ul>   | <b>Low Risk</b>      |

### 3.5.1.2 Analysis and Assessment of Environmental and Social Risk:

The compilation of an environmental and social assessment follows the screening and categorization process. The assessment shall be commensurate with the possible risks and consequences that have been identified through the screening process, and the country context in which the project activities are to be carried out. The assessment will address, in an integrated approach, all the direct, indirect, cumulative and environmental and social risks and consequences throughout the life cycle of the project/

The environmental and social assessment of the project shall be performed as early as possible. Under no condition shall project activities that may have detrimental consequences proceed until the environmental and social assessment has been completed and the relevant mitigation measures have been enacted. All LGED projects shall follow the risk mitigation hierarchy to ensure that any environmental and social risks and potential adverse impacts are foreseen. In the case of emergency response and humanitarian action, different management controls and processes to avoid, minimize, and mitigate unfavourable impacts and future risks shall be used. The environmental and social assessment process shall consider the following categories of data and information.

- The nature, magnitude and likelihood of the risks, from rapid- and slow-onset hazards to chronic emergencies, and relative potential impacts on the activities of the project.
- The impacts on physical, climatic, biological, socio-economic and cultural resources, including the direct, indirect, and cumulative impacts of the project and its associated activities within its area of influence;
- The potential transboundary and global impacts, including air pollutants and other environmental emissions, as they relate to project activities;
- Social and environmental baseline data, and poverty, inequality, gender and vulnerability analysis at an appropriate level of detail, recognizing that variability of conditions over time (e.g. seasonal variations and the movement of people) may require additional data collection

### 3.5.1.3 Assessment Requirement for Different Risk Category Projects:

This is noted that this IESMF will follow the national guideline (e.g. Environmental Conservation Rules 2023) and prescribed schedule (schedule 1) of it for assessment requirement where possible and applicable.

| Sl. No | Risk Category            | Assessment Requirement  |
|--------|--------------------------|---|
| 1      | <b>High Risk Project</b> | <ul style="list-style-type: none"> <li>○ For high-risk projects, an independent expert, external to LGED, shall carry out a full environmental and social impact assessment (ESIA). Theme-specific analyzes will likely be necessary (e.g. climate impacts and risk assessment, health impact assessment, conflict risk analyzes, biodiversity assessment and etc.) and shall be incorporated in the ESIA. In addition, the process may involve the preparation of a resettlement action plan (RAP), a biodiversity management plan, an Ethnic People’s Plan (EPP), a free prior and informed consent (FPIC) implementation plan and other plans, as needed.</li> <li>○ Risk and impact management and mitigation measures shall be reflected in an environmental and social management plan (ESMP) that is developed and included in the ESIA. An ESMP should include risk mitigation measures addressing the potentially adverse impacts, as well as timelines and budgetary allocations. The ESMP may also include or accompany other required management plans (e.g. RAPs or TPPs) where relevant. The particular needs and circumstances of women and men, particularly marginalized, vulnerable and disadvantaged groups, shall be addressed in any ESMP. Local communities monitoring, feedback shall be used, where appropriate.</li> </ul> |

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| 2 | <b>Moderate Risk Projects</b> | For moderate-risk projects, LGED will require a limited social and environmental assessment and review. The ESIA will describe the potential environmental and social risks and impacts, and the appropriate mitigation measures. The ESIA will focus on the application of recognized good practices that will ensure the relevance of the interventions. Once the potential environmental and social risks and impacts of project activities are identified, measures to mitigate, monitor and manage the impacts need to be established. Measures to manage and mitigate risks and impacts shall be reflected in an ESMP and included in the assessment. |
| 3 | <b>Low Risk Projects</b>      | Low-risk projects do not require further environmental and social assessment or management measures beyond the application of the IESMF guiding principles.   |

### 3.5.1.4 Risk Mitigation Measures

- Apply a risk-based approach for addressing significant environmental and socio-economic challenges.
- Apply the risk mitigation hierarchy.
- Develop plans and methods for social and environmental management that are appropriate for the type and severity of the risks and effects that have been identified.
- Consider all technically and financially feasible alternatives to reduce serious environmental and social risks and impacts, including the scenario of not proceeding with project activities. To completely balance the total costs of social and environmental impacts against projected project benefits and total project cost, a cost-benefit analysis might be necessary.
- Use adaptive management strategies, which proactively apply lessons acquired from previous management decisions—including lessons from other projects and other domains—to forecast and enhance management as the project moves forward.
- Apply code of practice, standards and guidelines, good practice, where possible and relevant.
- Consider institutional frameworks and compliance with national laws and regulations and obligations under international laws, standards, and environmental treaties and agreements.
- Undertake early and meaningful engagement with stakeholders, including the most vulnerable, throughout the life cycle of the project. This engagement must be predicated on the timely disclosure of all relevant information in an accessible form and assurances that stakeholders' views will be considered, including in the identification and management of environmental and social risks and impacts.
- Establish feedback loops to confirm stakeholder understanding and buy-in.
- Allocate enough financial and non-financial resources to conduct evaluations and create risk-reduction strategies commensurate with the kind and extent of possible hazards and project-related effects.
- When the environmental and social assessment identifies potential negative risks and impacts on people with disabilities and other individuals and groups at higher risk, make sure that different strategies are put in place to address their unique needs and concerns as defined by the groups themselves. Additionally, make sure that everyone has equal access to the project's benefits and opportunities.
- Determine the hazards and effects to the environment and society that could arise from the project's suppliers and contractors. It is important to do research to find out about the track

record and performance of main suppliers and contractors. The extent of risks and their possible consequences will dictate the necessary actions to mitigate them.

### 3.5.2. Environmental and Social Standard 2: Resource Efficiency, Pollution Prevention and Management

To meet the objective of sustainable development goals and address the climate change issues, this standard is one of the key aspects for LGED.

| Description  | Objective   | Scope  |
|--|---|--|
| <p><b>This standard recognizes that resource efficiency and pollution prevention and management are key elements of the sustainable development agenda. Therefore, all projects and programmes shall meet international good practices in this regard. Reduction of greenhouse gas emissions and adaptation to climate change is essential to increasing efficiency in the use of resources towards resilience building.</b></p> | <ul style="list-style-type: none"> <li>○ To promote the sustainable use of resources, including energy, water and raw materials.</li> <li>○ To avoid or minimize adverse impacts on human health and the environment by avoiding or minimizing pollution from project activities.</li> <li>To avoid or minimize project-related emissions of short and long-lived climate pollutants where possible and applicable.</li> <li>○ To avoid or minimize the generation of hazardous and non-hazardous waste.</li> <li>○ To minimize and manage the risks and impacts associated with pesticide use</li> </ul> | <p>The applicability of this standard is established during the environmental and social assessment described in standard 1.</p> |

#### Requirements:

| Sl. No | Extent  | Basic Requirements   |
|--------|---|--|
| 1      | <p>Resource efficiency</p> <ul style="list-style-type: none"> <li>- Energy Use</li> <li>- Water Use</li> <li>- Raw Materials Use</li> </ul> | <ul style="list-style-type: none"> <li>○ Technically, financially and socially acceptable feasible measures will be applied for the enhancement of effective consumption of energy, water and raw materials, as well as other resources.</li> <li>○ The best systematic approach will be applied to get maximum output from minimum energy input thus contributing to sustainable development.</li> <li>○ Renewable energy will be the first priority where possible and feasible to use.</li> </ul> |

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|                 |   | <ul style="list-style-type: none"> <li>○ Preserve surface water and groundwater and ensure water quality and supply within the project adjacent areas.</li> <li>○ Avoid detrimental changes in downstream water flow and quality.</li> <li>○ Explore options for rewarding communities for the sustainable management of watersheds, ecosystem services, good agricultural practices, and/or benefit-sharing mechanisms.</li> <li>○ Ensure equitable, reliable and sustained access to, and use and control of water (water governance) by incorporating gender issues at all stages of water resources management</li> </ul>  |
| <p><b>2</b></p> | <p>Pollution prevention and management</p> <ul style="list-style-type: none"> <li>- Management of air pollution</li> <li>- Management of hazardous and nonhazardous wastes</li> <li>- Management of chemicals and hazardous materials</li> <li>- Management of water pollution</li> <li>- Management of noise pollutions</li> </ul> | <ul style="list-style-type: none"> <li>○ Projects and programs will prevent the discharge of pollutants or, when avoidance is not feasible, minimize and control the concentration and measures level specified in national legislation. This applies to the release of pollutants to air, water and land due to routine, nonroutine, and accidental circumstances.</li> <li>○ To avoid potential adverse impacts of the project on human health and the environment, it will consider relevant factors, including existing ambient conditions; present and future land use; the project's proximity to areas of importance to biodiversity; the potential for cumulative impacts with uncertain and/or irreversible consequences; and impacts of climate change.</li> <li>○ Emphasizes the considerations of alternatives and implements technically and financially feasible and cost-effective options to avoid or minimize project-related air emissions during the design, construction and operation of the project.</li> <li>○ As part of the environmental and social assessment of the project, every project / program describes and quantifies the project's sources of air pollution, including gross greenhouse gas emissions, either reliantly or independently, depending on what is deemed to be relevant.</li> <li>○ Projects avoid the generation of hazardous and nonhazardous waste, if avoidance is not possible minimizes the generation of waste, and reuse, recycle and recover waste in a manner that is safe for human health and the environment. Where waste cannot be reused, recycled or recovered, treated, destroyed, it must be disposed of in an environmentally sound and safe manner.</li> </ul> |

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|  |  | <ul style="list-style-type: none"> <li>○ It would avoid the manufacture, trade and use of chemicals and hazardous materials subject to international bans, restrictions or phaseouts.</li> <li>○ It would reduce and regulate the usage and emission of dangerous substances. Through environmental and social assessment, the production, transportation, handling, storage, and use of hazardous materials for project operations will be evaluated.</li> </ul> |
|--|--|---|

### 2.5.3 Environmental and Social Standard 3: Community Health and Safety

Ensuring community health and safety is a primary concern for LGED. So, this standard in this IESMF is committed to follow. The community monitoring template for the environment and social safeguards is attached in annex 8.

| Description  | Objective   | Scope  |
|--|---|--|
| <p><b>The potential negative impacts that can affect the health, safety and security of any community can result from a broad range of activities which are executed. This standard addresses the need to avoid health and safety risks and the impacts of the health and safety hazards that may arise from the activities undertaken, and where avoidance is not possible, minimize and mitigate these risks and impacts. In addition, communities that are already subjected to impacts from climate change may also experience acceleration or intensification of impacts due to project activities.</b></p> | <ul style="list-style-type: none"> <li>○ Anticipate and avoid adverse impacts on health, safety and livelihoods of involved and affected communities from both routine and non-routine circumstances during the entire programme or project cycle.</li> <li>○ Ensure quality and safety in the design and construction of infrastructure to prevent and minimize potential safety risks and accidents.</li> <li>○ To promote quality and safety, and considerations relating to climate change, in the design and construction of infrastructure, including water resource structure.</li> <li>○ To avoid or minimize community exposure to project-related traffic and road safety risks, diseases and hazardous materials.</li> <li>○ To ensure that the safeguarding of personnel and property is carried out in a manner that avoids or minimizes risks to the project-affected communities.</li> </ul> | <p>The application of this standard is established during the environmental and social screening. The standard addresses potential risks and impacts on communities that may be affected by project activities or interventions.</p> |

## Requirements:

| Sl. No | Extent                                    | Basic Requirements   |
|--------|---|--|
| 1      | General health and safety risk management | <ul style="list-style-type: none"> <li>○ Undertaking appropriate health and safety assessments, and ensuring management measures, plans and systems are in place and are based on international good practices, tailored to the specific sector or activities in question, and designed and carried out with appropriate health and safety expertise.</li> <li>○ Considering potential health, and safety risks and impacts throughout the project cycle; ensuring the adopted management measures commensurate with the nature and magnitude of the identified risks and impacts; taking into account differences in risk exposure and sensitivity of women and men, as well as marginalized, disadvantaged and vulnerable groups; and prioritizing the prevention or avoidance of risks and impacts over their minimization and reduction.</li> <li>○ Giving consideration to the risks of accidents and hazards to avoid exacerbating the potential adverse impacts of natural and human-made hazards;</li> <li>○ Ensures accidents or incidents associated with assigned projects are appropriately recorded, reported and addressed, and emergency preparedness and response plans are in place.</li> </ul> |
| 2      | Community exposure to health issues       | <ul style="list-style-type: none"> <li>○ Respective projects avoid or minimize potential community exposure to health risks (e.g. pollution, and the contamination of land, resources and food) and diseases that could result from or be exacerbated by the activities in place. The basic considerations are incidents of waterborne diseases, vector-borne diseases, zoonotic diseases, food-borne diseases; the availability of drinking water; injuries; and mental health and well-being.</li> </ul>   |
| 3      | Infrastructure design and safety          | <ul style="list-style-type: none"> <li>○ Projects will be designed, constructed, operated, and decommissioned structural elements in accordance with national legal requirements, good international practice. Potential safety risks to communities will be evaluated as part of the health and safety assessments.</li> <li>○ Structural elements of any infrastructure that poses significant health and safety risks shall be (a) designed and constructed by qualified engineers and professionals; (b) Approved by competent authorities not involved in the design process (c) include appropriate plans for construction supervision and quality assurance, operation and maintenance, and emergency preparedness; and (d) require periodic safety inspections and monitoring. Structural elements shall take into account risks associated with the impacts of climate change and disasters as appropriate. Geological and geophysical hazards will be considered, and appropriate risk assessments will be undertaken where needed.</li> </ul>   |
| 4      | Construction safety                       | For construction activities, it will be ensured the appropriate control of site access (e.g. fencing, security, scaffolding, shuttering); the use of appropriate personal protective equipment and safely designed work platforms; appropriate engineering and administrative controls (e.g. detours, traffic  |

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|   |                               | calming, signs); and safety barriers and signage around all construction sites. Where relevant, projects identify, evaluate, and monitor potential traffic and road safety risks associated with the construction activities, and provide adequate toilet and ablution facilities at the construction camp and work sites.  |
| 5 | Impacts on ecosystem services | Adverse impacts on ecosystem services may result in health and safety risks to communities (e.g. loss of natural buffers). Respective projects strive to avoid or minimize these adverse impacts and implement appropriate mitigation measures to maintain the value and functionality of ecosystem services that are important to local communities. Where appropriate and feasible, it will identify potential risks and impacts to ecosystem services that may be exacerbated by climate change. |

### 3.5.4 Environmental and Social Standard 4: Land Acquisition, Restrictions on Land Use and Involuntary Resettlement

Generally, LGED is experienced in this performance standard by following the ‘Acquisition and Requisition of Immovable Properties Act 2017’ (ARIPA 2017). A standard format for land acquisition and resettlement action plan is attached in annex 9.

| Description  | Objective   | Scope  |
|--|---|--|
| <b>This standard recognizes that project-related land acquisition and restrictions on land use can have adverse impacts on communities and persons. Project-related land acquisition or restrictions on land use may cause physical displacement (relocation, loss of residential land or loss of shelter), economic displacement (loss of land, assets or access to assets, leading to loss of income sources or other means of livelihood), or both. The term “involuntary resettlement” refers to these impacts. Resettlement is considered involuntary when affected persons or communities do</b> | <ul style="list-style-type: none"> <li>○ To avoid involuntary resettlement or, when unavoidable, minimize involuntary resettlement by exploring project design alternatives.</li> <li>○ To avoid forced eviction.</li> <li>○ To mitigate unavoidable adverse social and economic impacts from land acquisition or restrictions on land use by (a) providing timely compensation</li> <li>○ Appropriate restoring their livelihoods and living standards, in real terms, to pre-displacement levels where possible and provision</li> <li>○ To improve living conditions for those who are physically displaced, through provision of</li> </ul> | <ul style="list-style-type: none"> <li>○ This standard applies to permanent or temporary physical and economic displacement resulting from the following types of land acquisition or restrictions on land use undertaken or imposed in connection with project implementation: <ul style="list-style-type: none"> <li>(a) Land rights or land use rights acquired or restricted through expropriation or other compulsory procedures in accordance with national law;</li> <li>(b) Land rights or land use rights acquired or restricted through negotiated settlements with property owners or those with legal rights to the land, if failure to reach settlement would have resulted in expropriation or other compulsory procedures;</li> <li>(c) Restrictions on land use and access to natural resources that cause a community or groups within</li> </ul> </li> </ul> |

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| <p><b>not have the right to refuse land acquisition or restrictions on land use that result in displacement.</b></p> | <p>adequate housing, access to services and facilities, and security of tenure.</p> <ul style="list-style-type: none"> <li>○ To conceive and execute resettlement activities as sustainable development programs, providing sufficient investment resources to enable displaced persons to benefit directly from the project as the nature of the project may warrant.</li> <li>○ To ensure that resettlement activities are planned and implemented with appropriate disclosure of information, meaningful consultation, and the informed participation of those affected.</li> </ul> | <p>a community to lose access to resource usage where they have traditional or customary tenure, or recognizable usage rights.</p> <p>(d) Displacement of people as a result of project impacts that render their land unusable or inaccessible;</p> <p>(e) Restriction on access to land or use of other resources including communal property and natural resources such as marine and aquatic resources, timber and non-timber forest products, fresh water, medicinal plants, hunting and gathering grounds and grazing and cropping areas.</p> <p>(f) Land rights or claims to land, or resources relinquished by individuals or communities without full payment of compensation; and</p> <p>(g) Land acquisition or land use restrictions occurring prior to the project, but which were undertaken or initiated in anticipation of, or in preparation for the project.</p> |
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**Requirements:**

| Sl. No | Extent   | Basic Requirements   |
|--------|--|--|
| 1      | Eligibility classification                     | <p>Affected individuals may be classified as persons who:</p> <ul style="list-style-type: none"> <li>a) have formal legal rights to land or other natural resources or assets;</li> <li>b) have no statutory legal right over the land or natural resources they occupy or use, but who are occupying or using the land prior to a specific cut-off date for the project.</li> </ul> |
| 2      | Project design                                 | <p>It considers feasible alternative project designs to avoid or minimize land acquisition or restrictions on land use, especially where this would result in physical or economic displacement, while balancing environmental, social, and financial costs and benefits, and paying particular attention to gender impacts and impacts on the poor and vulnerable</p>               |
| 3      | Compensation and benefits for affected persons | <ul style="list-style-type: none"> <li>○ Compensation standards for categories of land and fixed assets will be disclosed and applied consistently. In all cases, a clear basis for calculation of compensation will be documented, and compensation distributed in accordance with transparent procedures.</li> </ul>   |

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|   |                                | <ul style="list-style-type: none"> <li>○ In certain cases, there may be significant difficulties related to the payment of compensation to particular affected persons, for example, where repeated efforts to contact absentee owners have failed, where project-affected persons have rejected compensation that has been offered to them in accordance with the approved plan, or where competing claims to the ownership of lands or assets are subject to lengthy legal proceedings. Compensation placed in escrow will be made available to eligible persons in a timely manner as issues are resolved.</li> </ul> |
| 4 | Community engagement           | The consultation process should ensure that women’s perspectives along with other vulnerable groups are obtained and their interests factored into all aspects of resettlement planning and implementation.  |
| 5 | Grievance Mechanism            | It will ensure that potentially displaced persons have access to legal advice prior to displacement decision and access to judicial or administrative remedies, as available. It will also ensure an effective grievance mechanism is available to address specific concerns of affected persons regarding all phases of the resettlement process.   |
| 6 | Planning and implementation    | Where land acquisition or restrictions on land use are unavoidable, a census will be conducted to identify the persons who will be affected by the project, to establish an inventory of land and assets to be affected to determine who will be eligible for compensation and assistance and to discourage ineligible persons, such as opportunistic settlers, from claiming benefits.  |
| 7 | Resettlement Action Plan (RAP) | The scope of requirements and level of detail of the resettlement plan varies with the magnitude and complexity of resettlement. The plan is based on up-to-date and reliable information about (a) the proposed project and its potential impacts on the displaced persons and other adversely affected groups, (b) appropriate and feasible mitigation measures, and (c) the legal and institutional arrangements required for effective implementation of resettlement measures.  |

### 3.5.5 Environmental and Social Standard 5: Biodiversity Conservation and Sustainable Management of Living Natural Resources

Biodiversity and ecosystem services are closely intertwined. Therefore, it recognizes that managing natural resources sustainably while also regenerating them is the first step toward achieving inclusive, resilient, and sustainable development. Next comes the preservation and restoration of ecosystem services. Additionally, LGED carries out agricultural initiatives that benefit biodiversity and ecosystem services in a variety of ways, which also improve people's quality of life and livelihoods. The Convention on Biological Diversity (CBD) defines biodiversity as: the variability among living organisms from all sources including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species, and of ecosystems (UN Convention on Biological Diversity, 1992). This definition covers plants, animals, forest, aquatic, micro-organism and invertebrate genetic resources and diversity that are vital to food security, nutrition, livelihoods and the resilience and adaptability of global agricultural production systems. The beneficial effects that individuals receive from ecosystems are known as ecosystem services.

This standard acknowledges each of the four types of ecosystem services:

(a) provisioning services that include food, fresh water, wood, timber, fibres, medicinal plants and genetic resources; (b) regulating services that include surface water purification, carbon storage and sequestration, climate regulation, protection from natural hazards, (c) cultural services that include natural areas that are sacred sites and areas of importance for recreation and aesthetic enjoyment, and (d) supporting services that include soil formation, nutrient cycling and primary production.

| Description   | Objective  | Scope   |
|---|--|---|
| <p><b>This standard acknowledges that protecting and conserving biodiversity and sustainably managing living natural resources are essential to sustainable development. Therefore, Impacts on biodiversity can often adversely affect the delivery of ecosystem services. Additionally, it also recognizes the importance of maintaining core ecological functions of habitats, including forests, and the biodiversity they support. Moreover, the potential, positive role of project affected parties, including Ethnic Peoples, in biodiversity conservation and sustainable management of living natural resources is taken into account.</b></p> | <ul style="list-style-type: none"> <li>○ Protect and conserve biodiversity and habitats.</li> <li>○ To apply the mitigation hierarchy and the precautionary approach in the design and implementation of projects that could have an impact on biodiversity.</li> <li>○ To promote the sustainable management of living natural resources.</li> <li>○ To support livelihoods of local communities, including Ethnic Peoples, and inclusive economic development, through the adoption of practices that integrate conservation needs and development priorities</li> </ul> | <p>The application of this standard is established during environmental and social screening. Based on the risk and impact identification and assessment process, the requirements apply to projects that could potentially have a negative impact on biodiversity either directly or indirectly. It also applies to programmes and projects that rely on biodiversity to achieve successful outcomes. Programmes and projects that potentially affect ecosystem services and/or involve the management of living natural resources (i.e. crop and livestock production, fisheries and aquaculture, forestry and wildlife management) must adhere to this standard.</p> |

**Requirements:**

| Sl. No | Extent                             | Basic Requirements   |
|--------|------------------------------------|--|
| 1      | Risk identification and assessment | <ul style="list-style-type: none"> <li>○ Following the environmental and social assessment, the requirements of this standard are applied to all projects that potentially affect biodiversity or habitats, either positively or negatively, directly or indirectly, or that depend upon biodiversity for their success.</li> <li>○ It will determine the significance of biodiversity or habitats based on their vulnerability and irreplaceability at a global,</li> </ul> |

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|                 |   | <p>regional or national level and will also take into account the differing values attached to biodiversity and habitats by project-affected parties and other interested parties.</p> <ul style="list-style-type: none"> <li>○ It will avoid adverse impacts on biodiversity and habitats. When avoidance of adverse impacts is not possible, need to implement measures to minimize adverse impacts and restore biodiversity in accordance with the mitigation hierarchy provided.</li> <li>○ Where significant risks and adverse impacts on biodiversity have been identified, the project will develop and implement a Biodiversity Management Plan.</li> </ul>   |
| <p><b>2</b></p> | <p>Conservation of biodiversity and habitats</p> <ul style="list-style-type: none"> <li>- Modified habitats</li> <li>- Natural habitats</li> <li>- Critical habitats</li> </ul> | <ul style="list-style-type: none"> <li>○ “Habitat” is defined as a terrestrial, freshwater, or marine geographical unit or airway that supports assemblages of living organisms and their interactions with the nonliving environment.</li> <li>○ This standard addresses all habitats, categorized as ‘modified habitat’, ‘natural habitat’, and ‘critical habitat’, along with ‘legally protected and internationally and regionally recognized areas of biodiversity value’ which may encompass habitat in any or all of these categories.</li> <li>○ Natural habitats are land and sea environments where native plant and animal species dominate biological communities and human activity has not significantly altered the area's ecological functions and species composition. In accordance with the risk mitigation hierarchy, programs and projects will avoid harming natural ecosystems.</li> <li>○ Modified habitats are areas that may contain a large proportion of plant and/or animal species of non-native origin, and/or where human activity has substantially modified an area’s primary ecological functions and species composition. This standard applies to those areas of modified habitat that have significant biodiversity value, as determined by the assessment. Projects that operate in modified habitats, or have impacts on these habitats, may only proceed after appropriate mitigation measures have been put in place.</li> <li>○ If natural habitats and ecosystem services may be adversely affected, the project will not undertake any activities unless a) no feasible alternatives are available; and b) appropriate mitigation measures are taken in accordance with the risk mitigation hierarchy to ensure no net loss and, where possible, a net long-term biodiversity gain.</li> <li>○ Critical habitats are areas with high biodiversity value that include (a) habitats of significant importance to threatened or endangered; (b) habitats of significant importance to endemic and/or restricted-range species; (c) habitats that support</li> </ul> |

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|   |                        | globally significant concentrations of migratory species and/or congregatory species; (d) highly threatened and/or unique ecosystems; and/or (e) areas associated with ecological functions or characteristics that are required to sustain the biodiversity in the habitats described above in (a) to (d).  |
| 3 | Invasive alien species | <ul style="list-style-type: none"> <li>○ Because some alien species have the potential to become invasive, spread quickly, and eliminate or outcompete native species, the intentional or unintentional introduction of non-native, or alien, species of flora and fauna into regions where they are not typically found can pose a serious threat to biodiversity.</li> </ul> |

### 3.5.6 Environmental and Social Standard 6: Decent Workplace, Labor and Working Conditions

This standard is necessary and relevant for LGED and applicable to all its projects. This is crucial to maintain while the contractor implements the project in the field.

| Description  | Objective   | Scope  |
|--|---|--|
| <p><b>This standard recognizes the relevance of employment creation and income generation in the aim of poverty reduction and inclusive economic growth. LGED shall promote sound worker-management relationships and maximize the development benefits of a project by treating workers in the project fairly and offer safe and healthy working conditions through the contractor.</b></p> | <ul style="list-style-type: none"> <li>○ To promote safety and health at work.</li> <li>○ To promote fair treatment, nondiscrimination and equal opportunity for project workers.</li> <li>○ To protect project workers, including vulnerable workers such as women, persons with disabilities, contracted workers, community workers.</li> <li>○ To prevent the use of all forms of forced labor and child labor</li> <li>○ To support the principles of freedom of association and collective bargaining of project workers in a manner consistent with national law.</li> <li>○ To provide project workers with accessible means to raise workplace concerns.</li> </ul> | <ul style="list-style-type: none"> <li>○ <b>Direct employee:</b> people employed or engaged directly by the organization to work specifically in relation to the project.</li> <li>○ <b>Contracted workers:</b> people employed or engaged through contractor to perform work related to core functions of the project</li> <li>○</li> <li>○ <b>Community workers:</b> people employed or engaged in providing community labor.</li> </ul> |

**Requirements:**

| Sl. No | Extent  | Basic Requirements   |
|--------|---|--|
| 1      | Working conditions and management of worker relationships | <ul style="list-style-type: none"> <li>○ Written labour management procedures applicable to the project in accordance with national laws will be placed.</li> <li>○ An agreed terms and conditions (hours of work, wages, overtime, compensation and benefits,) will be developed where workers are informed</li> <li>○ Project workers will be provided with adequate periods of rest per week, annual holiday and sick, maternity and family leave, as required by national law and LGED’s internal policy.</li> <li>○ The employment of project workers will be based on the principle of equal opportunity and fair treatment.</li> <li>○ Project authority will ensure appropriate measures of protection and assistance to address the vulnerabilities of project workers, including women and people with differently able.</li> </ul>  |
| 2      | Protecting the work force                                 | <ul style="list-style-type: none"> <li>○ A child under the minimum age as per national law will not be employed or engaged in connection with the project.</li> <li>○ Forced labor (indentured labor, bonded labor, or similar labour-contracting arrangements), which is not voluntarily performed will not be used in connection with the project.</li> </ul>  |
| 3      | Grievance mechanism                                       | <ul style="list-style-type: none"> <li>○ A grievance mechanism will be provided for all direct and contracted workers to raise workplace concerns. The workers will be informed of the grievance mechanism at the time of recruitment and the measures put in place to protect them against any reprisal for its use.</li> <li>○ This grievance mechanism will be designed in a manner which can address concerns promptly, using an understandable and transparent process that provides timely feedback to those concerned in a language they understand, without any retribution, and will operate in an independent and objective manner.</li> <li>○ The grievance mechanism will not impede access to other judicial or administrative remedies that might be available under the law or through existing arbitration procedures, or substitute for grievance mechanisms provided through collective agreements.</li> </ul> |
| 4      | Occupational Health and Safety (OHS)                      | <ul style="list-style-type: none"> <li>○ The OHS measures applying to the project will be set out in the legal agreement and the ESCP.</li> <li>○ The OHS measures will be designed and implemented to address: (a) identification of potential hazards to project workers, (b) provision of preventive and protective measures, including modification, substitution, or elimination of hazardous conditions or substances; (c) training of project workers (d) documentation and reporting of occupational incidents (e) emergency prevention and preparedness and response (f) remedies for adverse impacts such as occupational injuries, deaths, disability and disease.</li> </ul>   |

|   |                        |  |
|---|------------------------|--|
|   |                        | <ul style="list-style-type: none"> <li>○ Project workers will be provided with facilities appropriate to the circumstances of their work, including necessary amenities. access to canteens, hygiene facilities, and appropriate areas for rest.</li> <li>○ An effective monitoring and evaluation system will be established for regular review of occupational safety and health performance.</li> <li>○ Facilities for lactating mothers for breast feeding will be ensured.</li> </ul>                                     |
| 5 | Contracted workers     | <ul style="list-style-type: none"> <li>○ Project will make reasonable efforts to ascertain that third parties who engage contracted workers are legitimate and reliable entities and have in place labor management procedures applicable to the project that will allow them to operate in accordance with the requirements of this IESMF.</li> <li>○ Contracted workers will have access to a grievance mechanism.</li> </ul>  |
| 6 | Primary supply workers | <ul style="list-style-type: none"> <li>○ As part of the environmental and social assessment, LGED will identify potential risks of child labor, forced labor and serious safety issues which may arise in relation to primary suppliers.</li> <li>○ The labor management procedures will set out roles and responsibilities for monitoring primary suppliers.</li> <li>○ LGED requires the relevant primary supplier to introduce procedures and mitigation measures to address safety issues if found significant.</li> </ul> |

### 3.5.7 Environmental and Social Standard 7: Ethnic Minorities

LGED works for rural development following the principle of ‘Leave No One Behind’. To provide development benefits to ethnic minority people, it also works for them. Through this standard LGED is committed to saving their resources and cultural heritage from the project’s activities.

| Description   | Objective   | Scope  |
|---|---|--|
| <p><b>This standard recognizes that Ethnic Peoples have identities and aspirations that are distinct from mainstream groups in national societies and often are disadvantaged by traditional models of development. In many instances, they are among the most economically marginalized and vulnerable segments of the population. This standard also recognizes that the roles of men and women in small ethnic groups are often different from those in the mainstream groups, and</b></p> | <ul style="list-style-type: none"> <li>○ Recognize and foster full respect for ethnic minorities and their human rights, dignity, cultural uniqueness, autonomy, identity, and aspirations.</li> <li>○ Avoid adverse impacts on small ethnic community peoples from activities implemented by LGED, and minimize, mitigate and remedy adverse impacts where avoidance is not possible.</li> <li>○ Promote the rights of ethnic minorities to self-determination and development according to their culture and identity.</li> <li>○ Recognize and respect the rights of small ethnic group’s women and</li> </ul> | <p>This standard applies whenever ethnic peoples are present in, or have collective attachment to a proposed project area, as determined during the environmental and social assessment.</p> |

|   |   |  |
|---|---|--|
| <p><b>that women and children have frequently been marginalized both within their own communities and as a result of external developments and may have specific needs.</b></p> | <p>men to the lands, territories, and resources that they have traditionally owned, occupied, or otherwise used or acquired.</p> <ul style="list-style-type: none"> <li>○ Recognize, respect, protect and preserve the culture, knowledge, and practices of small ethnic community peoples and provide them with an opportunity to adapt to changing conditions in a manner and in a timeframe that is acceptable to them.</li> <li>○ Promote interventions that are designed, managed, and implemented for, by and with small ethnic group’s peoples, including women and youth.</li> <li>○ Ensure that all projects are designed in partnership with small ethnic communities, with their full, effective and meaningful consultation and participation.</li> </ul> |  |
|---|---|--|

**Requirements:**

| Sl. No | Extent                                  | Basic Requirements   |
|--------|---|--|
| 1      | General                                 | <ul style="list-style-type: none"> <li>○ It generally ensures that small ethnic communities in the project area are fully consulted about, and have opportunities to actively participate in, project design and the determination of project implementation arrangements.</li> <li>○ It will assess the nature and degree of the expected direct and indirect economic, social, cultural and environmental impacts on small ethnic groups in the project area.</li> <li>○ Proposed measures and actions will be developed in consultation with the affected minor ethnic groups.</li> </ul>         |
| 2      | Free, prior and informed consent (FPIC) | <ul style="list-style-type: none"> <li>○ FPIC is a specific right that pertains to small ethnic group peoples. The FPIC process aims at: ensuring a positive engagement of small ethnic community and adequate participation of youth and women in the programme or project; avoiding adverse impacts, or when avoidance is not feasible, minimizing, mitigating, or compensating for these impacts in accordance with the agreement of ethnic minorities, and tailoring benefits in a gender-responsive and culturally appropriate way. This framework follows this process accordingly.</li> </ul> |

|   |                            |   |
|---|----------------------------|---|
|   |                            | <ul style="list-style-type: none"> <li>○ Engagement of ethnic minorities begins as early as possible in the conceptualization stage of the project and continues throughout all stages of the project cycle.</li> </ul>   |
| 3 | Small Ethnic People's Plan | <ul style="list-style-type: none"> <li>○ A Small Ethnic People's Plan will be prepared following the results of the FPIC process when a proposed project may have significant negative impacts. This plan will be developed in full consultation with the involved and affected communities, including women and youth. This plan ensures continued consultations during project implementation and monitoring and evaluation arrangements, avoid, minimize, mitigate or compensate for any adverse effects; and they receive what they consider to be appropriate benefits.</li> </ul>   |
| 4 | Grievance mechanism        | <ul style="list-style-type: none"> <li>○ It ensures that a grievance mechanism is established for the project, which is culturally appropriate and accessible to affected n peoples and takes into account the availability of judicial recourse and customary dispute settlement mechanisms among small ethnic peoples.</li> </ul>   |
| 5 | Cultural heritage          | <ul style="list-style-type: none"> <li>○ In cases, where supported activities may lead to adverse impacts on the cultural heritage of small ethnic groups, it consults and cooperate in good faith with the involved and affected ethnic peoples with the objective of obtaining (or not) their FPIC before the approval of relevant activities. If small ethnic peoples are affected and involved by project activities hold the location, characteristics or traditional use of cultural heritage in secret, projects will put in place measures to maintain confidentiality</li> </ul> |

### 3.5.8 Environmental and Social Standard 8: Stakeholder Engagement and Information Disclosure

Stakeholder Engagement and Information Disclosure is crucial to attain the agenda 2030 (SDG) and adhere to the principle of 'Leave No One Behind'. Stakeholder engagement is an intensive process during the course of a project. It facilitates the development of strong, constructive, and responsive connections, which are crucial for the effective management of a project's environmental and social risks, when appropriately structured and put into practice. Women and disadvantaged groups that are most at risk of negative social and environmental effects, such as small ethnic peoples and local communities, should be given special consideration to guarantee adequate representation.

| Description   | Objective   | Scope  |
|---|---|--|
| <p><b>Effective and meaningful stakeholder engagement can improve the environmental and social sustainability of projects, enhance project acceptance, and make a significant contribution to successful project design and</b></p> | <ul style="list-style-type: none"> <li>○ Promote meaningful and effective participation of the parties involved in and affected by project activities, as well as other stakeholders, throughout the project cycle.</li> <li>○ Ensure stakeholders have timely access to appropriate and understandable information on</li> </ul> | <p>This standard applies for all projects of LGED. For the purpose of this standard "stakeholder" refers to individuals or groups who:</p> |

|   |  |   |
|---|--|---|
| <p><b>implementation. Stakeholder engagement is most effective when initiated at an early stage of the project development process and is an integral part of early project decisions, assessment, management and monitoring of the project's environmental and social risks and impacts.</b></p> | <p>programme and project activities, the opportunity to react and best adapt these activities to their needs, and information on potential environmental and social risks and impacts.</p> <ul style="list-style-type: none"> <li>○ To ensure that appropriate project information on environmental and social risks and impacts is disclosed to stakeholders in a timely, understandable, accessible and appropriate manner and format.</li> <li>○ Ensure stakeholder engagement is conducted in an inclusive and gender-responsive manner that includes different generations and pays special attention to any marginalized, vulnerable and disadvantaged groups</li> </ul> | <p>(a) are affected or likely to be affected by the project (project-affected parties); and (b) may have an interest in the project (other interested parties).</p> |
|---|--|---|

**Requirements:**

| Sl. No | Extent                 | Basic Requirements  |
|--------|------------------------|---|
| 1      | Stakeholder Engagement | <ul style="list-style-type: none"> <li>○ LGED engages in meaningful consultations with all stakeholders and provides timely, relevant, understandable and accessible information, and consult with them in a culturally appropriate manner, which is free of manipulation, interference, coercion, discrimination and intimidation.</li> <li>○ The process of stakeholder engagement is (i) stakeholder identification and analysis; (ii) planning how the engagement with stakeholders will take place; (iii) disclosure of information; (iv) consultation with stakeholders; (v) addressing and responding to grievances; and (vi) reporting to stakeholders.</li> <li>○ Keep records of stakeholder consultations, respecting the confidentiality and privacy of personal information to protect stakeholders from potential harm.</li> <li>○ Adjust stakeholder engagement activities during the implementation of the programme or project and include stakeholders in monitoring and evaluation of outcomes.</li> </ul> |
| 2      | Information disclosure | <p>Disclosure of project information helps stakeholders to participate effectively in project consultations. It provides stakeholders with access to the following information, as early as possible before the project appraisal begins.</p> <p>(a) The purpose, nature and scale of the project;</p>  |

|          |  |   |
|----------|--|---|
|          |  | <p>(b) The duration of proposed project activities;</p> <p>(c) Potential risks and impacts of the project on local communities, and the proposals for mitigating these, highlighting potential risks and impacts that might disproportionately affect vulnerable and disadvantaged groups and describing the differentiated measures taken to avoid and minimize these;</p> <p>(d) The proposed stakeholder engagement process highlighting the ways in which stakeholders can participate;</p> <p>(e) The time and venue of any proposed public consultation meetings, and the process by which meetings will be notified, summarized, and reported;</p> |
| <b>3</b> | Organizational capacity and commitment | It defines clear roles, responsibilities and authority as well as designates specific personnel to be responsible for the implementation and monitoring of stakeholder engagement activities and compliance with this standard.   |

### 3.5.9 Environmental and Social Standard 9: Cultural Heritage

Cultural heritage is central to individual and collective identity and memory, providing continuity between past, present and future. Cultural heritage reflects and expresses people’s constantly evolving values, beliefs, knowledge, traditions and practices. Cultural heritage also serves a crucial role within the sustainable development process by strengthening social cohesion, diversity, well-being and quality of life; supporting cultural rights through the protection of the heritage of minority groups; fostering socio-economic regeneration; increasing the appeal and creativity of cities and regions; boosting long-term tourism benefits; and encouraging sustainable practices. Traditional resources and cultural legacy are frequently one-of-a-kind and priceless. Due to abuse and neglect, they might be especially delicate; given their strong symbolic meaning, they might even be susceptible to intentional destruction. This framework pledges to "do no harm" to any cultural heritage and protects it from their project through the use of this standard.

| Description   | Objective  | Scope  |
|---|--|--|
| <b>The term ‘cultural heritage’ includes tangible and intangible heritage, which may be recognized and valued at the local, regional, national, or global level. This standard recognizes that cultural heritage provides continuity in tangible and intangible forms between the past, present and future and sets out</b> | <ul style="list-style-type: none"> <li>○ Protect cultural heritage, including food heritage from damage, inappropriate alteration, disruption, removal or misuse, and support its preservation, safeguarding and protection.</li> <li>○ Ensure equitable sharing of benefits generated from integration and utilization of cultural heritage in the projects.</li> <li>○ Promote meaningful consultation with stakeholders, including women and youth, on the</li> </ul> | <p>This standard will apply to all projects that are likely to have risks or impacts on cultural heritage. This will include a project which:</p> <p>(a) Involves excavations, demolition, movement of earth, flooding or other changes in the physical environment;</p> <p>(b) Is located within a legally protected area or a legally defined buffer zone;</p> |

|   |  |   |
|---|--|---|
| measures designed to protect cultural heritage throughout the project life cycle. | preservation, protection, utilization and management of cultural heritage.<br>○ To address cultural heritage as an integral aspect of sustainable development. | (c) Is located in, or in the vicinity of, a recognized cultural heritage site; or |
|---|--|---|

**Requirements:**

| Sl. No | Extent  | Basic Requirements  |
|--------|---|---|
| 1      | General   | <ul style="list-style-type: none"> <li>○ The projects avoid impacts on cultural heritage. When avoidance of impacts is not possible, LGED will identify and implement measures to address impacts on cultural heritage in accordance with the mitigation hierarchy in connection with the project including by contractors y and also develop a Cultural Heritage Management Plan.</li> <li>○ If previously unknown cultural heritage is encountered during project activities. It will be included in all contracts relating to construction of the project, including excavations, demolition, movement of earth, flooding or other changes in the physical environment.</li> </ul>   |
| 2      | Stakeholder consultations and engagement of experts | <ul style="list-style-type: none"> <li>○ If a project has a potential adverse impact, it will engage qualified and experienced experts to assess the project's potential impacts on cultural heritage and propose alternatives and/or a mitigation plan that would be incorporated into the project document.</li> <li>○ To ensure that meaningful, effective stakeholder consultations are undertaken. These consultations should be gender-inclusive and inter-generational. They should also include the local and national regulatory authorities who have been entrusted with the protection of cultural heritage, including individuals and communities who develop, have developed, use or have used the potentially affected cultural heritage within living memory.</li> </ul> |
| 3      | Confidentiality                                     | <ul style="list-style-type: none"> <li>○ Sensitive information regarding the impacted cultural heritage may be omitted from public disclosure. If the project-affected parties (including individuals and communities) hold the location, characteristics, or traditional use of the cultural heritage in secret, it will put in place measures to maintain confidentiality</li> </ul>  |
| 4      | Legally protected cultural heritage areas           | <p>If the proposed project will be located within a legally protected area or a legally defined buffer zone, it will</p> <ul style="list-style-type: none"> <li>a) Comply with local, national, regional or international cultural heritage regulations<sup>6</sup> and the protected area management plans;</li> </ul>   |

b) Consult the protected area sponsors and managers, project-affected parties (including individuals and communities) and other interested parties on the proposed project; and  
c) Implement additional programs, as appropriate, to promote and enhance the conservation aims of the protected area.



## Chapter 4: Management of Environmental and Social Risk and Impact

### 4.1 Environmental and Social Assessment

The extent and duration of the change, the number of people or the size of the resource affected, and their sensitivity to the change are all factors considered in the assessment of effects and identification of impacts. These factors are also taken into consideration along with any incorporated mitigation measures adopted due to any anticipated potential impact of project activities. Both adverse and beneficial effects are possible outcomes. The standards for judging significance are typically unique to each environmental and social factor, although typically the scope of each potential effect is determined along with the receptor's sensitivity. A typical flow chart of an environmental and social assessment is given below. A sample format for environmental and social impact assessment are attached in annex 10



#### *Site Selection of the project:*

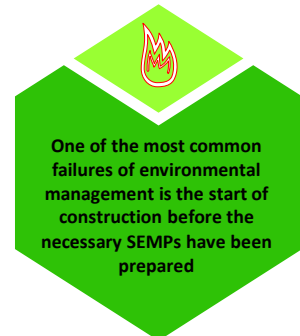
LGED has its own aged practice for site selection of any project. The site selection process of LGED follows the bottom-up approach where community interest and demand along with local and national interest for economic growth have been aligned. It is necessary to follow the National laws and guidelines particularly schedule 9 of ECR 2023 (Environment Conservation Rules 2023) which is attached in annex 11.

#### *Environment and Social Baseline:*

A thorough understanding of the environmental and social conditions that existed before the project's execution, as well as the potential implications of the project's activities, requires a systematic and comprehensive assessment of the baseline state. In the absence of a specific project, the baseline condition of the environment describes how the various environmental components are currently faring. Establishing a baseline for comparing potential environmental effects during the construction and operation stages of any project is the main objective of the assessment of the current environment. Setting a baseline for parameters serves the additional purpose of preventing issues from being incorrectly attributed to the project under investigation. A thorough description of the

current state of the physical and biological environment in and around the project areas will be provided by the data and information obtained during the baseline research. These baseline environmental conditions will be used to assess any potential environmental effects of the projects.

The major physical environmental parameters are climate and climatology, geology and geomorphology, physiography, topography, soil quality and type, land use, ambient air quality, cyclone pattern, unstable and erosion-prone areas, seismicity, noise level, surface and groundwater quality, flood catchment and pattern, drainage and hydrology. On the other hand, the biological parameters are different types of ecosystems, ecologically sensitive areas, protected areas, reserve forests, wetlands, species and biodiversity, threatened species and limited natural resources. In order to estimate the cumulative effects, the baseline description should consider the area's anticipated development plans, the physical environment of the selected indicators, and the current socioeconomic situation. Baseline information from secondary sources and public input must be gathered during the field visit to describe the baseline condition.



The current state of many socioeconomic aspects within the project's sphere of impact is reflected in the socioeconomic baseline condition. The major reason for doing a social environment analysis is to establish a standard against which the effects of the construction and execution of a project can be measured. Setting a reference point for the parameters in play helps rule out the possibility that the project under investigation would be unfairly blamed for issues that could have arisen from other, prior causes. Demographic factors like the number of people who stand to benefit, the availability of adequate housing, the rate of literacy and education, the distribution of income, the types of jobs available to men and women, the gender pay gap, access to facilities, settlements, trade facilities, infrastructure facilities, transportation and communication networks, industries, and the status of the marginalized and vulnerable group are the important considering factors for social aspects in the baseline information.

**Screening:**

Screening is the process to find the primary risk and impacts associated with the project undertaken. Alternatively, it may be based on site-specific information. The output from the screening process is often a document called an Initial Environmental Examination (IEE). The main conclusion will be a classification of the project according to its likely environmental sensitivity. Without conducting a great deal of in-depth research, environmental and social screening determines the proposed projects' effects in a broad sense based on similar project experiences, stakeholder perspectives, and expert assessment. Through screening, important problems are also found that require thorough examination. Further decision-making will be aided by the magnitude of the environmental and social implications found during the screening. The social screening will offer a quick evaluation of the project's characteristics, beneficiaries, socioeconomic characteristics of the communities and essential players, as well as potential risks and repercussions. Participation and consultation with local communities are important to identify the potential impacts of the project interventions

Typically, a simple screening matrix that contains a collection of check lists to determine the baseline and prospective effects of the project intervention is used to conduct the environmental screening. The environmental screening would involve: (i) a reconnaissance of the project area and its surroundings; (ii) the identification of the major project activities; (iii) a preliminary assessment of the

risks and impacts of project activities on the ecological and physico-chemical environment of the project surrounding areas; (iv) the identification of applicable safeguard standards; (v) the determination of the project category; and (vi) the determination of the specific instrument or instruments to be prepared for the project. A standard screening checklist is attached in annex 6.

**Scoping:**

Early in the project cycle, scoping takes place concurrently with pre-feasibility studies and outline planning. Scoping is the procedure used to determine the most important environmental and social issues. There are two reasons why scoping is crucial. First, early problem detection allows for the implementation of mitigating design modifications before costly detailed work is undertaken. Second, to guarantee that thorough prediction work is only done for crucial concerns. Identifying important interest groups, both governmental and non-governmental, and establishing effective communication channels are important aspects of scoping. The project's stakeholders need to be informed as soon as possible.

**Classification of Impact:**

In this step the identified impacts are classified whether the impact is related to the physical environment, biological environment and human beings or social impact. It will help further to categorise the impacts and setting the mitigation measures.

**Determination of Impact Magnitude and Sensitivity:**

After the classification of impact, it is time to categorise the impact. The parameters described in the previous section need to consider finding out each impact category.

**Parameters for Determining Magnitude:**

| Parameter                             | High   | Medium   | Low   |
|---------------------------------------|--|--|---|
| Duration of potential impact          | Long term  | Medium Term  | Temporary with no detectable potential impact                                 |
| Extendibility of the potential impact | Widespread far beyond project boundaries   | Beyond immediate project components, site boundaries or local area                   | Impacts can be mitigated within the project boundary with mitigation measures |
| Reversibility of potential impacts    | Potential impact is effectively permanent, requiring considerable intervention to return to baseline | Potential impact requires a year or so with some interventions to return to baseline | Baseline returns natural or with limited intervention within a few months     |

|  |  |   |  |
|--|--|---|--|
| Likelihood of potential impacts occurring                        | Occurs under typical operating or construction conditions (Certain)      | Occurs under worst case (negative impact) or best case (positive impact) operating conditions (Likely)                  | Occurs under abnormal, exceptional or emergency conditions (occasional/ Unlikely to occur) |
| Legal standards and established professional criteria (optional) | Breaches national standards and/or international guidelines/ obligations | Complies with limits given in national standards but breaches international lender guidelines in one or more parameters | Meets required national standard limits or international guidelines                        |

Source: ESSF, IDCOL

#### Criteria for Determining Sensitivity:

| Sensitivity           | Criteria  |
|-----------------------|---|
| <b>Very Severe</b>    | Vulnerable receptors with little or no capacity to absorb proposed changes or minimal opportunities for mitigation. |
| <b>Severe</b>         | Vulnerable receptors with little or no capacity to absorb proposed changes or limited opportunities for mitigation. |
| <b>Mild</b>           | Vulnerable receptors with some capacity to absorb proposed changes or moderate opportunities for mitigation         |
| <b>Low/Negligible</b> | Vulnerable receptors with a good capacity to absorb proposed changes or/and good opportunities for mitigation       |

Source: ESSF, IDCOL

#### **Environment and Social Management and Monitoring Plan (ESMP):**

All the potential short and long-term environmental and social impacts should be identified. The impacts can be graded qualitatively (e.g., high, medium, and low) in order to identify major impacts and relevant components. In addition, the cumulative and residual impacts of the project interventions need to be clearly addressed. From the literature survey and applying expert judgment and based on assessed impacts, a list of possible enhancement and mitigating measures for beneficial and adverse effects respectively should be prepared. An emergency plan to handle natural disasters and unforeseen events, compensation measures for the negative impacts that cannot be mitigated, enhancement measures to increase the benefits of the positive impacts, and recommendations for mitigation measures to significantly reduce the adverse effect will all be included in the ESMP. In the ESMP, a monitoring strategy also shall be recommended. Different project phases will be separated for each ESMP component. To guarantee the effective use of all parties concerned, the institutions' responsibilities in the implementation of the monitoring plan should be recommended. Besides, an institutional capacity assessment and a capacity-building strategy should also be included in the ESMP. The ESMP should include health and safety protocols in case of a pandemic. The alternative site and technological design should be analyzed for the proposed project interventions considering environmental, social, and technological criteria. An ESMP format is provided in annex 12.

**Estimate and provision of costing:**

It is necessary to measure the estimated cost of the recommended mitigating strategies. The cost must be realistic and reasonable. Additionally, it's important to ascertain whether this cost is covered by the project or if it needs to be adjusted afterward.

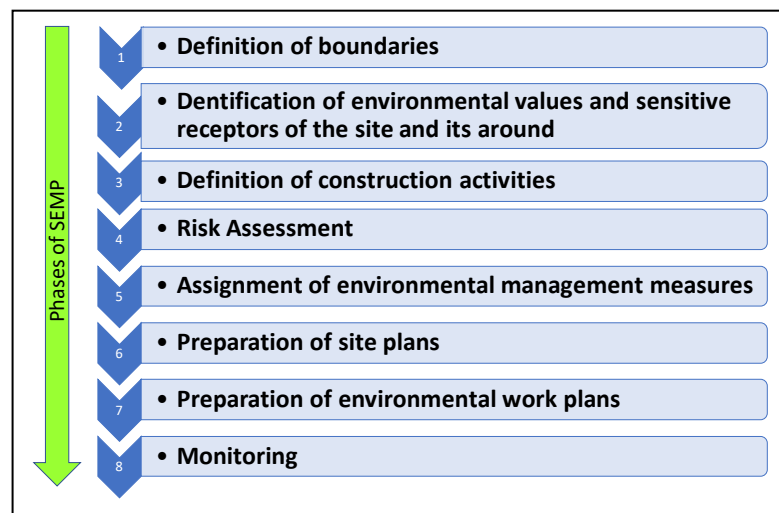
**4.2 Environmental Management for Construction Works**

In general, LGED has experience in a wide range of construction activities, from small to major projects. This construction work includes constructing road networks and other road infrastructures, cyclone shelters, water resources infrastructure, school buildings, growth centres, markets, and other similar establishments. Plans for environmental management and monitoring that are tailored to the specific conditions of a construction site are going to be discussed in this section. A list of Environmental Code of Practice (ECoP) is attached in annex 13.

**Site-specific Environmental Management Plan (SEMP):**

one of the most common failures of environmental management is the start of construction before the necessary SEMPs have been prepared. When this happens, the construction teams have no guidance as to what environmental management majors are required, and so there is a high likelihood that environmental damage will occur. Therefore, proper preparation in advance is there for essential. All contractors' documents must include the requirements that SEMPS be prepared by the contractor and approve by the respective designated authority of LGED.

There are several steps in the preparation of SEMPS which are provide below.



**Definition of boundaries:**

Different projects require different approaches to SEMPS preparation, depending on the footprint of the construction activities. Projects with compact footprints will only require a single SEMPS to cover all the work. The footprint for such a project typically covers more area that can be easily represented in a single plan. On the other hand, linear projects like a road and transmission lines, have too large a footprint to be covered while a single plan must be split up into sections.

**Identification of environmental values and sensitive receptors:**

Once the boundaries of the site to be covered by SEMPS have been defined, the sensitive receptors surrounding the site, and the environmental values of the area need to be confirmed. The environmental assessment documents will often provide the necessary details but in cases whether

they have been changes the footprint during the detailed design phase, a site visit may be required. The information is best presented as an overlay on the detailed engineering drawing or maps for the project. These will then assist the development of details site plans after the risk assessment has been completed.

*Definition of construction activities:*

The type of construction activity phases depends on the type of project. A bridge project is considered here as an example to progress the process. Thus, the construction phases of a bridge project are

1. Site surveying
2. Site establishment
3. Soil stripping and earth movement
4. Bridge construction
5. Grading approaches
6. Surfacing
7. Painting and finishing
8. Landscaping and signage

The planning of the environmental management requirements for the bridge must ensure that the necessary environmental management activities take place at the right time. For example, the site survey should markup areas of vegetation to be removed, trees that must be saved, and the location of any species of importance. soil sleeping will need to be a company. Soil stripping will need to be accompanied by the introduction of erosion control measures to prevent sediment from entering the river.

*Risk assessment:*

Environmental conditions may affect the construction activity and vice versa. Thus, there are risks in undertaking the construction work. The risk of undertaking any construction activity needs to be determined before the activity commences. A sample risk assessment matrix for a simple bridge project has been attached in annex 14 for better understanding. Risk is evaluated by taking into account both the possibility that the action will have an impact on the environment and the potential consequences of that impact. It is often described like this,

Risk = Likelihood X Consequence



**Likelihood Scale:**

| Likelihood | Definition  | Score |
|------------|---|-------|
| Certain    | Will occur more than once a week                                      | 5     |
| Likely     | Likely to occur more than once or twice during the construction phase | 3     |
| Unlikely   | May occur once or twice during the construction phase                 | 2     |
| Rare       | Unlikely to occur during the construction phase                       | 1     |

Source: Environmental Management for Construction Handbook, ADB.

**Consequence Scale:**

| Consequence         | Definition   | Scores |
|---------------------|--|--------|
| <b>Catastrophic</b> | <p>Unprecedented damage or impacts on the environment or surrounding communities. For example:</p> <ul style="list-style-type: none"> <li>○ Extreme loss/degradation of soil, water resources, and water quality because of stormwater runoff</li> <li>○ Extreme pollution of soil and water resources, including major contamination from hazardous materials</li> <li>○ Widespread effects on ecosystems, with deaths of fauna/flora and other species</li> <li>○ Widespread effects on the community that cause disease, discomfort, or injury</li> <li>○ Loss or destruction of archaeological, religious, cultural or historical sites</li> </ul> | 5      |
| <b>Major</b>        | <p>Major damage to the environment or to surrounding communities. For example,</p> <ul style="list-style-type: none"> <li>○ Major loss of soil, water resources, and water quality because of stormwater runoff</li> <li>○ Major pollution of soil and water resources, including contamination from hazardous materials</li> <li>○ Significant effects on ecosystems, with isolated deaths of non-vulnerable flora and fauna</li> <li>○ Significant annoyance or nuisance to communities</li> <li>○ Major damage to, or forced displacement of, archaeological or historical sites</li> </ul>   | 3      |
| <b>Moderate</b>     | <p>Limited adverse impacts on the environment or on surrounding communities. For example:</p> <ul style="list-style-type: none"> <li>○ Localized, short-term noticeable changes in stormwater quality</li> <li>○ Short-term minor changes in ecosystems</li> <li>○ Some annoyance or nuisance to communities</li> <li>○ Isolated or partial damage to archaeological or historical sites</li> </ul>  | 2      |
| <b>Minor</b>        | <p>No or minimal adverse environmental or social impacts. For example:</p> <ul style="list-style-type: none"> <li>○ No measurable or noticeable changes in stormwater quality, and water quality remains within tolerable limits</li> <li>○ Little noticeable effect on ecosystems</li> <li>○ No community complaints, or only an isolated few</li> <li>○ No or minimal damage to archaeological or historical sites</li> </ul>  | 1      |

Source: Environmental Management for Construction Handbook, ADB.

**Risk Score Table:**

| Likelihood | Consequence  |       |          |       |
|------------|--------------|-------|----------|-------|
|            | Catastrophic | Major | Moderate | Minor |
| Certain    | 25           | 15    | 10       | 5     |
| Likely     | 15           | 9     | 6        | 3     |
| Unlikely   | 10           | 6     | 4        | 2     |
| Rare       | 5            | 3     | 2        | 1     |

**(High: 15-25; Medium: 6-10; Low: 1-5)**

Source: Environmental Management for Construction Handbook, ADB.

*Preparation of site plans:*

The completed risk matrix provides a detailed assessment of the environmental management requirements for a construction site. The environmental management requirements now need to be included in a site plan. Once complete, the SEMP becomes the site guide for both the contractor and the owner, so that they understand what measures are required and where they are to be applied. The environmental management measures are then overlaid into the site plan. A site plan must cover the extent of the construction activity and should contain several items.

- **Indication of North, and scale;**
- **Existing and planned supporting infrastructure (e.g. access roads, water supplies, electricity supplies etc);**
- **Location of the planned work;**
- **Contours;**
- **Drainage system;**
- **Location of the sensitive receptors**

*Preparation of environmental work plans:*

The completed SEMP provides details of all the environmental management requirements for all stages of the construction process. For individual work teams responsible for only a small part of the overall construction work, it can be hard to understand what is required for their particular work components. For example, the work team responsible for stripping soil for the construction areas are not going to be interested in the requirement for pouring concrete for footing and foundations. However, it is essential that the soil stripping team know exactly what to clear, what to leave, and where to put stockpiles of soil for later use.



## Chapter 5: Institutional Arrangements and Implementation Mechanism

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### 5.1 Institutional Arrangement

A recent study on institutional gap assessment who are seeking accreditation entities from GCF has been presented, and it was shared. LGED is one of the institutes that is trying to get accreditation from GCF in Bangladesh. From the report, it is found that LGED has experience to follow the environment and social safeguard issues only for donor supported projects. It is also noted that LGED has very good expertise to handle environment and climate change related project, though transport and infrastructures are the dominant sectors for LGED. Now, LGED adheres to the three performance standards set forth by the GCF and the World Bank Group. Consequently, it is necessary to establish an institutional arrangement mainstreaming this IESMF.

At present, there is an Environment and Gender section under the Human Resource Unit/Human Resource Section<sup>15</sup>. This section consists of 5 personnel where one dedicated Environmental Engineer of Executive Engineer level has been appointed. Besides this, there are one Executive Engineer and one Assistant Engineer who are also a member of this Environment and Gender Section. The Environment and Gender Section will be the primary executive authority responsible for mainstreaming this framework, with support and guidance from the Chief Engineer as well as additional Chief Engineers. On the other side, Upazila Engineers will be the most significant stakeholders in the field for the actual execution of the framework. In order to ensure efficient and successful implementation, PDs, XENs, and SEs will serve as the framework's major monitoring executives. Environmental specialists and social safeguard specialists will serve as the primary coordinators for the execution of this plan. The institutional structure that mainstreams this concept is depicted in the flow diagram that follows.

### 5.2 Institutional Capacity Building

To mainstream this environmental and social management approach, institutional capacity building is mandatory. As environmental and social issues trigger from the conceptual phase of any project, it is necessary to make people aware of this framework. The personnel who involve in the project design, budgeting, contract management and BoQ preparation are the key personnel who needs to have sufficient knowledge regarding this framework. In the panel of execution authority, all need to learn the details of this framework and its implementation tools and techniques. Hands-on training is one of the tools for capacity development of the respective personnel. A detailed training plan needs to prepare by the environment and gender section and update the plan accordingly. Besides training, exchange visits, field experience, internet-based knowledge portals and respective certified courses can enhance the capacity of respective interested personnel.

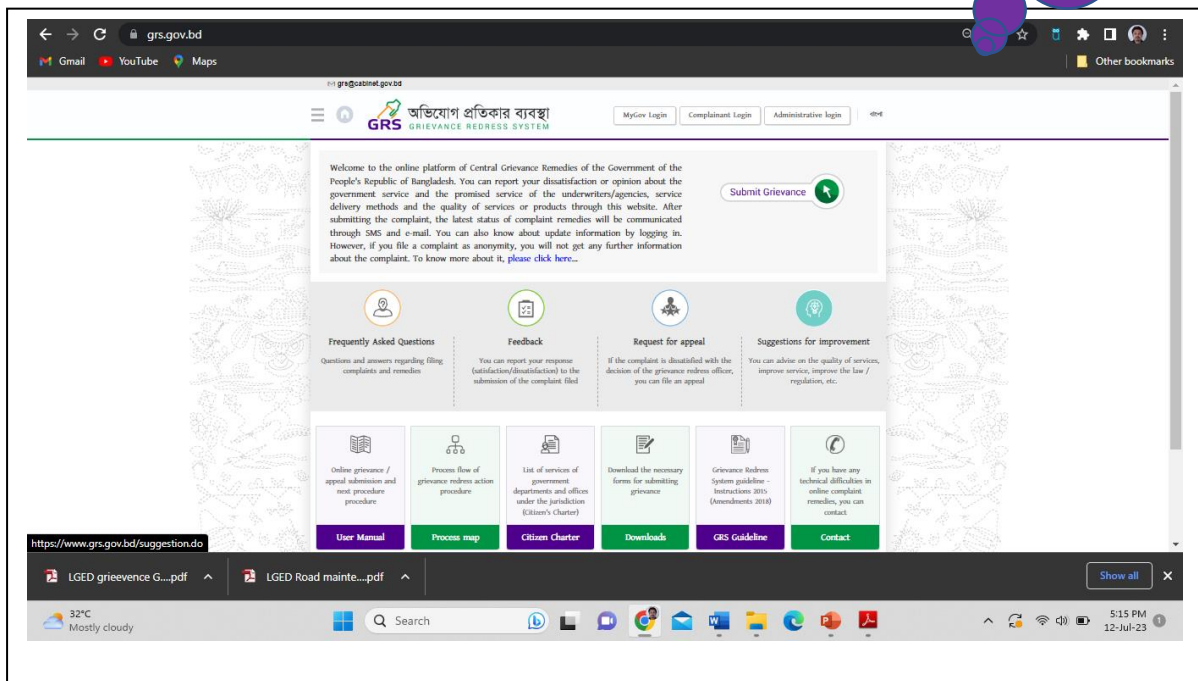
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<sup>15</sup> LGED's Approved (December 2022) Organogram

### 5.3 Grievance Management

According to the constitution of the People's Republic of Bangladesh, in article 21 (2), it is mentioned that 'Every person in the service of the Republic has a duty to strive at all times to serve the people'. Following the statement of the constitution and to enhance the transparency and accountability of the service, the Ministry of Public Administration has introduced a 'Grievance Redress System Guidelines' in 2015 for all ministries and department. The grievance can be submitted both in online

64 Grievance received in last 6 months



and offline which is a beauty of this guideline. LGED follows this grievance redress system guidelines. It has been found that 64 grievances have been received by LGED in last 6 months (e.g. November 2022 – April 2023) in which around 58% has been resolved. A dedicated unit or section is absent in the latest approved organogram. Establishing a special grievance management unit or department appears to be essential in order to improve LGED's accountability and transparency while also enhancing its brand value.

### 5.4 Environmental and Social Monitoring and Reporting

Regular monitoring of ESMP is crucial for the successful execution of this framework. The monitoring report will be generated by the assigned environmental officer and assigned social affair officer from the field office with adequate evidence and information.

## 5.5 Budget Allocation

Financial allocation is required to implement environmental and social mitigation measures during the execution of any project. Generally, a BoQ should be prepared following the ESMP. Nonetheless, it is very difficult to find out some environmental and social impact in a very early stage of project design. In this regard, a smart and dedicated miscellaneous allocation for environmental and social mitigation measures need to include in BoQ. Additionally, necessary bill adjustment for the activity related to environmental and social mitigation measures needs to be addressed.



## 5.6 Contract Management

Effective contract management for construction work is a skill. As every project has a contract management team, the IESM framework should be included in the contract management process for mainstreaming. It is also important to provide weightage during the evaluation of bid documents regarding environmental and social issues. After awarding the contract, it is necessary to orient the party regarding this framework rigorously.



## **Annexure**

## Annex 1: List of Respective National Policy Documents

| Sl. No | Title   |
|--------|---|
| 1.     | Constitution of Bangladesh  |
| 2.     | National Environmental Policy 1992  |
| 3.     | National Conservation Strategy 1992 and 2016  |
| 4.     | National Environmental Management Action Plan (NEMAP) 1995                              |
| 5.     | Bangladesh Environmental Conservation Act (ECA) 1995                                    |
| 6.     | Environmental Conservation Rules (ECR) 1997 and 2023                                    |
| 7.     | Environmental Court Act, 2000   |
| 8.     | National Biodiversity Strategy & Action Plan (BBSAP) 2004                               |
| 9.     | Bangladesh Biodiversity Act, 2017   |
| 10.    | Renewable Energy Policy of Bangladesh, 2008   |
| 11.    | Bangladesh Climate Change Strategy and Action Plan (BCCSAP) 2009                        |
| 12.    | The National Water Policy 1999 and Water Act 2013                                       |
| 13.    | Climate Change Trust Act, 2010  |
| 14.    | National 3R Strategy, 2010  |
| 15.    | Disaster Management Act, 2012   |
| 16.    | Preparation of brick and kiln establishment (control) Act 2013 and Amendment Act, 2019  |
| 17.    | Nationally Determined Contributions (NDCs) 2021, Bangladesh                             |
| 18.    | National Adaptation Plan (NAP)  |
| 19.    | The Chittagong Hill Tracts Peace Accord of 1997   |
| 20.    | Fire Prevention and Extinction Act, 2003 and Fire Prevention and Extinction Rules, 2014 |
| 21.    | Bangladesh Labor Act, 2006 and Labor Rules, 2015  |
| 22.    | The National Policy on Occupational Health and Safety, 2013                             |
| 23.    | The National Profile on Occupational Safety and Health in Bangladesh, 2019              |
| 24.    | Environmental Pollution Control Ordinance, 1977   |
| 25.    | Coastal Zone Policy 2005  |
| 26.    | Bangladesh National Building Code (BNBC) 2020   |
| 27.    | IWRM Guidelines 2020  |
| 28.    | Bangladesh Delta Plan 2100  |
| 29.    | Perspective Plan 2021-2041  |
| 30.    | Haor Master Plan 2012-2032  |
| 31.    | National Adaptation Plan of Action (NAPA) 2005  |
| 32.    | National Child Labour Elimination Policy 2010   |
| 33.    | Climate Change Gender Action Plan (CCGAP) 2013  |
| 34.    | Bangladesh Water Rules 2018   |

## Annex 2: Respective Changes of ECR 97 and ECR 23 in Schedule

| Particulars  | 1997  | 2023   |
|--|---|--|
| Industry type or project type  | Total 186<br>Green Category = 22<br>Orange A Category = 26<br>Orange B Category = 69<br>Red Category = 69 | Total 254<br>Green Category=32<br>Yellow Category =37<br>Orange Category=113<br>Red Category =72 |
| Bridge Construction/Re-Const/ Expansion (Flyover)  | <100 m –Orange B Category<br>>100 m – Red Category  | 100-500 m –Orange Category<br>>500 m –Red Category   |
| Regional/National/International Road Construction/Expansion/Reconstruction   Road Construction & Expansion | Red Category  | 5-10 Km –Orange Category<br>>10 Km – Red Category  |
| Feeder Road/Local Road   | Orange B  | There is no term like Feeder road/local road /Rural Road   |
| Sola Power Plan  | Not included  | Up to 1 MW – Green Category<br>1-50 MW –Yellow Category<br>>50 MW -Orange Category               |
| Coal and Oil Power Plan  |   | Up to 50 MW –Orange Category<br>>50 MW – Red Category  |
| Power Plan   | Red   |  |
| Ground Water Extraction  |   | 2500-5000 Cubic Meter/Day –Orange Category<br>>5000 -Red Category                                |

**Annex 3: List of Respective International Convention and Treaties Ratified by Bangladesh**

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| <b>SL No</b> | <b>Title</b>   |
|--------------|--|
| 1            | RIO Declaration on Environment and Development   |
| 2            | Working Environment (Air Pollution, Noise and Vibration) Convention                              |
| 3            | Universal Declaration of Human Rights  |
| 4            | Occupational Hazards Due to Air Pollution, Noise and Vibration (Geneva), 1977                    |
| 5            | Prevention and Control of Occupational Hazard (Geneva), 1974                                     |
| 6            | Occupational Safety and Health in Working Environment (Geneva), 1981                             |
| 7            | UN Framework Convention on Climate Change (UNFCCC), 1992   |
| 8            | International Convention on Climate Change (Kyoto Protocol), 1997                                |
| 9            | Convention Relative to the Preservation of Fauna and Flora in Their Natural State (London), 1933 |
| 10           | The Convention on the Elimination of all Forms of Discrimination Against Women (CEDAW)           |

#### **Annex 4: List of Sectoral Documents of Development Partners**

| <b>Sl. No</b> | <b>Organization</b>  | <b>Relevant Document<br/>(Policy/Guideline/Manual)</b>          |
|---------------|--|---|
| 1.            | Asian Development Bank   | Safeguard Policy Statement                                      |
| 2.            | The World Bank   | Environmental and Social Framework                              |
| 3.            | International Finance Corporation (IFC)  | Environmental and Social Policies, Guidelines and Standards     |
| 4.            | Japan International Cooperation Agency (JICA)  | Guideline for Environment and Social Considerations             |
| 5.            | KfW Development Bank   | Sustainability Guidelines                                       |
| 6.            | Green Climate Fund (GCF)   | Environmental and Social Management System                      |
| 7.            | Asian Infrastructure Investment Bank (AIIB)  | Environmental and Social Framework                              |
| 8.            | Agence Francaise de Developpement (AFD)  | Environmental and Social Risk Management                        |
| 9.            | The World Bank Group   | Environmental, Health, and Safety (EHS) Guidelines              |
| 10.           | International Fund for Agricultural Development (IFAD)   | Social, Environmental and Climate Assessment Procedures (SECAP) |
| 11.           | International Union for Conservation of Nature (IUCN)  | Environmental and Social Management System Manual               |
| 12.           | USAID  | Environmental and Social Risk Management Guidelines             |
| 13.           | Occupational Safety and Health Administration (OSHA), an agency of the U.S. Department of Labor. | Small Business Handbook on Occupational Safety and Health       |
| 14.           | International Labor Organization (ILO)   | Guidelines on Occupational Safety and Health Management Systems |
| 15.           | United Nations Development Programme (UNDP)  | Social and Environmental Standards                              |

## Annex 5: Standard Sample Screening Format of Environmental and Social Impact Assessment

| Screening Question   | Yes | No | Remarks |
|--|-----|----|---------|
| <b>Section 1: Project Siting</b>   |     |    |         |
| <b>Is the Project Area Adjacent to or within any of the following environmentally sensitive areas?</b>   |     |    |         |
| Cultural Heritage Site   |     |    |         |
| Protected Area   |     |    |         |
| Wetland  |     |    |         |
| Mangrove   |     |    |         |
| Estuarine  |     |    |         |
| Buffer Zone of Protected Area  |     |    |         |
| Special Area for Protecting Biodiversity   |     |    |         |
| <b>Section 2: Potential Environmental Impacts</b>  |     |    |         |
| <b>Will the Project Cause...</b>   |     |    |         |
| 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 the 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, Small Ethnic Group's 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 or other structure?   |     |    |         |
| 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?   |     |    |         |

| Screening Question   | Yes | No | Remarks |
|--|-----|----|---------|
| Increased noise and air pollution resulting from traffic volume?   |     |    |         |
| 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. |     |    |         |
| Loss of precious ecological values (e.g. result of encroachment into forests/swamplands or historical/cultural buildings/areas, disruption of hydrology of natural waterways, regional flooding, and drainage hazards)?  |     |    |         |
| Conflicts in water supply rights and related social conflicts?   |     |    |         |
| Impediments to movements of people and animals?  |     |    |         |
| Potential ecological problems due to increased soil erosion and siltation, leading to decreased stream capacity?   |     |    |         |
| Insufficient drainage leading to salinity intrusion?   |     |    |         |
| Over pumping of groundwater, leading to salinization and ground subsidence?  |     |    |         |
| Impairment of downstream water quality and therefore, impairment of downstream beneficial uses of water?   |     |    |         |
| Soil erosion before compaction and lining of canals?   |     |    |         |
| Noise from construction equipment?   |     |    |         |
| Dust during construction?  |     |    |         |
| Waterlogging and soil salinization due to inadequate drainage and farm management?   |     |    |         |
| Leaching of soil nutrients and changes in soil characteristics due to excessive application of irrigation water?   |     |    |         |
| Reduction of downstream water supply during peak seasons?  |     |    |         |
| Soil pollution, polluted farm runoff and groundwater, and public health risks due to excessive application of fertilizers and pesticides?  |     |    |         |
| Soil erosion (furrow, surface)?  |     |    |         |
| Scouring of canals?  |     |    |         |
| Clogging of canals by sediments?   |     |    |         |
| Clogging of canals by weeds?   |     |    |         |
| Seawater intrusion into downstream freshwater systems?   |     |    |         |
| Pollution of raw water supply from upstream wastewater discharge from communities, industries, agriculture, and soil erosion runoff?   |     |    |         |
| Unsatisfactory raw water supply (e.g., excessive pathogens or mineral constituents)?   |     |    |         |
| Delivery of unsafe water to distribution system?   |     |    |         |

| Screening Question  | Yes | No | Remarks |
|---|-----|----|---------|
| Inadequate protection of intake works or wells, leading to pollution of water supply?                         |     |    |         |
| Excessive algal growth in storage reservoir?  |     |    |         |
| increase in production of sewage beyond capabilities of community facilities?                                 |     |    |         |
| inadequate disposal of sludge from water treatment plants?  |     |    |         |
| Noise and dust from construction activities?  |     |    |         |
| Increased road traffic due to interference of construction activities?  |     |    |         |
| Continuing soil erosion/silt runoff from construction operations?   |     |    |         |
| Increased sewage flow due to increased water supply?  |     |    |         |
| Increased volume of sullage (wastewater from cooking and washing) and sludge from wastewater treatment plant? |     |    |         |

## Annex 6: Anticipated Environmental and Social Impacts for LGED's Activities

| Issues  | Impact  |
|---|---|
| <b>Preconstruction and Resource Mobilization</b>                          |   |
| <b>Consents, permits, clearances, no objection certificate etc</b>        | Failure to obtain necessary consents, permits, NOCs, etc. can result to design revisions and/or stoppage and delays of works.   |
| <b>Survey</b>   | In advertent degradation of terrestrial and aquatic habitat.  |
| <b>Land Demarcation</b>   | It can cause project delay and harassment.  |
| <b>Soil Borings</b>   | Degradation of terrestrial and aquatic habitat; noise may be generated during drilling operation (short-term) during Market or Collection Center projects.  |
| <b>Poor design of project facilities/ activities</b>                      | Due to poor design, degradation of terrestrial and aquatic habitat.   |
| <b>Trees may be damaged or destroyed from survey</b>                      | Trees will be lost from site, loss of shade and degradation of environment including erosion.   |
| <b>Electric pole translocation</b>  | Electrical safety hazards during relocation of electric pole from road alignment  |
| <b>Clearing of vegetation and ground cover</b>                            | Degradation of terrestrial and aquatic habitat due to removal of plants, and habitat from roadbed area  |
| <b>Setting up Construction work camps, stockpile areas, storage areas</b> | During the construction of temporary shed for labor accommodation, stockpile areas and storage areas loss of plantation and vegetation; permanent physical and visual impact on the area; social disturbance for nearby community and contamination from open defecation may happen.  |
| <b>During Construction</b>  |   |
| <b>Earthwork (Excavation and Fill)</b>                                    | <ul style="list-style-type: none"> <li>• Degradation of terrestrial and aquatic habitat due to removal of vegetation within the project boundary</li> <li>• Increased soil erosion; degradation of water quality.</li> <li>• Loss of topsoil</li> <li>• Spread of water-borne diseases</li> </ul>   |
| <b>Sanitation hazard</b>  | <ul style="list-style-type: none"> <li>• Improper sanitation facilities for the worker may create health hazards, surface and/or groundwater contamination.</li> </ul>  |
| <b>Roadbed Construction</b>   | <ul style="list-style-type: none"> <li>• Degradation of terrestrial and aquatic habitat; sedimentation of streams and surface water</li> <li>• Social impact as public will have to detour around road construction.</li> </ul>   |
| <b>Landscape</b>  | <ul style="list-style-type: none"> <li>• Construction activities especially earthwork may temporarily change topography and disturb the natural rainwater drainage.</li> </ul>  |
| <b>Noise and Vibration</b>  | Ambient noise may increase temporarily in close vicinities of local communities or villages due to maintenance workshops, construction vehicles, earthmoving equipment, and crusher plants. The noise is expected to be intermittent and temporary. Noise levels will attenuate with increase in distance from the noise source. There can be vibration due to the operation of heavy machinery and equipment along the road sections/culverts etc. which |

|                                     |  |
|-------------------------------------|--|
|                                     | may damage community buildings such as houses, local shops etc. along the right of way.  |
| <b>Land and Soil</b>                | Soil may be contaminated through inappropriate construction methods and improper management of spoils. There can also be loss of topsoil. Pollution risks may originate from the transportation of hazardous materials during road construction and subsequent traffic operations. There will be temporary changes in land use because of access roads, construction camp, and storage of construction materials. This may also result in loss of soil productivity. There are risks of slope failure and soil erosion which require mitigation. Disturbance to topsoil and poor management of drainage water may cause accelerated erosion and slope instability, landslides, destruction of vegetation and property, siltation of surface water, and water pollution. Any submersible roads sections must have a guide wall and slope which should be protected by implementing bioengineering technology (vetiver), or using hollow concrete cement blocks to protect embankments or reconstruction activity. Strengthening of access road surfaces and effective erosion control measures for slopes should be ensured using climate resilient design. |
| <b>Borrow Pits and Quarry Sites</b> | Extraction of materials can disrupt natural land contours and vegetation, resulting in accelerated erosion, disturbance in natural drainage patterns, ponding, waterlogging and water pollution. Borrow pits and quarry sites will be selected avoiding protected and sensitive areas, nearby settlements, water sources, and in forest areas and fertile agricultural lands. Following the guideline for slope/embankment protection, the borrow pit should be 50 meters away from the slope/embankment.<br>The project will require all contractors to adhere to the rules set forth by DOE for the dredging and disposal of materials from riverbeds and haors. The contractor's agreement will include instructions for dredging and disposing of dredge material, and it will make their adoption compulsory by incorporation of appropriate protective clause to be followed by the contractor. The quality of the bed materials will be assessed before the dredging process begins by testing for the presence of heavy metals that are harmful to human health and the environment.   |
| <b>Agriculture</b>                  | Ensure no crops are damaged during construction and pre-construction works.  |
| <b>Drainage channels</b>            | Alteration of drainage, run off, flooding can lead to siltation and erosion.   |
| <b>Loss of Vegetation</b>           | Road widening and setting-up of construction camps may entail cutting of trees and shrubs. Loss of vegetation may affect ecological balance. For subprojects which will involve cutting of trees, necessary permits will have to be secured from the Forest Department and bare lands along the existing LGED road, flood control embankment and submersible embankment etc. will be identified for reforestation and growing grass etc. In addition, for a significant amount of tree cutting, ADB will need to be consulted. No widening work will be implemented in existing roads that pass through ecologically critical areas, including its regulated zones or any proposed protected areas. Workers camps will not be allowed within ecologically critical areas, its regulated zones, or any proposed protected areas.<br><br>Tree species should be chosen based on their resilience and ability to fight  |

|   |  |
|---|--|
|   | <p>against flooding in the haor region. Water-sustaining species like Hijal, Karach, and Barun trees should be chosen for planting in the haor area taking into account the hydrology, ecology, and character of the region. On the other hand, particular species, such as Jam, Banyan, Palas, Krishnachura, Shonalu, Kadam, Fig, Jarul, and Shimul, may be chosen for planting because of their ability to bloom and fruit yielding during the winter and summer.</p>  |
| <b>Hydrology and Drainage</b>                             | <p>Obstruction of natural drainage basin by roads may modify the natural flow of surface runoff by concentrating flow at certain points. As a result, the velocity of flow may increase. In turn, diversion or disruption of natural surface water and drainage patterns is inevitable. In addition, stockpiling materials dredged from riverbeds for road embankment construction/repair may result in increased erosion and subsequent siltation in adjacent water bodies if exposed to floods. However, the stockpiling of earth shall not cause any interruption of the regular water flow in the surface water streams. If the area does not have enough space for stockpiling of the dredged material or construction soil, the contractor will be asked to stockpile in a nearby location suitable for stockpiling and transport them as and when needed.</p> |
| <b>Surface Water and Groundwater Contamination</b>        | <p>Use of toxic materials such as solvents and vehicle maintenance fluid (oil, coolant) and diesel fuel may contaminate surface and groundwater if these are disposed of directly into the ground or washed into the streams. Human waste from construction camps may also contaminate surface water and groundwater if there are no adequate sanitary facilities. Uncontrolled storage of raw material or unsound construction techniques could result in leakage of road/culvert/slope protection construction material into rivers, water bodies causing sedimentation, turbidity, and siltation (especially due to stored excavated mud for slope repair work).</p>  |
| <b>Loss of Natural Habitats and Wildlife Disturbance.</b> | <p>Clearing of existing vegetation may result in loss of associated ecological habitats and their fauna. Noise, vibrations, and intrusive activities related to construction works may scare away animals that remain onsite after vegetation clearance.</p>   |
| <b>Stockpiling of materials</b>                           | <p>Improper selection of storage areas and stockpiling of material may cause siltation, water pollution, and air pollution due to dust generation, loss of topsoil and productivity, and disturbance to private property.</p>  |
| <b>Explosive, Combustible, and Toxic Materials</b>        | <p>Storage and use of explosives, petrol, diesel, oil and lubricants, bitumen, and solvents may cause fire and explosion hazards, soil and water pollution through leaks and accidental spillage.</p>  |
| <b>Construction Waste</b>                                 | <p>Construction wastes include unused/discarded construction material, debris generated through excavation of existing roads which may include bitumen and other pavement materials with various rocks, muck, chemicals, oils, and grease that pose hazards to human health.</p>   |
| <b>Paint and Chemical</b>                                 | <p>Paints, both synthetic and enamel are used as finishing work. It is important to use it carefully without direct contact to the skin. Management of wastage from it is also important.</p>  |
| <b>Construction Camp</b>                                  | <p>Poor siting and improper management of construction camps may lead to several adverse impacts on environment: (i) loss of vegetation due to use of</p>  |

|   |   |
|---|---|
|   | wood as fuel source for cooking, (ii) deterioration of nearby surface water quality, (iii) compaction and contamination of soil due to uncontrolled disposal of solid waste, (iv) increase in generation of domestic solid waste; (v) temporary air and noise pollution from machine operation; and (vi) poor sanitation resulting to transmission of communicable diseases.  |
| <b>Traffic</b>                                    | Traffic flow will be disrupted if routes for delivery of construction materials and temporary blockages during construction activities are not planned or coordinated.  |
| <b>Impacts on Existing Utility Infrastructure</b> | Existing utility infrastructure may need to be repositioned. Service delivery of existing infrastructure may be disrupted during construction.  |
| <b>Occupational Health and Safety Risks</b>       | Occupational hazards may arise if not properly managed (deep excavations, falling objects, noise, etc.). Increase in dust may cause health problems to workers. Insufficient supply and improper use of personal protective equipment (PPE) and lack of safety procedures may cause injuries or fatal accidents. Close contact with persons afflicted with diseases and lack of sanitation in workers camps may also pose health risks.   |
| <b>COVID-19</b>                                   | Outbreaks of COVID-19 pandemic has heightened concern about workplaces as transmission points for viral illnesses. Much construction work is conducted in the open air and thus can be considered relatively low risk. However, whether it is COVID-19 or the next serious viral threat to come along, construction sites are potential trouble spots.  |
| <b>Community Health and Safety Hazards</b>        | <p>Community hazards may arise during construction (dust, air quality, noise, risk of fall, etc.). Traffic accidents and vehicle collisions with pedestrians during material and waste transportation may occur if no proper signages are placed. In other circumstances, construction works on the embankment may block local roads and routes and may prevent the local people crossing the construction area. Furthermore, the construction works and associated vehicular traffic may cause traffic congestion on local roads, particularly near boat jetties and local bazaars. The impacts are negative but short-term, site-specific within a relatively small area and reversible by mitigation measures.</p> <p>Consultations with the local communities will be carried out on an on-going basis and the construction schedule will be discussed with them to ensure that blockage of the local routes is minimized. The construction works particularly at/near the boat dense community and local bazaars will be carefully planned to minimize hindrance to the local communities. The contractor shall take immediate corrective action on any complaint/grievance received by him and shall forward the details of the complaint, along with the action taken accordingly.</p> <p>Lack of sanitation may pose health risks to the community if they are exposed to workers who are currently affected by communicable diseases. Outbreaks of diseases like COVID-19, diphtheria and measles can be avoided by observing proper sanitation facilities and observing good personal hygiene habits.</p> |
| <b>Social and Cultural Resources</b>              | Ground disturbance can uncover and damage archaeological and historical remains.  |

|   |   |
|---|---|
| <b>Post Construction Phase</b>                              |   |
| <b>Debris and residual amount of construction materials</b> | Construction residual materials (brick chips, mortar, small pieces of plastic, wood, iron bars, etc.) can harm people and animals if not managed properly. It can also deteriorate the soil quality and may be the cause for congestion of runoff.                                      |
| <b>Remove the temporary structure</b>                       | The temporary structures like small dams, bar bending station, bitumen burner point etc. have a negative impact if not managed appropriately before leaving the construction site.  |
| <b>Operational Phase</b>                                    |   |
| <b>Air Quality</b>  | Vehicular emission will be the main source of air pollution during the operation phase.   |
| <b>Noise and Vibration</b>                                  | Noise generated by traffic movement will be the main source of noise. There can be vibration due to heavy vehicles.   |
| <b>Land and Soil</b>  | Slope failure and soil erosion can occur due to natural and induced causes. This requires continuous monitoring especially during and after the rainy season.   |
| <b>Hydrology and Drainage</b>                               | Roadsides are prone to landslides and soil erosion from flooding, and windstorms. Consequently, drain blockage will be a perpetual problem and more severe during the rainy season. Loss of trees and agricultural land, and impact on private properties may result during landslides. |
| <b>Community Health and Safety Hazards, and Disturbance</b> | Traffic accidents and vehicle collisions with pedestrians may occur if no proper signages are placed. Maintenance activities may cause disturbance to sensitive receptors (i.e. increase in dust generation and increase in noise level).   |
| <b>Traffic</b>  | Increase in vehicles plying the road may increase the risk of road accidents.   |

## Annex 7: Standard Template for Community Monitoring

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| Environmental Issues/Problem | Mitigation Measures | Completion Status           | Status of Problem After Mitigation Measures |               |     | Remarks /Sign by Community People |
|------------------------------|---------------------|-----------------------------|---|---------------|-----|-----------------------------------|
|                              |                     | (Done/In Progress/Not Done) | Mitigated                                   | Not Mitigated | N/A |                                   |
|                              |                     |                             |   |               |     |                                   |
|                              |                     |                             |   |               |     |                                   |
|                              |                     |                             |   |               |     |                                   |
|                              |                     |                             |   |               |     |                                   |

## Annex 8: Sample Outline of Resettlement Action Plan (RAP)

| SL No | Title  | Description   |
|-------|--|---|
| 1     | Introduction                                     | <ul style="list-style-type: none"> <li>• Briefly describe the project and associated facilities (if any)</li> <li>• Describe project components requiring land acquisition and resettlement; give overall estimates of land acquisition and resettlement</li> <li>• Provide explanation of how displacement is necessary to achieve the project objectives, how the project is in the ‘public interest’ and how displacement is proportional to project outcomes.</li> </ul>  |
| 2     | Minimizing Resettlement                          | <ul style="list-style-type: none"> <li>• Describe the justification for the resettlement</li> <li>• Describe efforts and measures to minimize displacement, and expected outcomes of these efforts and measures</li> </ul>  |
| 3     | Census and Socioeconomic Surveys/Social Baseline | <ul style="list-style-type: none"> <li>• Provide results of the census, assets inventories, natural resource assessments, and socioeconomic surveys and briefly describe how these were performed, i.e., techniques used, individuals interviewed, etc.</li> <li>• Identify all people and communities potentially affected by displacement activities and potential impacts to each. Conduct a vulnerability assessment and outline what determines vulnerability (i.e. which criteria need to be met to consider someone vulnerable)</li> </ul>   |
| 4     | Legal Framework                                  | <ul style="list-style-type: none"> <li>• Describe all relevant international, national, local, and community laws and customs that apply to displacement and resettlement activities, with particular attention to laws and customs relating to tenure rights; highlight any potential conflicts.</li> <li>• Describe how free, prior, informed consent was obtained for resettlement of small ethnic community people, if applicable</li> <li>• Describe project-specific mechanisms to address conflicts</li> <li>• Describe entitlement/compensation policies for each type of impact</li> <li>• Describe method of valuation used for affected structures, land, trees, and other assets</li> <li>• Prepare entitlement matrix, which includes budget and timeframe for payment of entitlements</li> </ul>  |
| 5     | Resettlement Sites and Housing                   | <ul style="list-style-type: none"> <li>• If the project requires relocation, describe how affected people have been involved in a participatory process to identify sites, assess advantages and disadvantages of each site, and select preferred sites. Site selection to be risk-informed (e.g. ensure not subject to higher levels of risks from floods, landslides, earthquakes).</li> <li>• If housing must be replaced, describe how affected people have been involved in developing an acceptable strategy for housing replacement and how alternative housing meets adequate housing criteria (including legal security of tenure; availability of services, materials, facilities and infrastructure; affordability; habitability; accessibility; location; cultural adequacy). Describe the specific process of involving affected populations in identifying potential housing sites, assessing advantages and disadvantages, and selecting sites</li> <li>• If the project involves allocation of agricultural land or pasture/rangeland, describe how individual households that will be allocated lands have been involved in identifying potential new sites, and how they have explicitly accepted the selected sites</li> </ul> |

| SL No | Title                           | Description   |
|-------|---------------------------------|---|
|       |                                 | <ul style="list-style-type: none"> <li>• Describe the feasibility studies conducted to determine the suitability of the proposed relocation sites and housing, including where relevant natural resource assessments (soils and land use capability, vegetation and livestock carrying capacity, water resource surveys) and environmental and social impact assessments of the sites. Include a description of potential access of affected people to necessary services, shelter, food, water, energy, and sanitation</li> <li>• Demonstrate where relevant that the land quality and area are adequate for allocation to all of the people eligible for allocation of agricultural land. Provide data on land quality and capability, productive potential, and quantity</li> <li>• Give calculations relating to site requirements and availability</li> <li>• Describe mechanisms for: (1) procuring, (2) developing and (3) allotting resettlement sites and housing, including the awarding of title or use rights to allotted lands. Indicate to whom titles and use rights will be allocated, including by gender</li> <li>• Provide detailed description of the arrangements where relevant for site development for agriculture, including funding of development costs.</li> <li>• Indicate whether temporary resettlement will be necessary and how the communities' social capital will be preserved.</li> </ul>  |
| 6     | Income Enhancement/ Restoration | <ul style="list-style-type: none"> <li>• Are compensation entitlements sufficient to enhance and restore livelihoods and income streams for each category of impact? Attach independent review of opportunities to enhance incomes/livelihoods. What additional economic rehabilitation measures are necessary?</li> <li>• Briefly spell out the enhancement and restoration strategies for each category of impact and describe their institutional, financial, and technical aspects</li> <li>• Describe the process of consultation with affected populations and their participation in finalizing strategies for income enhancement/restoration</li> <li>• How do these strategies vary with the area of impact?</li> <li>• Does income enhancement/restoration require change in livelihoods, development of alternative farmlands or some other activities that require a substantial amount of training, time for preparation, and implementation?</li> <li>• How are the risks of impoverishment to be addressed?</li> <li>• What are the main institutional and other risks for the smooth implementation of the resettlement programs?</li> <li>• Describe any social or community development programs currently operating in or around the project area. If programs exist, do they meet the development priorities of their target communities? Are there opportunities to support new programs or expand existing programs to meet the development priorities of communities in the project area?</li> </ul> |
| 7     | Institutional Arrangements      | <ul style="list-style-type: none"> <li>• Describe the institution(s) responsible for delivery of each item/activity in the entitlement policy; implementation of income restoration programs; and coordination of the activities associated with and described in the resettlement action plan</li> <li>• State how coordination issues will be addressed where resettlement is spread over a number of jurisdictions or where resettlement will be implemented in stages over a long period of time</li> </ul>   |

| SL No | Title                          | Description   |
|-------|--------------------------------|---|
|       |                                | <ul style="list-style-type: none"> <li>• Identify the agency that will coordinate all implementing agencies. Does it have the necessary mandate and resources?</li> <li>• Describe the external institutions involved in the process of income restoration (land development, land allocation, credit, training) and the mechanisms to ensure adequate performance of these institutions</li> <li>• Discuss institutional capacity for and commitment to resettlement</li> <li>• Describe mechanisms for ensuring independent monitoring, evaluation, and financial audit of the RAP and for ensuring that corrective measures are carried out in a timely fashion</li> </ul>   |
| 8     | Implementation Schedule        | <ul style="list-style-type: none"> <li>• List the chronological steps in implementation of the RAP, including identification of agencies responsible for each activity and with a brief explanation of each activity</li> <li>• Prepare a month-by-month implementation schedule of activities to be undertaken as part of resettlement implementation</li> <li>• Describe the linkage between resettlement implementation and initiation of civil works for each of the project components</li> </ul>  |
| 9     | Participation and Consultation | <ul style="list-style-type: none"> <li>• Describe the various stakeholders</li> <li>• Describe the process of promoting consultation/participation of affected populations and stakeholders in resettlement preparation and planning</li> <li>• Describe the process of involving affected populations and other stakeholders in implementation and monitoring. Add evidence of the various past consultation events, such as attendance lists, photos etc.</li> <li>• Describe the plan for disseminating RAP information to affected populations and stakeholders, including information about compensation for lost assets, eligibility for compensation, resettlement assistance, and grievance redress</li> </ul>  |
| 10    | Grievance Redress              | <ul style="list-style-type: none"> <li>• Describe the step-by-step process for registering and addressing grievances and provide specific details regarding a cost-free process for registering complaints, response time, and communication modes</li> <li>• Describe the mechanism for appeal</li> <li>• Describe how the mechanism ensured unrestricted access, transparency, accountability, how it documents cases and keeps the complainants informed and the institutional setup</li> <li>• Describe the provisions for approaching civil courts if other options fail</li> </ul>  |
| 11    | Monitoring and Evaluation      | <ul style="list-style-type: none"> <li>• Describe the internal/performance monitoring process. Ensure monitoring program seeks to measure whether displaced enjoy at least a standard of living and access to livelihoods equal to what they enjoyed before displacement</li> <li>• Define key monitoring indicators derived from baseline survey. Provide a list of monitoring indicators that will be used for internal monitoring, including number and location of displaced/resettled persons</li> <li>• Describe institutional (including financial) arrangements</li> <li>• Describe frequency of reporting and content for internal monitoring</li> <li>• Describe process for integrating feedback from internal monitoring into implementation</li> <li>• Define methodology for external monitoring</li> </ul> |

| SL No | Title             | Description  |
|-------|-------------------|--|
|       |                   | <ul style="list-style-type: none"> <li>• Define key indicators for external monitoring</li> <li>• Describe frequency of reporting and content for external monitoring. Ensure monitoring program is regular and ongoing following project completion until durable solutions are reached</li> <li>• Describe process for integrating feedback from external monitoring into implementation</li> <li>• Describe arrangements for final external evaluation</li> <li>• Describe need for updates to census, assets inventories, resource assessments, and socioeconomic surveys, if necessary, as part of RAP monitoring and evaluation</li> </ul>   |
| 12    | Costs and Budgets | <ul style="list-style-type: none"> <li>• Provide a clear statement of financial responsibility and authority</li> <li>• List the sources of funds for resettlement and describe the flow of funds</li> <li>• Ensure that the budget for resettlement is sufficient and included in the overall project budget. Include provisions for non-anticipated adverse impacts.</li> <li>• Identify resettlement costs, if any, to be funded by the government and the mechanisms that will be established to ensure coordination of disbursements with the RAP and the project schedule. Prepare estimated budget, by cost and by item, for all resettlement costs including planning and implementation, management and administration, monitoring and evaluation, and contingencies</li> <li>• Describe the specific mechanisms to adjust cost estimates and compensation payments for inflation and currency fluctuations</li> <li>• Describe the provisions to account for physical and price contingencies</li> <li>• Describe the financial arrangements for external monitoring and evaluation including the process for awarding and maintenance of contracts for the entire duration of resettlement</li> </ul> |
| 13    | Annexes           | <ul style="list-style-type: none"> <li>• Copies of census and survey instruments, interview formats, and any other research tools</li> <li>• Information on all public consultation including announcements and schedules of public meetings, meeting minutes, and lists of attendees</li> <li>• Examples of formats to be used in monitoring and reporting on RAP implementation</li> <li>• Entitlement matrix</li> <li>• Evidence of prior informed consent for small ethnic communities</li> </ul>  |

## Annex 9: Sample Format for Environmental and Social Impact Assessment

| Sl. No         | Environmental Issues  | Yes/No | Baseline Situation | Sensitivity |      |        |             | Likelihood |        |          |      | Consequence |          |       |              | Measure / Quantify Impacts (if possible) | Unit | Suggested Mitigation Measures |
|----------------|---|--------|--------------------|-------------|------|--------|-------------|------------|--------|----------|------|-------------|----------|-------|--------------|--|------|-------------------------------|
|                |   |        |                    | Low         | Mild | Severe | Very Severe | Certain    | Likely | Unlikely | Rare | Minor       | Moderate | Major | Catastrophic |  |      |                               |
| <b>General</b> |   |        |                    |             |      |        |             |            |        |          |      |             |          |       |              |  |      |                               |
| 1              | Damage of cultivable/agricultural land  |        |                    |             |      |        |             |            |        |          |      |             |          |       |              |  |      |                               |
| 2              | Loss of fertile topsoil   |        |                    |             |      |        |             |            |        |          |      |             |          |       |              |  |      |                               |
| 3              | Destruction/fall down of trees and vegetation or orchard or plant garden          |        |                    |             |      |        |             |            |        |          |      |             |          |       |              |  |      |                               |
| 4              | Water stagnation/drainage congestion/water logging situation/affect storm run-off |        |                    |             |      |        |             |            |        |          |      |             |          |       |              |  |      |                               |
| 5              | Erosion of slope of raised land or road   |        |                    |             |      |        |             |            |        |          |      |             |          |       |              |  |      |                               |
| 6              | Negative impact on soil fertility.  |        |                    |             |      |        |             |            |        |          |      |             |          |       |              |  |      |                               |
| 7              | Run-off/wastewater flow to/from water sources/water body                          |        |                    |             |      |        |             |            |        |          |      |             |          |       |              |  |      |                               |
| 8              | Affect the quality of surface water   |        |                    |             |      |        |             |            |        |          |      |             |          |       |              |  |      |                               |
| 9              | Affect the quality of ground water  |        |                    |             |      |        |             |            |        |          |      |             |          |       |              |  |      |                               |

|    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|----|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| 10 | Possibility of contamination of surface water source from waste or latrine pit |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 11 | Possibility of damages of latrine pit from flood                               |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 12 | Improper disposal of excreta   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 13 | Possibility of water-borne disease   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 14 | Indiscriminate withdrawal/in efficient use of water                            |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 15 | Occurrence of Odor   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 16 | Negative effect on locally important or valued ecosystem                       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 17 | Negative or significant effect on threatened or endangered species.            |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 18 | Increased noise due to construction activities                                 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 19 | Plantations which have a negative impact on the environment.                   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 20 | Obstruction of natural connection between river and wetlands.                  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 21 | Affect culture or capture fishery.   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

|                       |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------|---|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| 22                    | Impact on large or highly important construction i.e. national highway, town protection embankment, polder etc. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 23                    | Possibility of erosion from materials stockpile   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 24                    | Is demolition debris or construction waste disposed of in the open places                                       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 25                    | Are there fuel, oil, paint or chemical spills to ground or streams?   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <b>Climate Change</b> |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 26                    | Is there any event regarding GHG emissions?   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 27                    | Is the project considered extreme climatic events like precipitation, cold waves and heat waves?                |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 28                    | What is the source (groundwater or surface water) of water that will be used for construction                   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 29                    | Are the construction materials found  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

|                                       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|---------------------------------------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
|                                       | environmentally friendly?  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 30                                    | Source of Energy during project construction.  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 31                                    | Is there any plan to use rainwater and solar energy during the construction of the project?  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <b>Occupational Health and Safety</b> |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 32                                    | Are there any issues that may potentially threaten the health risk to labors involved in project activities?   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 33                                    | Are there any issues that may potentially threaten the health risk to the adjacent community people or the passersby involved in project activities? |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 34                                    | Is there open access to the site?  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 35                                    | Is a latrine with hand-wash station absent from the site and its immediate vicinity?   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 36                                    | Is personal protective equipment   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

|                      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|----------------------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
|                      | (PPE) inadequate or does it appear little-used   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <b>Social Issues</b> |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 37                   | Is there any disputed land where the project is planned to be implemented?                                       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 38                   | Is the construction site very close to an educational institute i.e. school, madrasah                            |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 39                   | Is the construction site very close to the religious centers i.e. mosque, temple, church                         |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 40                   | Possibility of soil dust which can impact the project's adjacent households, markets, or any other institutions. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 41                   | Source of Noise that hamper the community's daily life   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 42                   | Inappropriate management of construction materials which may create grievance                                    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

তফসিল-৯

শিল্প বা প্রকল্পের অবস্থান নির্ধারণের নির্দেশিকা

[বিধি ৮ এর দফা (খ), বিধি ৯ এর উপ-বিধি (২), বিধি ১০ এর উপ-বিধি (২),  
বিধি ১২ এর উপ-বিধি (২) ও বিধি ১৪ এর উপ-বিধি (২) দ্রষ্টব্য]

প্রকল্পের বা শিল্প প্রতিষ্ঠানের উপযুক্ত অবস্থান নির্ধারণের জন্য নিম্নরূপ নির্দেশিকা অনুসরণ করিতে হইবে :

(ক) শিল্প প্রতিষ্ঠান বা প্রকল্পের স্থান নির্বাচনের ক্ষেত্রে যেসকল এলাকা পরিহার করিতে হইবে :

- (১) প্রতিবেশগত গুরুত্বের বিবেচনায় আইন দ্বারা সংরক্ষিত এলাকা, হেরিটেজ সাইট, প্রতিবেশগত সংকটাপন্ন এলাকা; অভয়ারণ্য অথবা আন্তর্জাতিক কনভেনশন দ্বারা সংরক্ষিত এলাকা;
- (২) প্রতিবেশগত বা জীববৈচিত্র্যের জন্য গুরুত্বপূর্ণ বা স্পর্শকাতর স্থানসমূহ, যেমন- বিপন্ন/হুমকিগ্রস্ত/স্থানীয় প্রজাতিসমূহের আবাসস্থল, জলাভূমি, পাহাড়, প্রাকৃতিক বন (Natural forest), প্যারাভন, প্রবাল দ্বীপ ইত্যাদি;
- (৩) সরকার কর্তৃক ঘোষিত বনভূমি;
- (৪) অধিক গুরুত্বসম্পন্ন কৃষি জমি; এবং
- (৫) ঐতিহাসিক স্থান, স্মৃতিসৌধ এলাকা, পার্ক/খেলার মাঠ, স্বাস্থ্য কেন্দ্র, আবাসিক এলাকা, হাসপাতাল, প্রত্নতত্ত্ব এলাকা; শিক্ষা প্রতিষ্ঠান এবং সরকার কর্তৃক অথবা আইন দ্বারা যেসকল এলাকাকে স্পর্শকাতর চিহ্নিত করা হইয়াছে।

## Annex 11: Environmental and Social Management and Monitoring Plan

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| Type of Activity | Description of impact | Nature of impact (+ve/-ve) | Linking with climate Change (direct/indirect/Adaptation/mitigation) | Suggested Mitigation Measures | Estimated Budget (Tk) | Mitigation Priority | Responsibility | Monitoring frequency |
|------------------|-----------------------|----------------------------|---|-------------------------------|-----------------------|---------------------|----------------|----------------------|
|                  |                       |                            |   |                               |                       |                     |                |                      |
|                  |                       |                            |   |                               |                       |                     |                |                      |
|                  |                       |                            |   |                               |                       |                     |                |                      |
|                  |                       |                            |   |                               |                       |                     |                |                      |

## Annex 12: Annex: Environmental Code of Practice (ECoP)

The Environmental Code of Practice (ECoP) will provide guidelines for environmental management of the selected projects. It also provides operating practices and environmental management measures to be followed by the contractor for sustainable management of all projects related environmental issues and potential impacts.

| Project Activity/Impact Source  | Environmental Impacts  | Mitigation Measures/ Management Guidelines  |
|---------------------------------|--|---|
| <b>ECoP 1: Waste Management</b> |  |   |
| <b>General Waste</b>            | Soil, water and air pollution from the improper management of wastes and excess materials from the construction sites. | <p>The Contractor should</p> <ul style="list-style-type: none"> <li>• Ensure proper collection and disposal of solid wastes within the construction camps</li> <li>• Insist waste separation by source means organic wastes in one bin/pot and inorganic wastes in another bin/pot at household level.</li> <li>• Store inorganic waste in one chamber and inorganic waste in other chamber of the covered three chambered small concrete pit in the suitable location of the construction camp. When filling the chamber, inorganic wastes can be sold to the vender and organic wastes can be covered with earth for converting fertilizer. The local farmers can use fertilizer for their agricultural lands free of cost.</li> <li>• Do not burn/throw in to the waterbodies any general wastes.</li> </ul> |
| <b>Construction Wastes</b>      | Construction waste and environmental impacts dueto improper waste management practices.                                | <p>The Contractor shall:</p> <ul style="list-style-type: none"> <li>• Collect construction wastes (such as piece of rod, wood, bamboo, tin sheet, brick etc.) separately from the sources and store in a designated area in the construction camp for re-use and avoiding potential environmental pollution.</li> <li>• Collect and store all hazardous wastes appropriately in container/bounded area and make available Material Safety Data Sheets (MSDS) for hazardous materials on-site during construction. Do not dispose hazardous liquid waste on soil.</li> <li>• Do not burn/throw in to the waterbodies any construction wastes.</li> </ul>   |

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| <b>ECOP 2:<br/>Surface/Ground/Drinking<br/>Water Management</b> |   |   |
| <b>Drinking/Ground Water</b>                                    | Ground/Drinking water at shallow depths is contaminated with arsenic and other parameters and hence not suitable for drinking purposes.   | The Contractor Shall <ul style="list-style-type: none"> <li>• Select aquifers for drinking water free from arsenic and other contaminants.</li> <li>• Tube wells will be installed with due regard for the surface environment, protection of groundwater from surface contaminants, and protection of aquifer cross contamination.</li> <li>• According to BNBC, toilets should be min. 10 m distance from the tubewells.</li> </ul>   |
| <b>Discharge from construction sites</b>                        | During construction both surface and ground water quality may be deteriorated due to construction activities, disposal of wastes into the nearby waterbodies (if any), connection of toilets with the water bodies and accidental spillage of liquid waste. | The Contractor shall <ul style="list-style-type: none"> <li>• Install temporary drainage works (drains) in areas required for storage areas for construction materials.</li> <li>• Divert runoff from undisturbed areas around the construction site.</li> <li>• Stockpile materials away from drainage lines.</li> <li>• Prevent disposal of all solid and liquid wastes into the nearby waterbodies and on the areas other than designated waste dumping sites.</li> </ul>  |
| <b>ECOP 3: Drainage Management</b>                              |   |   |
| <b>Excavation and earth works, and construction yards</b>       | Lack of proper drainage for rainwater/liquid waste or wastewater owing to the construction activities harms the environment in terms of water and soil contamination along with mosquito growth.  | The Contractor shall <ul style="list-style-type: none"> <li>• Prepare a program for prevent/avoid standing waters, which will be verified by the authority in advance and confirm during implementation.</li> <li>• Rehabilitate internal roadside drains immediately if damaged by any construction activities.</li> <li>• Construct wide drains instead of deep drains to avoid earth deposition in the drains that require frequent cleaning.</li> <li>• Protect natural slopes of drainage channels to ensure adequate storm water drains.</li> <li>• Regularly inspect and maintain all drains to assess and alleviate any drainage congestion problem.</li> </ul> |
| <b>Ponding of water</b>   | Health hazards due to mosquito breeding   | <ul style="list-style-type: none"> <li>• Do not allow ponding of water especially in the drains and in the construction camps.</li> <li>• Discard all the storage containers that are capable of storing of water, after use or store them in inverted position.</li> </ul>   |

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| <b>ECOP 4: Topsoil Management</b>          |   |  |
| <b>Land clearing and earth works</b>       | Loss of topsoil from excavation activities  | <p>The Contractor shall</p> <ul style="list-style-type: none"> <li>• Strip the topsoil to a depth of min 0.50m and stockpiles of height not exceeding 2m.</li> <li>• Remove unwanted materials from topsoil like grass, roots of trees and similar others.</li> <li>• Locate topsoil stockpiles in areas outside drainage lines and protect them from erosion.</li> <li>• Construct silt fences around the topsoil stockpiles to prevent loss of topsoil.</li> <li>• Spread the topsoil to maintain the physio-chemical and biological activity of the soil. The stored topsoil will be utilized for covering all disturbed area and along the proposed plantation sites.</li> <li>• Prior to the re-spreading of topsoil over the subproject filling areas, the ground surface will be ripped to assist the bonding of the soil layers, water penetration and re-vegetation.</li> </ul> |
| <b>ECOP 5: Dust/Air Quality Management</b> |   |  |
| <b>Construction vehicles</b>               | Air quality can be affected by dust, generated due to movement of vehicles and combustion of fuels. | <p>The Contractor shall</p> <ul style="list-style-type: none"> <li>• Fit vehicles with appropriate exhaust systems and emission control devices.</li> <li>• Operate the vehicles in a fuel- efficient manner.</li> <li>• Cover haul vehicles carrying dusty materials moving outside the construction site.</li> <li>• Impose speed limits on all vehicle movement at the worksite to reduce dust emissions.</li> <li>• Control the movement of construction traffic.</li> <li>• Service all vehicles regularly to minimize emissions.</li> <li>• Watering filling sandy earth surface and cover asap by topsoils.</li> </ul>  |
| <b>Construction equipment</b>              | Air quality can be affected by emissions from equipment and combustion of fuels.                    | <p>The Contractor shall</p> <ul style="list-style-type: none"> <li>• Fit machinery with appropriate exhaust systems and emission control devices. Maintain these devices in good working condition in accordance with the specifications defined by their manufacturers to maximize combustion efficiency and minimize contaminant emissions. Proof or maintenance register shall be required by the</li> </ul>  |

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|                                 |  | <p>equipment suppliers and contractors/subcontractors</p> <ul style="list-style-type: none"> <li>• Machinery causing excess pollution (e.g. visible smoke) will be banned immediately from construction sites.</li> <li>• Service all equipment routinely to minimize emissions.</li> </ul>  |
| <b>Construction activities</b>  | Dust generation from construction sites, material stockpiles specially dredged material stockpiles and access roads is a nuisance in the environment and can be a health hazard. | <ul style="list-style-type: none"> <li>• Watering the material stockpiles, access roads and bare soils on an as required basis to minimize the potential for environmental nuisance due to dust. Increase the watering frequency during periods of high risk (e.g. dry period and high winds). Stored materials such as sand shall be covered by vegetation/grass-turfing.</li> <li>• Establish adequate locations for storage, mixing and loading of construction materials, in a way that dust dispersion is prevented because of such operations.</li> </ul>  |
| <b>ECoP 6: Noise Management</b> |  |  |
| <b>Construction vehicles</b>    | Noise quality will be deteriorated due to vehicular traffic  | <p>The Contractor shall</p> <ul style="list-style-type: none"> <li>• Maintain all vehicles in order to keep it in good working order in accordance with manufactures maintenance procedures.</li> <li>• Make sure all drivers comply with the traffic codes concerning maximum speed limit, driving hours, use of cell phone during driving etc.</li> <li>• Organize the loading and unloading of trucks, and handling operations for the purpose of minimizing construction noise on the work site.</li> </ul>  |
| <b>Construction equipment</b>   | Noise may have an impact on workers, local residents, wildlife, livestock etc.   | <p>The Contractor shall</p> <ul style="list-style-type: none"> <li>• Appropriately site all noise generating activities to avoid noise pollution to local residents.</li> <li>• Use the quietest available plant and equipment.</li> <li>• Maintain all equipment in order to keep it in good working order in accordance with manufactures maintenance procedures. Equipment suppliers and contractors shall present proof of maintenance register of their equipment.</li> <li>• Install temporary noise barriers with screens, tin, and wood around generators to reduce noise levels.</li> <li>• Avoid the unnecessary use of alarms, horns and sirens.</li> </ul> |

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|                                    |   | <ul style="list-style-type: none"> <li>• Use ear plugs in noisy areas of the construction activities.</li> </ul>  |
| <b>Construction activities</b>     | Noise and vibration may have an impact on workers, local residents, wildlife, livestock                 | <p>The Contractor shall</p> <ul style="list-style-type: none"> <li>• Train the operators of construction equipment on potential noise problems.</li> <li>• Employ the best available work practices on-site to minimize occupational noise levels.</li> <li>• Install temporary noise control barriers with tin sheets, screens etc. where appropriate.</li> <li>• Avoid undertaking the noisiest activities, where possible, when working at night near the residential areas.</li> </ul>  |
| <b>ECoP 7: Topography</b>          |   |   |
| <b>Earthworks</b>                  | Change in topography and local landscape and disturbance to the natural rainwater/ flood water drainage | <p>The Contractor shall</p> <ul style="list-style-type: none"> <li>• Ensure the topography of the final surface of all raised subproject land areas is conducive to enhance natural draining of rainwater/flood water.</li> <li>• Keep the finished surface of all the raised lands free from any kind of depression that insists water logging.</li> <li>• Undertake mitigation measures for prevention by grass-turfing and tree plantation, where there is a possibility of rain-cut that will change the shape of topography.</li> <li>• Cover immediately the uncovered open surface that has no use of construction activities with grass— cover and tree plantation to prevent soil erosion and bring improved landscaping.</li> </ul> |
| <b>ECoP 8: Protection of Flora</b> |   |   |
| <b>Vegetation clearance</b>        | Increase in deforestation caused by land clearing for the construction of new subprojects               | <p>The Contractor shall</p> <ul style="list-style-type: none"> <li>• Reduce disturbance to vegetation.</li> <li>• Use appropriate and minimum size of machine to avoid disturbance to adjacent vegetations.</li> <li>• Clear only the vegetation that needs to be cleared in accordance with the plans. These measures are applicable to both the construction areas as well as to any associated activities such as sites for stockpiles, disposal of fill etc.</li> <li>• Do not burn off cleared vegetation. where feasible, chip or mulch and reuse it for the rehabilitation of affected areas, temporary access tracks or landscaping.</li> <li>• Return topsoil and mulched vegetation</li> </ul>                                      |

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|  |  | <p>(in areas of native vegetation) to approximately the same area of the roadside it came from.</p> <ul style="list-style-type: none"> <li>• Ensure excavation works occur progressively and re—vegetation done at the earliest.</li> <li>• Provide adequate knowledge to the workers regarding nature protection and the need of avoid felling trees during construction</li> </ul>   |
| <b>ECoP 9: Construction Camp Management</b>      |  |  |
| <b>Siting and Location of construction camps</b> | <p>Campsites for construction workers are the important locations that have significant impacts such as health and safety hazards on local resources and infrastructure of nearby communities.</p>                 | <p>The Contractor shall</p> <ul style="list-style-type: none"> <li>• Locate the construction camp in areas which are acceptable from an environmental, cultural or social point of view.</li> <li>• Consider the location of construction camps away from communities in order to avoid social conflict in using natural resources such as water or to avoid the possible adverse impacts of the construction camps on the surrounding communities.</li> <li>• Local authorities responsible for health, religious and security shall be duly informed on the set up of camp facilities so as to maintain effective surveillance over public health, social and security matters.</li> </ul> |
| <b>Construction Camp Facilities</b>              | <p>Lack of proper infrastructure facilities such as housing, water supply and sanitation facilities will increase pressure on the local services and generate substandard living standards and health hazards.</p> | <p>Contractors shall provide the following facilities in the camp sites.</p> <ul style="list-style-type: none"> <li>• Adequate accommodation for all workers.</li> <li>• Safe and reliable water supply. Water supply from tube wells that meets the national standards.</li> <li>• Hygienic sanitary facilities for all labors. According to BNBC, the minimum number of toilet facilities required is one toilet for every ten</li> </ul>  |
| <b>Disposal of wastes</b>                        | <p>Management of wastes is crucial to minimize impacts on the environment</p>  | <p>The Contractor should</p> <ul style="list-style-type: none"> <li>• Ensure proper collection and disposal of solid wastes within the construction camps.</li> <li>• Insist waste separation by source.</li> <li>• Store inorganic waste in one chamber and organic waste in other chamber of the covered three chambered small concrete pit in the suitable location of the construction camp. When filling the</li> </ul>   |

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|  |  | chamber, inorganic wastes can be sold to the vender and organic wastes can be covered with earth for converting fertilizer. The local can use fertilizer for their agricultural lands free of cost.   |
| <b>Health and safety</b>   | There will be a potential for diseases to be transmitted including measles, diphtheria, exacerbated by inadequate health and safety practices.       | The Contractor shall <ul style="list-style-type: none"> <li>• Provide first aid facilities round the clock. Maintain stock of medicines in the facility and appoint designated first aider or nurse.</li> <li>• Provide adequate drainage facilities throughout the camps to ensure that disease vectors such as stagnant water bodies. Regular mosquito repellent sprays during monsoon.</li> <li>• Carryout short training sessions on best hygiene practices to be mandatorily participated by all workers.</li> </ul>   |
| <b>ECOP10: Sensitive/Cultural Issues</b>   |  |   |
| <b>Construction activities near sensitive/cultural sites (such as mosque, mandir, pagoda, madrasha, permanent water body, eidgah, garden etc.)</b> | Disturbance from construction works to the sensitive/cultural sites, and contractors lack of knowledge on cultural issues cause social disturbances. | The Contractor shall <ul style="list-style-type: none"> <li>• Communicate to the public through community consultation and announcement regarding the scope and schedule of construction, as well as certain construction activities causing disruptions.</li> <li>• Do not block access to sensitive/cultural sites, wherever possible.</li> <li>• Stop construction works that produce noise (particularly during prayer time) should there be any mosque/religious institute close to the construction sites and users make objections.</li> <li>• Take special care when working next to a sensitive/cultural institution.</li> <li>• Show appropriate behavior with all construction workers especially women and elderly people.</li> <li>• Resolve cultural issues in consultation with local leaders.</li> <li>• Establish a mechanism that allows local people to raise grievances arising from the construction process.</li> </ul> |
| <b>ECOP 11: Occupational Health and Safety</b>   |  |   |
| <b>Best practices</b>  | Construction works may pose health and safety risks to the construction workers to severe injuries and   | The Contractor shall <ul style="list-style-type: none"> <li>• Implement suitable safety standards for all workers and site visitors which should not be less than those laid down on the international standards (e.g. International</li> </ul>   |

|                         |   |   |
|-------------------------|---|---|
|                         | <p>deaths. The population in the proximity of the construction site and the construction workers will be exposed to several (i) biophysical health risk factors, (e.g. noise, dust, chemicals, construction material, solid waste, vector transmitted diseases etc.), risk factors resulting from human behaviour and road accidents from construction traffic.</p> | <p>Labor Office guideline on ‘Safety and Health in Construction; World Bank Group’s ‘Environmental Health and Safety Guideline’s) and contractor’s own national standards or statutory regulations, in addition to complying with the national standards of the GOB (e.g. The Bangladesh Labor Code, 2006).</p> <ul style="list-style-type: none"> <li>• Provide the workers with a safe and healthy work environment, considering inherent risks in its particular construction activity and specific classes of hazards in the work areas.</li> <li>• Provide personal protection equipment (PPE) for workers, such as safety shoes, safety helmets, face masks, hand gloves, protective clothing, goggles, full— face eye shields, and ear plugs. Maintain the PPE properly by cleaning dirty ones and replacing them with damaged ones.</li> <li>• Safety procedures include provision of information, training on the use of hazardous materials etc.</li> <li>• Appoint a health and safety manager to look after the health and safety of the workers.</li> <li>• Inform the local authorities responsible for health, religious and security duly informed before the commencement of civil works and establishment of construction camps to maintain effective surveillance over public health, social and security matters</li> </ul> |
|                         | <p>Child and pregnant women</p>   | <p>The Contractor shall</p> <ul style="list-style-type: none"> <li>• Not hire children of less than 14 years old and pregnant women in accordance with the Bangladesh Labour Code, 2006.</li> </ul>   |
| <p><b>Accidents</b></p> | <p>Lack of first aid facilities and health care facilities in the immediate vicinity will aggravate the health conditions of the victims</p>  | <ul style="list-style-type: none"> <li>• Provide health care facilities and first aid facilities are readily available.</li> <li>• Document and report occupational accidents, diseases, and incidents.</li> <li>• Prevent accidents, injury, and disease arising from, associated with, or occurring in the course of work by minimizing, so far as reasonably practicable, the causes of hazards.</li> <li>• Provide awareness to the construction drivers to strictly follow the driving rules.</li> <li>• Provide adequate lighting in the construction areas.</li> </ul>   |

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| <b>Construction Camps</b>                                    | Lack of proper infrastructure facilities, such as housing, water supply and sanitation facilities will increase pressure on the local services and generate substandard living standards and health hazards. | The Contractor shall provide the following facilities in the campsites to improve health and hygienic conditions as mentioned in ECoP-9: Construction Camp Management. <ul style="list-style-type: none"> <li>• Adequate ventilation facilities.</li> <li>• Safe and reliable water supply. Water supply from tube wells that meets the national standards.</li> <li>• Hygienic sanitary facilities and sewerage system.</li> <li>• Storm water drainage facilities.</li> <li>• Safe storage facilities for chemicals.</li> <li>• Solid waste collection and disposal system in accordance with ECOP1.</li> <li>• Arrangement for training.</li> <li>• Security fence at least 2 m height.</li> <li>• Sick bed and first aid facilities.</li> </ul> |
| <b>Water and sanitation facilities at construction sites</b> | Lack of water sanitation facilities at construction sites cause inconvenience to the construction workers and affect their personal hygiene.   | The contractor will follow ECOP-2 and ECOP 9.   |
| <b>Trainings</b>   | The lack of awareness and basic knowledge in health care among the construction workforce, make them susceptible to potential diseases.  | The contractor shall <ul style="list-style-type: none"> <li>• Train all construction workers in basic sanitation and health care issues (e.g., how to avoid malaria and transmission of sexually transmitted infections (STI)).</li> <li>• Train all construction workers in general health and safety matters, and on the specific hazards of their work. Training should consist of basic hazard awareness, site specific hazards, safe work practices, and emergency procedures for fire, evacuation, and natural disaster, as appropriate.</li> </ul>   |
| <b>ECoP 12: Ecologically Sensitive Areas</b>                 |  |   |
| <b>Construction</b>  | Lack of awareness of permitted activities in the Ecologically sensitive areas such as Ramsar area etc. will result to irreversible to rare, vulnerable and critically endangered species.                    | The Contractor to ensure that while undertaking all ECOP1-11 prescribed actions in complete-ness, all flora, fauna must be protected in these areas any type of activity. All permissions, studies as required by law are undertaken and reported to concerned authorities on its own costs and resources.  |
| <b>Cultivation and gardening</b>                             | Usage of agrochemicals (pesticides and fertilizers) would rise along with agricultural activity, thereby worsening soil,   | <ul style="list-style-type: none"> <li>• Agriculture production may increase through technological improvements and high yielding varieties, however usually these high yielding varieties will lead to use of higher quantities of</li> </ul>  |

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|                                   | <p>water, and environmental pollution.</p>   | <p>agrochemicals in the fields. It is strongly advised that public awareness of the risks posed by improper or excessive usage of agrochemicals be increased. The Integrated Pest Management (IPM) and Integrated Crop Management (ICM) practices will be encouraged and promoted among the farmers.</p> <ul style="list-style-type: none"> <li>• A complementary technique to composting is 'vermi-culture' – the cultivation of worms to speed up the production of compost and improve its quality. Vermi-compost is cheaper to produce than chemical fertilizers, is environment- friendly; and it promotes better root growth, and improves fertility, soil aeration and texture, and soil moisture retention.</li> <li>• Build drainage system so that the nutrient sources are not discharged or applied directly into a watercourse, across a property.</li> </ul> |
| <p><b>Irrigation facility</b></p> | <p>Damage to habitats and aquifer exhaustion by abstraction of irrigation water. Soil erosion, arising both from intensive irrigation.</p> | <ul style="list-style-type: none"> <li>• Install fences, barriers, warning restrict access to the pumping station area which showing potential danger to the public.</li> <li>• Construct drainage control measures such as interceptor ditch should be applied where needed to slow or redirect runoff to prevent contaminated runoff, wastewater and solids from escaping.</li> </ul>  |

### Annex 13: A sample risk assessment matrix for a simple bridge project

| Construction Activity     | Issues to Consider                                       | Likelihood that the site or sensitive receptors will be affected. | Consequence of the site or sensitive receptors being affected. | Risk Score: (consequence x likelihood) | Environmental Management Measures  |
|---------------------------|--|---|--|--|--|
|                           |  | Score   | Score  |  |  |
| <b>Soil Stripping</b>     | Damage to vegetation beyond clearing limits              |   |  |  | Indicate limits of clearing with highly visible markers.<br>Monitor area for fauna prior to clearing operation. Employ catcher to remove fauna for release elsewhere.<br>When clearing has been completed, keep fauna spotter/catcher on call. |
|                           | Erosion of exposed areas and sediment carried into river |   |  |  | Around the perimeter of the work site, erect silt fences and/or rock check dams, sedimentation ponds, and silt traps.  |
|                           | Loss of topsoil  |   |  |  | Provide stockpiles with protective covering, e.g., revegetation, geotextiles.  |
|                           | Dust generation  |   |  |  | Provide water truck to wet topsoils  |
|                           | Noise impacting on nearby residents                      |   |  |  | Limit work near residential areas to 7a.m.–5p.m. Minimize noise whenever possible. Consult regularly with residents.   |
| <b>Site Establishment</b> | Soil carted onto roads from tires                        |   |  |  | Provide rumble grids and use street sweepers on roads when needed.   |
|                           | Stockpile erosion  |   |  |  | Provide stockpiles with protective covering, e.g., revegetation, geotextiles.  |
|                           | Noise and vibration                                      |   |  |  | Monitor noise and vibration. Consult regularly with residents.   |
|                           | Traffic congestion                                       |   |  |  | Install traffic lights and regulate site traffic to ensure that there are no impacts on local vehicle movement.  |
|                           | Fuel spills  |   |  |  | Ensure that safety checklist for major plant has been completed, and that no fuel/oil leaks are visible. Emergency oil spill materials, boom, and trailer should be on standby.  |
| <b>Grading approaches</b> | Dust from materials handling                             | 3   | 3  | 9                                      | Water truck to wet all exposed areas, access tracks and stockpile areas  |

|  |  |   |   |    |   |
|--|--|---|---|----|---|
|  | Noise                                      | 3 | 3 | 9  | Limit works around residential areas to 7am-5pm. Minimize noise whenever possible. Regular liaison with residents                               |
|  | Vehicle movements                          | 3 | 2 | 6  | Install traffic lights and regulate site traffic to ensure no impacts on local vehicle movements  |
|  | Fuel oil spills                            | 3 | 5 | 15 | Environmental Trailer on standby for possible spills  |
| <b>Surfacing</b>                           | Vibration from rollers                     | 3 | 2 | 6  | Vibration monitoring of nearby sensitive areas to identified. Vibration monitoring of identified areas to be undertaken.                        |
|  | Sediment and water quality issues in river | 3 | 3 | 9  | Nor primer or seal application if rain expected within 3 hours.<br>Nearby drains to be bunded in case of bleed.                                 |
|  | Fuel/oil spills                            | 3 | 5 | 15 | Environmental Trailer on standby for possible spills  |
|  | Vehicle Movement                           | 3 | 2 | 6  | Community to be informed of all works two weeks prior to commencement.<br>Access to be via shortest possible routes.                            |
|  | Noise and dust issues                      | 3 | 3 | 9  | Follow noise, vibration, dust & air quality procedures.   |
| <b>Painting &amp; finishing structures</b> | Concrete wash out pollution                | 3 | 5 | 15 | Bunding to be used for any high-pressure water cleaning of walls and piers.   |
|  | Sediment and erosion control               | 3 | 3 | 9  | Maintain silt fences around perimeter of works area and/or rock check dams, sedimentation ponds and silt traps                                  |
|  | Noise                                      | 3 | 3 | 9  | Limit works around residential areas to 7am-5pm. Minimize noise whenever possible. Regular liaison with residents                               |
|  | Waste management                           | 3 | 2 | 6  | Recycling bins to be used and set up before finishing starts for collection and proper disposal.<br>Industrial bins used for appropriate waste. |
| <b>Landscaping</b>                         | Dust from spreading and moving materials   | 3 | 3 | 9  | Water truck to wet all exposed areas, access tracks and stockpile areas.  |
|  | Sediment and erosion control               | 3 | 3 | 9  | Maintain silt fences around perimeter of work area, and/or rock check dams, sedimentation ponds and silt traps                                  |
|  | Imported pests                             | 2 | 5 | 15 | All landscaping materials to be obtained from a source that has been certified as pest free   |



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