



Government of the People's Republic of Bangladesh
Ministry of Local Government, Rural Development & Co-operatives
Local Government Division
Local Government Engineering Department (LGED)

Resilient Infrastructure for Adaptation and Vulnerability Reduction (RIVER) Project

Construction of Primary School cum Flood Shelter with Solar PV Nano Grid, Street Light, Lightning Protection & Connecting Roads, Bridge/Culvert, Furniture and Tree Plantation at Gaibandha District



Environmental and Social and Management Report

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ABBREVIATIONS

BBS	Bangladesh Bureau of Statistics
BDT	Bangladeshi Taka
BMD	Bangladesh Meteorological Department
BNBC	Bangladesh National Building Code
BOQ	Bill of Quantity
DPHE	Department of Public Health Engineering
EA	Environmental & Social
ECR	Environmental Conservation Rules, 1997
E.I.C	Engineer in Charge
EMCRP	Emergency Multi-Sector Rohingya Crisis Response Project
E&S	Environmental and Social
ESCoP	Environmental and Social Codes of Practices
ESCP	Environmental Social Commitment Plan
ESF	Environmental and Social Framework
ESMF	Environmental and Social Management Framework
ESMP	Environmental and Social Management Plan
ESSR	Environmental and Social Screening Report
ESSs	Environmental and Social Standards
FAO	Food and Agriculture Organization
GoB	Government of Bangladesh
GPS	Government Primary School
GRC	Grievance Redress Committee
GRM	Grievance Redress Mechanism
IEFs	Important Environmental Features
KM	Kilometer
KMPH	Kilometer Per Hour
LGED	Local Government Engineering Department
LMP	Labour Management Procedures
LS	Lump Sum
MDSP	Multipurpose Disaster Shelter Project
MM	Millimeter
MoLGRDC	Ministry of Local Government, Rural Development and Cooperatives
NPDM	National Plan for Disaster Management
PD	Project Director
PIU	Project Implementation Unit
PPE	Personal Protective Equipment
RIVER	Resilient Infrastructure for Adaptation and Vulnerability Reduction
RPF	Resettlement Policy Framework
SEP	Stakeholders Engagement Plan
SMC	School Management Committee
UDMC	Union Disaster Management Committee
UNDP	United Nations Development Programme
WB	World Bank

EXECUTIVE SUMMARY

The Government of Bangladesh, through the Local Government Engineering Department (LGED) under the Ministry of Local Government, Rural Development and Cooperatives, is implementing the “Resilient Infrastructure for Adaptation and Vulnerability Reduction (RIVER)” Project with financial assistance from the World Bank. As part of the project’s disaster resilience strategy, a total of seven (07) climate-resilient flood and disaster shelters are proposed for construction in Gaibandha Sadar Upazila for 7 sites under Gaibandha District. These multipurpose school-cum-shelters will function as educational facilities during normal periods and serve as safe havens for communities and livestock during flood emergencies, thereby enhancing local resilience and reducing vulnerability to disasters.

Gaibandha District, located in the northern floodplains of Bangladesh, is highly prone to recurrent flooding from the Brahmaputra and its tributaries. The area is characterized by alluvial plains, fertile agricultural lands, and floodplain ecosystems dominated by riparian vegetation, aquatic flora, and agro-ecosystems. The local biodiversity includes fish, amphibians, reptiles, and common bird species, with no protected or critical natural habitats in or near the proposed project sites. The climate is humid and subtropical, with heavy monsoon rainfall between June and October, followed by distinct post-monsoon and dry seasons.

The proposed subproject comprises (i) construction of climate-resilient flood shelter; and (ii) construction and rehabilitation of connecting roads, including culverts and bridges. The overall anticipated adverse impact due to the subproject intervention is limited and site specific. Considering the environmental impact for construction of flood shelters construction and rehabilitation of connecting roads which is anticipated as insignificant; hence the overall project risk is categorized as Moderate, under the World Bank ESF. However, since none of the project components are listed under Schedule-1 of the Environmental Conservation Rules, 2023, the Department of Environment (DoE) has formally exempted the project from the requirement of obtaining an Environmental Clearance Certificate (ECC).

Environmental and Social Standard 1 (ESS1) of the ESF, which underscores the responsibility for assessing, managing, and monitoring environmental and social risks through a risk- and outcome-based approach, the ensuring sustainability and compliance with the Environmental and Social Standards (ESSs). The environmental and social assessment serves as a key instrument to inform project design, identify mitigation measures, and strengthen decision-making proportionate to the project’s level of risk. In line with these principles, the ES Team of the Design and Supervision (D&S) Consultant of the project conducted an in-depth environmental and social survey and assessment from November 18–20, 2025, across all 07 proposed sites in Gaibandha Sadar upazila under Gaibandha District, where school-cum-flood shelters with associated facilities, along with school connecting roads to several of these shelters, are planned for construction.

This Environmental and Social Assessment and Management Report (ESAMR) has been prepared in line with the requirements of the World Bank Environmental and Social Framework (ESF) and relevant national environmental regulations to identify, assess, and manage potential environmental and social risks associated with the shelter construction. The Assessment process

included site visits, stakeholder consultations, environmental and social impact assessment and identification. Key anticipated environmental impacts include vegetation loss, dust and noise generation, traffic congestion, disposal of construction waste, and possible soil erosion, while social impacts may include temporary disruption to community services, demolition of old structures, loss of trees within school premises, parts of a few water bodies as ditches, ponds, depressions etc. being likely to be filled due to the construction of the flood shelters and minor risk of labor influx-related conflicts.

Site specific environmental and social description and Assessment results as well as its tentative implementing cost (BOQ) are presented in **Annexure 1**, while assessment formats and consultation checklists are provided in **Annexures 2 and 3**, and consultation attendance records in **Annexure 4**. Each flood shelter requires a minimum of 33 decimals of land, and ownership documents for all sites have been collected and verified. The project involves no land acquisition or compensation for land or property, as all construction activities will take place on existing or government-owned land. Additionally, access roads will be constructed or rehabilitated within their existing alignments, minimizing environmental and social disturbance and ensuring compliance with the project's sustainability objectives.

Regarding the land readiness status of the proposed sites, seven (07) assessed schools were found compliant with legal and policy frameworks, demonstrating sufficient land availability, clear ownership, and no risks of involuntary resettlement or displacement. Five schools (05) require demolition of old buildings, two (02) require wash block demolition (under DPHE) to create space, and three (03) need temporary school sheds while one (01) school is fully ready for immediate construction without major preparatory works. Concerns raised about preserving playgrounds were addressed through consultations with School Management Committees (SMCs) and local communities, along with field verification of design alignments.

The ecological impact of the subproject has been assessed as low to moderate, with no ethnic communities residing within the catchment area and no involuntary resettlement or loss of common property resources anticipated. Minor, temporary impacts may occur where school playgrounds are partially affected during construction, limiting children's access for a short period. However, teachers, parents, and community members expressed strong support during consultations, recognizing that the proposed school-cum-flood shelters will provide safer educational facilities and serve as vital refuge centers for people and livestock during flood events. To minimize disruption, School Management Committees (SMCs) will identify and facilitate alternative playgrounds for temporary use.

In 05 schools, demolition of old school buildings and 02 nos. wash blocks will be implemented by separate contractors under the Directorate of Primary Education (DPE) following a Standard Operating Procedure (SOP) to control dust, noise, and safety risks. Construction-related impacts are expected to remain localized and manageable within existing premises. Contractors will use school land for storage and work areas and, if needed, obtain additional temporary land through formal tenancy agreements. Site-specific ESMPs with tailored mitigation and monitoring

measures have been developed for each upazila to ensure compliance with ESF requirements and to minimize environmental and social risks during implementation.

The construction contractor will utilize available school premises for material storage and designated work areas, ensuring minimal disruption to regular school activities. In cases where additional space is required, the contractor will obtain temporary land through formal tenancy agreements in consultation with relevant authorities and local stakeholders. To ensure environmental and social compliance, site-specific Environmental and Social Management Plans (ESMPs) have been prepared for each upazila, outlining tailored mitigation, monitoring, and management measures aimed at minimizing potential adverse impacts and ensuring that construction activities are carried out in a safe, sustainable, and socially responsible manner.

1 INTRODUCTION

1.1 Sub-project Background

Flooding is an integral part of life in Bangladesh, and so are the hardships endured by people living in flood-prone regions. The country is among the most vulnerable in the world to natural disasters, particularly floods that occur almost every year during the monsoon season, triggered either by upstream river overflows or heavy rainfall. During severe floods, communities are often displaced for weeks—sometimes up to 60–70 days, as seen in 1998—forcing people, their livestock, and belongings to seek temporary refuge. However, there remains a significant shortage of dedicated flood-resilient shelters, including raised platforms (killas) and elevated public buildings, leaving affected populations to take shelter on embankments or in schools and colleges. This disrupts normal educational activities and increases the risk of disease transmission. Unlike coastal areas with cyclone shelters, very few designated flood shelters exist in the floodplain regions of Bangladesh.

In response to the recurring suffering caused by seasonal floods and lightning hazards, the Government of Bangladesh, with assistance from the World Bank, is implementing the “Resilient Infrastructure for Adaptation and Vulnerability Reduction (RIVER)” Project, aimed at enhancing disaster resilience through the construction of Primary School-cum-Multipurpose Flood Shelters and associated infrastructure in high-risk flood-affected areas. The project is being implemented by the Local Government Engineering Department (LGED) under the Ministry of Local Government, Rural Development and Cooperatives (MoLGRDC). These shelters are expected to minimize loss of life and property, reduce the spread of waterborne diseases, and facilitate efficient relief operations during and after flood events, in line with the strategic priorities of the 7th Five Year Plan of Bangladesh.

Gaibandha District, located in the northern floodplains along the Brahmaputra and its tributaries, is one of the most flood-affected and disaster-prone districts in Bangladesh. The area experiences regular flooding, riverbank erosion, and other climate-induced hazards that severely affect livelihoods, housing, and transportation networks. The selection of shelter locations has been guided by vulnerability mapping, local needs assessments, and accessibility considerations during emergencies. Under the RIVER Project, a total of seven (07) climate-resilient flood and disaster shelters are proposed for construction across Gaibandha Sadar Upazila of Gaibandha District.

These school-cum-shelters are designed for dual functionality—serving as educational institutions during normal periods and as life-saving flood shelters during emergencies. Each shelter will incorporate climate-resilient design features, including a sustainable water supply system, standby solar power, rainwater harvesting, lightning protection, and improved WASH (water, sanitation, and hygiene) facilities. Additional provisions include livestock sheltering areas, storage for essential goods, and raised plinths for flood protection. The project also emphasizes institutional strengthening by enhancing the disaster preparedness and response capacity of the School Management Committees (SMCs) and Union Disaster Management Committees (UDMCs) through targeted training and operational guidance.

This Environmental and Social Assessment and Management Report (ESAMR) for Gaibandha District has been prepared to identify and evaluate potential environmental and social impacts associated with the proposed subproject activities—such as tree removal, land filling, demolition of old structures, increased dust and noise levels, traffic congestion, and temporary disruption of community services—and to recommend appropriate mitigation and management measures in accordance with national environmental regulations and the World Bank Environmental and Social Framework (ESF). The findings of this assessment will inform project design, implementation planning, and safeguard compliance, ensuring that all flood shelters are constructed and operated in an environmentally sound, socially inclusive, and sustainable manner, ultimately contributing to the resilience and well-being of the people of Gaibandha.

1.2 Objective of the Project

The objective of the project is to reduce the adverse impacts of floods and to provide safe spaces for evacuation and sheltering through the development of resilient infrastructure. The project also seeks to prevent long-term negative impacts of flooding and to enhance community resilience by strengthening local capacity for effective early warning, disaster preparedness, and emergency response.

Specifically, the project aims to: (a) Increase the number of people with reduced flood vulnerability through the establishment of climate-resilient and protective infrastructure; and (b) Enhance the disaster preparedness capacity of both the Government of Bangladesh (GoB) and local communities. In addition, the project contributes to the COVID-19 recovery process by supporting public works that generate local employment opportunities, thereby improving livelihood conditions in rural areas.

The project will finance infrastructure and systems that strengthen the flood resilience of vulnerable rural populations in selected areas by: (i) Raising community land, constructing multi-purpose flood shelters, community facilities, connecting roads, and other flood-resilient infrastructure in flood-prone villages; and (ii) Enhancing community disaster preparedness through improved early warning systems, evacuation planning, awareness and training programs, and strengthened response and recovery capacity.

1.3 Scope of the Project

The scope of the project shall include the construction of multipurpose flood shelters and construction of related access roads, flood embankments, drainage channels (both natural and manmade). The proposed infrastructure shall be climate resilient, including cross-drainage culverts and rural bridges necessary for assured rural accessibility. Raising of selected community land above the high flood level and small-scale community infrastructure to protect land and property shall also be included.

1.4 Objectives of the Report

The general objective of this study is to determine the major environmental and social impacts succeeding from construction and operation of the subproject and to recommend mitigation

measures to avoid or reduce adverse environmental and social impacts and to enhance positive impacts. The specific objectives include:

- To assess the existing environmental and social conditions of the subproject site and its influence area;
- To identify and assess impacts resulting from the subproject during its construction phase and operation phase;
- To develop an environmental and social management plan (ESMP) with recommendations for mitigating impacts and enhance positive impacts;
- To summarize environmental and social monitoring requirements.

The report focuses on site-specific characteristics of the proposed shelter locations within Gaibandha district, the sensitivity of the surrounding environment, and the socio-economic conditions of the target communities. It is intended to guide project developers, implementing agencies, and other stakeholders in making informed decisions that minimize negative impacts and enhance the positive outcomes of the RIVER project.

1.5 Institutional Arrangements

1.5.1 Implementing Agency for the Project

The Local Government Engineering Department (LGED) will be responsible for implementing the project. LGED will implement the project through a dedicated Rangpur-based Project Implementation Unit (PIU), headed by a Project Director (PD). The PD will be supported by a dedicated Deputy Project Director (DPD), Senior Assistant Engineer, Assistant Engineer as well as the associated technical and safeguard support staff. A majority of the implementation will be based on the district and Upazila levels, where the associated LGED field officials (i.e., Executive Engineer, Sr. Assistant Engineer, Assistant Engineer, Sub assistant Engineer etc.) will act as the focal person(s) responsible for supervision and monitoring of work implementation in their respective districts and Upazilas.

1.5.2 Project Implementation Unit

The PIU would provide support to implement the ES instruments during implementation of the project. The staffing requirements and capacity building program are included in the project design. The PIU will have an Environmental Specialist and a Social Development Specialist. These ES specialists will be stationed for full time at PIU to ensure that World Bank's ESSs and Government requirements are realized throughout the project life cycle.

1.5.3 Design and Supervision Consultant

The PIU will also be supported by a Design & Supervision Consulting (D&SC) firm having specialists with expertise in Environment, Social, DRM, Communication, Gender and Disability. Although LGED is familiar with the Bank's safeguard policy. The project shall support training on ESF to LGED HQ, District Level and field level employees.

1.5.4 Grievance Redress Mechanism (GRM)

The RIVER Project has established a comprehensive Grievance Redress Mechanism (GRM) to effectively address grievances and complaints raised by project-affected or interested persons in connection with project interventions in Gaibandha District. A four-tier Grievance Redress Committee (GRC) system has been established—comprising the Local/Upazila Level, District Level, Project Implementation Unit (PIU) Level, and LGED Headquarters Level—to ensure inclusivity, transparency, and fairness in resolving grievances. In Gaibandha, GRCs have been formed at each relevant level with representation from local administration, LGED officials, community members, women representatives, and school management committees to facilitate participatory and equitable grievance resolution.

The PIU ensures effective implementation and continuous monitoring of the GRM process so that all grievances are addressed promptly and systematically. The information dissemination mechanism remains simple and accessible, ensuring that community members, especially vulnerable groups, are well-informed about their rights and the available grievance channels.

Furthermore, all project-related Environmental and Social (ES) safeguard documents—including the Environmental and Social Management Framework (ESMF), Resettlement Policy Framework (RPF), Stakeholder Engagement Plan (SEP), Labor Management Procedures (LMP), and Environmental and Social Commitment Plan (ESCP)—have been disclosed to both local and national stakeholders. These documents are publicly accessible on the LGED and RIVER Project websites, as well as through local offices in Gaibandha, ensuring transparency, awareness, and informed participation of all stakeholders in the project implementation process.

1.6 Scope and Methodology of the Report

Environmental and social for the subproject components is required to fulfill the regulatory requirement for constructing resilient flood shelters and connecting roads, as clearly stipulated in the project Environmental and Social Commitment Plan (ESCP). Hence, this environmental and social and management report is prepared, carrying out following activities:

- Desktop Work;
- Field Investigations and Data Collection;
- Data Analysis and Report Writing.

1.6.1 Desktop Work

The desktop study involved:

- Initial meetings with client, stakeholders to discuss the proposed subproject;
- Collection and review of the baseline data, maps, reports and other relevant information;
- Review of the relevant existing legislation, regulation and policies;
- Understand the anticipated technical processes that may affect the environment and social framework.

1.6.2 Field Investigation and Data Collection

Safeguard team of the D&S consultants made a field investigation to the proposed sites. Field investigations involved on-site observation, survey and filling out checklist (primarily), and public consultation meeting for identification of the environmental and social components to be affected and the extent of impacts due to the subproject interventions.

The following key tasks were performed during the field visit:

- Filling up checklist and taking photographs of the significant aspects to assist in describing the baseline environmental and social conditions of the subproject area;
- Public consultation meeting in the subproject participated by relevant local population, teachers, students, elected public representatives, School Management Committee (SMC), officials and beneficiary and affected people within the subproject influence zone;
- Obtaining relevant documents from subproject and local people within the subproject influence zone;
- Verifying information and data collected during the desktop study and collecting new information.

1.6.3 Data Analysis and Report Writing

The data and information collected from all the sources (secondary and primary data, public consultation) were analyzed to describe the existing environmental and social setting of the subproject area, to identify the potential positive and negative impacts of the proposed subproject, as well as to provide preliminary suggestions for mitigation measures. Finally, this environmental and social screening report has been prepared.

2 PROJECT LOCATION AND DESCRIPTION

2.1 Project location

Gaibandha District is located in the Rangpur Division of Bangladesh, covering an area of approximately 2,176.6 sq km, situated between 25°02' and 25°35' north latitudes and 89°20' and 89°55' east longitudes. It is bounded by Kurigram District to the north, Joypurhat and Bogura districts to the south, Joypurhat and Sirajganj districts to the east, and Kurigram and Nilphamari districts to the west.

The project area in Gaibandha District covers one upazila, namely Gaibandha Sadar. The indicative district map showing subproject locations and upazila maps of the proposed flood shelters in Gaibandha District are illustrated in Figure 2.1 and Figure 2.2, respectively.

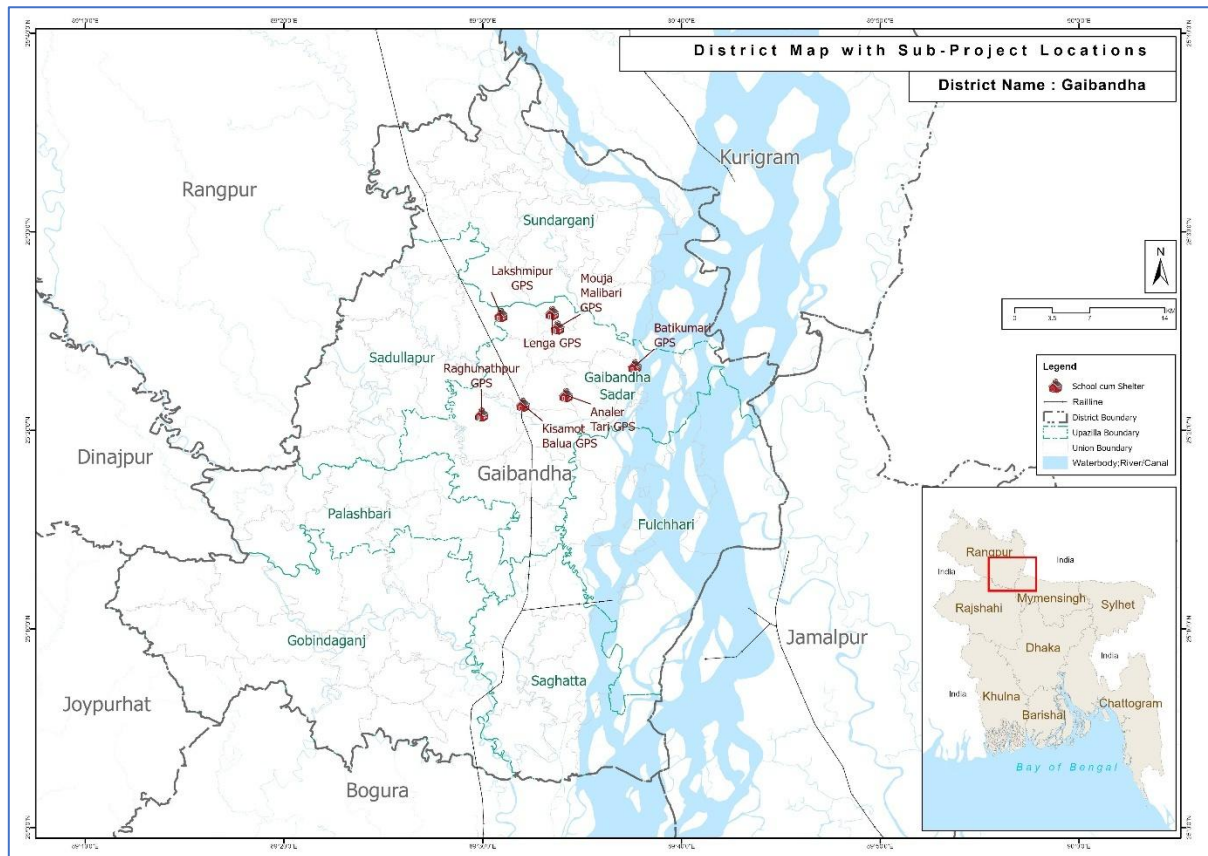
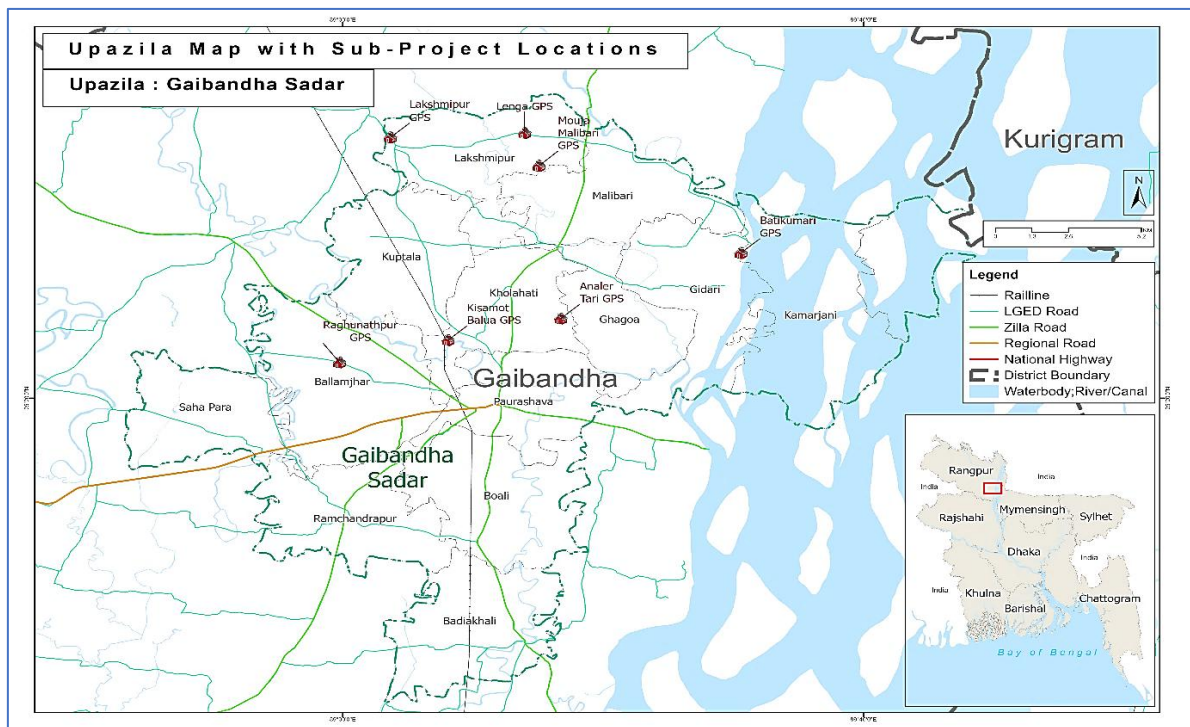


Figure 2.1: Indicative District map with sub-project locations in Gaibandha District

In total seven (07) schools under the above mentioned upazila of Gaibandha district have been identified for the construction of multipurpose flood shelters which have minimum environmental and social impacts through environmental and social.



Gaibandha Sadar Upazila

Figure 2.2: Indicative upazila map of the proposed flood shelters in Gaibandha District

Gaibandha Sadar Upazila

Total 07 flood shelters are proposed across four (04) unions of Gaibandha Sadar Upazila. The distribution is as Lakshmipur -3 sites, Kholahati -2 sites, Kamarjani-1 site and Bollomjhar – 1 site. These shelters will serve dual purposes: providing emergency refuge during flood events and functioning as community or educational facilities during normal periods.

Scope of work includes:

- Demolition of old and unsafe structures on the selected sites.
- Site preparation, including leveling and filling of low-lying areas.
- Construction of a multi-storied reinforced concrete shelter building.
- Provision of safe drinking water, sanitation facilities, solar power backup, and emergency access routes.
- Landscaping and planting of flood-resistant vegetation after construction.

The list of the proposed flood shelters (schools) and their relevant attributes are provided in **Table 2.1**.

Table 2.1: Proposed flood shelters (schools) and their relevant attributes in Gaibandha District

Sl. No.	Unique Database ID	Upazila	Union	Education ID	Name of Disaster Shelter
1	GAI-035	Gaibandha Sadar	Kamarjani	91108010203	Batikamari GPS
2	GAI-036		Lakshmipur	99708019004	Mouja Malibari GPS
3	GAI-037			91108011203	Lakshmipur GPS
4	GAI-038		Bollomjhar	91108011302	Raghunathpur GPS
5	GAI-039		Lakshmipur	91108011205	Lenga GPS
6	GAI-040		Kholahati	91108011107	Analer Tari GPS
7	GAI-041			91108011103	Kisamot Balua GPS

2.2 Envisaged Subproject Activities and Implementation Process

Two design options have been finalized for the proposed Flood Shelter as Option-01 and Option-02. Option-01 is a four-storied building with a square shape and Option-02 also a four-storied building with a rectangular shape. Facilities considered in the proposed shelters are described in the following table:

Table 2.2: Facilities considered in the proposed shelters

Facilities	Option-1	Option-2
Total Floor Area	1275.30 sq.m	1167.30 sq.m
Sleeping Capacity	650 persons	650 persons
Class room	6 nos.	6 nos.

Facilities	Option-1	Option-2
Total no of students in a shift	324 students	324 students
Head Master's room	1	1
Teacher's room	1	1
Laboratory	1	1
Library	1	1
Electricity	Completely	Completely
Latest Solar panels	3 Kw	3 Kw
Rain water Harvesting system	1	1
Separate toilets for male and female	2 toilet blocks per floor	2 toilet blocks per floor
Toilet for Disable people	2 nos. on the second floor	2 nos. on the second floor
Disable ramp	Ground floor and first floor	Ground floor and first floor
Pregnant women/care room with Separate toilet	1	1
Kitchen	1	1
Provision of store rooms	4 for different floors + one store for kitchen	4 for different floors + one store for kitchen
Provision of access road	Paved connecting road	Paved connecting road
Water supply	Tubewells, submersible pumps and rainwater harvesting systems	Tubewells, submersible pumps and rainwater harvesting systems
Fire Protection	Extinguisher	Extinguisher
Landscaping with Turfing & Tree plantation	Around the sub-project site	Around the sub-project site
First-aid boxes	1 for during construction and 1 for the school	1 for during construction and 1 for the school



Figure 2.3: Perspective View of Proposed Flood Shelter Option-01



Figure 2.4: Perspective View of Proposed Flood Shelter Option-02

2.3 Environmental / Social Category of the project

The overall anticipated adverse impact due to the subproject intervention is limited and site specific. Considering the environmental impact for construction of flood shelters construction and rehabilitation of connecting roads which is anticipated as insignificant; hence the overall project risk is categorized as **Moderate**, under the World Bank ESF. However, since none of the project components are listed under Schedule-1 of the Environmental Conservation Rules, 2023, the Department of Environment (DoE) has formally exempted the project from the requirement of obtaining an Environmental Clearance Certificate (ECC).

In compliance with the World Bank's Environmental and Social Framework (ESF), the project adheres to the ten Environmental and Social Standards (ESSs), which guide the identification and management of environmental and social risks. Should it be noted that this specific works package does not trigger ESS7 (Indigenous People) and ESS9 (Financial Intermediary) of ESF.

3 BASELINE ANALYSIS OF THE ENVIRONMENTAL AND SOCIOECONOMIC CONDITION

3.1 Physical Environment

3.1.1 Geology, Topography, and Soils

Geology

Gaibandha District, located in the northern part of Bangladesh under the Rangpur Division, forms part of the extensive alluvial plains of the Brahmaputra and Jamuna river systems. The district's geological formation is predominantly composed of recent alluvial deposits resulting from riverine sedimentation processes. These sediments—mainly fine silt, clay, and sand—have been deposited over time by the dynamic flows of the Brahmaputra, Jamuna, and their tributaries, creating a fertile yet geomorphologically active landscape. Gaibandha falls within the Ganges-Brahmaputra Floodplain physiographic unit, characterized by low-lying floodplains interspersed with natural levees, oxbow lakes, and abandoned channels (BGS & DPHE, 2001).

Topography

The topography of Gaibandha District is generally flat to gently undulating, with elevations ranging from 5 to 15 meters above mean sea level. The region is crisscrossed by numerous rivers, khals, and canals, including the Brahmaputra, Jamuna, Ghaghot, and Garai rivers, which play a dominant role in shaping local landforms. Seasonal flooding is common and significantly influences agriculture, settlement patterns, and infrastructure development. While the flat terrain is favorable for constructing flood-resilient shelters, it also poses challenges in drainage and water management during the monsoon season.

Soil Conditions

The soils in Gaibandha are primarily non-calcareous grey floodplain soils, calcareous alluvial soils, and clay loams, noted for their high fertility. Surface soils are rich in organic matter, supporting intensive agriculture dominated by paddy, jute, and other crops. Certain areas, particularly along the riverbanks, are prone to erosion, sediment deposition, and seasonal waterlogging. The physical properties of the soil—including good moisture-holding capacity and moderate permeability—make it generally suitable for construction, provided proper compaction and drainage measures are applied. Geotechnical investigations indicate that the subsoil typically consists of a top layer of silt or silty clay underlain by medium-dense sand, offering a generally stable foundation for small- to medium-scale structures such as flood shelters (SRDI, 2018).

According to the Seismic Zoning Map of BNBC 2015, Gaibandha District falls under Seismic Zone III, with a Seismic Coefficient value of 0.28g, indicating a low seismic risk. Refer to **Figure 3.1** for the earthquake zone map highlighting Gaibandha District.

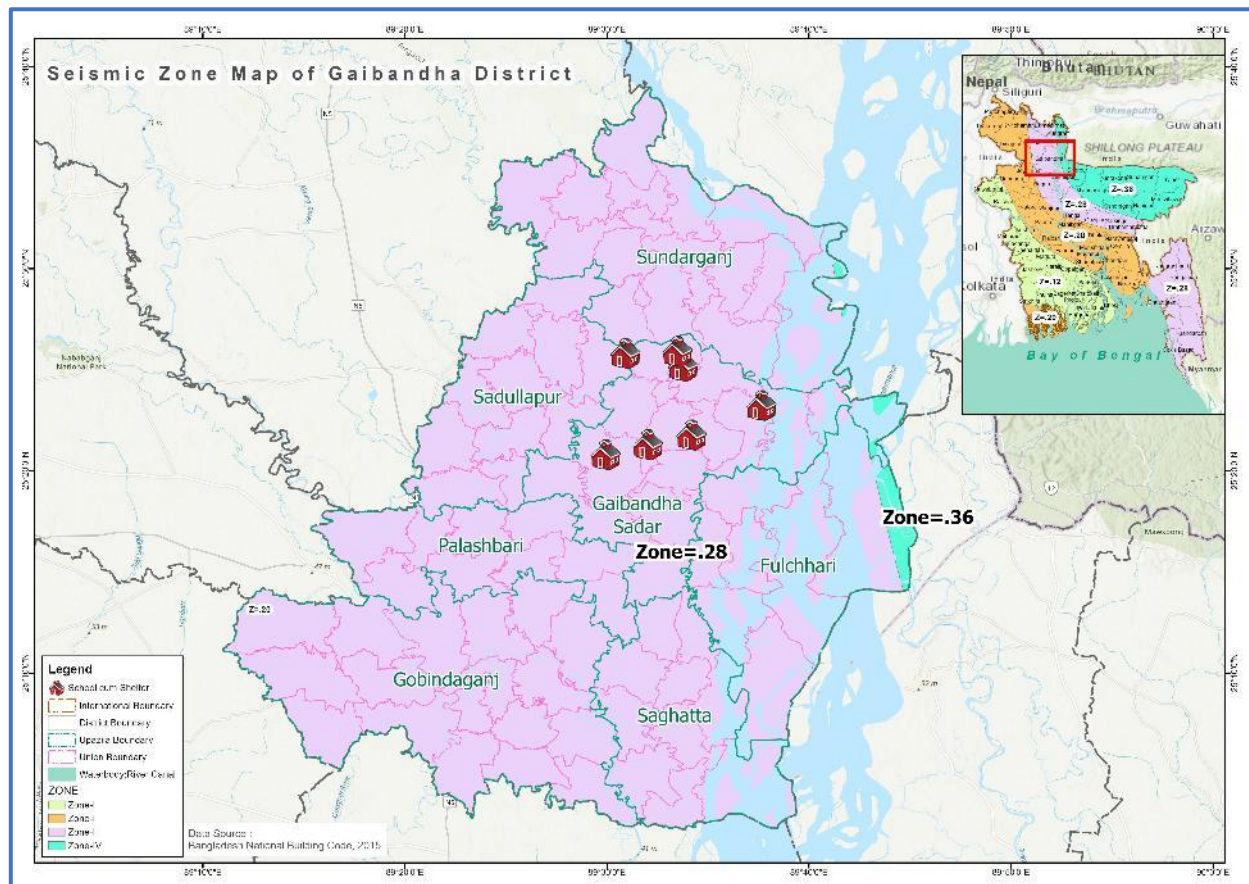


Figure 3.1: Gaibandha district in Earthquake Zone Map of Bangladesh (*Data Source: BNBC, 2015)

3.1.2 Climate and Meteorology

Gaibandha District, located in the northern floodplain region of Bangladesh within the Rangpur Division, experiences a tropical monsoon climate with distinct seasonal variations in temperature, rainfall, and humidity. The district's climate is predominantly influenced by the southwest monsoon, which brings heavy rainfall during the wet season, typically from June to October, while the dry season extends from November to April.

The average annual temperature ranges between 18°C and 33°C, with the warmest months from April to June, when maximum temperatures often exceed 35°C. The coolest period occurs between December and January, with minimum temperatures dropping to around 11°C–15°C. The average annual rainfall in Gaibandha is approximately 1,700–1,900 mm, with nearly 80% of the total rainfall occurring during the monsoon period (BMD, 2023).

Humidity remains high throughout the year, generally ranging between 70% and 90%, particularly during the monsoon season. The district occasionally experiences pre-monsoon nor'westers (Kalbaishakhi), which are short but intense storms accompanied by strong winds, lightning, and localized heavy rainfall. Although Gaibandha is located inland and is not directly exposed to cyclones, it frequently experiences secondary effects, including heavy rainfall, riverine flooding, waterlogging, and localized drainage congestion during extreme weather events. These climatic conditions are critical considerations in siting, designing, and constructing

flood-resilient shelters and related infrastructure. Refer to Figure 3.2 for the trend of annual average temperatures of Gaibandha dostrict.

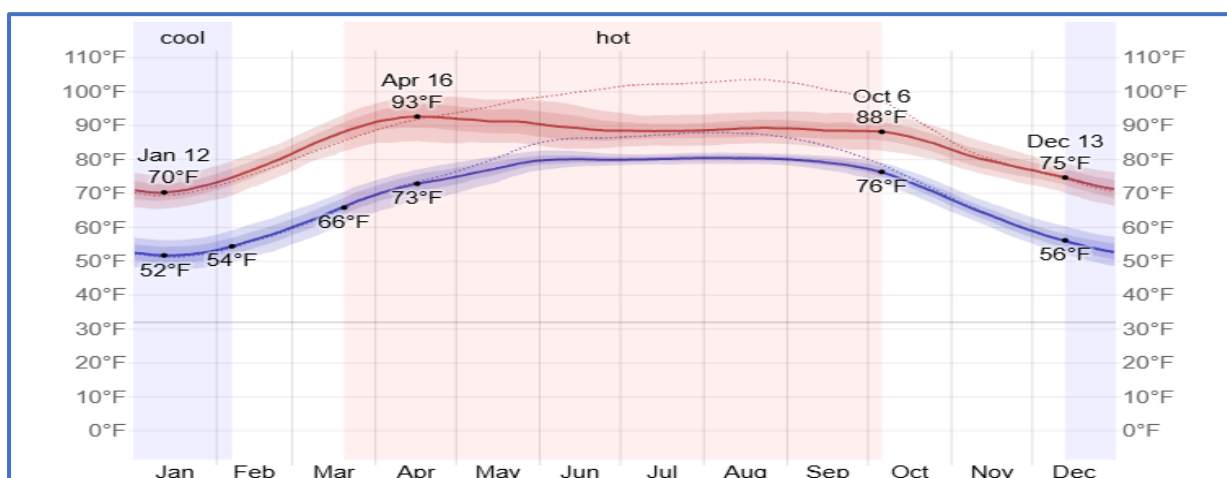


Figure 3.2: Trend of annual average temperature for Gaibandha District (Data Source: <https://weatherspark.com/y/111713/Average-Weather-in-Gaibandha-Bangladesh-Year-Round#Figures-Temperature>)

3.1.3 Hydrology (Surface water, Ground water and Rain water)

Gaibandha District lies within the Teesta and Brahmaputra (Jamuna) floodplain and features an intricate hydrological network dominated by the Jamuna River, Teesta River, and numerous distributaries, wetlands (beels), and flood channels. The Jamuna River forms the western boundary of the district, while the Teesta and Ghaghot rivers traverse its interior, strongly influencing the surface water regime, sediment deposition, and flood dynamics. Seasonal canals and small ponds also play vital roles in supporting domestic use, irrigation, and fisheries. During the monsoon season (June–October), heavy rainfall combined with overflow from major rivers causes widespread inundation, while water levels recede significantly in the dry months, leading to reduced surface water availability for agriculture and household use (CEGIS, 2034).

Groundwater

Groundwater serves as a crucial source of drinking and irrigation water in Gaibandha. Both shallow and deep tube wells are used to extract water from unconsolidated alluvial aquifers. The static groundwater level typically varies between 3–9 meters below ground surface, depending on the season and local hydrogeological conditions. In certain upazilas, over-extraction and contamination from iron and arsenic have been reported, particularly in areas relying on shallow aquifers. Sustainable groundwater management through regular monitoring, well-depth optimization, and recharge initiatives is essential to ensure long-term water security (DPHE, 2022).

Rainfall

Gaibandha experiences a tropical monsoon climate with pronounced seasonal rainfall variation. The average annual precipitation ranges from 1,900–2,200 mm, with nearly 80% occurring between May and September. Intense rainfall, coupled with the district's low-lying floodplain

topography and proximity to major rivers, results in frequent flooding, riverbank erosion, and waterlogging during peak monsoon periods. Implementation of effective surface drainage infrastructure, floodplain zoning, and rainwater harvesting can enhance local water management and resilience to hydrological hazards (BMD, 2023). Refer to **Figure 3.3** for the average monthly rainfall of the Rangpur Division, which includes Gaibandha District.

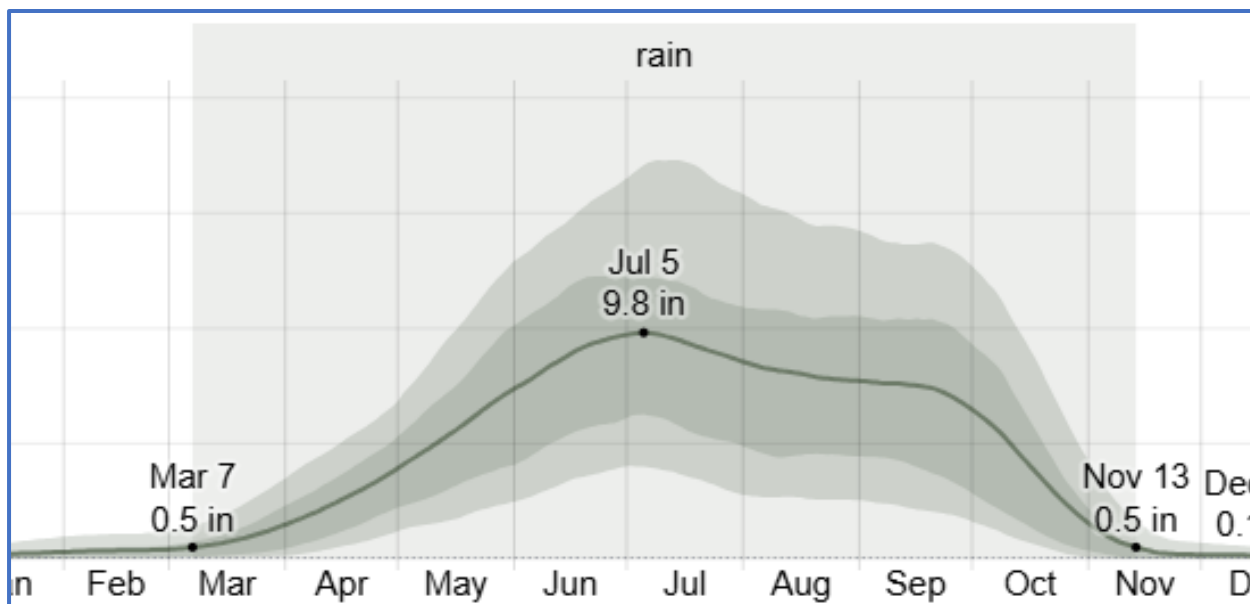


Figure 3.3: Average monthly rainfall of Gaibandha District (Data source: <https://weatherspark.com/y/111713/Average-Weather-in-Gaibandha-Bangladesh-Year-Round#Figures-Rainfall>)

3.1.4 Flooding, Water Logging and Drainage

Gaibandha District is located within the Teesta and Jamuna (Brahmaputra) floodplain, making it highly susceptible to recurrent flooding and seasonal waterlogging. The district is bounded by the Jamuna River on the west and traversed by major rivers such as the Teesta, Ghaghot, and Katakhal, along with numerous distributaries, khals (canals), and wetlands (beels) that play vital roles in local drainage and water retention. These water bodies, while crucial for agriculture and fisheries, also contribute to widespread inundation during the monsoon season (BWDB, 2022).

Flooding in Gaibandha generally occurs between June and September, primarily due to intense monsoonal rainfall, upstream flow from the Teesta and Jamuna rivers, and local drainage congestion. Seasonal flooding is a regular event; however, in extreme years, prolonged or high-magnitude floods cause severe damage to croplands, homesteads, roads, and embankments. Fulchhari, Saghata, Sundarganj, and Sadar upazilas are particularly flood-prone because of their low elevation and close proximity to major rivers. Riverbank erosion, especially along the Jamuna and Teesta rivers, further exacerbates flood risks by destroying settlements and agricultural land and by altering drainage and sedimentation patterns.

Waterlogging is another persistent issue, especially in low-lying and poorly drained areas of Gobindaganj, Saghata, and Sadar upazilas. Reduced drainage capacity due to siltation of khals

and beels, unplanned road construction without adequate culverts, and encroachment on natural waterways have intensified the problem in recent years. During heavy monsoon rainfall, stagnant water often persists for weeks, hampering agricultural activities, sanitation, and livelihoods.

The district's natural drainage pattern follows a gentle slope toward the Jamuna River, but the accumulation of sediments in natural channels has significantly diminished their flow capacity. To reduce flood and waterlogging risks, the rehabilitation and maintenance of natural drainage systems, alongside the development of climate-resilient flood control and drainage infrastructure, are essential for strengthening Gaibandha's overall resilience to hydrological hazards. According to national flood zoning (**Figure 3.4**), Gaibandha lies predominantly within the **Low to Severe** River flooding zone of Bangladesh.

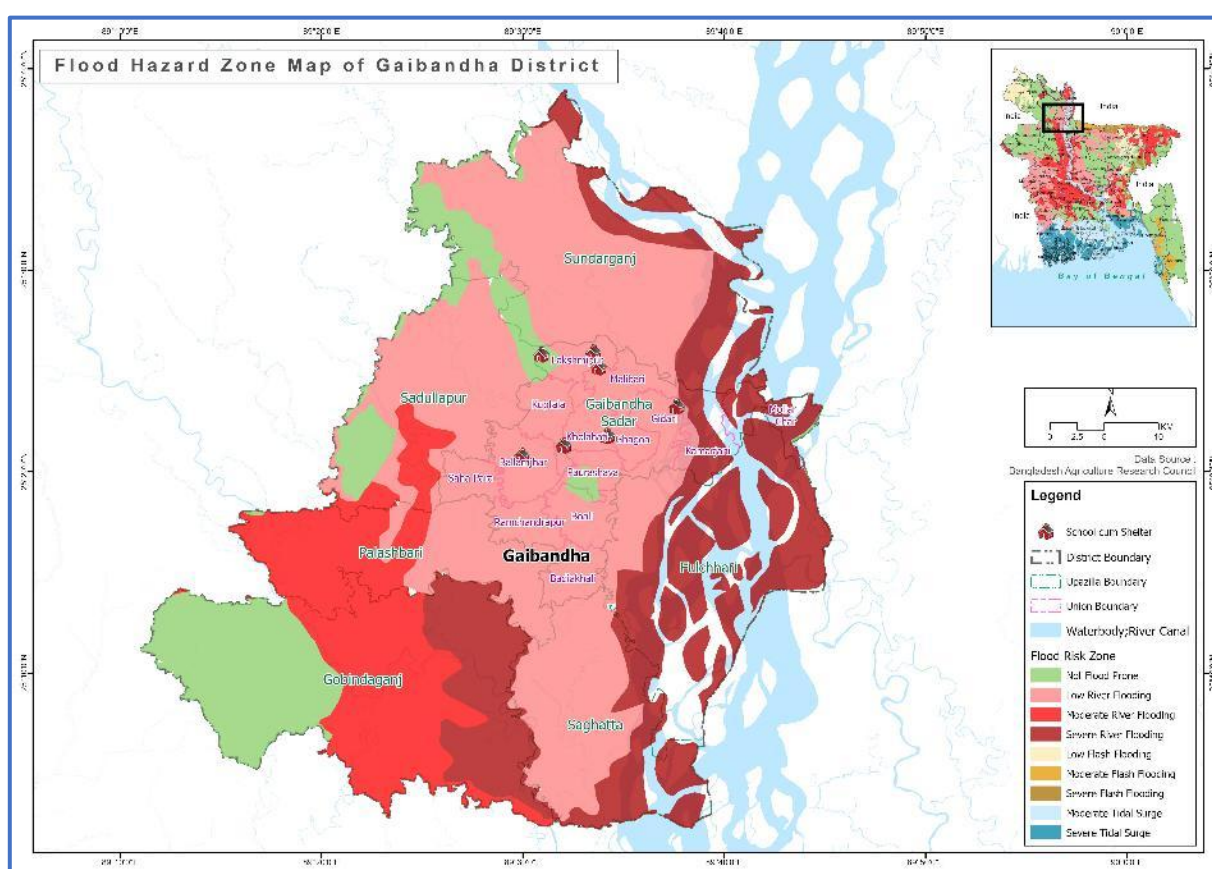


Figure 3.4: Gaibandha District in Flood Zone Map of Bangladesh

The district's location along the Brahmaputra and its tributaries exposes it to both riverine floods and flash floods, which are projected to become more severe under future climate scenarios. Rising temperatures and changing precipitation patterns also increase the risk of waterlogging, soil erosion, and agricultural losses, exacerbating the vulnerability of local communities. These projections underscore the importance of strategically locating and designing flood-resilient shelters with elevated plinths, proper drainage, and climate-adaptive features to protect lives, livelihoods, and public infrastructure in Gaibandha (Data Source: Climate Change Knowledge Portal, WBG).

3.1.5 Air Quality and Dust

Gaibandha District generally experiences moderate air quality throughout most of the year, with pollution levels influenced by seasonal climatic conditions, vehicular emissions, unpaved roads, and agricultural activities. As a predominantly rural district with a few semi-urban centers, the ambient air quality of Gaibandha is relatively better than that of major urban or industrial hubs such as Bogura or Rangpur. However, during the dry season (November–April), emissions from brick kilns, road dust, and construction activities often lead to localized increases in particulate matter (PM₁₀ and PM_{2.5}).

In Gaibandha, the major sources of air pollution include:

- Brick kilns operating seasonally around Gaibandha Sadar, Gobindaganj, and Palashbari upazilas.
- Vehicular emissions from regional highways such as the Rangpur–Gaibandha–Bogura corridor.
- Dust generated from unpaved rural and semi-urban road networks and construction sites.
- Agricultural residue burning and land preparation during dry months.

During the monsoon season (May–October), air quality typically improves due to frequent rainfall that suppresses airborne dust and particulates. Overall, Gaibandha’s ambient air quality remains within acceptable limits for most of the year, though temporary dust generation during infrastructure works (e.g., flood shelter and road construction under the RIVER Project) may cause short-term deterioration if unmanaged.

To maintain safe air quality during project implementation, the Environmental and Social Management Plan (ESMP) recommends measures such as regular water sprinkling, covering of construction materials during transport, and use of dust suppressants at active sites.

3.1.5 Noise Level

The overall noise environment in Gaibandha District is generally low to moderate, reflecting its rural and semi-urban characteristics. Most parts of the district consist of agricultural lands, small markets, and dispersed settlements with limited continuous noise sources. However, higher noise levels are occasionally recorded near urban centers (e.g., Gaibandha Sadar), bustling markets, and transport corridors, where vehicular traffic and construction activities contribute to localized noise pollution.

According to the Department of Environment (DoE, 2022), typical ambient noise levels in district towns of northern Bangladesh range between 45–60 dB(A) in residential areas during daytime and 35–50 dB(A) at night, aligning closely with the Noise Pollution (Control) Rules, 2006. In commercial and roadside areas, daytime noise may reach 65–75 dB(A) due to increased vehicle movement and human activity. In Gaibandha, similar levels are expected along Gaibandha–Sundarganj Road, Gobindaganj–Palashbari Road, and Gaibandha–Fulchhari routes, where local transport and market activities are concentrated.

Overall, the district's noise levels remain within national standards, except for temporary exceedances in congested or construction zones. Regular monitoring, along with scheduling noisy construction operations during daytime hours, is recommended to minimize disturbance to nearby residents.

3.1.6 Solid Waste Management

Solid waste management in Gaibandha District is at a developing stage, with partial municipal service coverage and limited rural waste infrastructure. The Gaibandha Municipality operate household and commercial waste collection systems, but coverage remains incomplete, and disposal practices are largely unsystematic.

Most solid waste in Gaibandha consists of organic matter (around 65–70%), followed by plastic, paper, and other non-biodegradable materials. In urban areas, waste is collected through door-to-door services using handcarts and small trucks, but collected waste is typically dumped in open sites without segregation or treatment. The absence of controlled landfill sites or composting facilities results in odor, vector infestation, and leachate contamination of nearby soil and water bodies.

In rural areas, waste management is mainly informal, involving open dumping, open burning, or backyard composting. Healthcare waste is often mixed with municipal waste due to the lack of dedicated treatment systems. Although some initiatives by Gaibandha Pourashava and local NGOs have introduced waste segregation awareness and small-scale composting, the overall system remains inadequate to address the growing volume of solid waste caused by population growth and urbanization.

To improve waste management, the following measures are essential:

- Segregation of waste at source (organic, recyclable, hazardous).
- Community-based composting and plastic recycling programs.
- Establishment of controlled landfill sites or sanitary disposal facilities.
- Integration with the National 3R (Reduce, Reuse, Recycle) Strategy and compliance with the Local Government (Municipality) Act, 2009 for sustainable urban waste governance.

3.2 Biotic Environment – Floral and Faunal Existence

Gaibandha District is part of the northern floodplain ecosystem shaped by the Jamuna and Teesta rivers, featuring fertile soils and a diversity of habitats including agricultural lands, homestead forests, wetlands (beels), and riverine sandbars (chars). The biotic environment supports a wide range of flora and fauna typical of floodplain and riparian ecosystems.

Flora:

The district's vegetation primarily includes floodplain and homestead species such as Shegun, Koroi, Akashmoni, Mango, Jackfruit, Neem, Bamboo, and Coconut etc. Agricultural lands are dominated by paddy, jute, maize, pulses, and vegetables, while aquatic vegetation such as Water Hyacinth, Water Lily, and Hydrilla are common in wetlands and floodplains.

Fauna:

The fauna of Gaibandha reflects the biodiversity typical of lowland floodplain areas. Common terrestrial species include Jackal, Mongoose, House Rat, Flying Fox, and various reptiles such as snakes and lizards. The district hosts abundant birdlife, especially around wetlands and charlands, including Pond Heron, Little Egret, Cormorant, White-throated Kingfisher, and migratory birds such as Teal, Pintail, and Garganey during winter. The aquatic fauna includes a wide range of indigenous fish species such as Rohu, Catla, Mrigel, Magur, Tengra, and small indigenous fishes. Amphibians like the Indian Bullfrog and Common Toad are widespread in agricultural and waterlogged areas.

Although Gaibandha does not contain any officially declared Ecologically Critical Areas (ECA) or wildlife sanctuaries, its riverine, floodplain, and wetland habitats are ecologically significant for maintaining aquatic biodiversity, supporting local livelihoods, and serving as breeding grounds for fish and migratory birds. However, increasing sand extraction, agricultural expansion, unplanned settlements, and pollution are causing habitat degradation and biodiversity decline.

To safeguard the district's ecological balance, it is essential to promote:

- Sustainable land and water resource management,
- Community-based conservation initiatives, and
- Compliance with World Bank Environmental and Social Standard 6 (Biodiversity Conservation and Sustainable Management of Living Natural Resources).

3.2.1 Ecological Sensitivity and Protected Areas

Although Gaibandha District does not contain any officially declared Ecologically Critical Areas (ECA), wildlife sanctuaries, or protected forests, it features several ecologically sensitive habitats that support rich biodiversity and ecosystem functions. The district's landscape comprises extensive riverine floodplains, wetlands (beels), and charlands, which provide critical habitats for fish spawning, migratory birds, and other wildlife.

The most notable ecologically sensitive zones within the district include:

Jamuna River Charlands (Fulchhari and Saghata Upazilas): These dynamic sandbar and floodplain ecosystems support a mosaic of habitats that are vital for aquatic species, migratory birds, and small mammals. The chars also play a crucial role in nutrient cycling and floodwater retention.

- Teesta Floodplain Wetlands: The Teesta River corridor hosts numerous beels and seasonal wetlands such as Kumuria Beel and Bharatia Beel, which serve as important feeding and breeding grounds for aquatic fauna.
- Ghaghot and Katakhal River Networks: These secondary rivers and their adjoining floodplains sustain aquatic vegetation, fish nurseries, and amphibian populations while facilitating local irrigation and drainage.

During the monsoon season, extensive inundation enhances wetland connectivity, creating large aquatic habitats that attract migratory waterfowl from Central and South Asia. Conversely, in the dry season, water scarcity and human encroachment on floodplains—through agriculture, sand extraction, and settlement expansion—pose increasing threats to local biodiversity.

Although no protected area exists within the administrative boundary of Gaibandha, the district lies within the broader Jamuna–Brahmaputra riverine ecosystem, which is considered a key biodiversity corridor under the Bangladesh National Biodiversity Strategy and Action Plan (NBSAP). Conservation of these natural habitats through community-based wetland management, sustainable fishing practices, and regulation of sand and silt extraction is vital for maintaining ecological balance and supporting local livelihoods.

3.3 Socio-economic and Socio-cultural Environment

3.3.1 Land Use, Status of Housing and Built-up Infrastructure

Gaibandha District's land use is predominantly agricultural, shaped by its position within the active floodplains of the Brahmaputra–Jamuna, Teesta, and Ghagot river systems. The district is characterized by extensive low-lying floodplains, interspersed with char lands (riverine islands) that emerge and disappear with shifting river courses. Major crops include Aman, Boro, and Aus rice, as well as jute, maize, pulses, oilseeds, and vegetables, benefiting from fertile alluvial soils and seasonal sediment deposition. Agricultural productivity, however, is constrained by recurrent flooding, riverbank erosion, and sand deposition, especially in Fulchhari, Saghata, and Sundarganj upazilas.

Built-up areas are mainly concentrated around Gaibandha Sadar and upazila growth centers such as Palashbari and Gobindaganj, where semi-urban expansion and small-scale commercial activities are increasing. Rural settlements are typically clustered homesteads raised on earthen mounds (locally called “vita”), constructed with semi-permanent materials such as corrugated iron sheets, bamboo, and mud plaster. In contrast, the urban and municipal areas feature brick-built residential and commercial structures, though drainage and sanitation systems remain underdeveloped.

Infrastructure improvement has advanced under various LGED rural road and bridge development programs, yet erosion and seasonal inundation continue to damage roads, culverts, and embankments, causing frequent service interruptions. Many rural growth centers and market areas suffer from poor drainage, solid waste mismanagement, and waterlogging during the monsoon. The expansion of built-up areas into flood-prone zones and the encroachment on riverbanks exacerbate exposure to disaster risks.

3.3.2 Beneficiary Population

According to the Population and Housing Census 2022, Gaibandha District has a total population of approximately 2,526,000 living in about 634,000 households, with an average household size of 3.98 persons. Children under 10 years constitute about 18 % of the population, while the elderly (65 years and above) represent around 4.7 %, both considered vulnerable groups in terms of health, mobility, and disaster resilience.

The district is overwhelmingly rural, with only about 10 %–12 % of the population living in urban areas—mainly Gaibandha Municipality and small pourashavas—whereas the majority reside in villages that face seasonal flooding, erosion, and poor access to services. Poverty levels are above the national average, particularly in erosion-prone Fulchhari and Saghata upazilas, where loss of land and livelihood forces repeated displacement to temporary char settlements.

Reliable district-level data on persons with disabilities or socially excluded groups are limited; however, local government records and NGO reports indicate that a considerable number of households with elderly or disabled members receive inadequate social protection coverage. Women-headed households and landless day laborers are particularly vulnerable to seasonal unemployment and food insecurity during floods.

Accordingly, the beneficiary population for proposed flood-resilient shelters in Gaibandha will include:

- Children under 10 years,
- Elderly persons (65 years +),
- Persons with disabilities, and
- Low-income, landless, and erosion-affected households, particularly those residing in char and low-lying floodplain areas.
- Ensuring equitable access to shelter facilities, early warning information, and emergency services for these groups will be essential for inclusive and resilient disaster preparedness.

3.3.3 Tribal Communities

The Bangladesh Population and Housing Census 2022 records a very small ethnic minority population in Gaibandha District—about 1,700 individuals, representing less than 0.1 % of the total population. These include scattered households of Santal and Oraon communities, mainly located in parts of Gobindaganj and Palashbari upazilas. They are primarily engaged in agricultural labor, day work, and small-scale farming, often integrated into the broader rural economy.

Field visits and secondary sources indicate no significant concentration of Indigenous Peoples' settlements within the anticipated project influence zones or proposed shelter locations. Therefore, no Indigenous Peoples-specific impacts are expected from shelter construction activities.

Nonetheless, in line with the World Bank's Environmental and Social Standard 7 (ESS7), the project will maintain an inclusive, non-discriminatory approach to stakeholder engagement. All vulnerable groups—irrespective of ethnic identity—will be consulted meaningfully and ensured equitable access to project benefits. Should any ethnic community be identified near a subproject site during screening, additional culturally appropriate consultations will be undertaken to respect their social and cultural heritage and ensure full compliance with ESS7.

3.3.4 Land Acquisition

Preliminary site identification for proposed flood shelter subprojects in Gaibandha District suggests that most candidate sites can be located within existing public institution premises, such as government primary schools, secondary schools, or union parishad compounds. These lands are under public ownership, which would avoid the need for private land acquisition and associated resettlement.

However, Gaibandha's land administration context is complicated by frequent river course changes, erosion, and emergence of new chars, leading to disputes over land titles and informal

occupation. In certain locations, government land (e.g., khas land or embankment areas) may be encroached by temporary settlers or used for cultivation. Therefore, even when shelters are planned on “public land,” field verification and documentation of land ownership and use status are essential.

Consistent with World Bank ESS5 (Land Acquisition, Restrictions on Land Use and Involuntary Resettlement), the project will:

- Avoid acquisition of private land wherever possible;
- Ensure that proposed site boundaries exclude private assets, agricultural use, or informal dwellings;
- Conduct participatory consultations with school authorities, local government, and community representatives to verify land status; and
- Document any voluntary land donation transparently with evidence of informed consent and independent verification.

This approach will ensure that land access for shelter construction is both legally sound and socially acceptable, minimizing the risk of disputes or unintended adverse impacts.

3.3.5 Land Readiness Status in Gaibandha Sadar upazila under Gaibandha District

Of the seven (07) assessed schools, all sites were found to be compliant with the legal and policy frameworks as well as land selection criteria of the project, demonstrating sufficient land availability, clear ownership records, and no risk of involuntary resettlement or displacement. In total 05 schools require demolition of existing old building with 02 shelter requires wash blocks (DPHE) demolition to make space for the construction while 03 schools from them needed temporary school shed and 01 schools are fully prepared for immediate construction without the need for demolition or major preparatory work. For all schools where issues were raised about saving playground are addressed through proper consultation with SMC and local community and verifying design alignment in the field.

By ensuring the implementation of Environmental and Social Standards (ESS) and responsible land management options, the RIVER project will significantly contribute to enhancing disaster resilience and sustainable development in the flood-prone areas of Gaibandha district.

3.3.6 Principal Livelihoods and Economic Activities

Gaibandha District’s economy is primarily agrarian, with livelihoods closely tied to the floodplain environment of the Brahmaputra–Jamuna, Teesta, and Ghagot river systems. The district’s fertile alluvial soils and seasonal flooding patterns support the cultivation of paddy, jute, wheat, maize, pulses, oilseeds, and vegetables, making agriculture the backbone of local employment and income generation. According to the Bangladesh Bureau of Statistics (BBS, 2022), approximately 70 – 75 % of the active labor force is engaged directly or indirectly in farming and related activities, while the remainder depend on non-farm sectors such as petty trade, transport services, and wage labor.

Livestock and fisheries also play crucial roles in household livelihoods. Small-scale cattle and goat rearing, poultry farms, and seasonal duck raising are widespread, particularly in the lowland and

char (riverine island) areas. Gaibandha is known for its cattle fattening and milk production, supported by cooperative dairy collection points and small local milk processing centers. Capture and culture fisheries in beels, floodplains, and ponds contribute significantly to both food security and local income, with the Department of Fisheries (DoF) reporting steady growth in fish production over recent years.

Agricultural diversification and value chain initiatives are expanding under projects supported by the Department of Agricultural Extension (DAE), NGOs, and development partners, promoting high-yield rice varieties, maize, vegetables, and mustard cultivation in both mainland and char areas. Seasonal migration for wage labor—to Dhaka, Bogura, and Rangpur—is also common during the lean agricultural season, reflecting the vulnerability and adaptive mobility of poorer households.

Small-scale rural enterprises and cottage industries include weaving, bamboo and cane crafts, pottery, and food processing (e.g., molasses, puffed rice, and dairy products), though most remain informal and under-capitalized. Local markets (haats and bazaars) play a vital role in rural trade, while growing road connectivity under LGED programs has improved market access and transport for perishable goods.

3.3.7 Cultural Heritage and Protected Areas

Gaibandha District holds a rich blend of riverine cultural traditions, folk music, and religious diversity, reflecting its long history within the northern floodplain belt. Folk practices such as Baul songs, boat races, and traditional fairs (*melas*) are integral to community identity. The district also contains historic religious sites, including old mosques, temples, and mazars scattered across Gaibandha Sadar, Sundarganj, and Gobindaganj upazilas.

However, no nationally protected archaeological sites or monuments under the Department of Archaeology have been identified within the vicinities of the proposed flood shelter sites. Similarly, there are no Ecologically Critical Areas (ECAs) officially designated within the project influence zones, though several wetlands (*beels* and *haors*) serve as important local ecological habitats.

Field screening and community consultations undertaken by LGED and local authorities have not identified any tangible cultural heritage features—such as temples, ancient ruins, or graveyards—within the premises of the selected school or community compound sites. Nevertheless, to comply with World Bank Environmental and Social Standard 8 (ESS8), the project will apply Chance Find Procedures to ensure that if any archaeological, historical, or cultural resources are discovered during construction, work will be halted, relevant authorities notified, and appropriate protection measures taken.

Furthermore, the project will respect intangible cultural heritage by engaging communities to recognize and preserve local traditions, festivals, and social customs that form part of Gaibandha's cultural identity.

3.3.8 Social Conflicts and Development Activities

The social environment in Gaibandha District is generally stable and cooperative, with strong community networks, local leadership structures, and a long tradition of collaboration during

floods and other natural disasters. The district has benefited from numerous government and NGO-led development programs, including those implemented by govt. and non govt., NGO, focused on rural infrastructure, WASH, disaster resilience, education, and women's empowerment.

Community acceptance of disaster resilience interventions, such as flood shelter construction and school improvement, is typically high because they address recurring local needs for safety, education, and multipurpose community facilities. The site selection process for the proposed flood shelters has been participatory, involving School Management Committees (SMCs), local government representatives, and community consultations, ensuring strong ownership and minimizing potential disputes.

No significant social conflict or opposition has been observed or is anticipated in the project areas. Minor grievances that may arise (e.g., over site access, resource use, or construction disturbance) will be managed through a transparent and accessible Grievance Redress Mechanism (GRM), consistent with project social management procedures. Continuous stakeholder engagement and information disclosure will help sustain trust, transparency, and local support throughout the project lifecycle.

4 ENVIRONMENTAL AND SOCIAL ASSESSMENT

An Environmental and Social Assessment was conducted for the proposed flood shelter subprojects under the "Resilient Infrastructure for Adaption and Vulnerability Reduction (RIVER)" Project in Gaibandha district. The assessment was carried out in accordance with the World Bank's prescribed Assessment Checklist (**Annexure-2: Assessment Checklist of Environmental and Social Safeguards**) as outlined in the Environmental and Social Management Framework (ESMF) of the project. The assessment data and information for the proposed subprojects of Gaibandha district have been formulated and are shown in **Annexure-1**.

The safeguard assessment activities took place during November 18-20, 2025, covering all proposed sites across the selected upazila within the district. The objective of the assessment was to identify potential environmental and social risks and impacts associated with the construction and operation of the flood shelters, and to propose appropriate mitigation and management measures. This report contains site-specific (individual report on each site) environmental and social assessment findings of all the sub-projects under Gaibandha District, which are included in **Annexure-1 and Table 4.1**. The assessment process involved site visits, stakeholder consultations (**Annexure-3** gives the Consultation Meeting Checklist), review of environmental baselines, and of social context including land use, vulnerable groups, and community dynamics. Based on the findings, an overall Environmental and Social Management Plan (ESMP) has been developed for the subproject, outlining specific measures to mitigate adverse impacts during pre-construction, construction, and operational phases.

The ESMP includes provisions for waste management, dust and noise control, community health and safety, labor influx management, and grievance redress mechanisms. In addition, the plan emphasizes community consultations, Grievance Redress Mechanism (GRM), and capacity building for local stakeholders. Regular environmental and social monitoring will be undertaken

throughout the subproject lifecycle to ensure compliance with World Bank Environmental and Social Standards (ESSs) and national environmental regulations.

4.1 Summary of Environmental and Social Impacts

The construction of flood shelter sub-projects in Gaibandha District involves diverse activities such as site clearing, excavation, material storage, transportation, and structural works, each of which can generate specific environmental and social impacts if not carefully managed. The environmental and social impacts anticipated from the proposed activities are generally minor to moderate in nature and largely site-specific, with no irreversible or long-term adverse effects expected.

During the site preparation phase, clearing and dismantling of existing structures may lead to vegetation loss, dust and noise emissions, soil erosion, and temporary disruption to community movement. Earthworks including cutting and filling may alter natural drainage patterns and increase the risk of sedimentation in nearby water bodies. The project's ecological footprint is significant given its proximity to agricultural fields, homesteads, wetlands, and riverbanks. Improper storage of construction materials such as sand, cement, aggregates, and fuels can also lead to pollution of soil, air, and water, while accidental spillages may contaminate nearby ponds, canals, or agricultural lands. Water resources may also be at risk due to uncontrolled runoff, improper wastewater disposal, or leakage of hazardous substances. Given the flood-prone nature of Gaibandha, construction runoff could lead to increased turbidity, sedimentation, and ecological stress in nearby rivers and wetlands.

Air quality degradation and dust generation from excavation, material handling, and movement of construction vehicles are among the most common site-level impacts, often affecting sensitive receptors such as schools, clinics, and residential areas. Noise and vibration from heavy equipment, pile driving, and demolition works can disturb community life, cause stress, and potentially damage weak structures.

In addition, the project poses occupational health and safety (OHS) risks for workers due to physical hazards, heavy machinery operation, and exposure to dust, heat, and noise. Insufficient use of personal protective equipment (PPE) or poor site management may lead to accidents and injuries. Traffic congestion and community safety concerns may arise from increased vehicular movement, particularly on narrow rural roads shared by pedestrians and non-motorized transport. Potential grievances from nearby residents may arise if construction activities are not well-managed.

Overall, while the anticipated impacts are temporary and localized, they require systematic prevention, mitigation, and monitoring to protect both the surrounding environment and the wellbeing of workers and local communities. Apart from the overall impacts presented, some of the site-specific impacts have been revealed as well. For example, Tree removal is required in GAI-035, GAI-037, GAI-038, GAI-039, GAI-040 & GAI-041 sites, demolition impact will appear at sites GAI-036, GAI-037, GAI-038, GAI-039 & GAI-041 while earth filling is required at only one site as GAI-040. All these site-specific features and impacts are tabulated hereunder **Table 4.1**.

Table 4.1: Site-Specific ES Issues and Potential Impacts

Sl. No.	Unique Database ID	Upazila	Name of Disaster Shelter	ES Features	Land Issues	Potential Impacts
1.	GAI-035	Gaibandha Sadar	Batikamari GPS	- A total of four (04) trees need to be removed. - Batikmari Eidgah is located about 10m away from the site. - Koraibari Jamee Mosque is at 300m and Koraibari Community Clinic are at 300m away on the east side. - Rural Settlements and Agricultural lands are located adjacent to the site.	- Available Land: 57 Decimals. 01 Electric pole needs to be shifted	- Loss of small to medium trees due to cutting, resulting in minor impacts on local vegetation and shade. - Temporary disturbance to nearby religious places, rural settlements, agricultural lands, and the nearby community clinic due to construction noise, dust, and movement of vehicles. - Possible disruption to local access and movement, especially during prayer times and community gatherings. - Safety risks associated with shifting of one electric pole if not properly managed. - Minor risk of social inconvenience or community dissatisfaction if construction schedules are not well communicated.
2.	GAI-036		Mouja Malibari GPS	- Bokshir Khamar Eidgah is located very adjacent to the school - Chaklir Beel and Agriculture Land are near to the school boundary.	- Available Land: 35 Decimals. - Demolition needed of existing tin shed building 01 Electric pole needs to be shifted.	- Increased dust, noise, and vibration affecting nearby school, Eidgah users, and surrounding community. - Risk of water pollution and sediment runoff into nearby agricultural land and Beel during demolition and construction works. - Potential safety risks to students, worshippers, and local residents if proper site barricading is not ensured.

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Sl. No.	Unique Database ID	Upazila	Name of Disaster Shelter	ES Features	Land Issues	Potential Impacts
						Temporary power disruption and safety hazards during shifting of the electric pole.
3.	GAI-037		Lakshmipur GPS	- One (01) tree is required to be cut down. - Dhonkuti Jame Mosque is at 85m and Dhonkuti Kali Temple is at 150m away from the sub-project site. - Solaghari Beel is adjacent to the school boundary - Lakshmipur Bazar is located approximately at 20m away. - Dhonkutir Beel also located at 150m away on the west side.	- Available Land: 63 Decimals. - Demolition needed of Tin shed building	- Minor loss of vegetation due to cutting tree. - Noise, dust, and vibration impact during demolition and construction activities, affecting nearby sensitive receptors. - Possible disturbance to religious sites particularly during prayer and festival times. - Traffic congestion and public safety risks at Bazar from movement of construction vehicles and materials. - Temporary access restriction and inconvenience to local communities, students, and bazar users. - Occupational health and safety risks for workers during demolition and construction works if not properly managed.
4.	GAI-038		Raghunathpur GPS	- A total of fourteen (14) trees of various species need to be removed. - Local Mosque, Graveyard and Agricultural Land are adjacent to the school premises. - Bollomjhar Sub-Health Centre is at 100m away from the site.	- Available Land: 50 Decimals. - Demolition needed of 2 nos. tin shed school building. 01 Electric pole needs to be shifted	- Loss of vegetation and minor habitat disturbance due to removal of trees. - Temporary increase in dust, noise, and vibration affecting nearby mosque, graveyard, agricultural land, and local community. - Social sensitivity and risk of public concern related to proximity of the graveyard during demolition and construction works.

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Sl. No.	Unique Database ID	Upazila	Name of Disaster Shelter	ES Features	Land Issues	Potential Impacts
				Bollomjhar Central Jame Mosque is at 100m and Bollomjhar Union Parishad is at 160m away on west side.	Temporary school required.	- Occupational health and safety risks for workers during demolition and construction activities. - Temporary inconvenience to nearby public institutions, including the Union Parishad, due to construction operations.
5.	GAI-039		Lenga GPS	- One (01) tree is required to be cut down. - Bama Sundori High School is at 10m and Joyer Vita Jame Mosque is at 150m away on the north side. - Lenga Bazar Mosque at 70m and Koyar Bari Beel at 200m are located on south side. - Lenga Bazar is adjacent to the school.	- Available Land: 88 Decimals. - Demolition needed of one storied building, shaheed minar and wash block - Temporary school required.	- Loss of tree causing minor impacts on local greenery and micro-habitat. - Temporary disruption of teaching–learning activities as demolition of the existing school building requires arrangement of a temporary school facility. - Temporary restriction of access to school, mosque, and bazar areas, causing short-term inconvenience to local communities.
6.	GAI-040		Analer Tari GPS	- Two (02) trees are required to be cut down. - Ditch filling needed measuring 84ft. x 32ft. x 4ft. - Dakhhin Analer Tari Eidgah at 200m, Dakhhin Analer Tari graveyard also at 200m and Ghagoa Beel at 200m are located on the west side	Available Land: 93 Decimals.	- Cutting trees may cause minor loss of local vegetation and temporary disturbance to birds and small fauna. - Ditch filling may alter local drainage patterns and increase the risk of short-term waterlogging. - Earthworks and filling activities may generate dust and noise, affecting nearby school users and surrounding community.

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Sl. No.	Unique Database ID	Upazila	Name of Disaster Shelter	ES Features	Land Issues	Potential Impacts
				from the sub-project location. Agricultural Land is adjacent to the school.		- Proximity of Eidgah and graveyard may cause temporary disturbance during construction due to noise, movement of vehicles, and construction activities, particularly during religious or social gatherings. - Increased movement of construction vehicles may pose minor safety risks to students, farmers, and local pedestrians.
7.	GAI-041		Kisamat Balua GPS	- Two (02) trees are required to be cut down. - Paramanaik Para Ahalahadi Jame Mosque is at 100m away, Moddhopara Central Jame Mosque & Graveyard are at 150m away from the site. - A local health center named Kisamat Balua Community Clinic is at 10m away from the sub-project site.	- Available Land: 104.36 Decimals. - Demolition needed of Existing old school and 2 nos. Wash blocks. - Temporary school required.	- Loss of vegetation and minor ecological impact due to cutting of trees. - Dust, noise, and vibration generation during demolition of the old school building and wash blocks, causing temporary disturbance to nearby communities. - Possible disruption to religious activities at nearby mosques and sensitivity around the graveyard due to construction noise and movement of vehicles. - Health and safety risks to patients and staff of the nearby community clinic from dust, noise, and construction traffic. - Temporary interruption of academic activities due to demolition of the existing school, requiring arrangement of a temporary school facility.

4.2 Overall Mitigation and Management Measures

To address the overall as well as site-specific risks, impacts or challenges, a set of integrated environmental and social management measures consistent with the Environmental and Social Management Plan (ESMP), Environmental and Social Codes of Practice (ESCoPs), and relevant Standard Operating Procedures (SOPs) have been planned to follow at all working sites.

During site preparation and earthworks, dust suppression through regular watering, restriction of noisy operations to daytime hours, and controlled clearing of vegetation are prioritized. Fertile topsoil is to be stripped, stored, and reused for site landscaping or greenbelt development, while excavated slopes are stabilized immediately with silt fencing or sediment traps to prevent erosion. To minimize ecological disturbance, pre-construction ecological screening will identify sensitive habitats, and native trees and shrubs will be replanted after construction. Workers will receive orientation on eco-sensitive behavior, including the prohibition of waste dumping, wildlife disturbance, and fuel spillage.

Pollution prevention and material management will be ensured through designated storage areas with impermeable flooring and roofing, proper containment for fuels and chemicals, and housekeeping measures to prevent leaks and dust emissions. Sand and aggregate stockpiles will be covered, and construction vehicles will be maintained in good condition to reduce emissions. Air quality and noise management will include use of covered trucks, regular vehicle maintenance, temporary noise barriers near schools or health centers, and scheduling of pile driving or demolition works during off-peak hours. Noise and vibration levels will be periodically monitored to remain within the permissible limits of the Department of Environment (DoE) and World Bank EHS guidelines. To protect water resources, construction runoff will be routed through sedimentation basins or silt traps before discharge, and hazardous materials will be stored away from drainage channels. Sanitation facilities for workers will be installed to prevent contamination of nearby water bodies.

Occupational Health and Safety (OHS) measures form a central part of the mitigation strategy. Contractors must implement a site-specific Health and Safety Plan, supply appropriate PPE to all workers, conduct regular safety training, maintain first-aid facilities, and ensure availability of drinking water, sanitation, and rest areas. Emergency preparedness and incident reporting systems will be maintained to promote accountability and rapid response to any workplace incidents.

Furthermore, traffic and community safety will be managed through a site-specific Traffic Management Plan (TMP), including route scheduling for heavy vehicles, use of warning signage and flagmen, enforcement of speed limits, and coordination with local authorities and community representatives.

Collectively, these measures will ensure that construction activities for flood shelter development in Gaibandha District proceed safely, reduce environmental pollution, protect ecological and community health, and promote compliance with national regulations and World

Bank safeguard standards, thereby contributing to long-term environmental resilience and community wellbeing.

5 ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN (ESMP)

5.1 Purpose of the ESMP

The purpose of the Environmental and Social Management Plan (ESMP) for the RIVER Project in Gaibandha Sadar upazila under Gaibandha District is to ensure that the flood shelter construction activities are planned, implemented, and monitored in full compliance with the Environmental and Social Framework (ESF) of the World Bank and the relevant environmental and social regulations of Bangladesh. The ESMP is a critical operational tool that identifies, assesses, and addresses potential environmental and social risks and impacts associated with the construction and future operation of 07 disaster-resilient flood shelters located in Gaibandha Sadar upazila.

The vulnerability of Gaibandha is to seasonal flooding, riverbank erosion, and waterlogging, the ESMP incorporates measures to minimize adverse environmental and social impacts while maximizing community resilience and adaptive capacity. It integrates site-specific mitigation measures, monitoring protocols, institutional responsibilities, capacity-building requirements, and grievance redress mechanisms to ensure sustainability and social inclusion throughout the project lifecycle.

The ESMP particularly ensures that vulnerable groups, including women, children, elderly persons, persons with disabilities, and marginalized households are not disproportionately affected and are able to benefit from the project's outcomes. It promotes equitable access to shelter facilities during emergencies and ensures inclusive use during normal periods, such as for educational or community purposes.

The Project Implementation Unit (PIU) of LGED will be responsible for the overall coordination, supervision, and enforcement of the ESMP. Contractors will be directly accountable for implementing mitigation measures during construction in strict adherence to both national environmental and labor laws and the World Bank Environmental and Social Standards (ESSs).

5.2 Access to Translated Information

To ensure transparency, the Environmental and Social Assessment and Management Report and the ESMP will be disseminated locally within Gaibandha Sadar upazila of Gaibandha District. Copies the documents will be distributed to:

- Contractors' site office
- School authorities where shelters are being constructed
- Relevant LGED field offices

The final assessment report will be uploaded to the LGED official website and the World Bank website following formal approval, in compliance with ESS10: Stakeholder Engagement and Information Disclosure.

5.3 Environmental and Social Management Plan (ESMP)

The implementation of the school-cum-Flood Shelter along with connecting roads (where applicable) construction sub-project requires a comprehensive framework of preventive and management measures to ensure environmental and social sustainability throughout its life cycle. The Environmental and Social Management Plan (ESMP) serves as the overarching tool that identifies site-specific risks, proposes mitigation actions, defines monitoring parameters, and assigns responsibilities to ensure that construction activities, including earthworks, access road improvement, tree removal, and installation of renewable features comply with environmental and social safeguards. Complementing the ESMP, the Environmental and Social Codes of Practice (ESCoPs) provide detailed technical and procedural guidance for the contractor and field supervisors to manage recurring issues such as Waste Management, Water Resource Management, Drainage Management, Air Quality Management, and Construction Camp Management, etc. These ESCoPs standardize good practices across all sites, reducing the likelihood of non-compliance and promoting environmentally sound and socially responsible construction behavior. In parallel, the Standard Operating Procedures (SOPs) for pile driving and building demolition address two high-risk activities that require specific operational control, ensuring noise, vibration, dust, and structural safety risks are minimized, and that occupational and community safety standards are strictly maintained. Together, the ESMP, ESCoPs, and SOPs form an integrated management system that links prevention, mitigation, and monitoring, ensuring that the project achieves its infrastructure objectives while safeguarding human health, local communities, and the surrounding environment.

The activity wise anticipated environmental and social impacts and corresponding mitigation measures and Site-Specific Impacts and mitigation/management measures have been outlined in **Table 5.1** and **Table 5.2**. A detailed monitoring framework for overall ES Performance has been presented in **Table 5.3**. Additionally, Contractor must follow the Standard Operating Procedure delineated in **Annexure-6**.

The ESMP ensures compliance with the World Bank's ten Environmental and Social Standards (ESSs), particularly focusing on ESS1 (Assessment and Management of Environmental and Social Risks and Impacts), ESS2 (Labor and Working Conditions), ESS3 (Resource Efficiency and Pollution Prevention), ESS4 (Community Health and Safety), and ESS10 (Stakeholder Engagement and Information Disclosure). It provides guidelines for managing construction-related impacts such as air and water pollution, noise, occupational health and safety risks, and impacts on local livelihoods and ecosystems.

Moreover, the ESMP emphasizes the importance of stakeholder engagement, grievance redress mechanisms, and the inclusion of vulnerable groups to promote equitable and sustainable outcomes. By integrating environmental and social considerations into every stage of project implementation, the ESMP supports responsible infrastructure development that enhances community resilience while minimizing adverse impacts.

Table 5.1: ESMP_ Construction Phase and Operation Phase

Construction Phase					
Ref.	Activity / Issues	Potentials Impacts	Proposed Mitigation and Enhancement Measures	Responsible for Implementation	Responsible for Monitoring
1.	Contractor's proposal for site specific temporary works	Accurate/ proper implementation of ESMP	Preparation of Work schedule, construction camp, materials storage area, access road, waste dumping/ disposal area etc.	Contractor	Environmental and Social Development Specialists of PIU and D&SC
2.	Construction and operation of labor shed for the workers (Workforce and labor shed management)	- Generation of sewage and solid waste may cause environmental pollution in the surrounding area - Water, soil, air & dust pollution/ environmental pollution	(i) Construction of sanitary latrine at the labor shed (consider 15 persons for one toilet, separate toilet for male and female); (ii) Construction of sanitary latrine/ Pit latrine with septic tank/ Ring slab system (iii) Erection of "no litter" sign, provision of waste bins/cans (separate waste bins for organic and inorganic wastes); (iv) Provision of waste bins/ cans, where appropriate, (v) Litter is to be collected daily. (vi) Bins and/or skips should be emptied regularly and waste/ debris should be disposed off at waste disposal areas approved by Environmental Specialist of DSC. (vii) Ensure wastes (solid wastes and other forms of the waste) disposal at designated places. (viii) Camp and working areas are kept clean and tidy at all times. (ix) Camp is to be checked for spills of substances i.e. chemical, oil, paint, etc.	Contractor	Environmental and Social Development Specialists of PIU and D&SC

Construction Phase					
Ref.	Activity / Issues	Potentials Impacts	Proposed Mitigation and Enhancement Measures	Responsible for Implementation	Responsible for Monitoring
		Health of workers	(i) Conduct formal and unofficial discussion and training to increase awareness about hygiene practices among the workers; (ii) Ensure availability and access to first-aid equipment and medical supplies for the workers. (iii) Ensure safety gear worn: ear plug, goggles, mask, gloves, helmets, and uniforms etc. (iv) Staff must be trained up for operating equipment (v) Ensure adequate supply of drinking water. Sanitation facilities for male & female workers separately.	Contractor	Environmental and Social Development Specialists of PIU and D&SC
		Possible development of labor camp into permanent settlement	Contractor to remove labor camp at the completion of contract.	Contractor	Environmental and Social Development Specialists of PIU and D&SC
		Outside labor force causing negative impact on health and social well-being of local people	Ensure that contractor employ local work force to provide work opportunity to the local people and conduct formal and unofficial awareness program for the health and social well-being of the local people.	Contractor	Environmental and Social Development Specialists of PIU and D&SC
3.	Civil work contractor will use available school land located near to the school for construction yard	Students and nearby inhabitants are temporarily affected while construction is going on	Construction contractor will follow to take precautions to minimize the disturbances during construction period such as safety guarding, safety signs etc.	Contractor/ SMC	Environmental and Social Development Specialists of PIU, D&SC and SMC
4.	Disturbances due to construction works	Students are affected during construction	Construction contractor will take necessary precautions to minimize the disturbances during construction period as per guideline of ESMP.	Contractor/ SMC	Environmental and Social Development Specialists of PIU, D&SC and SMC

Construction Phase					
Ref.	Activity / Issues	Potentials Impacts	Proposed Mitigation and Enhancement Measures	Responsible for Implementation	Responsible for Monitoring
5.	Employment opportunities during construction	Community will get opportunities for additional income	Construction contractor will be obliged to give opportunities to local people, maintain gender balance, fair wages and avoid engagement of child labour.	Contractor	Environmental and Social Development Specialists of PIU and D&SC
6.	Construction Materials storage areas	- Use of surrounding open area, playground, road side etc. for stockpiling of construction materials. - Creating dust/ air pollution, - Spillage of liquid/hazardous substances i.e. oil, paint, chemicals, bitumen etc. - Access of students, children, animals, etc. - Not cleaning of construction materials storage areas after completion of construction.	(i) Proper stockpiling/ storage of construction materials at the site as proposed by the contractor & approved by the Environmental Specialist of D&SC. (ii) Proper covering of dust producing materials with polythene sheet, (iii) Proper fencing around the storage area in order to be secure, to minimize the risk of crime and to be safe from access by students, children, animals, etc. (iv) Spills/ hazardous substances should be disposed off at the site as proposed by the contractor & approved by the Environmental Specialist of DSC to avoid soil/ water contamination. (v) Materials storage area must be cleaned after completion of construction.	Contractor	Environmental and Social Development Specialists of PIU and D&SC
7.	General construction work	Drainage congestion and flooding	(i) Plinth level of the Shelter should be higher than the highest flood water level. (ii) Ensure provision for adequate drainage of storm water and pumping of congested water if needed;	Contractor	Environmental and Social Development Specialists of PIU and D&SC

Construction Phase					
Ref.	Activity / Issues	Potentials Impacts	Proposed Mitigation and Enhancement Measures	Responsible for Implementation	Responsible for Monitoring
			(iii) Ensure adequate monitoring of drainage effects, especially if construction works are carried out during the monsoon season.		
		Air pollution	(i) Check regularly and ensure that all the subproject vehicles and equipment are in good operating condition; (ii) Ensure contractor spray water on dry surfaces/unpaved to reduce dust generation; (iii) Maintain adequate moisture content of the sand; (iv) Ensure contractor sprinkle water and cover stockpiles of loose materials (e.g., fine aggregates); (v) Inform local people about the subproject activities and potential impact; (vi) Cover loaded truck used for carrying sand with tarpaulin/other suitable material to prevent spreading by air blown. (vii) Provision of Masks for the workers, site staffs, students and teachers & Masks should be available in site during construction period. (viii) Construction works should be scheduled before and after school hour or during holidays. (ix) Avoid use of equipment e.g. stone crushers at site, if possible, which produce significant amount of particulate matter.	Contractor	Environmental and Social Development Specialists of PIU and D&SC
		Traffic congestion, effect on traffic and pedestrian safety	(i) Prepare and implement Traffic Management Plan (TMP), if required. (ii) Ensure schedule deliveries of materials/ heavy vehicle movement/ equipment during off-peak hours;	Contractor	Environmental and Social Development Specialists of PIU and D&SC

Construction Phase					
Ref.	Activity / Issues	Potentials Impacts	Proposed Mitigation and Enhancement Measures	Responsible for Implementation	Responsible for Monitoring
			(iii) Place traffic sign/cautionary sign to avoid undue traffic congestion if required; (iv) Maintain vehicles and enforce legal load limits, and impose speed limits within settlements (v) Use flagmen, signage, and barriers near schools and markets; (vi) Spray water on access roads to reduce dust (vii) Coordinate with local authorities and inform communities.		
		Noise pollution	(i) Check and maintenance the equipment properly; (ii) Avoid using of construction equipment such as concrete mixer machine, pile driving equipment (pile rig, winch machine), vibrator machine that produce excessive noise at night; (iii) Avoid prolonged exposure to noise (produced by equipment) by the workers; (iv) Regulate use of horns and avoid un-due use of hydraulic horns by subproject vehicles; (v) Provision of Ear plugs for the workers & site staffs should be available in site during construction period. (vi) Inform local people about the subproject activities and potential impact. (vii) Construction works should be scheduled before and after school hour	Contractor	Environmental and Social Development Specialists of PIU and D&SC
		Water & Soil pollution	(i) Avoid complete closing of the channel that affects reproduction of aquatic species; (ii) Any illegal discharge of wastewater, leaked oil shall be prohibited.	Contractor	Environmental and Social Development Specialists of PIU and D&SC

Construction Phase					
Ref.	Activity / Issues	Potentials Impacts	Proposed Mitigation and Enhancement Measures	Responsible for Implementation	Responsible for Monitoring
		Accidents	(i) Follow statutory Health and Safety precautionary measures. (ii) Conduct formal and informal discussion for creating awareness about the accident; (iii) Provides PPEs and ensure using of the personal protective equipment by the workers.	Contractor DSC	Environmental and Social Development Specialists of PIU and D&SC
		Spills and leaks of oil, toxic chemicals	(i) Proper handling of lubricating oil and fuel so that it does not fall on the soil; (ii) Good housekeeping (iii) Collection and proper disposal of spills; (iv) Refueling and fuel tank should not be placed on the ground directly. (v) Spillage wasters should be disposed in the waste disposal area located at the site proposed by the contractor & approved by the Environmental Specialist of D&SC	Contractor	Environmental and Social Development Specialists of PIU and D&SC
		Beneficial impact on employment generation	(i) Employ local people in the subproject activities as much as possible; (ii) Give priority to poor people living within subproject area in subproject works (e.g., excavation and other works, which do not require skilled manpower);	Contractor	Environmental and Social Development Specialists of PIU and D&SC
		General degradation of the environment	(iii) Ensure environmental enhancement measures- tree plantation and cautionary sign will be provided. (iv) An institution and/ or committee should be established through the involvement of local community e.g. local villagers, SMC chairman / members, and School teachers, Chairman /	Contractor	Environmental and Social Development Specialists of PIU and D&SC

Construction Phase					
Ref.	Activity / Issues	Potentials Impacts	Proposed Mitigation and Enhancement Measures	Responsible for Implementation	Responsible for Monitoring
			Members of Upazila Parishad in order to monitor of quality of construction works.		
8.	Excavation/ earthwork	• Discovery of historical items and cultural remains	Stop construction works in the chance find area immediately and seek for advice.	Contractor shall inform PIU and D&SC	Environmental and Social Development Specialists of PIU and D&SC
		• Generation of loose and clay soil due to the earth excavation work	(i) Disposal of soil and construction wastes at the designated place; (ii) Cover exposed dry loose soil with fabric.	Contractor	Environmental and Social Development Specialists of PIU and D&SC
		• Accidents	(i) Carefully handle of the hydraulic excavator; (ii) Follow statutory Health and Safety precautionary measures.	Contractor	Environmental and Social Development Specialists of PIU and D&SC
		• Air pollution	Regular maintenance of the equipment;	Contractor	Environmental and Social Development Specialists of PIU and D&SC
9.	Rigorous Monitoring and Report Preparation and Submission		(i) The Contractor shall appoint (i) ES Manager (1 position) (ii) Community Organizer (1 position), and (iii) H&S Officer (1 position), for strict management and monitoring of all ES related works at each site and the budget for this engagement shall be borne from the Contractor's management budget. (ii) Contractor shall submit regular monthly monitoring report to the D&SC and PIU as per reporting standard set by the ES Consultants of D&SC/PIU.	Contractor	PIU

Operation Phase					
Ref.	Activity/Issues	Potential Impacts	Proposed Mitigation and Enhancement Measures	Responsible for Implementation	Responsible for Monitoring
1	Issues/ activities during Operation & Maintenance phase	Water, Sanitation, Health & Safety problems of shelter user e.g. local people, children, student & teacher during disaster period.	(i) Proper health & safety facilities of local people, children, student & teacher. (ii) Adequate supply of drinking water & dry food. (iii) Septic tank & soak well should be designed in such a way so that no leakage & overflow take place because of their inundation. (iv) Use of mobile/ floating Septic tank during disaster time to avoid water/ land contamination (v) Provision of medical facilities/ equipment/ medicine	LGED (up to subproject defect liability period in operation phase with help of Emergency Preparedness Committee, SMC and UDMC	LGED (During operation phase) Environmental monitoring team of D&SC (During Construction phase)
2	Operation and Maintenance of the shelter	Community will reap the benefit of the shelter in the long term, only if the sustainability is ensured through adopting good operation and maintenance practices.	- o Training to the SMC on sustainable use of shelter resources and technical and general O&M Procedure for sensitive components to be provided (e.g., solar system, water supply system, lightning arrester, etc.) by the project. - o Awareness building and capacity building of the School Management Committee, community and the students on this aspect to be carried out, using a community mobilization person recruited through the construction contractor.	SMC	Training: LGED Consultancy Firm Handover: SMC, UDMC

Table 5.2: Site Specific Mitigation Measures with Applicable Sites

Ref.	Activity / Issues	Potentials Impacts	Proposed Mitigation and Enhancement Measures	Responsible for Implementation	Responsible for Monitoring	Applicable Sites
1.	Demolition of vulnerable school building (or parts of it).	- Students are temporarily affected with their studies. - Air and water pollution from dust, debris and hazardous materials, which may cause health and safety issues to the school users, community people and workers. - During movement of heavy Construction machineries, equipment can damage the utility services if not previously removed.	(i) Advise demolition Contractor about Controlled demolition with water suppression, debris containment; salvage reusable materials; safe disposal plan, and following the SOP for Demolition Works (Annexure- 6). (ii) Prior to start of demolition, the utility services (electrical cables, telephone line, water supply pipeline, gas supply pipeline and internet line) should be shifted with the consultation of the relevant organizations; (iii) Inform the local community before starting removal or demolishing work; (iv) Carefully remove the utilities that are connected to any structures; (v) Proper Health and safety measures for the workers should be taken throughout the demolition period to avoid any incidents.	Demolition Contractor/ SMC	Environmental and Social Development Specialists of PIU, D&SC and SMC	GAI-036, GAI-037, GAI-038, GAI-039 & GAI-041.
2.	Construction of temporary school facilities for the entire construction period.	Learning activities can be continued nearly uninterrupted.	(i) Contractors will arrange voluntary/ temporary land donation or lease, with those who are interested in, for a stipulated period following the written consent, for constructing a temporary school facility as per standard design provided by LGED. (ii) Temporary school shall be removed by the Contractor at the end of all Construction works, with full satisfaction of E-I-C.	Contractor	Environmental and Social Development Specialists D&SC and SMC	GAI-038, GAI-039 & GAI-041.

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Ref.	Activity / Issues	Potentials Impacts	Proposed Mitigation and Enhancement Measures	Responsible for Implementation	Responsible for Monitoring	Applicable Sites
3.	Tree removal and plantation	Felling of trees, clearing of vegetation and ecological disturbances	Replace each felled tree with at least 3 nos. saplings of native species, and maintain a minimum total of at least 72 trees at all sites combined, to be replanted around the periphery of the proposed site at an interval of not less than 3m, to enhance the ecological condition.	Contractor	Environmental and Social Development Specialists of PIU and D&SC	GAI-035, GAI-037, GAI-038, GAI-039, GAI-040 & GAI-041.
4.	Removal of electric poles	Delayed commencement of works at site.	(i) Contrator shall communicate with the local authority (Bangladesh Rural Electrification Board, BREB), in collaboration with the District LGED Office to expedite the process of removal of electric poles from the sites to next designated places. (ii) Contractor must pay the demand draft in favor of the BREB, at earliest. (iii) No authorized person or entity shall be engaged in this specialized removal process.	Contractor/ SMC	Environmental and Social Development Specialists of PIU, D&SC and SMC	GAI-035, GAI-036 & GAI-038.
5.	Disturbances to prayers and sensitive community-based receptors	People gathered for prayer in mosques, or carrying out rituals at temples, or receiving healthcare at Health facilities may face nuisance and serious disturbance due to noise or heavy machinery-based construction works.	(i) Construction works should be scheduled before and after school hour, prayer/religious ritual time, or during holidays, in consultation with the local inhabitants/stakeholders. (ii) Construction contractor will take further necessary precautions to minimize the disturbances during construction period.	Contractor/ SMC	Environmental and Social Development Specialists of PIU, D&SC and SMC	GAI-035, GAI-036, GAI-038, GAI-039 & GAI-041.

5.4 Monitoring of ES Performance

A robust monitoring system is essential to ensure that the preventive, management, and mitigation measures outlined in the ESMP, EScOPs, and SOPs are effectively implemented during the construction and operational phases of the School-cum-Flood Shelter sub-project. Monitoring enables project authorities to track compliance, evaluate performance, and identify potential environmental and social risks at an early stage.

This monitoring plan defines the parameters to be monitored, frequency and timing, responsible parties, and verification methods for each key environmental and social aspect. It integrates site-level actions by contractors with oversight by the Project Implementation Unit (PIU), Design and Supervision Consultant (D&SC), and where applicable the Directorate of Primary Education (DPE) and the community.

Monitoring will be both proactive (preventive)—through inspections, audits, and consultations—and reactive (corrective)—based on incident reports, grievances, and non-compliance notices. The plan aligns with national environmental standards (DoE, Bangladesh), the World Bank’s Environmental and Social Framework (ESF), and LGED’s internal Environmental and Social Management Guidelines.

Table 5.3: Monitoring Framework for achieving overall ES Performance

Sl. No.	ES Aspect / Issue	Monitoring Parameters / Indicators	Frequency / Timing	Responsibility	Means of Verification / Monitoring Method
1.	Air Quality and Dust Control	Particulate matter, visible dust at site, dust suppression measures	Weekly during excavation, earthwork, demolition	Contractor (monitoring & Implementation); PIU/D&SC (verification)	Visual inspection, portable air meter (if required), photo documentation
2.	Noise and Vibration	Noise level (dB) near sensitive receptors; vibration during pile driving/demolition	Weekly or during pile driving; daily for high-impact works	Contractor (monitoring & Implementation); PIU/D&SC (verification)	Community feedback
3.	Water Quality and Drainage	Turbidity, pH, oil/grease presence in runoff; drainage flow condition	Monthly during rainy season; after major rainfall	Contractor (monitoring & Implementation); PIU/D&SC (verification)	Water sampling, field observation
4.	Soil Erosion and Sedimentation	Silt traps, slope stabilization, drainage cleanliness	Weekly during earthworks and monsoon	Contractor (monitoring & Implementation); PIU/D&SC (verification)	Visual inspection, photographs
5.	Waste Management	Sanitary Latrines, Segregation, storage, disposal of solid and	Weekly	Contractor (monitoring & Implementation);	No. of latrines, waste bins, disposal

Sl. No.	ES Aspect / Issue	Monitoring Parameters / Indicators	Frequency / Timing	Responsibility	Means of Verification / Monitoring Method
	(Sewage and Solid wastes)	hazardous waste; reuse of materials		PIU/D&SC (verification)	receipts, site inspection
6.	Demolition Activities	Dust suppression, debris containment, PPE use, safety barrier, debris reuse/disposal	Daily during demolition	Demolition Contracotr (Safety Officer); SMC/DPE (verification)	OHS checklist, photo record, waste log
7.	Pile Driving	Noise/vibration limits, use of vibration damping, safety cordons, PPE compliance	Daily during piling operations	Contractor (Engineer); PIU/D&SC (Verification)	Noise/vibration records, site inspection
8.	Temporary Schooling facilities	School structure with toilets as per design	Before Construction	Contractor (Engineer); PIU/D&SC (Verification)	Visual Inspection; Interview of Students, teachers
9.	Material Sourcing	Quality and source check for sand, brick, aggregate, timber suppliers	Per delivery	Contractor; verified by PIU	Delivery challan, supplier permit
10.	Material Storage and Fencing	Storehouse, Coverage over materials, Spillage protection of hazardous materials, worksite and inner fencing	Before Construction and maintaining all through. Daily checking of spillage.	Contractor (Implementation); PIU/D&SC (verification)	Inspection, Incidents reporting, GRM logbook
11.	Tree Cutting and Compensatory Plantation	Tree removal count, plantation ratio (3:1), species survival rate	Before construction; quarterly during plantation period	Contractor (Implementation); PIU/D&SC (verification)	Tree register, survival verification report
12.	Occupational Health and Safety (OHS)	PPE use, toolbox talks, safety signage, first-aid, accident record	Daily site check; monthly reporting	Contractor (Safety Officer); PIU/D&SC (verification)	Safety checklist, accident log, training record
13.	Community Health and Safety	Access control, fencing, signage, traffic management, GRM complaints	Weekly	Contractor (Implementation); PIU/D&SC (verification)	Visual inspection, TMP, GRM log

Sl. No.	ES Aspect / Issue	Monitoring Parameters / Indicators	Frequency / Timing	Responsibility	Means of Verification / Monitoring Method
14.	Labour and Working Conditions	Wage payment, working hours, absence of child/forced labour, sanitation, accommodation	Monthly	Contractor (monitoring & Implementation); PIU/D&SC (verification)	Worker interview, payroll record, inspection
15.	Local Labor Engagement	No. of local, female and physically challenged labors engaged	Monthly	Contractor (monitoring & Implementation); PIU/D&SC (verification)	Labor logbook, Payroll record, inspection
16.	Gender and GBV/SEA Risk Management	Code of Conduct signed, GBV training conducted, availability of female grievance channel	Quarterly	Contractor; D&SC Gender Consultant	Training records, attendance list, GRM log
17	Cultural and Religious Sensitivity	Consultation records with mosque/madrassa committees; work-hour adjustments	As required	Contractor (Implementation); PIU/D&SC (verification)	Meeting minutes, site observation
18	Land Use and Ownership	Land ownership verification, voluntary donation documentation	Before construction	PIU/D&SC Social Specialist	Legal documents, meeting records
19	Stakeholder Engagement and Disclosure	Number of consultations held; disclosure signage posted; feedback addressed	Quarterly	Contractor (Implementation); PIU/D&SC (verification)	Consultation minutes, disclosure photos
20	Grievance Redress Mechanism (GRM)	Number of complaints received/resolved; resolution time	Monthly	Contractor (recording); PIU (review)	GRM register, resolution summary
34	Energy Efficiency (Solar PV, LED Lights)	Functionality of solar systems, maintenance record	Quarterly after installation	Contractor; DPE/PIU during O&M	Inspection report, maintenance log
22	Rainwater Harvesting System	Tank cleanliness, filter maintenance, storage condition	Quarterly during operation	SMC / DPE	Inspection checklist
23	Biodiversity Protection	Protection of nearby beels/canals; no	Weekly	Contractor (Implementation);	Site observation,

Sl. No.	ES Aspect / Issue	Monitoring Parameters / Indicators	Frequency / Timing	Responsibility	Means of Verification / Monitoring Method
		dumping of waste or fill		PIU/D&SC (verification)	photographic evidence
24	Emergency Preparedness and Fire Safety	Fire extinguisher, lightning protection, evacuation signage	Monthly	Contractor; PIU	Site inspection, safety drill record
25	Post-Construction Site Restoration	Debris clearance, landscaping, reinstatement of access roads	After construction completion	Contractor; PIU/D&SC verification	Site handover inspection, photos
26	Temporary School Facility	Availability and safety of alternate classrooms during construction	Pre-construction & ongoing	Contractor (Implementation); PIU/D&SC (verification)	Inspection, SMC confirmation
27	Training and Capacity Building	Number of trainings on ES, OHS, GBV, emergency response	Quarterly	PIU/D&SC; Contractor	Attendance, training reports
28	Compliance Reporting	Submission of monthly ESMP implementation reports to PIU/D&SC	Monthly	Contractor (Implementation); PIU (verification)	Report submission record

5.5 Capacity Development Measures

Effective management of Environmental, Social, and Gender issues in construction projects requires proactive capacity building for all actors involved including the Implementing Agency, Contractors, and Supervision Consultants. To ensure compliance with environmental and social standards, all project stakeholders must be adequately trained and informed about their responsibilities, mitigation measures, and reporting mechanisms. Capacity-building programs through formal trainings, on-site guidance, tool-box meetings, and awareness sessions help strengthen institutional capacity, improve coordination, and ensure that sustainability and gender equity principles are integrated into project planning, implementation, and monitoring.

The following table outlines the recommended capacity-building measures, target participants, training frequency, and key topics to be covered under an ESG management framework for building and road construction projects.

Table 5.4: Capacity-Building and Training Measures for ES Compliance and Management

Sl. No.	Key Actor / Target Group	Type of Training / Guidance	Objectives	Main Topics to be Covered	Frequency/ Timing	Responsible Entity
1	LGED / Project Management Unit (PIU)	Orientation on Environmental and Social Safeguards	To strengthen understanding of E&S policies, legal requirements, and roles in project implementation.	- National environmental & labor laws- World Bank E&S Framework- Grievance Redress Mechanism (GRM)- ESMP implementation & monitoring- Gender Issues in Infrastructure Development Project.	At project start and annually	Environmental & Social Specialists (PIU)/ D&S Consultant
2	Supervision Consultants	Training on E&S Supervision and Monitoring	To ensure that consultants effectively monitor contractors' compliance with E&S standards.	- ESMP & site-specific E&S checklists- Waste management & pollution control- Labor & working condition compliance- Occupational Health & Safety (OHS)- Gender-sensitive supervision- Incident reporting & corrective actions.	Before mobilization and quarterly refreshers	PIU with support from E&S Experts

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Sl. No.	Key Actor / Target Group	Type of Training / Guidance	Objectives	Main Topics to be Covered	Frequency/ Timing	Responsible Entity
3	Contractor's Management Staff	Induction and Periodic E&S Management Training	To ensure site managers and engineers integrate E&S compliance in daily site operations.	- Contractor's ESMP & Method Statements- Environmental and Social Codes of Practices (ESCoPs)- OHS plan implementation- Labor rights and grievance mechanism- Community health & safety- Gender-based violence (GBV) and SEA/SH prevention	Prior to construction & bi-annually, if deemed required.	Supervision Consultant / PIU E&S Team
4	Contractor's Workforce (Skilled & Unskilled Workers)	Toolbox Meetings/ Awareness Sessions	To build awareness and behavioral change for safe, responsible, and inclusive site practices.	- Worksite safety protocols (PPE use, accident prevention)- Environmental cleanliness & waste segregation- Respectful workplace behavior & anti-harassment- Gender equality & inclusion- HIV/AIDS and communicable disease awareness	Weekly or bi-weekly at site	Contractor's E&S Officer / OHS Supervisor
5	Community Representatives / Local Stakeholders	Information & Awareness Session	To enhance local understanding of project impacts, grievance redress, and gender inclusion measures.	- Project scope & benefits- Potential impacts & mitigation measures- Community safety measures- GRM process- Gender & inclusion awareness	During pre-construction & as needed	PIU & Contractor's Community Engagement Officer
6	Gender Focal Points (PIU, Contractor, Consultant)	Gender and Social Inclusion (GESI) Training	To promote integration of gender considerations into project implementation.	- Gender Action Plan implementation- GBV/SEA/SH mitigation & referral pathways- Inclusive employment & equal pay- Women's participation in decision-making	At project start & mid-term	PIU Gender Specialist / External Expert

5.6 Cost of Environmental Enhancement Works in BOQ

Considering the environmental impacts and their mitigation measures for this sub-project, several items are included in the BOQ to address these issues. The detailed site-specific estimate, with tentative cost for implementing the ESMP, is given in **annexure 1**.

As per project ESMF, PIU, project engineer's suggestion and experience from other LGED implemented projects, adequate budget has been proposed for the environmental management for the mitigation and enhancement measures. It may vary depending on the real time situation and requirement of the construction. An allocation for some environmental enhancement works such as tree plantation and Dust Suppression is included in the ESMP budget. Moreover, in order to ensure health safety and sanitary measures of workers by providing labor shed, PPEs, First Aid Box, drinking water facility, temporary but separate latrine for male and female workers as well as waste disposal systems necessary budgetary allocation is provisioned. As the workforce at site need to be sensitized on environmental and social performance issues, motivational training on environmental and social considerations has been taken into account. The budget for labor shed, and site office construction is included in the civil works items. Therefore, it is not included in the environmental budget. It should be noted that the contractor will be paid as per actual work done.

As there is no resettlement issue involved, no resettlement budget is required for land acquisition and related matters. In addition, there are no mentionable social impacts from the Sub-project, as such, no specific mitigation plan budget is required.

5.7 Environmental and Social Codes of Practice

For the School cum Flood Shelter Construction Project under the "Resilient Infrastructure for Adaptation and Vulnerability Reduction (RIVER)" initiative in Gaibandha District, strict adherence to Environmental and Social Codes of Practice (ESCoPs) is essential to ensure sustainable and responsible implementation. These ESCoPs provide a standardized framework to minimize, mitigate, and manage potential environmental and social impacts associated with construction activities. The practices include site-specific measures such as proper waste management, noise and dust control, prevention of surface water contamination, and ensuring worker health and safety through the provision of personal protective equipment (PPE) and sanitation facilities. Social codes emphasize stakeholder engagement, avoiding disruption to local communities, protecting vulnerable groups, and ensuring no child labor or forced labor is used. During construction, care must be taken to avoid damage to existing infrastructure and natural habitats, while post-construction restoration of the site is mandatory.

These codes also promote grievance redress mechanisms and compliance monitoring to uphold transparency and accountability throughout the project lifecycle. Effective implementation of ESCoPs not only ensures regulatory compliance and alignment with World Bank Environmental and Social Framework (ESF) standards but also contributes to the long-term resilience and acceptability of the flood shelter infrastructure in the local context of Gaibandha District.

The Contractor shall carry out the subproject related activities as specified in contract agreement. Environmental awareness creation, particularly about the direct construction impacts and for the health, pollution and safety issues will be Contractor's responsibility. Details of the Environmental and Social Code of Practices (ESCoPs) are included in **Annexure 5**.

6 PUBLIC CONSULTATION MEETING

6.1 Stakeholder Engagement

As part of the Environmental and Social Assessment process for the Flood Shelter Construction Project (RIVER) in Gaibandha District, a comprehensive series of stakeholder engagement and site-specific consultation meetings were conducted for all proposed shelter sites. These meetings were held from November 18-20, 2025, covering various unions and villages where the flood shelters are planned. The objective of these consultations was to ensure the active participation of local stakeholders, including Union Parishad representatives, school management committees, teachers, local community members, female representatives, and vulnerable groups, in the project planning and decision-making process. During the meeting's, detailed discussions were held on potential environmental and social impacts, site-specific concerns, benefits of the proposed shelters, and measures for ensuring inclusiveness and minimizing disruption during construction and operational phases.

The feedback received from the stakeholders was constructive and has been duly incorporated into the Environmental and Social Management Plans (ESMPs). These engagements not only enhanced transparency and local ownership but also ensured that the site selection and design of flood shelters are contextually appropriate and socially accepted. Refer to **Annexure 4** for details of the attendance of the meeting.

6.2 Methodology

Site-specific consultation meetings were systematically conducted at all proposed flood shelter locations across Gaibandha District to ensure inclusive participation and transparent stakeholder engagement in accordance with the Environmental and Social Framework (ESF) prescribed ES Assessment checklist and the project's safeguard requirements. Environmental and Social Assessment Checklist and Consultation checklist are attached in **Annexure 2** and **Annexure 3** respectively. The methodology followed a participatory and inclusive approach to engage with local communities, school management committees (SMCs), Union Parishad representatives, teachers, farmers, women, and other vulnerable groups. Each meeting was organized at or near the shelter site, where project objectives, potential environmental and social impacts, and proposed mitigation measures were explained in simple, local language. Tools such as open discussions, focus group interactions, community mapping, and feedback collection were utilized to facilitate two-way communication. Attention was given to gender inclusion, with separate consultations or dedicated sessions to ensure women's perspectives were adequately captured. All comments, concerns, and suggestions were recorded systematically and later analyzed to inform site-specific Environmental and Social Management Plans (ESMPs).

This consultative process played a critical role in identifying location-specific issues, such as access constraints, local waterlogging, land use sensitivity, or community preferences, and helped enhance project acceptance and ownership at the grassroots level. Refer to **Figure 6.1** for selected photographs of the participatory public consultation held at the sub-project sites and **Table 6.1** refers to Consultation meeting participants' summary for the sub-project.

Table 6.1: Consultation meeting participants' summary for the sub-project

Sl. No.	Unique Database ID	Name of Sub-project Component	Date	No. of Participants		
				Male	Female	Total
1.	GAI-035	Batikamari GPS	19/11/2025	16	02	18
2.	GAI-036	Mouja Malibari GPS	19/11/2025	23	10	33
3.	GAI-037	Lakshmipur GPS	18/11/2025	23	09	32
4.	GAI-038	Raghunathpur GPS	19/11/2025	14	06	20
5.	GAI-039	Lenga GPS	18/11/2025	24	06	30
6.	GAI-040	Analer Tari GPS	18/11/2025	14	06	20
7.	GAI-041	Kisamot Balua GPS	18/11/2025	09	11	20



Figure 6.1: Public Consultation through FGD's and KII due to GRC formation in local level

6.3 Consultations through FGD's and KII's

As part of the Environmental and Social Assessment (ESS) process for the proposed flood shelter construction under the RIVER Project in Gaibandha District, extensive community consultations were carried out following the participatory approach applied in Gaibandha District. These consultations were conducted through Focus Group Discussions (FGDs) and Key Informant Interviews (KIIs) across all proposed shelter sites to ensure the active involvement of local stakeholders. The FGDs included representatives from vulnerable groups such as women, landless farmers, school authorities, local elders, and people with disabilities, aiming to understand their perspectives, needs, and concerns regarding the shelter construction and associated interventions. Similarly, KIIs were held with Union Parishad members, school management committee members, teachers, and other relevant local actors to gather insights on land use, community needs, environmental sensitivities, and existing infrastructure conditions.

A Grievance Redress Committee (GRC) has been established at the Upazila level under the leadership of the Gaibandha Sadar Upazila Engineer (LGED), with representation from local administration, teachers, women's representatives, and community leaders. The GRC will provide a transparent mechanism for resolving complaints related to land use, construction impacts, and labor issues.

The consultations revealed broad community support for the project, while also highlighting site-specific issues such as drainage congestion, access road conditions, and the need for separate sanitation facilities for girls and women. These findings were instrumental in shaping the design and environmental and social management plans for the proposed shelters in Gaibandha Sadar upazila under Gaibandha District, ensuring that the interventions are inclusive, locally appropriate, and socially accepted.

6.4 Consultation Outcomes

During the stakeholder consultation sessions conducted for all proposed flood shelter sites in Gaibandha District under the RIVER project, several key concerns and suggestions were raised by community members, school authorities, and local representatives. All those Issues were mostly on the risks and vulnerabilities the people are facing in the areas in absence of adequate sheltering options during the disaster period, and the possible effects of construction works on their livelihood or daily businesses. As stated, the issues or concerns were nearly similar, and the summary of the raised issues are given below:

- Participants emphasized the need for elevated plinths to ensure shelters remain flood-free during peak inundation periods.
- Concerns were raised about access roads, particularly their elevation and durability, to ensure year-round access, especially during floods.
- Community members requested separate sanitation facilities for men and women with proper water supply and privacy.
- Local residents demanded that the construction activities avoid disrupting agricultural activities and existing rural roads.

- Participants suggested the inclusion of rainwater harvesting systems and solar lighting to enhance the sustainability of the shelters.
- There were calls for prioritizing local labor and materials during construction to enhance local employment and income opportunities.
- Some concerns were raised about potential noise, dust, and traffic hazards during construction and the need for mitigation.
- Women participants highlighted the need for safe spaces and adequate lighting, especially in the shelter surroundings.
- Participants requested engagement of school management committees (SMCs) in the shelter planning and maintenance process.
- The community urged that grievance mechanisms be established and made accessible for reporting concerns during both construction and operation phases.

The participants were presented with feedback, suggestions, and recommendations listed below:

- ✓ During the stakeholder consultation sessions, participants expressed strong support for the proposed flood shelter construction, highlighting the urgent need for safe refuge during recurrent floods.
- ✓ Community members emphasized that the shelters should be multi-purpose in nature—usable as schools or community centers during non-flood periods to maximize utility.
- ✓ Several participants recommended that the shelters be constructed on elevated land or raised plinths to ensure functionality even during severe flooding events.
- ✓ Female participants suggested incorporating gender-sensitive features, such as separate sanitation facilities and privacy areas for women and girls.
- ✓ Local farmers raised concerns about the potential loss of agricultural land and requested that shelter sites be selected in areas with minimal impact on cultivable land.
- ✓ There was a general call for ensuring proper drainage and waste disposal systems around the shelter sites to prevent waterlogging and health hazards.
- ✓ Participants suggested engaging local labor and skilled workers during the construction phase to promote employment and community ownership.
- ✓ Some participants proposed including ramps, handrails, and other accessibility features to ensure elderly and differently-abled individuals can access the shelters easily.
- ✓ Environmental concerns such as noise, dust, and disruption of natural vegetation were also raised, along with suggestions to minimize these through proper site management and tree plantation around the shelter premises and they also requested to have provision of additional facilities such as Radio, TV, Rain Coat, Torch light, Life jacket, Mike, Flag, Fire extinguisher, Gum boot etc.

However, there are some specific issues raised by the participants in different places, which **are summarized in the following table:**

Table 6.2: Gaibandha Sadar Upazila participants categories, their number, raise main issues and responses

Upazila	Unique Database ID	Key stakeholders	Number of Participants	Main Issues/Concerns Raise	Response and Action Taken
Gaibandha Sadar	GAI-035, GAI-036, GAI-037, GAI-038, GAI-039, GAI-040 & GAI-041.	SMC, UP representatives, Local community, Serviceholders, Businessmen, Teachers, Students, Homemakers, etc.	173	Potential loss of trees, greenery, and habitats, along with dust, noise, vibration, soil compaction, erosion, runoff, and water pollution, may disturb residents, pedestrians, traffic, religious, educational, and community activities, impact mosque and temple structures, affect nearby agricultural lands, and cause temporary access disruptions and safety risks for school children, farmers, and the elderly.	Adequate mitigation measures, including dust suppression, noise and vibration control, traffic management, demarcation of sensitive sites, tree plantation, maintenance of safe access pathways, and consultation with school and community authorities, will be implemented to minimize disturbances and protect residents, pedestrians, and educational, religious, and community activities.

7 E&S CONCLUSIONS AND RECOMMENDATIONS

7.1 Land Related Due Diligence

In accordance with the World Bank's Environmental and Social Framework (ESF), particularly ESS5: Land Acquisition, Restrictions on Land Use and Involuntary Resettlement, a comprehensive land-related due diligence was conducted for the proposed flood shelter construction sites in Gaibandha District under the RIVER project. The due diligence aimed to confirm the legal status, ownership, and current use of the identified lands to ensure that the project does not trigger involuntary resettlement or land acquisition. All selected sites are situated within the premises of existing government educational institutions, such as public primary schools where land is owned by the Government of Bangladesh. Official land records (khatian, mouza maps, and land use certificates) were reviewed and verified in coordination with the Upazila Land Office and school management committees. No private land acquisition or physical/economic displacement is required. The selected lands are free from informal settlers, encroachments, or any third-party claims. Community consultations and stakeholder engagement confirmed that the local population supports the project and that the use of school grounds for multipurpose flood shelters is socially acceptable and beneficial. The findings confirm that the project activities comply with the provisions of ESS5 and do not involve any risks related to involuntary resettlement.

During the survey across Gaibandha Sadar upazila in Gaibandha district, environmental and social safeguard team conducted a thorough of land issues concerning 07 nos. proposed flood shelters sites, ensuring compliance with environmental and social standard 5 (ESS5) and the acquisition and requisition of immovable property act (ARIPA), 2017. As part of evaluation, the team meticulously collected land ownership documents and conducted on-site measurements to verify whether the available land could accommodate the proposed design specifications. Also conducted FGD to ensure no significant social impact arise from the project. No temporary business establishments, common property resources like mosque, temple was not found in none of the school premises. Legal documents for land approvment have been checked by effective website as <https://dlrms.land.gov.bd/>. However, after reviewing design of option 1 and option 2, it has been identified that 07 proposed multipurpose flood shelters compliant with the legal and policy frameworks as well as land selection criteria of the project, demonstrating sufficient land availability, clear ownership records, and no risk of involuntary resettlement or displacement. Total 05 schools require demolition of existing old building and 02 shelter requires wash blocks (DPHE) demolition to make space for the construction while 03 schools from them needed temporary school shed and 01 school are fully prepared for immediate construction without the need for demolition or major preparatory work. For all schools where issues were raised about saving playground are addressed through proper consultation with SMC and local community and verifying design alignment in the field.

7.2 Initial Environmental Impacts due to Sub-project

The construction of flood shelters under the RIVER project in Gaibandha District is anticipated to cause a range of initial environmental impacts during the pre-construction and construction phases. Site clearing and earthworks are expected to result in temporary disturbance of the existing land surface, including minor vegetation removal and soil exposure, which may increase the risk of soil erosion and sediment runoff into nearby water bodies. Excavation and foundation works could lead to localized dust generation and noise pollution, potentially affecting nearby communities and sensitive receptors. The operation of construction machinery and transportation of materials will contribute to air emissions, including particulate matter and exhaust gases, which could temporarily degrade local air quality. Additionally, improper management of construction waste and debris might result in contamination of soil and water resources if not adequately controlled. Temporary disruption to drainage patterns and surface water flows may occur, potentially affecting local aquatic ecosystems. There is also a possibility of minor disturbances to local biodiversity due to habitat alteration. Furthermore, increased human activity at the site could lead to safety hazards and traffic congestion in adjacent areas.

However, these impacts are expected to be temporary and localized, provided that appropriate mitigation measures and environmental management plans are effectively implemented throughout the project lifecycle to minimize adverse effects on the environment and the local communities.

7.2.1 Key Findings of the Environmental and Social Assessment

The Environmental and Social Assessment for Gaibandha District under the RIVER Project reveals that the proposed flood shelter construction sites are located within a highly flood-prone alluvial landscape shaped by the Brahmaputra and Ghaghat river systems. The baseline environment indicates fertile floodplain soils, moderate biodiversity including homestead vegetation, scattered trees, and aquatic species associated with nearby wetlands and canals.

Key sensitivities identified include the presence of small water bodies, agricultural fields in close proximity, and community structures such as schools, mosques, local markets, and graveyards within the project influence area. Construction-phase impacts are expected to include removal of limited vegetation and trees, temporary disruption of surface soil and drainage patterns, dust and noise pollution, increased traffic and community safety risks, and potential disturbance to adjacent agricultural land during earthwork.

Social impacts include temporary livelihood disturbances for small traders, informal vendors, and local laborers, along with the risk of tensions between local communities and incoming workers if not properly managed. No physical displacement or major land acquisition is anticipated, as land is mostly government-owned or community-transferred for public benefit. The assessment also highlights minor risks to water quality due to construction runoff, improper waste disposal,

and unsafe storage of materials. Women, children, elderly persons, and persons with disabilities were identified as vulnerable groups requiring additional safety and accessibility considerations.

Overall, most impacts are temporary, site-specific, and reversible with appropriate mitigation measures through the ESMP, adherence to ESCoPs, workers' code of conduct, and continuous community engagement. The assessment concludes that with proper environmental and social management, the project is environmentally viable, socially acceptable, and expected to enhance long-term community resilience against recurring floods in Gaibandha District.

7.2.2 Key Environmental Related Recommendations

The hydrologically sensitive and flood-prone nature of Gaibandha District, the environmental recommendations for the RIVER Project emphasize climate-resilient, ecosystem-friendly, and community-inclusive planning. Construction activities for flood shelters and associated infrastructures should incorporate stringent measures to control dust, noise, and surface runoff, especially because of the district's loose alluvial soils and proximity to major rivers such as the Brahmaputra and Teesta.

Site preparation must ensure minimal disturbance to surrounding agricultural lands, wetlands, homestead vegetation, and village ponds, with strict prohibition of indiscriminate earth extraction or unplanned depression filling. Priority should be given to preserving natural drainage pathways to avoid waterlogging, while sediment traps, temporary drainage channels, and erosion-control practices (e.g., turfing, geotextiles, bamboo palisading) must be applied at excavation and embankment-raising sites.

Waste management should follow a zero-dumping approach by designating controlled waste storage areas, promoting reuse of excavated spoil, and preventing hazardous materials such as oils, lubricants, and cement slurry from entering nearby water bodies. Water pollution risks should be mitigated by enforcing sanitation facilities for workers, ensuring safe storage of construction materials, and protecting tube wells from contamination. To strengthen climate resilience, each shelter site should adopt green features including native tree plantation, rainwater harvesting mechanisms, rooftop drainage management, and improved stormwater conveyance.

Furthermore, contractors must follow site-specific CESMPs and national environmental regulations, maintain active community engagement, and ensure continuous environmental monitoring—covering air quality, noise levels, riverbank stability, and biodiversity—throughout construction and operation to safeguard Gaibandha's ecologically delicate riverine environment.

7.3 Initial Social Impacts on Community due to Subproject

The implementation of the RIVER Project in Gaibandha District is expected to generate several initial social impacts on the surrounding communities during the early stages of subproject preparation and commencement. As site clearing, material mobilization, and the establishment

of temporary facilities begin, local residents may experience disruptions to daily movement due to increased traffic of construction vehicles along village roads, many of which are narrow and shared by pedestrians, schoolchildren, and agricultural users.

Temporary loss of access to community spaces—such as school grounds, pathways, or common gathering points—may arise during layout work or storage of construction materials. Households located near the proposed flood shelter sites may be affected by noise, dust, and increased human activity, creating concerns for safety, privacy, and overall well-being. In areas where agricultural land or small community structures are adjacent to the project footprint, there may be perceived or actual fears of partial loss of land, boundary disputes, or potential damage to crops and homestead assets. The influx of outside laborers for construction can also lead to social tension or misunderstanding with local communities regarding cultural norms, resource use, or expectations of local employment opportunities.

Moreover, women, elderly people, and other vulnerable groups may feel additional stress due to restricted mobility, reduced access to water points or markets, and concerns over worker-community interactions. Although these impacts are generally temporary and manageable, they underscore the need for early community engagement, clear communication of construction schedules, effective grievance redress mechanisms, and proactive measures to ensure safety, inclusiveness, and social harmony throughout the project implementation.

7.3.1 Construction Phase Related Impacts

During the construction phase, several short-term social impacts may arise in the vicinity of subproject sites:

- **Traffic and Access Constraints:** Movement of heavy vehicles and equipment may temporarily congest narrow rural roads and access routes to schools or local markets.
- **Noise and Dust:** Construction operations, particularly earthworks and material handling, may increase local noise and dust levels, affecting classrooms, nearby residences, and small businesses.
- **Safety and Security Risks:** The presence of laborers and machinery near educational institutions may raise community concerns over child safety, privacy, and gender-sensitive spaces.
- **Disruption of Livelihood Activities:** Informal vendors, rickshaw pullers, or daily wage laborers operating near the sites may face temporary disruptions.
- **Boundary and Land-Use Sensitivities:** Although all sites are on public or institutional lands, minor disputes could arise if boundary demarcation or community consultations are inadequate.

To address these issues, the project will adopt the following mitigation measures:

- Enforce a Labor Influx Management Plan and a Code of Conduct covering behavior, gender sensitivity, and community relations for all workers.
- Maintain continuous communication with the School Management Committee (SMC), teachers, parents, and nearby residents regarding construction schedules and safety protocols.
- Implement dust and noise control measures, such as water sprinkling and restricted work hours near classrooms.
- Provide safe temporary access routes and signage around construction zones.
- Ensure that a Grievance Redress Mechanism (GRM) is fully functional, accessible, and responsive to any community complaints.

While temporary inconveniences are inevitable, the positive impacts are expected to outweigh the negatives: improved infrastructure, safer shelters for vulnerable populations, better learning environments, and short-term employment for local laborers. The assessment confirms that no small ethnic or Indigenous communities are present within the subproject influence zones of Gaibandha, and therefore ESS7 (Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities) is not triggered.

7.3.2 Engagement of the School Management Committee (SMC)

Active participation of the School Management Committee (SMC) has been integral to site selection, environmental and social assessment, and design planning for the proposed flood shelters in Gaibandha. SMC members provided critical inputs on:

- the current condition and functionality of existing school infrastructure,
- likely impacts on school operations and student safety, and
- appropriate mitigation measures to minimize disruption during construction.

The SMCs have shown strong ownership and support, recognizing the dual benefits of the shelters for both education and disaster preparedness. Their involvement ensures that design features respond to local priorities—such as separate sanitation for boys and girls, inclusive access for persons with disabilities, and secure community access during flood emergencies.

To ensure long-term sustainability, the project will facilitate capacity development and training programs for SMC members focusing on:

- Facility operation and maintenance (O&M) after handover to the Ministry of Primary and Mass Education (MoPME);
- Climate resilience and flood adaptation skills, including the use of early warning systems;
- Record-keeping, meeting organization, and community reporting;
- Disaster preparedness and coordination with local Union Disaster Management Committees (UDMCs).

These capacity-building measures will help the SMCs serve as the first line of community leadership in managing, maintaining, and utilizing the shelters effectively during both normal and emergency periods.

7.3.3 Union Disaster Management Committee (UDMC)

At the Union Parishad (UP) level—the lowest tier of local government—the Union Disaster Management Committee (UDMC) plays a legally mandated role in disaster preparedness, response, and recovery. Each UDMC, chaired by the UP Chairman, includes representatives from local government, education, health, agriculture, and community organizations.

In practice, however, many UDMCs in Gaibandha remain under-resourced or inactive, limiting their effectiveness in pre-disaster planning, early warning dissemination, and post-disaster coordination. The RIVER Project presents an opportunity to revitalize and institutionalize the UDMCs as functional platforms for community-based disaster management.

By strengthening the UDMCs, the project will help ensure that the flood shelters function not only as physical infrastructure but as integrated nodes of local disaster governance, thereby enhancing the district's overall resilience and social cohesion.

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ANNEXURE 1:
SITE SPECIFIC ENVIRONMENTAL AND SOCIAL FINDINGS UNDER GAIBANDHA
DISTRICT

Site-Specific Environmental and Social Findings with BOQ under Gaibandha District.

Name of Subproject: Development of Multipurpose Flood Shelter at ***Batikamari Government Primary School***

Village: Koraibari Union: 12 No. Kamarjani

Upazila: Gaibandha Sadar; District: Gaibandha

Package No/Database Unique ID: GAI-035; School Code: 91108010203

SUB-PROJECT DESCRIPTION

The Batikumari Government Primary School is a subproject of “Resilient Infrastructure for Adaptation and Vulnerability Reduction (RIVER) Project”. It is located in Koraibari village under 12 No. Kamarjani Union of Gaibandha Sadar Upazila of Gaibandha District. Major components of the subproject are to construct resilient flood shelters and community structures and strengthen the capacity for disaster preparedness and response. Significant features of this subproject are summarized in **Table 1:**

Table 10: The Significant Features of the Subproject Site

Name of the Subproject	:	Batikamari Government Primary School
Educational Institute ID	:	91108010203
Land Owner	:	Batikamari Government Primary School
Available Land	:	57 Decimals
Average Capacity of Flood Shelter	:	650
Catchment Population	:	10,000
Catchment Village	:	Goghat (N), Dangarghat, Chaoal Beel (S), 5 No. Koraibari (E), Uttar Gidari Masterpara (W)
Major profession of local population	:	Agriculture-(70%), Fisherman (10%), Businessman (10%), Service (5%), Others-(5%)
Brief Description of Subproject Site: (e.g. present land use, Important Social and Environmental Features (IEFs) near site, etc.)	:	Existing GPS building, Playground, local settlements, Agricultural land, Trees, Roads etc.
Sensitive environmental, cultural, archaeological, religious sites near (within 1km) of site including major water bodies/forests	:	None
Ethnic Minority	:	None

Connecting Road	:	8ft wide Batikumari GPS Connecting Road
Land acquisition	:	None

(Source: Field survey and Public Consultation Meeting, November 2025)

LOCATION OF THE SUB-PROJECT

The subproject is located in the North-East part of Gaibandha Sadar Upazila in Gaibandha District, which is within the Rangpur Division. The location details of the subproject have been summarized in **Table 2**.

Table 2: Location Details of the Subproject Site

District	:	Gaibandha
Upazila	:	Gaibandha Sadar
Union	:	12 No. Kamarjani
Village	:	Koraibari
GPS Location	:	25.387265 N; 89.627436 E
Distance of the site from Upazila HQ	:	25km-West
Nearby Major Road:	:	Gaibandha to Kurigram road (8km-West)
Nearby River/ Canal:	:	Ghagot River (1.5km-East)

(Source: Field survey and Public Consultation Meeting, November 2025)

The catchment area of the subproject predominantly includes the villages of Goghat (N), Dangarghat, Chaoal Beel (S), 5 No. Koraibari (E), Uttar Gidari Masterpara (W) which frequently experience recurrent flooding. Gaibandha Sadar Upazila is situated within the active floodplain of the Brahmaputra (Jamuna) River system and is highly influenced by monsoon-driven hydrological processes. The landscape of Koraibari is characterized by low-lying alluvial terrain, interspersed with khals (canals), floodplain depressions, and agricultural fields, which collectively govern local drainage and flood behavior. During the monsoon season, heavy rainfall combined with upstream river flow often causes riverbank overtopping and backflow through local drainage channels, resulting in inundation of homesteads and croplands. The flat topography and limited natural drainage capacity slow floodwater recession, leading to prolonged water retention in fields and settlement areas. While annual sediment deposition enhances soil fertility and supports agricultural productivity, recurrent flooding frequently disrupts farming activities, damages standing crops, delays planting cycles, and temporarily reduces cultivable land availability. Flooding also impacts essential infrastructure in Koraibari Village, including rural access roads, earthen embankments, culverts, and small bridges, which often become

impassable during peak flood periods. These conditions increase economic vulnerability, restrict access to markets, schools, and healthcare facilities, and disproportionately affect low-income households living in flood-prone zones. In response to these challenges, priority investments for Koraibari Village and surrounding areas should include: (a) Sustainable Water Management: Re-excavation and regular maintenance of khals, improvement of local drainage pathways, and sediment management to enhance water conveyance and reduce prolonged waterlogging. (b) Resilient Infrastructure: Elevation and strengthening of rural roads, rehabilitation of embankments, upgrading culverts and bridges with climate-resilient designs, and construction of multi-purpose flood shelters equipped with adequate WASH facilities. (c) Community-Level Preparedness: Strengthening early warning dissemination systems, developing community-based flood contingency plans, conducting preparedness and response drills, and clearly defining roles for routine infrastructure operation and maintenance. These interventions will contribute to reducing long-term flood-related damages and improving the resilience of infrastructure, agriculture, and livelihoods in Koraibari Village, Kamarjani Union, within Gaibandha Sadar Upazila.

The flood shelter will be constructed at Batikumari Government Primary School (GPS), which is located at the Koraibari village under 12 No. Kamarjani Union of Gaibandha Sadar Upazila Gaibandha District. There are 3 teachers (Female: 03), and 103 students (Boys: 54; Girls: 49) in the school, operated by the guidance of School Management Committee (SMC) and government officials of Gaibandha Sadar Upazila Education Office. The students, teachers and residents of the catchment area come to the proposed site by using the connecting/access road named Batikumari GPS road. The road is a pucca road with 8 feet width and just passing beside the Batikumari Government Primary School at north side.

The population of the catchment area is about 10,000. People in the area are mostly dependent on shallow tubewell water for their daily uses and the average depth of water is 150ft below the ground. Analytical results confirmed the presence of a minor concentration of iron in the tested material. The catchment area of the subproject supports a variety of indigenous and brackish water fish species, including Tengra Catfish, Tank Goby, Stinging Catfish and Spotted snakehead *fish*. These species are important components of the local aquatic ecosystem and are considered to have ecological and, in some cases, conservation significance. In addition to aquatic biodiversity, several common local bird species such as, *Common Myna*, *Magpie-Robin*, *Weaver Bird* and *Dove* are commonly observed in the area. The surrounding environment also provides habitat for a few wild animals, notably snake and the vulture which are occasionally sighted within the catchment zone. The 12 No. Kamarjani Union map indicating sub-project location has been shown respectively in **Figure 1**. The topographical Map with indicative and tentative location of labor camp, construction materials storage area, and waste disposal area have been shown in **Figure 2** which shall be placed as per direction and satisfaction of LGED and E.I.C.

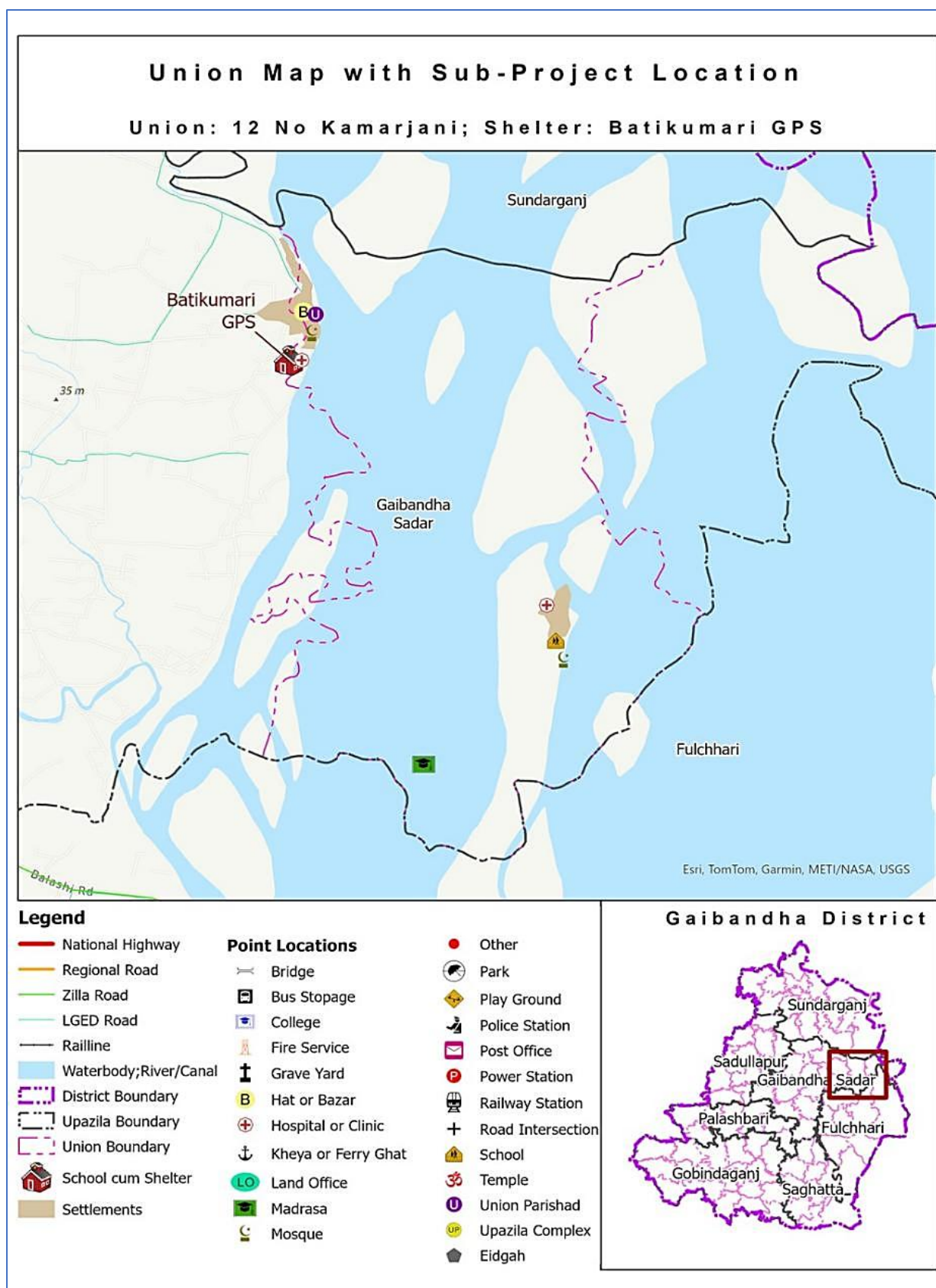


Figure 1: 12 No. Kamarjani Union Map Indicating Proposed Subproject

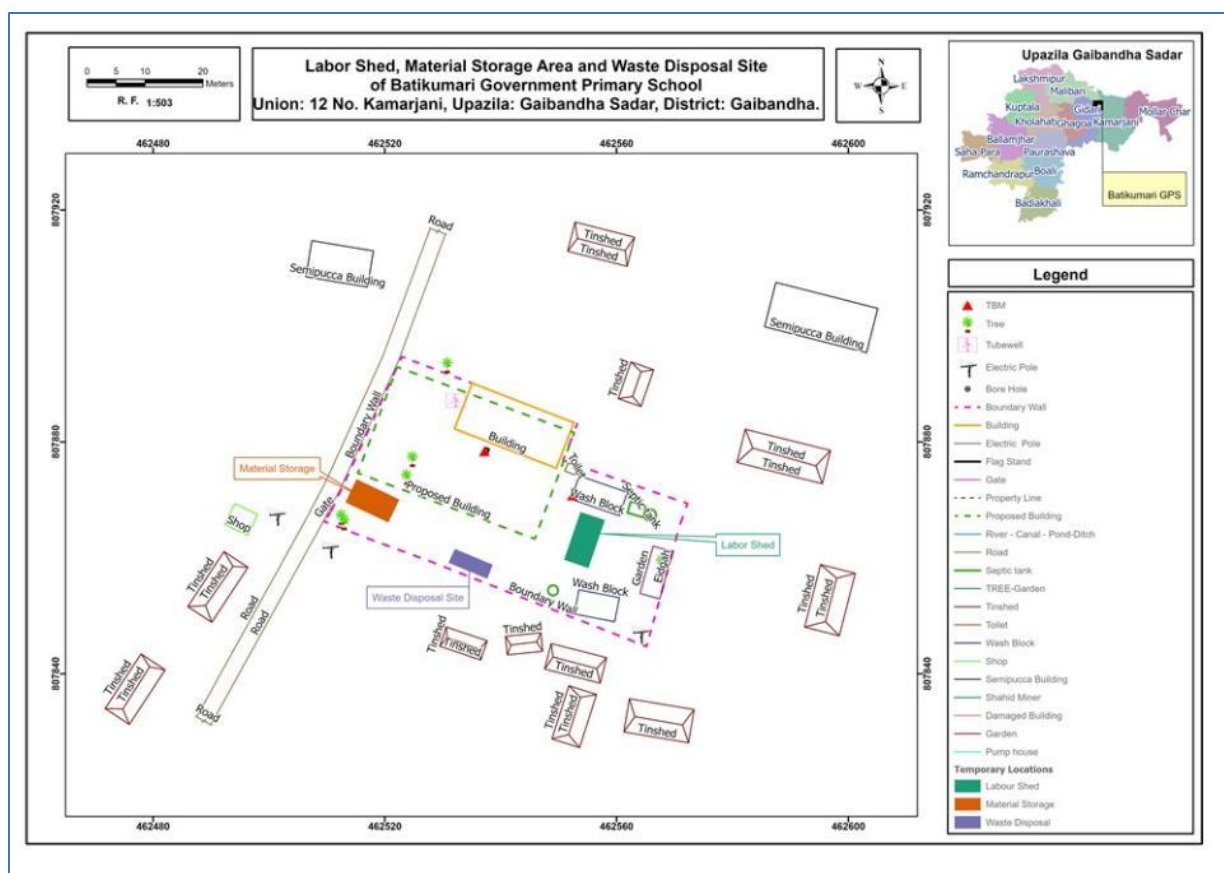


Figure 2: Proposed Labor Camp, Waste Disposal and Materials Storage Area

CURRENT SITUATION, PROPOSED INTERVENTIONS AND NEED FOR THE SUB-PROJECT

The present conditions of the subproject site and proposed labor camp, waste disposal area and construction materials storage area are visualized in **Figures 3, 4, 5 and 6**.



Figure 3: Current Situation of the Existing Subproject Site



Figure 4: Proposed Labor Camp area



Figure 5: Proposed Materials Storage Area



Figure 6: Proposed Waste Disposal Area

The existing Batikamari Government Primary School is situated on approximately 57 decimals of land and comprises a one-storied pucca building that presently accommodates all classrooms as well as administrative offices. The proposed flood shelter will be developed on vacant land within the school premises and will not require the demolition or alteration of any existing structures. Temporary construction-related facilities, including labour sheds, material storage areas, and a designated waste disposal site, will be established within the school boundary for the duration of the construction period. An existing electric pole located within the project area will require relocation to facilitate the proposed construction activities. The shifting of the electric pole will be carried out in coordination with the relevant electricity authority to ensure uninterrupted power supply and compliance with applicable safety standards. A site accessibility assessment has identified that approximately 2.5 km of the existing approach road requires upgrading to ensure the safe and efficient movement of construction materials, workers, and equipment. On-site operations will be supported by essential utilities and services, including worker accommodation, toilet facilities, electricity supply, and access to safe drinking water. For the protection of students, school staff, and visitors, the active construction zone will be securely fenced to prevent any direct or indirect exposure to construction-related hazards. The school compound contains a significant number of trees; however, four trees will need to be removed to facilitate the proposed development activities. Agricultural land is located in close proximity to the school site. The project area has a documented history of severe flooding, with major flood events recorded in 1988, 2013, and 2017. During these events, floodwater levels rose to approximately 2 feet, 1 foot, and 1.5 feet, respectively. Such prolonged inundation caused substantial disruption to school operations and posed considerable challenges for students and staff. **Figure 7** presents current photographs of the existing Government Primary School facilities.



Figure 7: Existing School Building

The important establishments around the subproject site have been summarized in **Table-3**

Table 3: Important Establishments Adjacent to the Subproject Site

Direction	Important Establishments with Approximate Distance
North side	Kamarjani Bazar Jame Mosque (700m), Kamarjani Bazar Graveyard (700m), Kamarjani Bazar (650m), bdul Nasir Hafezia Madrasa & Orphanage (700m), Bartikri Government Primary School (950m), Fakirpara Jame Mosque (1.20km)
South side	Dangarhat Jame Mosque (600m), Batikmari Graveyard (600m), Batikmari Madrasa (600m), Chaolapir Temple (800m), Panditbari Jame Mosque (1.20km)
East side	Batikmari Eidgah (10m), Koraibari Jamee Mosque (300m), Koraibari Community Clinic (300m), Koraibari Madrasa (300m)
West side	Master para-Madrasa (700m), Molabondi Jame Mosque (1km), Agricultural Land

(Source: Field survey and Public Consultation Meeting, November 2025)

The proposed sub-project (construction of new School cum Flood shelter building) is not located within any environmentally sensitive area and will not cause any severe negative effects to the environmental settings of the area, neither to important environmental features. The disaster shelter will be constructed within an existing school boundary, so no agricultural land/ activities or fish farming will be disturbed due to the construction of the sub project. The Project area features a variety of religious, educational, and community institutions across all four directions. On the north side of the project site, several religious, educational, and commercial facilities are located within a short distance. These include Kamarjani Bazar Jame Mosque and Kamarjani Bazar Graveyard, both situated approximately 700 meters away. Kamarjani Bazar is located about 650 meters to the north, while Abdul Nasir Hafezia Madrasa & Orphanage is also positioned at a distance of around 700 meters. Bartikri Government Primary School lies approximately 950 meters away, and Fakirpara Jame Mosque is located about 1.20 kilometers from the site. To the south side, the surrounding area includes Dangarhat Jame Mosque, Batikmari Graveyard, and Batikmari Madrasa, each located approximately 600 meters from the site. Chaolapir Temple is

situated at a distance of around 800 meters to the south, and Panditbari Jame Mosque lies approximately 1.20 kilometers away. On the east side, Batikmari Eidgah is located very close to the site at a distance of approximately 10 meters. In addition, Koraibari Jamee Mosque, Koraibari Community Clinic, and Koraibari Madrasa are all situated about 300 meters to the east of the site. The west side of the site includes Master Para Madrasa, located around 700 meters away, and Molabondi Jame Mosque, situated approximately 1 kilometer from the site. The remaining western area is predominantly agricultural land.

No significant disturbance to all these establishments/features is anticipated due to construction activities for having sufficient distance from the construction site, and strict construction site management system- including restrictive work schedule during the daytime only, water-sprinkling twice a day in and around the site, proper fencing around the working area, safe storage of materials, etc.

Construction related activities and setting up of labor camps along with associated facilities and their management issues will be accounted for impacts more likely to be generated during the pre, post and construction period. Noise pollution from piling or drilling, air pollution caused by dust or gaseous emissions from vehicle movement, running of motorized equipment and land clearing, odors and soil pollution from leaking of latrines and fecal sludge, will more likely to take place. Soil can further be eroded and polluted from chemical spills or improper disposal of waste materials. Noise and vibration effects generated from piling and drilling may also trigger landslides and harmful disturbances to local fauna. Impact on surface and ground water bodies might get acute due mainly to the high abstraction rate and disposal/leakage of pollutants to the surface/ground water bodies. Clearing of trees, bushes or any type of vegetation may put impact on floral species and unscrupulous clearance also trigger habitat loss. All these impacts can only be prevented or minimized by adopting measures delineated into the ESMP and good practice engineering and site management.

ENVIRONMENTAL AND SOCIAL ASSESSMENT

This section identifies the potential impacts that the various elements of the proposed sub-project may have on the physical, biological and socio-economic environment within half a kilometer of the radial distance around the site. Environmental and Social Assessment (ESA) based on this assessment study for the Sub-project as Batikamari Government Primary School of Gaibandha Sadar Upazila under Gaibandha District has been conducted to identify and determine which potential project impacts may be significant and therefore require the application of reasonable and effective management and/or mitigation measures. In order to realize the exact physical, biological and socio-economic environment of the proposed sub-project site and the influence area in regards to the implementation measures, an extensive field visit was carried out on 19 November 2025 in the Sub-project area. Environmental and Social Assessment form, as adopted in **Annexure-2** of the Environmental and Social Management Framework of RIVER, was administered for identifying the impacts and their extents.

PUBLIC CONSULTATION AND PARTICIPATION

Public participation and community consultation has been taken up as an integral part of environmental assessment process of the project. Field visit has been carried out on 19 November 2025 in and around the Sub-project component site. As part of the impact assessment, participatory public consultation was conducted in that area by the field level staffs, and consultants from D&SC. Checklist of the consultation is attached in **Annexure-3**. The consultation meeting was attended by 18 persons (Male-16 and Female-02) and local individuals, teachers, chairman and/or member of Union Parishad and school management committee were among the attendees in that meeting. The participants were selected from different cohorts of stakeholders, and some of whom will have major active roles before, during and even after the construction works. Therefore, the meeting was organized in an informed, expressive and unbiased manner, wherefrom different views and concerns came across which will be properly taken care of during the design and construction phases. Refer to **Figure 8** and **Annexure-4** for selected photographs of the participatory public consultation held at site of the Batikamari Government Primary School and list of attendees in that public consultation meeting, respectively. A questionnaire was kept ready and responses were elicited. During these consultations, the communities were explained about the project, its benefits, associated social and environmental aspects and possible mitigation measures.

The participants were also informed about the project GRM (Grievance Redress Mechanism) system in detail and the disclosure of project documents in websites, and their unrestricted and uninitiated access to those system and resources. As such, public consultation is a living process as the types of problems/ difficulties, involved parties or stakeholders and mode of settlement or resolution processes are more likely to differ with time. Thus, consultation with different parties or stakeholders will be continued throughout the sub-project implementation period and records of resolutions, whatsoever and wherever possible, will be kept in writing at the site and made available on any enquiries or requests by all parties concerned.



Figure 8: Public Consultation Meeting in the Proposed Sub-project Site

SUMMARY OF ENVIRONMENTAL AND SOCIAL IMPACTS

Tree Cutting: Approximately four (04) trees are likely to be cut down and no water bodies are likely to be filled up due to the construction of the flood shelter. The ecological impact of the subproject is low. There will be temporary negative impacts on physico-chemical environment. Nevertheless, these impacts are manageable if mitigation measures are taken according to ESMP.

Grass turfing: Grass turfs on embankment, slope, building compound & any critical place to enhance the ecological condition and protect the top soil. Tentative area of turf has been estimated as 240 square meters (half of total area), after discussion with architects and engineers. It is likely to be changed depending on the requirement during construction as per site design and as per direction of E.I.C.

Land Ownership: Availability of adequate public land area is as important as community consent to construct the flood shelter and access roads. The feasibility team did not find any conflicts over the school land. The land issue has been discussed in the meeting. Participants unanimously confirmed that the school has its own 57 decimals of land and there is no dispute about this land.

Land Acquisition: The proposed Sub-project, Batikamari Government Primary School, does not have any involuntary resettlement impacts due to the construction of flood shelter and approach roads as the Sub-projects will be constructed in existing Government Primary Schools' premises. The Government Primary School has 57 decimals of land. No land acquisition will be required for the activities to be implemented under the project. Access road needs to construct or rehabilitate within its existing alignment.

ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN

Site specific Environmental and Social Management Plan (ESMP) outlines tailored mitigation, monitoring, and management measures to address potential environmental and social impacts arising from school cum flood shelter construction at each sub-project site. It focuses on controlling dust, noise, and waste; protecting nearby agricultural land and water bodies; ensuring occupational health and safety; managing community interactions; and conserving local biodiversity. The ESMP integrates the Environmental and Social Codes of Practice (ESCoPs) are attached in **Annexure-5** and compliance with World Bank ESF and national environmental regulations throughout the construction and operation phases. The Site Specific Environmental and Social Management Plan (ESMP) under this sub-project is providing in **Table 4**:

Tabel 4: Site Specific ESMP for Batikamari Government Primary School

Ref.	Activity / Issues	Potentials Impacts	Proposed Mitigation and Enhancement Measures	Responsible for Implementation	Responsible for Monitoring
1.	Contractor's proposal for site specific temporary works	Accurate/ proper implementation of ESMP	Preparation of Work schedule, construction camp, materials storage area, access road, waste dumping/ disposal area etc.	Contractor	Environmental and Social Development Specialists of PIU and D&SC
2.	Site Clearing, Fencing, removal and Disposal Activity	Improper management and clearing of site may elevate risks of accidents, pollution and nuisance to public and school users.	- Clearing of site at the very outset with removal of all obstructions, including structures, materials, trees, etc. in order to keep the construction area, storage areas used, free from accumulations of waste materials or rubbish, with necessary arrangement for collection at a central disposal area. - Providing necessary protection fencing surrounding the total workplace area (including internal fencing made with bamboo for demarcating material storage areas mainly) and environmental and occupational health & safety sign boards, warning signs, etc.	Contractor	Environmental and Social Development Specialists of PIU and D&SC

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Ref.	Activity / Issues	Potentials Impacts	Proposed Mitigation and Enhancement Measures	Responsible for Implementation	Responsible for Monitoring
3.	Construction and operation of labor shed for the workers	• Generation of sewage and solid waste may cause environmental pollution in the surrounding area • Water, soil, air & dust pollution/ environmental pollution	• Construction of sanitary latrine at the labor shed (consider 15 persons for one toilet, separate toilet for male and female); • Construction of sanitary latrine/ Pit latrine with septic tank/ Ring slab system • Erection of “no litter” sign, provision of waste bins/cans (separate waste bins for organic and inorganic wastes); • Provision of waste bins/ cans, where appropriate, • Litter is to be collected daily. • Bins and/or skips should be emptied regularly and waste/ debris should be disposed off at waste disposal areas approved by Environmental Specialist of DSC. • Ensure wastes (solid wastes and other forms of the waste) disposal at designated places. • Camp and working areas are kept clean and tidy at all times. • Camp is to be checked for spills of substances i.e. chemical, oil, paint, etc.	Contractor	Environmental and Social Development Specialists of PIU and D&SC
4.	Health, Safety and Wellbeing of Workers	• Health and Safety of workers	• Conduct formal and unofficial discussion and training to increase awareness about hygiene practices among the workers; • Ensure availability and access to first-aid equipment and medical supplies for the workers.	Contractor	Environmental and Social Development Specialists of PIU and D&SC

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Ref.	Activity / Issues	Potentials Impacts	Proposed Mitigation and Enhancement Measures	Responsible for Implementation	Responsible for Monitoring
			• Ensure safety gear worn: ear plug, goggles, mask, gloves, helmets, and uniforms etc. • Staff must be trained up for operating equipment • Ensure adequate supply of drinking water. Sanitation facilities for male & female workers separately.		
5.	Construction Materials storage areas	• Use of surrounding open area, playground, road side etc. for stockpiling of construction materials. • Creating dust/ air pollution, • Spillage of liquid/hazardous substances i.e. oil, paint, chemicals, bitumen etc. • Access of students, children, animals, etc. • Not cleaning of construction materials storage areas after completion of construction.	• Proper stockpiling/ storage of construction materials at the site as proposed by the contractor & approved by the Environmental Specialist of D&SC. • Proper covering of dust producing materials with polythene sheet, • Proper fencing around the storage area in order to be secure, to minimize the risk of crime and to be safe from access by students, children, animals, etc. • Spills/ hazardous substances should be disposed off at the site as proposed by the contractor & approved by the Environmental Specialist of DSC to avoid soil/ water contamination. • Materials storage area must be cleaned after completion of construction.	Contractor	Environmental and Social Development Specialists of PIU and D&SC
6.	General construction work	• Drainage congestion and flooding	• Plinth level of the Shelter should be higher than the highest flood water level.	Contractor	Environmental and Social Development

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Ref.	Activity / Issues	Potentials Impacts	Proposed Mitigation and Enhancement Measures	Responsible for Implementation	Responsible for Monitoring
			• Ensure provision for adequate drainage of storm water and pumping of congested water if needed; • Ensure adequate monitoring of drainage effects, especially if construction works are carried out during the monsoon season.		Specialists of PIU and D&SC
		• Air pollution	• Check regularly and ensure that all the subproject vehicles and equipment are in good operating condition; • Ensure contractor spray water on dry surfaces/ unpaved to reduce dust generation; • Maintain adequate moisture content of the sand; • Ensure contractor sprinkle water and cover stockpiles of loose materials (e.g., fine aggregates); • Inform and make regular consultation with the local people about the subproject activities and potential impact; • Cover loaded truck used for carrying sand with tarpaulin/other suitable material to prevent spreading by air blown. • Provision of Masks for the workers, site staffs, students and teachers & Masks should be available in site during construction period. • Construction works should be scheduled before and after school hour, prayer/religious ritual time, or during holidays.	Contractor	Environmental and Social Development Specialists of PIU and D&SC

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Ref.	Activity / Issues	Potentials Impacts	Proposed Mitigation and Enhancement Measures	Responsible for Implementation	Responsible for Monitoring
			Avoid use of equipment e.g. stone crushers at site, if possible, which produce significant amount of particulate matter.		
		Traffic congestion, effect on traffic and pedestrian safety	- Ensure schedule deliveries of materials/ heavy vehicle movement/ equipment during off-peak hours; - Place traffic sign/cautionary sign to avoid undue traffic congestion if required; - Maintain vehicles and enforce legal load limits, and impose speed limits within settlements - Use flagmen, signage, and barriers near schools and markets; - Spray water on access roads to reduce dust - Coordinate with local authorities and inform communities.	Contractor	Environmental and Social Development Specialists of PIU and D&SC
		Noise pollution	- Check and maintenance the equipment properly; - Avoid using of construction equipment such as concrete mixer machine, pile driving equipment (pile rig, winch machine), vibrator machine that produce excessive noise at night; - Avoid prolonged exposure to noise (produced by equipment) by the workers; - Regulate use of horns and avoid un-due use of hydraulic horns by subproject vehicles;	Contractor	Environmental and Social Development Specialists of PIU and D&SC

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Ref.	Activity / Issues	Potentials Impacts	Proposed Mitigation and Enhancement Measures	Responsible for Implementation	Responsible for Monitoring
			- Provision of Ear plugs for the workers & site staffs should be available in site during construction period. - Inform local people about the subproject activities and potential impact. - Construction works should be scheduled before and after school hour and prayer time.		
		Felling of trees, clearing of vegetation and ecological disturbances	Replace each felled tree with at least 3 nos. saplings, due to 4 trees felling, 12 trees to be replanted around the periphery of the proposed site at an interval of not less than 3m, to enhance the ecological condition.	Contractor	Environmental and Social Development Specialists of PIU and D&SC
		Water & Soil pollution	- Avoid complete closing of the channel that affects reproduction of aquatic species; - Any illegal discharge of wastewater, leaked oil shall be prohibited.	Contractor	Environmental and Social Development Specialists of PIU and D&SC
		Spills and leaks of oil, toxic chemicals	- Proper handling of lubricating oil and fuel so that it does not fall on the soil; - Good housekeeping - Collection and proper disposal of spills; - Refueling and fuel tank should not be placed on the ground directly. - Spillage wasters should be disposed in the waste disposal area located at the site proposed by the contractor & approved by the Environmental Specialist of D&SC	Contractor	Environmental and Social Development Specialists of PIU and D&SC

Ref.	Activity / Issues	Potentials Impacts	Proposed Mitigation and Enhancement Measures	Responsible for Implementation	Responsible for Monitoring
7.	Rigorous Monitoring and Report Preparation and Submission		- The Contractor shall appoint (i) ES Manager (ii) Community Organizer and (iii) H&S Officer for strict management and monitoring of all ES related works at each site and the budget for this engagement shall be borne from the Contractor's management budget. - Contractor shall submit regular monthly monitoring report to the D&SC and PIU as per reporting standard set by the ES Consultants of D&SC/PIU.	Contractor	PIU

COST OF ENVIRONMENTAL ENHANCEMENT WORKS IN BOQ

Considering the environmental impacts and their mitigation measures for this subproject, several items are included in the BOQ to address these issues. The detailed estimate, with tentative cost for implementing the ESMP, is given in **Table 5**.

Table 5: Environmental Social Management Budget (Bill of Quantity)

Item No.	Description of the Works	Unit	Quantity	Unit Rate (BDT)	Amount (BDT)
1.	Site Cleaning, Removal and Disposal Activity: Cleaning and maintaining at all times, keeping the construction area, storage areas used, free from accumulations of waste materials or rubbish, with necessary arrangement for collecting at a central disposal area, on a daily basis and disposing in a manner approved and satisfaction by the Engineer, especially waste water and sewage from office, residential and mobile camps shall be piped to soak pits or other disposal areas, all used fuels, oils, other plant or vehicle fluids, old tyres, tubes, other solid waste from household, office, workshop, construction materials, etc. to be kept at safe places and any spillages shall be cleaned up by either burning in place or collecting the contaminated soils and burning them	Each	1	19,000	19,000.00

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Item No.	Description of the Works	Unit	Quantity	Unit Rate (BDT)	Amount (BDT)
	at the central disposal area, including removing all waste, debris, rubbish, unused materials, concrete forms and other like material, tools, equipment, machinery and surplus/ unwanted materials buried or cleaned up in a manner acceptable to the Engineer after completion of work etc. all complete as per requirement and full satisfaction of Engineer-in-charge. Payment will be made after 100% completion of the contract successfully				
2.	<u>First Aid Box:</u> Supplying, equipping and maintaining adequate first-aid box throughout the working period at worksite and site office, and erect conspicuous notice boards directing where these are situated and providing all requisite emergency medical first aid kits, including complying with the government medical or labour requirements at all times, and provide, equip and maintain necessary dressing kits throughout the working period for attending minor injuries, etc. all complete as per requirement and full satisfaction of Engineer-in-charge. Payment will be made after 100% completion of the contract successfully.	Each	2 nos.	6500 Tk. Per box	13,000.00
3.	<u>Providing Safety gear</u> package like hand gloves, eye protection glasses, air plug, helmets, rubber shoes, light reflecting dress etc. for 20 sets.	Set	20 sets	5,000	100,000.00
4.	<u>Temporary Toilet Facilities:</u> Provide at least two nos. portable toilets or constructing temporary semi-pucca toilets with twin pit latrines, one for female worker and other for male worker at worksite and workers accommodation site in a safe location, so that no adverse impact will generate on the surrounding environment, including providing requisite arrangements for water supplying etc. All complete as per drawing, specification, direction and satisfaction of the Engineer-in-Charge. All relevant accessories and arrangements under this item shall be property of the contractor and payment will be made only upon 100% completion of the contract successfully.	No.	2 nos.	20,000	40,000.00
5.	<u>Water Test (Drinking Water samples):</u> "Test (Drinking Water samples) Out of 5 nos. of tube well 1-no of tube well should be Install at the beginning of construction works so that labour and other site staff can get drinking	LS	3 times	13,800	41,400.00

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Item No.	Description of the Works	Unit	Quantity	Unit Rate (BDT)	Amount (BDT)
	water. In addition, Water samples to be collected periodically (half yearly) for one Tube well of the shelter for laboratory analysis for different parameters such as pH, arsenic, iron, chloride, hardness and total dissolved solids or electrical conductivity etc. all complete as per direction of EIC (including the cost of actual fees for testing from reputed laboratory and report) as desired by EIC."				
6.	<u>Drinking Water Facilities:</u> Providing continuous adequate drinking water supply at worksite and site office as well by installing necessary tube-well/s where applicable or any other means depending on local situation, also providing essential arrangement for storing drinking water by supplying portable best quality water tank equivalent to Gazi/Padma of adequate capacity depending on the number of users, including supplying 1 (one) no. best quality water filter of minimum capacity 30 liters with necessary kits, etc. all complete as per satisfaction and direction of the Engineer-in-charge, all relevant goods and equipment under this item shall be property of the contractor and payment will be made after 100% completion of the contract successfully.	Each	2 nos.	LS @ Tk. 35,000	7,000.00
7.	<u>Waste Disposal Facilities:</u> Providing, installing and maintaining at least 2 (two) nos. waste collection bins one for organic waste and other for inorganic waste of minimum capacity of 30 liters with hinge supported 450mm dia. cover plate for opening, made of durable plastic material at worksite, both bins will be kept in a safe and easily accessible place, so that will easy to use and no adverse impact will generate on the surrounding environment, including continuing the full functioning of waste disposal (buried/incineration) in accordance with the full satisfaction of the project manager throughout the contract period, all complete as per drawing, specification and direction of the Engineer-in-charge. Entire relevant accessories and arrangements under this item shall be property of the contractor and payment will be made after 100% completion of the contract successfully.	LS	1 set	20,000 BDT	40,000.00
8.	<u>Motivation training:</u>	LS	2	15,000	30,000.00

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Item No.	Description of the Works	Unit	Quantity	Unit Rate (BDT)	Amount (BDT)
	Motivation training of the Upazila Engineer's and Contractor's representatives for safety practice & environmental others facilities.				
9.	Hazards and Hazardous Materials: Handling Storing and store hazardous materials in accordance with the following requirements: Hazardous materials shall be stored above flood level and at least 20m from any watercourse; Hazardous liquid substances (e.g. petrol, diesel, oils) shall be stored on top of sealed plastic sheets in a secure, flat enclosed area. Bund walls shall be at least 25 cm high.	LS	1	12,000 BDT	12,000.00
10.	Dust suppression measures like water sprinkling on aggregates/ unpaved roads in and around the work site (Frequency of measures has been proposed to be increased as sensitive receptors are located around).	LS	1	50,000 BDT	50,000.00
11.	Supplying and planting specified healthy coconut (local) saplings of minimum 0.60m height, free from any diseases', collected from different nurseries (collection of saplings from government horticulture is preferable) & carrying the same to the worksite; preparation of pit prior to minimum 10 days of plantation by earthwork in excavation of 450mm x 450mm x 450mm size for plantation, applying 0.015 cum cow dung and 100gm normal salt mixed with exceled earth properly; planting the plants, weltering for will be as per tree plantation guideline.	Each	12	500.00	6,000.00
12.	Turfing on embankment top and slope, building compound with good quality turf supplied by the contractor of not less than 225mm square in dimension including placing and watering till grass is fully grown, etc. all complete as per direction of the E-I-C. (payment to be made only when grass is fully grown).	sqm	240	29.14 Tk. Per sqm	6,993.60
13.	Construction Work nearby busy access roads may cause temporary disruption to local traffic movement, pedestrian safety issues, and increased accident risks.	This is part of normal site management and does not require a separate BOQ item, measures implemented under Environmental and Social Codes of Practice (ESCoPs).			

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Item No.	Description of the Works	Unit	Quantity	Unit Rate (BDT)	Amount (BDT)
14.	Construction of Temporary Facilities such as site offices, labor sheds, storage yards, material stockpiles etc.	The cost for construction, maintenance, and removal of these facilities is included in the civil works BOQ under the contractor's responsibility.			
15.	Disturbance to nearby paddy field or water bodies	No separate BOQ item required — measures implemented under Environmental and Social Codes of Practice (ESCoPs).			
Total budget for this site					3,65,393.60

As per project ESMF, PIU, project engineer's suggestion and experience from other LGED projects such as MDSP, EMCRP etc. adequate budget has been proposed for the environmental management for the mitigation and enhancement measures. It may vary depending on the real time situation and requirement of the construction. The subproject activities have temporary and localized negative impact on noise level during construction phase due to movement of the subproject vehicles and equipment. Hence, budget includes analytical monitoring for noise level. For solid waste management adequate waste bins will be installed. The budget for labor shed, and site office construction is included in the civil works items. Therefore, it is not included in the environmental budget. It should be noted that the contractor will be paid as per actual work done.

Name of Subproject: Development of Multipurpose Flood Shelter at ***Mouja Malibari Government Primary School***

Village: Mouja Malibari (Bokshi Khamar); Union: 1 No. Lakshmipur;

Upazila: Gaibandha Sadar; District: Gaibandha;

Package No/Database Unique ID: GAI-036; School Code: 99708019004

SUB-PROJECT DESCRIPTION

The Mouja Malibari Moddho Para Government Primary School is a subproject of “Resilient Infrastructure for Adaptation and Vulnerability Reduction (RIVER) Project”. It is located in Mouja Malibari (Bokshi Khamar) village under 1 No. Lakshmipur Union of Gaibandha Sadar Upazila of Gaibandha District. Major components of the subproject are to construct resilient flood shelters and community structures and strengthen the capacity for disaster preparedness and response. Significant features of this subproject are summarized in **Table 1**:

Table 10: The Significant Features of the Subproject Site

Name of the Subproject	:	Mouja Malibari Government Primary School
Educational Institute ID	:	99708019004
Land Owner	:	Mouja Malibari GPS
Available Land	:	35 Decimals
Average Capacity of Flood Shelter	:	650
Catchment Population	:	9,000
Catchment Village	:	Gobindapur, Kishamoth Malibari, Mouja Malibari, Kuti Para, Bokshi Khamar, Faraji Para, Pramanik Para.
Major profession of local population	:	Agriculture-(60%), Daily Labour (20%), Business (5%), Service (5%), Others-(10%)
Brief Description of Subproject Site: (e.g. present land use, Important Social and Environmental Features (IEFs) near site, etc.)	:	Existing GPS Building, Playground, Shaheed Minar, Local Settlement, Trees, Eidgah, Agriculture Land etc.
Sensitive environmental, cultural, archaeological, religious sites near (within 1km) of site including major water bodies/forests	:	None
Ethnic Minority	:	None
Connecting Road	:	Bokshi Khamar Earthen Connecting Road (12 feet width)
Land acquisition	:	None

(Source: Field survey and Public Consultation Meeting, November 2025)

LOCATION OF THE SUB-PROJECT

The subproject is located in the Northern part of Gaibandha Sadar Upazila in Gaibandha District, which is within the Rangpur Division. The location details of the subproject have been summarized in **Table 2**.

Table 2: Location Details of the Subproject Site

District	:	Gaibandha
Upazila	:	Gaibandha Sadar
Union	:	1 No. Lakshmipur
Mouza	:	Malibari
Village	:	Mouja Malibari (Bokshi Khamar)
GPS Location	:	25.419621 N; 89.562776 E
Distance of the site from Upazila HQ	:	15km (North)
Nearby Major Road:	:	Lakshmipur- Kamarjani Road (1.5km –North)
Nearby River/ Canal:	:	Manosh River (1.2km -East)

(Source: Field survey and Public Consultation Meeting, November 2025)

The catchment area of the subproject predominantly includes the villages of Gobindapur, Kishamoth Malibari, Mouja Mouja Malibari, Kuti Para, Bokshi Khamar, Faraji Para, Pramanik Para which are regularly impacted by recurrent flooding. Mouja Malibari (Bokshi Khamar) village, in 1 No. Lakshmipur Union, Gaibandha Sadar Upazila (Gaibandha District), lies on the active Brahmaputra–Jamuna floodplain, where very low-relief alluvial terrain is crisscrossed by khals (canals) and beels (wetland depressions) that store and route monsoon flows. Local flood behaviour is governed by the Brahmaputra–Jamuna main stem and the regional network of the Teesta and Ghaghat rivers; the Ghaghat passes through Gaibandha town and joins the Brahmaputra a few kilometres north of Fulchhari Ghat, reinforcing backwater effects during peak flows. The subproject catchment—which includes Gobindapur, Kishamoth Malibari, Mouja Malibari, Kuti Para, Bokshi Khamar, Faraji Para, and Pramanik Para—experiences recurrent inundation when intense southwest-monsoon rainfall coincides with elevated upstream discharges, as reflected in official gauge bulletins reporting high and danger-level stages at Fulchhari/Fulchhari Ghat and on the Ghaghat at Gaibandha. The combination of flat micro-topography, limited drainage capacity, and episodic riverbank erosion prolongs standing water across homesteads and cropland. These conditions repeatedly disrupt agriculture—the principal livelihood—through seedling wash-out; submergence and silt deposition on paddy (aus/aman/boro), jute, and vegetables; and damage to on-farm irrigation, shallow tubewells, and field embankments. Recurrent flooding also degrades rural infrastructure (earthen roads, small

bridges/culverts, local embankments) and intermittently interrupts services at schools, markets, and health posts, while inundated latrines and water points compromise WASH conditions. Riverine and land-poor households are disproportionately affected. These patterns are consistent with national and district evidence for Gaibandha's flood-prone belts, including the Population & Housing Census 2022 and recent situation reporting. In line with sector guidance for the Teesta–Brahmaputra corridor, priority measures for Mouja Malibari (Bokshi Khamar) and neighbouring settlements are: (i) restoring hydrological conveyance via re-excavation/desilting of khals, outlet improvements, and sediment-aware O&M; (ii) climate-resilient infrastructure—raising critical road links to all-weather standards, strengthening and maintaining embankments, upgrading culverts/bridges for higher design discharges and debris passage, and targeted riverbank protection; and (iii) community preparedness—reliable last-mile early warning, union- and school-based contingency plans, inclusive drills, and defined O&M responsibilities. Implemented together, these actions would reduce chronic flood losses and strengthen the adaptive capacity of Lakshmipur Union, Gaibandha Sadar Upazila, and the wider Gaibandha District.

The flood shelter will be constructed at Mouja Malibari Government Primary School (GPS), which is located at the Mouja Malibari (Bokshi Khamar) village under 1 No. Lakshmipur Union of Gaibandha Sadar Upazila in Gaibandha District. There are 05 teachers (Male: 05; Female: 00), and 116 students (Boys: 59; Girls: 57) in the school, operated by the guidance of School Management Committee (SMC) and government officials of Gaibandha Sadar Upazila Education Office. The students, teachers and residents of the catchment area come to the proposed site by using the connecting/access road named Bokshi Khamar Connecting Road. The road is an earthen road with 12 feet width and just passing beside the Mouja Malibari Moddho Para Government Primary School at west side.

The population of the catchment area is about 9,000. Households in the subproject area rely primarily on groundwater from deep tubewells, with an average installation depth of about 200 feet below ground level. Recent water-quality testing has identified elevated iron in some deep sources, indicating potential public-health risks and the need for mitigation—such as shifting users to verified safe sources where feasible, installing iron (and arsenic, where present) removal units at household/community level, improving sanitary sealing and source protection, and instituting regular monitoring against Bangladesh and WHO guideline values alongside risk communication for safe collection, storage, and use. The surrounding landscape supports notable biodiversity: common birds include migratory waterfowl (*atithi pakhi*), cranes (*sarosh*), crows, Asian koel (*kokil*), and kites (*chil*). Occasional wildlife sightings include foxes, mongooses, snakes, monitor lizards (locally *gaora*), squirrels (locally *kat birali*), and vultures (locally *sakun*). Fish resources include giant snakehead (*gojar*) and freshwater shrimp/prawn. These birds, fishes, and animals provide essential ecosystem services—such as insect and rodent control, seed dispersal, scavenging, and bio-indication of habitat quality—that support agricultural productivity, public

health, and overall ecological resilience. Collectively, the aquatic, avian, and small terrestrial fauna indicate a functioning, balanced ecosystem that should be reflected in project design, construction management, and long-term operation and maintenance. The 1 No. Lakshmipur Union map indicating sub-project location has been shown respectively in **Figure 1**. The topographical Map with indicative and tentative location of labor camp, construction materials storage area, and waste disposal area have been shown in **Figure 2** which shall be placed as per direction and satisfaction of LGED and E.I.C.

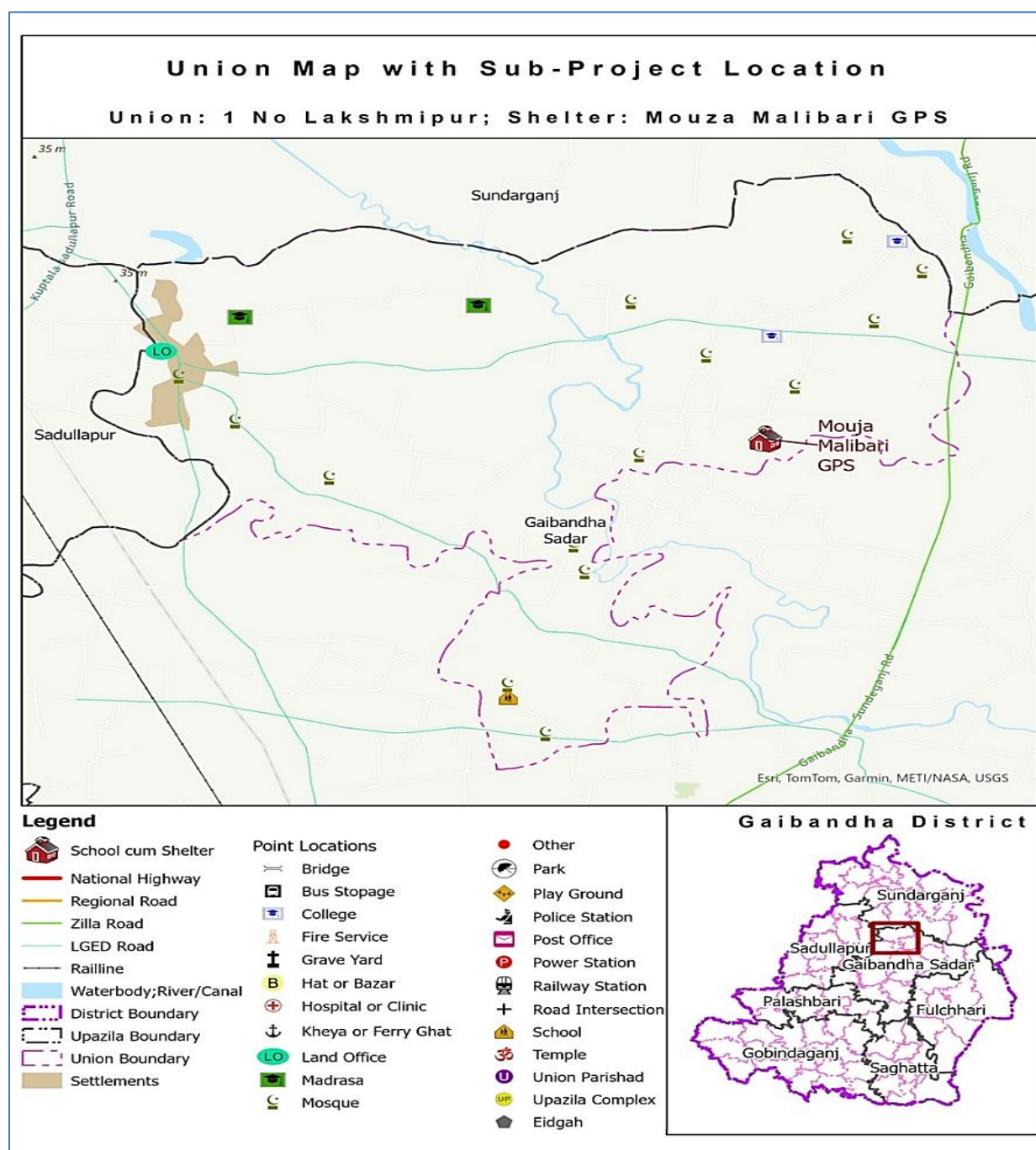


Figure 1: 1 No. Lakshmipur Union Map Indicating Proposed Subproject

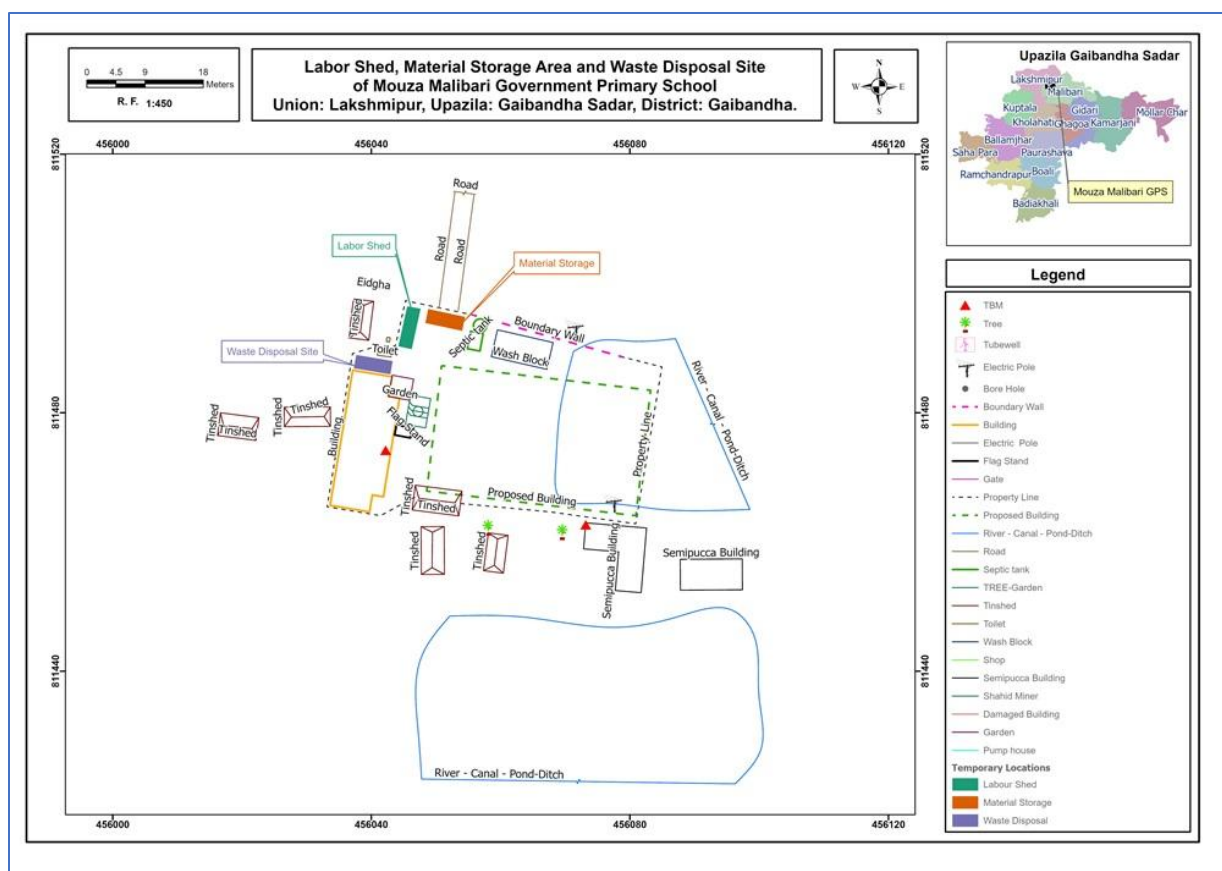


Figure 2: Proposed Labor Camp, Waste Disposal and Materials Storage Area

CURRENT SITUATION, PROPOSED INTERVENTIONS AND NEED FOR THE SUB-PROJECT

The present conditions and proposed labor camp, waste disposal area and construction materials storage area are visualized in **Figures 3, 4 and 5**.



Figure 3: Current Situation of the Existing Subproject Site



Figure 4: Proposed Labor Camp and Materials Storage Area



Figure 5: Proposed Waste Disposal Area for the Subproject Site

Mouja Malibari Government Primary School occupies approximately 35 decimals of land (≈ 0.35 acre / 0.14 ha) and comprises a one-storey pucca (permanent) building and a tin-shed semi-pucca structure that together accommodate all classrooms and administrative offices. No project-led demolition is required: the School Management Committee will relocate the tin-shed structure to clear the footprint, and the proposed multi-purpose flood shelter will be constructed on that site. Temporary school sheds are not needed; teaching and administrative activities will continue without interruption in the remaining building. To enable the works, one electricity pole will be relocated. Within the campus, temporary construction facilities—a labour shed, materials storage area, and a designated waste-disposal site—will be established with on-site provision of worker accommodation, toilets, electricity, and safe drinking water. To safeguard students and staff in the active school environment, the construction area will be enclosed with protective fencing to clearly segregate it from school circulation. The site is bordered by local settlements and rural homesteads; an Eidgah is adjacent to the school boundary, and multiple mosques and a bazar are located within approximately 1 km. A pond lies about 10 m south of the school boundary, and a considerable number of trees are present within the compound. All applicable regulations and guidelines for tree protection and water-body management will be followed during construction. The area has a documented flood history, notably in 1980 and 2019, when inundation depths of about 6 ft (~ 1.8 m) and about 2 ft (~ 0.6 m), respectively, persisted for up to 30 days, disrupting education services and broader community activities. **Figure 6** presents current photographs of the existing school facilities, and **Figure 7** shows the proposed site for the new construction.



Figure 6: Existing school Building



Figure 7: Proposed Land for New Construction.

The important establishments around the subproject site have been summarized in **Table-3**

Table 3: Important Establishments Adjacent to the Subproject Site

Direction	Important Establishments with Approximate Distance
North side	Bokshir Khamar Eidgah -Adjacent to the school, Mouja Malibari Bokshir Khamar Jame Mosque (300m), Mouja Malibari Akandapara Jame Mosque (1.25km), Doctorpara Jame Mosque (1km), Lenga Bazar Ideal College (1.20km), Agriculture Land.
South side	Farazipara Eidgah (1.45km), Chaklir Beel -Adjacent to the school, Agriculture Land.
East side	Chaklir Beel -Adjacent to the school, Agriculture Land.
West side	Mouja Malibari Modhyapara Jame Mosque (1km), Soleyman Nagar Technical & Business Management College (800m).

(Source: Field survey and Public Consultation Meeting, November 2025)

The proposed sub-project (construction of new School cum Flood shelter building) is not located within any environmentally sensitive area and will not cause any severe negative effects to the environmental settings of the area, neither to important environmental features. The disaster shelter will be constructed within an existing school boundary, so no agricultural land/ activities or fish farming will be disturbed due to the construction of the sub project. Key community and natural features surrounding the site are as follows: to the north, the Bokshir Khamar Eidgah lies immediately adjacent to the school boundary, with Mouja Malibari Bokshir Khamar Jame Mosque (≈ 300 m), Mouja Malibari Akandapara Jame Mosque (≈ 1.25 km), Doctorpara Jame Mosque (≈ 1.0 km), Lenga Bazar Ideal College (≈ 1.20 km), and adjacent agricultural land; to the south, Farazipara Eidgah (≈ 1.45 km), Chaklir Beel immediately adjoining the site, and agricultural land; to the east, Chaklir Beel directly adjacent to the boundary and agricultural land; and to the

west, Mouja Malibari Modhyapara Jame Mosque (≈ 1.0 km) and Soleyman Nagar Technical & Business Management College (≈ 800 m).

No significant disturbance to all these establishments/features is anticipated due to construction activities for having sufficient distance from the construction site, and strict construction site management system- including restrictive work schedule during the daytime only, water-sprinkling twice a day in and around the site, proper fencing around the working area, safe storage of materials, etc.

Construction related activities and setting up of labor camps along with associated facilities and their management issues will be accounted for impacts more likely to be generated during the pre, post and construction period. Noise pollution from piling or drilling, air pollution caused by dust or gaseous emissions from vehicle movement, running of motorized equipment and land clearing, odors and soil pollution from leaking of latrines and fecal sludge, will more likely to take place. Soil can further be eroded and polluted from chemical spills or improper disposal of waste materials. Noise and vibration effects generated from piling and drilling may also trigger landslides and harmful disturbances to local fauna. Impact on surface and ground water bodies might get acute due mainly to the high abstraction rate and disposal/leakage of pollutants to the surface/ground water bodies. Clearing of trees, bushes or any type of vegetation may put impact on floral species and unscrupulous clearance also trigger habitat loss. All these impacts can only be prevented or minimized by adopting measures delineated into the ESMP and good practice engineering and site management.

ENVIRONMENTAL AND SOCIAL ASSESSMENT

This section identifies the potential impacts that the various elements of the proposed sub-project may have on the physical, biological and socio-economic environment within half a kilometer of the radial distance around the site. Environmental and Social Assessment (ESA) based on this assessment study for the Sub-project as Mouja Malibari Government Primary School of Gaibandha Sadar Upazila under Gaibandha District has been conducted to identify and determine which potential project impacts may be significant and therefore require the application of reasonable and effective management and/or mitigation measures. In order to realize the exact physical, biological and socio-economic environment of the proposed sub-project site and the influence area in regards to the implementation measures, an extensive field visit was carried out on 19 November 2025 in the Sub-project area. Environmental and Social Assessment form, as adopted in **Annexure-2** of the Environmental and Social Management Framework of RIVER, was administered for identifying the impacts and their extents.

PUBLIC CONSULTATION AND PARTICIPATION

Public participation and community consultation has been taken up as an integral part of environmental assessment process of the project. Field visit has been carried out on 19

November 2025 in and around the Sub-project component site. As part of the impact assessment, participatory public consultation was conducted in that area by the field level staffs, and consultants from D&SC. Checklist of the consultation is attached in **Annexure-3**. The consultation meeting was attended by 33 persons (Male -23 and Female -10) and local individuals, teachers, chairman and/or member of Union Parishad and school management committee were among the attendees in that meeting. The participants were selected from different cohorts of stakeholders, and some of whom will have major active roles before, during and even after the construction works. Therefore, the meeting was organized in an informed, expressive and unbiased manner, wherefrom different views and concerns came across which will be properly taken care of during the design and construction phases. Refer to **Figure 8** and **Annexure-4** for selected photographs of the participatory public consultation held at site of the Mouja Malibari Government Primary School and list of attendees in that public consultation meeting, respectively. A questionnaire was kept ready and responses were elicited. During these consultations, the communities were explained about the project, its benefits, associated social and environmental aspects and possible mitigation measures.

The participants were also informed about the project GRM (Grievance Redress Mechanism) system in detail and the disclosure of project documents in websites, and their unrestricted and uninitiated access to those system and resources. As such, public consultation is a living process as the types of problems/ difficulties, involved parties or stakeholders and mode of settlement or resolution processes are more likely to differ with time. Thus, consultation with different parties or stakeholders will be continued throughout the sub-project implementation period and records of resolutions, whatsoever and wherever possible, will be kept in writing at the site and made available on any enquiries or requests by all parties concerned.



Figure 8: Public Consultation Meeting in the Proposed Sub-project Site

SUMMARY OF ENVIRONMENTAL AND SOCIAL IMPACTS

Tree Cutting: No tree removal is anticipated during the construction period. Two surface water bodies are present near the site: (i) a pond located approximately 10 m south of the school boundary, measuring about 120 ft × 80 ft with an estimated 10 ft depth; and (ii) an eastern side adjacent to the boundary; chaklir beel of approximately 5,000 acres. These features function as

natural (or managed) storage and conveyance, contributing to local water conservation and drainage management. The project will not require the infilling, diversion, or alteration of either water body. Appropriate good-practice controls (e.g., silt fencing, careful spoil management, and runoff control) will be applied to avoid sedimentation or other construction-related impacts. The ecological impact of the subproject is low. There will be temporary negative impacts on physico-chemical environment. Nevertheless, these impacts are manageable if mitigation measures are taken according to ESMP.

Grass turfing: Grass turfs on embankment, slope, building compound & any critical place to enhance the ecological condition and protect the top soil. Tentative area of turf has been estimated as 240 square meters (half of total area), after discussion with architects and engineers. It is likely to be changed depending on the requirement during construction as per site design and as per direction of E.I.C.

Land Ownership: Availability of adequate public land area is as important as community consent to construct the flood shelter and access roads. The feasibility team did not find any conflicts over the school land. The land issue has been discussed in the meeting. Participants unanimously confirmed that the school has its own 35 decimals of land and there is no dispute about this land.

Land Acquisition: The proposed Sub-project Mouja Malibari Government Primary School, does not have any involuntary resettlement impacts due to the construction of flood shelter and approach roads as the Sub-projects will be constructed in existing Government Primary Schools' premises. The Government Primary School has 35 decimals of land. No land acquisition will be required for the activities to be implemented under the project. Access road needs to construct or rehabilitate within its existing alignment.

ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN

Site specific Environmental and Social Management Plan (ESMP) outlines tailored mitigation, monitoring, and management measures to address potential environmental and social impacts arising from school cum flood shelter construction at each sub-project site. It focuses on controlling dust, noise, and waste; protecting nearby agricultural land and water bodies; ensuring occupational health and safety; managing community interactions; and conserving local biodiversity. The ESMP integrates the Environmental and Social Codes of Practice (ESCoPs) are attached in **Annexure-5** and compliance with World Bank ESF and national environmental regulations throughout the construction and operation phases. The Site Specific Environmental and Social Management Plan (ESMP) under this sub-project is providing in **Table 4**:

Tabel 4: Site Specific ESMP for Mouja Malibari Government Primary School

Ref.	Activity / Issues	Potentials Impacts	Proposed Mitigation and Enhancement Measures	Responsible for Implementation	Responsible for Monitoring
1.	Contractor's proposal for site specific temporary works	Accurate/ proper implementation of ESMP	Preparation of Work schedule, construction camp, materials storage area, access road, waste dumping/ disposal area etc.	Contractor	Environmental and Social Development Specialists of PIU and D&SC
2.	Site Clearing, Fencing, removal and Disposal Activity	Improper management and clearing of site may elevate risks of accidents, pollution and nuisance to public and school users.	- Clearing of site at the very outset with removal of all obstructions, including structures, materials, trees, etc. in order to keep the construction area, storage areas used, free from accumulations of waste materials or rubbish, with necessary arrangement for collection at a central disposal area. - Providing necessary protection fencing surrounding the total workplace area (including internal fencing made with bamboo for demarcating material storage areas mainly) and environmental and occupational health & safety sign boards, warning signs, etc.	Contractor	Environmental and Social Development Specialists of PIU and D&SC

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Ref.	Activity / Issues	Potentials Impacts	Proposed Mitigation and Enhancement Measures	Responsible for Implementation	Responsible for Monitoring
3.	Construction and operation of labor shed for the workers	• Generation of sewage and solid waste may cause environmental pollution in the surrounding area • Water, soil, air & dust pollution/ environmental pollution	• Construction of sanitary latrine at the labor shed (consider 15 persons for one toilet, separate toilet for male and female); • Construction of sanitary latrine/ Pit latrine with septic tank/ Ring slab system • Erection of “no litter” sign, provision of waste bins/cans (separate waste bins for organic and inorganic wastes); • Provision of waste bins/ cans, where appropriate, • Litter is to be collected daily. • Bins and/or skips should be emptied regularly and waste/ debris should be disposed off at waste disposal areas approved by Environmental Specialist of DSC. • Ensure wastes (solid wastes and other forms of the waste) disposal at designated places. • Camp and working areas are kept clean and tidy at all times. • Camp is to be checked for spills of substances i.e. chemical, oil, paint, etc.	Contractor	Environmental and Social Development Specialists of PIU and D&SC
4.	Health, Safety and Wellbeing of Workers	• Health and Safety of workers	• Conduct formal and unofficial discussion and training to increase awareness about hygiene practices among the workers; • Ensure availability and access to first-aid equipment and medical supplies for the workers. • Ensure safety gear worn: ear plug, goggles, mask, gloves, helmets, and uniforms etc. • Staff must be trained up for operating equipment	Contractor	Environmental and Social Development Specialists of PIU and D&SC

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Ref.	Activity / Issues	Potentials Impacts	Proposed Mitigation and Enhancement Measures	Responsible for Implementation	Responsible for Monitoring
			Ensure adequate supply of drinking water. Sanitation facilities for male & female workers separately.		
5.	Construction Materials storage areas	- Use of surrounding open area, playground, road side etc. for stockpiling of construction materials. - Creating dust/ air pollution, - Spillage of liquid/hazardous substances i.e. oil, paint, chemicals, bitumen etc. - Access of students, children, animals, etc. - Not cleaning of construction materials storage areas after completion of construction.	- Proper stockpiling/ storage of construction materials at the site as proposed by the contractor & approved by the Environmental Specialist of D&SC. - Proper covering of dust producing materials with polythene sheet, - Proper fencing around the storage area in order to be secure, to minimize the risk of crime and to be safe from access by students, children, animals, etc. - Spills/ hazardous substances should be disposed off at the site as proposed by the contractor & approved by the Environmental Specialist of DSC to avoid soil/ water contamination. - Materials storage area must be cleaned after completion of construction.	Contractor	Environmental and Social Development Specialists of PIU and D&SC
6.	General construction work	Drainage congestion and flooding	- Plinth level of the Shelter should be higher than the highest flood water level. - Ensure provision for adequate drainage of storm water and pumping of congested water if needed;	Contractor	Environmental and Social Development Specialists of PIU and D&SC

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Ref.	Activity / Issues	Potentials Impacts	Proposed Mitigation and Enhancement Measures	Responsible for Implementation	Responsible for Monitoring
			Ensure adequate monitoring of drainage effects, especially if construction works are carried out during the monsoon season.		
		Air pollution	- Check regularly and ensure that all the subproject vehicles and equipment are in good operating condition; - Ensure contractor spray water on dry surfaces/unpaved to reduce dust generation; - Maintain adequate moisture content of the sand; - Ensure contractor sprinkle water and cover stockpiles of loose materials (e.g., fine aggregates); - Inform and make regular consultation with the local people about the subproject activities and potential impact; - Cover loaded truck used for carrying sand with tarpaulin/other suitable material to prevent spreading by air blown. - Provision of Masks for the workers, site staffs, students and teachers & Masks should be available in site during construction period. - Construction works should be scheduled before and after school hour, prayer/religious ritual time, or during holidays. - Avoid use of equipment e.g. stone crushers at site, if possible, which produce significant amount of particulate matter.	Contractor	Environmental and Social Development Specialists of PIU and D&SC

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Ref.	Activity / Issues	Potentials Impacts	Proposed Mitigation and Enhancement Measures	Responsible for Implementation	Responsible for Monitoring
		Traffic congestion, effect on traffic and pedestrian safety	- Ensure schedule deliveries of materials/ heavy vehicle movement/ equipment during off-peak hours; - Place traffic sign/cautionary sign to avoid undue traffic congestion if required; - Maintain vehicles and enforce legal load limits, and impose speed limits within settlements - Use flagmen, signage, and barriers near schools and markets; - Spray water on access roads to reduce dust - Coordinate with local authorities and inform communities.	Contractor	Environmental and Social Development Specialists of PIU and D&SC
		Noise pollution	- Check and maintenance the equipment properly; - Avoid using of construction equipment such as concrete mixer machine, pile driving equipment (pile rig, winch machine), vibrator machine that produce excessive noise at night; - Avoid prolonged exposure to noise (produced by equipment) by the workers; - Regulate use of horns and avoid un-due use of hydraulic horns by subproject vehicles; - Provision of Ear plugs for the workers & site staffs should be available in site during construction period. - Inform local people about the subproject activities and potential impact. - Construction works should be scheduled before and after school hour and prayer time.	Contractor	Environmental and Social Development Specialists of PIU and D&SC

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Ref.	Activity / Issues	Potentials Impacts	Proposed Mitigation and Enhancement Measures	Responsible for Implementation	Responsible for Monitoring
		Water & Soil pollution	- Avoid complete closing of the channel that affects reproduction of aquatic species; - Any illegal discharge of wastewater, leaked oil shall be prohibited.	Contractor	Environmental and Social Development Specialists of PIU and D&SC
		Spills and leaks of oil, toxic chemicals	- Proper handling of lubricating oil and fuel so that it does not fall on the soil; - Good housekeeping - Collection and proper disposal of spills; - Refueling and fuel tank should not be placed on the ground directly. - Spillage wasters should be disposed in the waste disposal area located at the site proposed by the contractor & approved by the Environmental Specialist of D&SC	Contractor	Environmental and Social Development Specialists of PIU and D&SC
7.	Rigorous Monitoring and Report Preparation and Submission		- The Contractor shall appoint (i) ES Manager (ii) Community Organizer and (iii) H&S Officer for strict management and monitoring of all ES related works at each site and the budget for this engagement shall be borne from the Contractor's management budget. - Contractor shall submit regular monthly monitoring report to the D&SC and PIU as per reporting standard set by the ES Consultants of D&SC/PIU.	Contractor	PIU

COST OF ENVIRONMENTAL ENHANCEMENT WORKS IN BOQ

Considering the environmental impacts and their mitigation measures for this subproject, several items are included in the BOQ to address these issues. The detailed estimate, with tentative cost for implementing the ESMP, is given in **Table 5**.

Table 5: Environmental Social Management Budget (Bill of Quantity)

Item No.	Description of the Works	Unit	Quantity	Unit Rate (BDT)	Amount (BDT)
1.	<u>Site Cleaning, Removal and Disposal Activity:</u> Cleaning and maintaining at all times, keeping the construction area, storage areas used, free from accumulations of waste materials or rubbish, with necessary arrangement for collecting at a central disposal area, on a daily basis and disposing in a manner approved and satisfaction by the Engineer, especially waste water and sewage from office, residential and mobile camps shall be piped to soak pits or other disposal areas, all used fuels, oils, other plant or vehicle fluids, old tyres, tubes, other solid waste from household, office, workshop, construction materials, etc. to be kept at safe places and any spillages shall be cleaned up by either burning in place or collecting the contaminated soils and burning them at the central disposal area, including removing all waste, debris, rubbish, unused materials, concrete forms and other like material, tools, equipment, machinery and surplus/ unwanted materials buried or cleaned up in a manner acceptable to the Engineer after completion of work etc. all complete as per requirement and full satisfaction of Engineer-in-charge. Payment will be made after 100% completion of the contract successfully	Each	1	19,000	19,000.00
2.	<u>First Aid Box:</u> Supplying, equipping and maintaining adequate first-aid box throughout the working period at worksite and site office, and erect conspicuous notice boards directing where these are situated and providing all requisite emergency medical first aid kits, including complying with the government medical or labour requirements at all times, and provide, equip and maintain necessary dressing kits throughout the working period for attending minor injuries, etc. all complete as per requirement and full satisfaction of Engineer-in-charge. Payment will be made after 100% completion of the contract successfully.	Each	2 nos.	6500 Tk. Per box	13,000.00

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Item No.	Description of the Works	Unit	Quantity	Unit Rate (BDT)	Amount (BDT)
3.	Providing Safety gear package like hand gloves, eye protection glasses, air plug, helmets, rubber shoes, light reflecting dress etc. for 20 sets.	Set	20 sets	5,000	100,000.00
4.	<u>Temporary Toilet Facilities:</u> Provide at least two nos. portable toilets or constructing temporary semi-pucca toilets with twin pit latrines, one for female worker and other for male worker at worksite and workers accommodation site in a safe location, so that no adverse impact will generate on the surrounding environment, including providing requisite arrangements for water supplying etc. All complete as per drawing, specification, direction and satisfaction of the Engineer-in-Charge. All relevant accessories and arrangements under this item shall be property of the contractor and payment will be made only upon 100% completion of the contract successfully.	No.	2 nos.	20,000	40,000.00
5.	<u>Water Test (Drinking Water samples):</u> "Test (Drinking Water samples) Out of 5 nos. of tube well 1-no of tube well should be Install at the beginning of construction works so that labour and other site staff can get drinking water. In addition, Water samples to be collected periodically (half yearly) for one Tube well of the shelter for laboratory analysis for different parameters such as pH, arsenic, iron, chloride, hardness and total dissolved solids or electrical conductivity etc. all complete as per direction of EIC (including the cost of actual fees for testing from reputed laboratory and report) as desired by EIC."	LS	3 times	13,800	41,400.00
6.	<u>Drinking Water Facilities:</u> Providing continuous adequate drinking water supply at worksite and site office as well by installing necessary tube-well/s where applicable or any other means depending on local situation, also providing essential arrangement for storing drinking water by supplying portable best quality water tank equivalent to Gazi/Padma of adequate capacity depending on the number of users, including supplying 1 (one) no. best quality water filter of minimum capacity 30 liters with necessary kits, etc. all complete as per satisfaction and direction of the Engineer-in-charge, all relevant goods and equipment under this item shall be property of the contractor and payment will be made after 100% completion of the contract successfully.	Each	2 nos.	LS @ Tk. 35,000	7,000.00

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Item No.	Description of the Works	Unit	Quantity	Unit Rate (BDT)	Amount (BDT)
7.	<u>Waste Disposal Facilities:</u> Providing, installing and maintaining at least 2 (two) nos. waste collection bins one for organic waste and other for inorganic waste of minimum capacity of 30 liters with hinge supported 450mm dia. cover plate for opening, made of durable plastic material at worksite, both bins will be kept in a safe and easily accessible place, so that will easy to use and no adverse impact will generate on the surrounding environment, including continuing the full functioning of waste disposal (buried/incineration) in accordance with the full satisfaction of the project manager throughout the contract period, all complete as per drawing, specification and direction of the Engineer-in-charge. Entire relevant accessories and arrangements under this item shall be property of the contractor and payment will be made after 100% completion of the contract successfully.	LS	1 set	20,000 BDT	40,000.00
8.	<u>Motivation training:</u> Motivation training of the Upazila Engineer's and Contractor's representatives for safety practice & environmental others facilities.	LS	2	15,000	30,000.00
9.	<u>Hazards and Hazardous Materials:</u> Handling Storing and store hazardous materials in accordance with the following requirements: Hazardous materials shall be stored above flood level and at least 20m from any watercourse; Hazardous liquid substances (e.g. petrol, diesel, oils) shall be stored on top of sealed plastic sheets in a secure, flat enclosed area. Bund walls shall be at least 25 cm high.	LS	1	12,000 BDT	12,000.00
10.	Dust suppression measures like water sprinkling on aggregates/ unpaved roads in and around the work site (Frequency of measures has been proposed to be increased as sensitive receptors are located around).	LS	1	50,000 BDT	50,000.00
11.	Turfing on embankment top and slope, building compound with good quality turf supplied by the contractor of not less than 225mm square in dimension including placing and watering till grass is fully grown, etc. all complete as per direction of the E-I-C. (payment to be made only when grass is fully grown).	sqm	240	31.65 Tk. Per sqm	7,596.00
12.	Construction Work nearby busy access roads may cause temporary disruption to local traffic movement, pedestrian safety issues, and increased accident risks.	This is part of normal site management and does not require a separate BOQ item,			

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Item No.	Description of the Works	Unit	Quantity	Unit Rate (BDT)	Amount (BDT)
		measures implemented under Environmental and Social Codes of Practice (ESCoPs).			
13.	Construction of Temporary Facilities such as site offices, labor sheds, storage yards, material stockpiles etc.	The cost for construction, maintenance, and removal of these facilities is included in the civil works BOQ under the contractor's responsibility.			
14.	Disturbance to nearby paddy field or water bodies	No separate BOQ item required — measures implemented under Environmental and Social Codes of Practice (ESCoPs).			
Total budget for this sub-project		3,59,393.60			

As per project ESMF, PIU, project engineer's suggestion and experience from other LGED projects such as MDSP, EMCRP etc. adequate budget has been proposed for the environmental management for the mitigation and enhancement measures. It may vary depending on the real time situation and requirement of the construction. The subproject activities have temporary and localized negative impact on noise level during construction phase due to movement of the subproject vehicles and equipment. Hence, budget includes analytical monitoring for noise level. For solid waste management adequate waste bins will be installed. The budget for labor shed, and site office construction is included in the civil works items. Therefore, it is not included in the environmental budget. It should be noted that the contractor will be paid as per actual work done.

Name of Subproject: Development of Multipurpose Flood Shelter at **Lakshmipur Government Primary School**

Village: Dhonkuti; Union: 1 No. Lakshmipur;

Upazila: Gaibandha Sadar; District: Gaibandha;

Package No/Database Unique ID: GAI-037; School Code: 91108011203

SUB-PROJECT DESCRIPTION

The Lakshmipur Government Primary School is a subproject of “Resilient Infrastructure for Adaptation and Vulnerability Reduction (RIVER) Project”. It is located in Dhonkuti village under 1 No. Lakshmipur Union of Gaibandha Sadar Upazila of Gaibandha District. Major components of the subproject are to construct resilient flood shelters and community structures and strengthen the capacity for disaster preparedness and response. Significant features of this subproject are summarized in **Table 1**:

Table 10: The Significant Features of the Subproject Site

Name of the Subproject	:	Lakshmipur Government Primary School
Educational Institute ID	:	911080112023
Land Owner	:	Lakshmipur Government Primary School
Available Land	:	63 Decimals
Average Capacity of Flood Shelter	:	650
Catchment Population	:	22,000
Catchment Village	:	Hat Lakshmipur, Dhonkuti, Boro Ata, Mgurakuti, Supari Vita, Kuti Para, Nondir Vita, Adorsho Gram, Janer Para.
Major profession of local population	:	Agriculture-(60%), Daily Labour (20%), Others-(20%)
Brief Description of Subproject Site: (e.g. present land use, Important Social and Environmental Features (IEFs) near site, etc.)	:	Existing GPS building, Playground, High School, Trees, Roads etc.
Sensitive environmental, cultural, archaeological, religious sites near (within 1km) of site including major water bodies/forests	:	None
Ethnic Minority	:	None
Connecting Road	:	Gaibandha- Naldanga Connecting BC Road (18 feet width)
Land acquisition	:	None

(Source: Field survey and Public Consultation Meeting, November 2025)

LOCATION OF THE SUB-PROJECT

The subproject is located in the North-West part of Gaibandha Sadar Upazila in Gaibandha District, which is within the Rangpur Division. The location details of the subproject have been summarized in **Table 2**.

Table 2: Location Details of the Subproject Site

District	:	Gaibandha
Upazila	:	Gaibandha Sadar
Union	:	1 No. Lakshmipur
Mouza	:	Dhonkuti
Village	:	Dhonkuti
GPS Location	:	25.430162 N; 89.515235 E
Distance of the site from Upazila HQ	:	14km (North)
Nearby Major Road:	:	Gaibandha- Sunderganj (15m –East)
Nearby River/ Canal:	:	Lenga River (3.2km -East)

(Source: Field survey and Public Consultation Meeting, November 2025)

The catchment area of the subproject predominantly includes the villages of Hat Lakshipur, Dhonkuti, Boro Ata, Mgurakuti, Supari Vita, Kuti Para, Nondir Vita, Adorsho Gram, Janer Para which are regularly impacted by recurrent flooding. Dhonkuti village, in 1 No. Lakshmipur Union, Gaibandha Sadar Upazila (Gaibandha District), sits on the active Brahmaputra–Jamuna floodplain where low-relief alluvial terrain is intersected by khals (canals) and beels (wetland depressions) that store and route monsoon flows. Flood behaviour is controlled by the Brahmaputra–Jamuna main stem and the regional network of the Teesta and Ghaghat rivers; notably, the Ghaghat passes through Gaibandha town and joins the Brahmaputra a few kilometres north of Fulchhari Ghat, reinforcing backwater effects during peak flows. The subproject catchment—covering Hat Lakshipur, Dhonkuti, Boro Ata, Mgurakuti, Supari Vita, Kuti Para, Nondir Vita, Adorsho Gram, and Janer Para—experiences recurrent inundation when intense southwest-monsoon rainfall coincides with elevated upstream discharges, as reflected in official gauge bulletins reporting high and danger-level stages at Fulchhari Ghat and on the Ghagot at Gaibandha. Flat micro-topography, limited drainage capacity, and periodic riverbank erosion further prolong standing water across homesteads and cropland. These conditions repeatedly disrupt agriculture—the principal livelihood—through seedling wash-out; submergence and silt deposition on paddy (aus/aman/boro), jute, and vegetables; and damage to on-farm irrigation, shallow tubewells, and field embankments. Recurrent flooding also degrades rural infrastructure (earthen roads, small

bridges/culverts, local embankments) and intermittently interrupts services at schools, markets, and health posts, while inundated latrines and water points compromise WASH conditions; riverine and land-poor households are disproportionately affected. These patterns align with national and district evidence, including the Population & Housing Census 2022 (BBS) and recent situation reports and news bulletins on Gaibandha flood seasons. In line with sector guidance for the Teesta–Brahmaputra corridor, priority measures for Dhonkuti and neighbouring settlements are: (i) restoring hydrological conveyance via re-excavation/desilting of khals, outlet improvements, and sediment-aware O&M; (ii) climate-resilient infrastructure—raising critical road links to all-weather standards, strengthening and maintaining embankments, upgrading culverts/bridges for higher design discharges and debris passage, and targeted riverbank protection; and (iii) community preparedness—reliable last-mile early warning, union- and school-based contingency plans, inclusive drills, and defined O&M responsibilities. Implemented together, these actions would reduce chronic flood losses and strengthen the adaptive capacity of Lakshmipur Union, Gaibandha Sadar Upazila, and the wider Gaibandha District.

The flood shelter will be constructed at Lakshmipur Government Primary School (GPS), which is located at the Dhonkuti village under 1 No. Lakshmipur Union of Gaibandha Sadar Upazila in Gaibandha District. There are 10 teachers (Male: 02; Female: 08), and 207 students (Boys: 101; Girls: 106) in the school, operated by the guidance of School Management Committee (SMC) and government officials of Gaibandha Sadar Upazila Education Office. The students, teachers and residents of the catchment area come to the proposed site by using the connecting/access road named Gaibandha- Naldanga Connecting Road. The road is a BC road with 18 feet width and just passing beside the Lakshmipur Government Primary School at east side.

The population of the catchment area is about 22,000. Households in the subproject area rely primarily on groundwater abstracted via shallow tubewells (STWs), typically installed to an average depth of about 190 feet (≈58 m) below ground level for drinking, cooking, and hygiene. Recent water-quality screening has detected elevated iron in several sources; accordingly, appropriate public-health safeguards will be implemented, including baseline and periodic testing (e.g., iron, manganese, arsenic, bacteriological indicators, pH, turbidity), provision of iron-removal treatment at point of use/entry (e.g., aeration–sedimentation–filtration units or pressure filters), and user training on operation and maintenance. In addition, wellhead protection measures—such as a sanitary seal, raised platform, and proper drainage away from the tubewell—will be incorporated to reduce contamination risk. The local landscape supports aquatic biodiversity and a range of common birds, including the baya weaver (*Ploceus philippinus*; babui), Oriental magpie-robin (*Copsychus saularis*; doel), crows (*Corvus* spp.), egrets/herons (family *Ardeidae*; bok), and the spotted dove (*Spilopelia chinensis*; ghugu). Occasional wildlife sightings include foxes (*Vulpes* spp.) and monitor lizards—commonly the Bengal monitor (*Varanus bengalensis*; gaora). These birds and animals provide essential ecosystem services—such as insect and rodent control, seed dispersal, scavenging, and bioindication of habitat

quality—that support agricultural productivity, public health, and overall ecological resilience. Taken together, the aquatic, avian, and small terrestrial fauna indicate a functioning and balanced ecosystem that should be recognized in project design, construction management, and long-term operation and maintenance. The 1 No. Lakshmipur Union map indicating sub-project location has been shown respectively in **Figure 1**. The topographical Map with indicative and tentative location of labor camp, construction materials storage area, and waste disposal area have been shown in **Figure 2** which shall be placed as per direction and satisfaction of LGED and E.I.C.

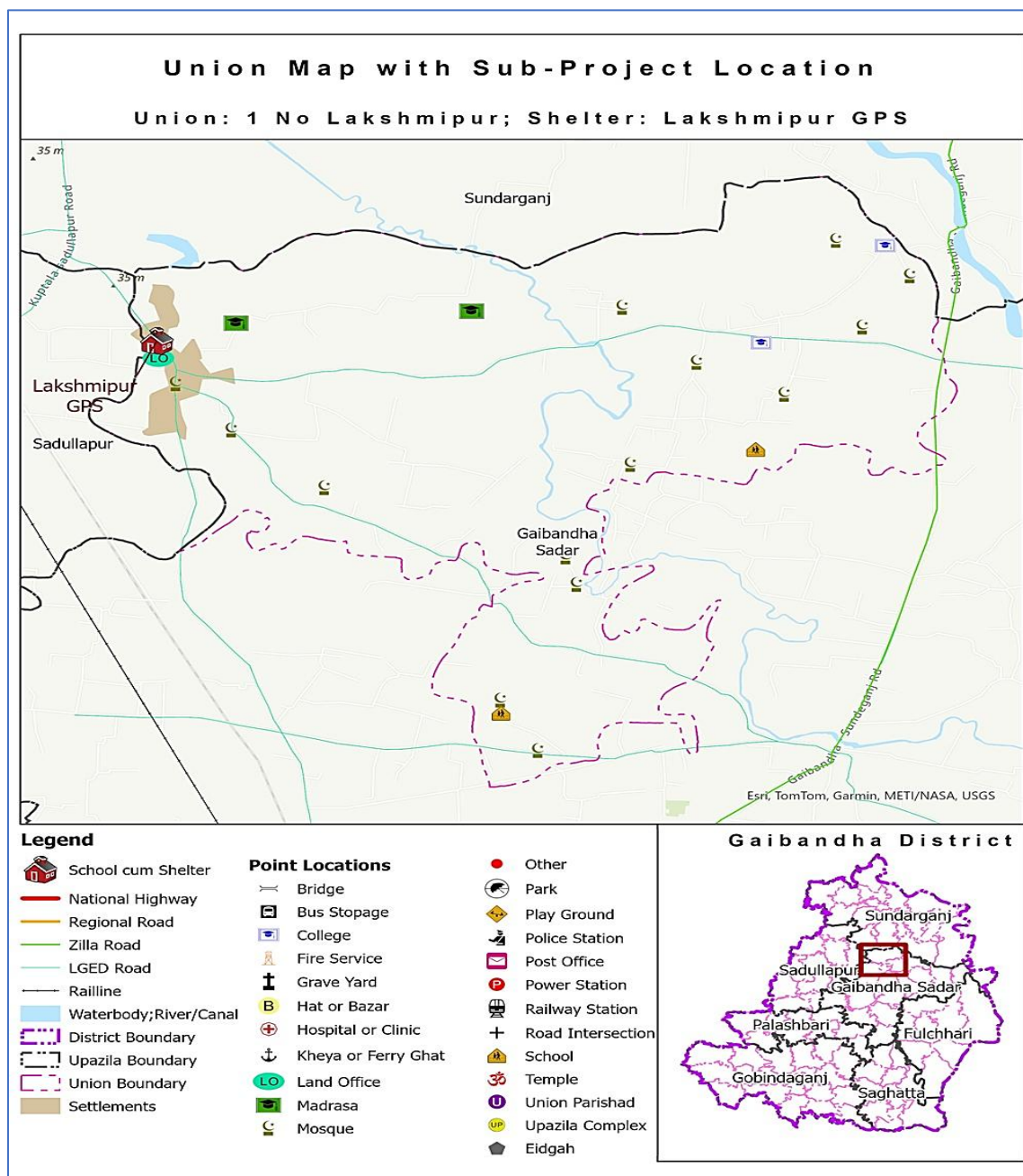


Figure 1: 1 No. Lakshmipur Union Map Indicating Proposed Subproject

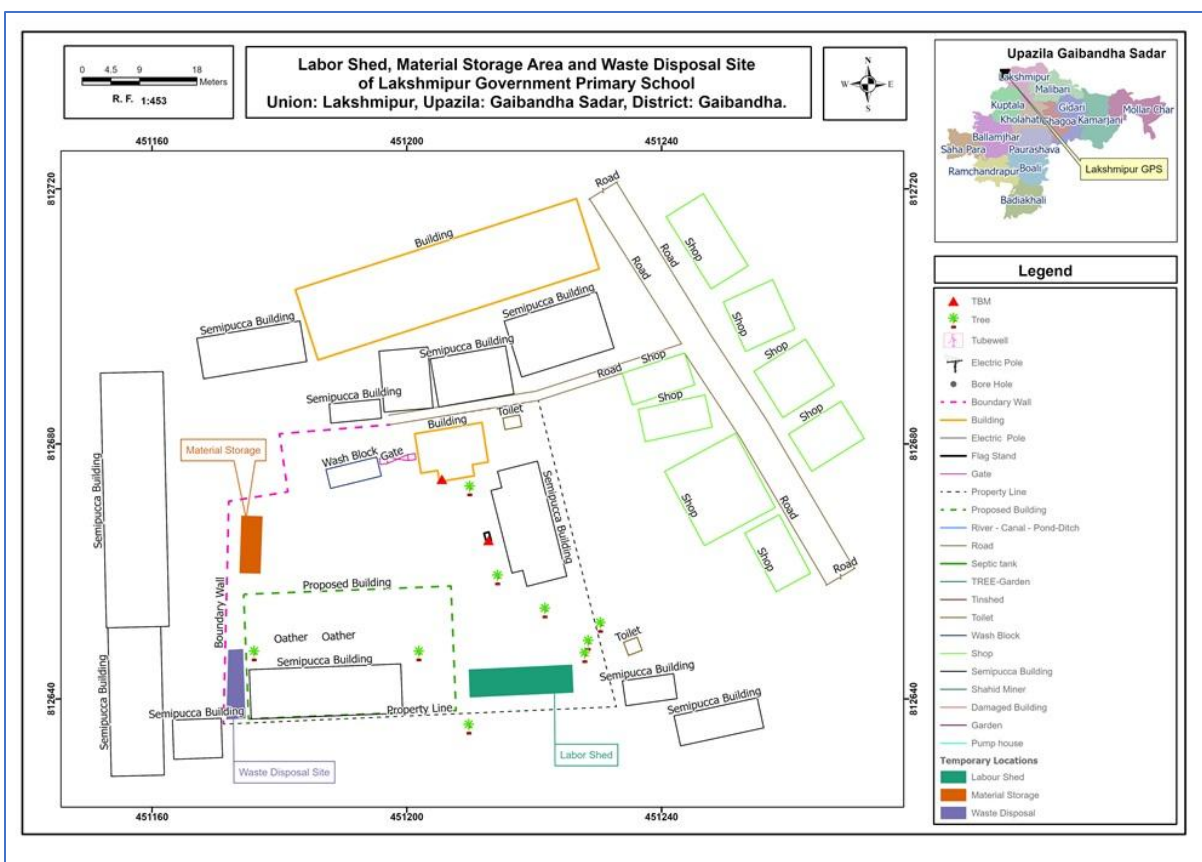


Figure 2: Proposed Labor Camp, Waste Disposal and Materials Storage Area

CURRENT SITUATION, PROPOSED INTERVENTIONS AND NEED FOR THE SUB-PROJECT

The present conditions and proposed labor camp, waste disposal area and construction materials storage area are visualized in **Figures 3, 4 and 5**.



Figure 3: Current Situation of the Existing Subproject Site



Figure 4: Proposed Labor Camp and Materials Storage Area



Figure 5: Proposed Waste Disposal Area for the Subproject Site

Lakshmipur Government Primary School occupies approximately 63 decimals of land (≈ 0.63 acre / 0.25 ha) and comprises a one-storey pucca building and a semi-pucca tin-shed structure that together accommodate all classrooms and administrative offices. To construct the proposed multi-purpose flood shelter adjacent to the tin-shed block, two classrooms—each approximately 30 ft $\times$ 15 ft (≈ 41.8 m² per room; ≈ 83.6 m² total)—will be demolished. Temporary learning spaces are not required; teaching will continue in the pucca building and the remaining classrooms. Within the school boundary, temporary construction facilities—including a labour shed, materials storage area, and a designated waste-disposal site—will be established, with on-site provision of worker accommodation, toilets, electricity supply, and safe drinking water. To safeguard students and staff in the active school environment, the construction zone will be enclosed with protective fencing, controlled access, and clear safety signage to segregate works from academic areas. The site is surrounded by local settlements and rural homesteads; a high school and agricultural land lie immediately adjacent to the boundary. Additional community facilities—multiple mosques, an eidgah, graveyards, a college, other schools, a temple, a bazar, and beels (wetlands)—are located within approximately 1 km of the campus. A considerable number of trees are present within the compound. The area has a documented flood history, including a notable event in 1998 when inundation reached approximately 2 ft (≈ 0.6 m) and persisted for 20–22 days, disrupting education services and broader community activities. **Figure 6** presents current photographs of the existing school facilities, and **Figure 7** shows the tin-shed building from which the two classrooms will be demolished.



Figure 6: Existing school Building



Figure 7: Need to Demolished.

The important establishments around the subproject site have been summarized in **Table-3**

Table 3: Important Establishments Adjacent to the Subproject Site

Direction	Important Establishments with Approximate Distance
North side	Dhonkuti Jame Mosque (85m), Dhonkuti Kali Temple (150m), Vorkule Kuti Jame Mosque (1km), Vorkule Kuti Beel (1km), High School – Adjacent to the school.
South side	Hat Lakshmipur Bazar Mosque (500m), Lakshmipur Union Parishad (500m), Lakshmipur Girl's High School (350m), Gobindopur Nondirvita Jame Mosque (1.15km), Solaghari Beel - Adjacent to the school.
East side	Lakshmipur Degree College (320m), Lakshmipur Bazar (20m), Gobindapur Mosque (640m), Bamunir Beel (1km).
West side	Shree Shree Radha Krishna Temple (800m), Dhonkutir Beel (150m), Purba Keshalidanga Govt. Primary School (1km).

(Source: Field survey and Public Consultation Meeting, November 2025)

The proposed sub-project (construction of new School cum Flood shelter building) is not located within any environmentally sensitive area and will not cause any severe negative effects to the environmental settings of the area, neither to important environmental features. The disaster shelter will be constructed within an existing school boundary, so no agricultural land/ activities or fish farming will be disturbed due to the construction of the sub project. The project site is situated within a mixed educational–community setting with key receptors on all sides. To the north lie Dhonkuti Jame Mosque (≈85 m), Dhonkuti Kali Temple (≈150 m), Vorkule Kuti Jame Mosque (≈1.0 km), Vorkule Kuti Beel (≈1.0 km), and a high school immediately adjacent to the campus. To the south are Hat Lakshmipur Bazar Mosque (≈500 m), Lakshmipur Union Parishad (≈500 m), Lakshmipur Girls' High School (≈350 m), Gobindopur Nondirvita Jame Mosque (≈1.15 km), and Solaghari Beel adjoining the school boundary. To the east are Lakshmipur Degree College (≈320 m), Lakshmipur Bazar (≈20 m), Gobindapur Mosque (≈640 m), and Bamunir Beel

(≈1.0 km). To the west are Shree Shree Radha Krishna Temple (≈800 m), Dhonkutir Beel (≈150 m), and Purba Keshalidanga Government Primary School (≈1.0 km).

No significant disturbance to all these establishments/features is anticipated due to construction activities for having sufficient distance from the construction site, and strict construction site management system- including restrictive work schedule during the daytime only, water-sprinkling twice a day in and around the site, proper fencing around the working area, safe storage of materials, etc.

Construction related activities and setting up of labor camps along with associated facilities and their management issues will be accounted for impacts more likely to be generated during the pre, post and construction period. Noise pollution from piling or drilling, air pollution caused by dust or gaseous emissions from vehicle movement, running of motorized equipment and land clearing, odors and soil pollution from leaking of latrines and fecal sludge, will more likely to take place. Soil can further be eroded and polluted from chemical spills or improper disposal of waste materials. Noise and vibration effects generated from piling and drilling may also trigger landslides and harmful disturbances to local fauna. Impact on surface and ground water bodies might get acute due mainly to the high abstraction rate and disposal/leakage of pollutants to the surface/ground water bodies. Clearing of trees, bushes or any type of vegetation may put impact on floral species and unscrupulous clearance also trigger habitat loss. All these impacts can only be prevented or minimized by adopting measures delineated into the ESMP and good practice engineering and site management.

ENVIRONMENTAL AND SOCIAL ASSESSMENT

This section identifies the potential impacts that the various elements of the proposed sub-project may have on the physical, biological and socio-economic environment within half a kilometer of the radial distance around the site. Environmental and Social Assessment (ESA) based on this assessment study for the Sub-project as Lakshmipur Government Primary School of Gaibandha Sadar Upazila under Gaibandha District has been conducted to identify and determine which potential project impacts may be significant and therefore require the application of reasonable and effective management and/or mitigation measures. In order to realize the exact physical, biological and socio-economic environment of the proposed sub-project site and the influence area in regards to the implementation measures, an extensive field visit was carried out on 18 November 2025 in the Sub-project area. Environmental and Social Assessment form, as adopted in **Annexure-2** of the Environmental and Social Management Framework of RIVER, was administered for identifying the impacts and their extents.

PUBLIC CONSULTATION AND PARTICIPATION

Public participation and community consultation has been taken up as an integral part of environmental assessment process of the project. Field visit has been carried out on 18

November 2025 in and around the Sub-project component site. As part of the impact assessment, participatory public consultation was conducted in that area by the field level staffs, and consultants from D&SC. Checklist of the consultation is attached in **Annexure-3**. The consultation meeting was attended by 32 persons (Male -23 and Female -09) and local individuals, teachers, chairman and/or member of Union Parishad and school management committee were among the attendees in that meeting. The participants were selected from different cohorts of stakeholders, and some of whom will have major active roles before, during and even after the construction works. Therefore, the meeting was organized in an informed, expressive and unbiased manner, wherefrom different views and concerns came across which will be properly taken care of during the design and construction phases. Refer to **Figure 8** and **Annexure-4** for selected photographs of the participatory public consultation held at site of the Lakshmiপুর Government Primary School and list of attendees in that public consultation meeting, respectively. A questionnaire was kept ready and responses were elicited. During these consultations, the communities were explained about the project, its benefits, associated social and environmental aspects and possible mitigation measures.

The participants were also informed about the project GRM (Grievance Redress Mechanism) system in detail and the disclosure of project documents in websites, and their unrestricted and uninitiated access to those system and resources. As such, public consultation is a living process as the types of problems/ difficulties, involved parties or stakeholders and mode of settlement or resolution processes are more likely to differ with time. Thus, consultation with different parties or stakeholders will be continued throughout the sub-project implementation period and records of resolutions, whatsoever and wherever possible, will be kept in writing at the site and made available on any enquiries or requests by all parties concerned.



Figure 8: Public Consultation Meeting in the Proposed Sub-project Site

SUMMARY OF ENVIRONMENTAL AND SOCIAL IMPACTS

Tree Cutting: Approximately one (1) tree will be removed to facilitate construction. Three beels (wetlands) occur within or immediately adjacent to the subproject area: Vorkule Kutu Beel to the north (≈150 bigha, ≈50 acres / ≈20 ha), Solaghari Beel to the south (≈120 bigha, ≈40 acres / ≈16 ha), and Bamunir Beel to the east (≈200 bigha, ≈66 acres / ≈27 ha). It is confirmed that no water

bodies will be filled, diverted, or otherwise adversely affected by the construction of the flood shelter; natural drainage patterns will be maintained and appropriate buffers and sediment-control measures will be implemented during works. The ecological impact of the subproject is low. There will be temporary negative impacts on physico-chemical environment. Nevertheless, these impacts are manageable if mitigation measures are taken according to ESMP.

Grass turfing: Grass turfs on embankment, slope, building compound & any critical place to enhance the ecological condition and protect the top soil. Tentative area of turf has been estimated as 240 square meters (half of total area), after discussion with architects and engineers. It is likely to be changed depending on the requirement during construction as per site design and as per direction of E.I.C.

Land Ownership: Availability of adequate public land area is as important as community consent to construct the flood shelter and access roads. The feasibility team did not find any conflicts over the school land. The land issue has been discussed in the meeting. Participants unanimously confirmed that the school has its own 63 decimals of land and there is no dispute about this land.

Land Acquisition: The proposed Sub-project Lakshmipur Government Primary School, does not have any involuntary resettlement impacts due to the construction of flood shelter and approach roads as the Sub-projects will be constructed in existing Government Primary Schools' premises. The Government Primary School has 63 decimals of land. No land acquisition will be required for the activities to be implemented under the project. Access road needs to construct or rehabilitate within its existing alignment.

ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN

Site specific Environmental and Social Management Plan (ESMP) outlines tailored mitigation, monitoring, and management measures to address potential environmental and social impacts arising from school cum flood shelter construction at each sub-project site. It focuses on controlling dust, noise, and waste; protecting nearby agricultural land and water bodies; ensuring occupational health and safety; managing community interactions; and conserving local biodiversity. The ESMP integrates the Environmental and Social Codes of Practice (ESCoPs) are attached in **Annexure-5** and compliance with World Bank ESF and national environmental regulations throughout the construction and operation phases. The Site Specific Environmental and Social Management Plan (ESMP) under this sub-project is providing in **Table 4**:

Tabel 4: Site Specific ESMP for Lakshmipur Government Primary School

Ref.	Activity / Issues	Potentials Impacts	Proposed Mitigation and Enhancement Measures	Responsible for Implementation	Responsible for Monitoring
1.	Contractor's proposal for site specific temporary works	Accurate/ proper implementation of ESMP	Preparation of Work schedule, construction camp, materials storage area, access road, waste dumping/ disposal area etc.	Contractor	Environmental and Social Development Specialists of PIU and D&SC
2.	Site Clearing, Fencing, removal and Disposal Activity	Improper management and clearing of site may elevate risks of accidents, pollution and nuisance to public and school users.	- Clearing of site at the very outset with removal of all obstructions, including structures, materials, trees, etc. in order to keep the construction area, storage areas used, free from accumulations of waste materials or rubbish, with necessary arrangement for collection at a central disposal area. - Providing necessary protection fencing surrounding the total workplace area (including internal fencing made with bamboo for demarcating material storage areas mainly) and environmental and occupational health & safety sign boards, warning signs, etc.	Contractor	Environmental and Social Development Specialists of PIU and D&SC

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Ref.	Activity / Issues	Potentials Impacts	Proposed Mitigation and Enhancement Measures	Responsible for Implementation	Responsible for Monitoring
3.	Construction and operation of labor shed for the workers	• Generation of sewage and solid waste may cause environmental pollution in the surrounding area • Water, soil, air & dust pollution/ environmental pollution	• Construction of sanitary latrine at the labor shed (consider 15 persons for one toilet, separate toilet for male and female); • Construction of sanitary latrine/ Pit latrine with septic tank/ Ring slab system • Erection of “no litter” sign, provision of waste bins/cans (separate waste bins for organic and inorganic wastes); • Provision of waste bins/ cans, where appropriate, • Litter is to be collected daily. • Bins and/or skips should be emptied regularly and waste/ debris should be disposed off at waste disposal areas approved by Environmental Specialist of DSC. • Ensure wastes (solid wastes and other forms of the waste) disposal at designated places. • Camp and working areas are kept clean and tidy at all times. • Camp is to be checked for spills of substances i.e. chemical, oil, paint, etc.	Contractor	Environmental and Social Development Specialists of PIU and D&SC
4.	Health, Safety and Wellbeing of Workers	• Health and Safety of workers	• Conduct formal and unofficial discussion and training to increase awareness about hygiene practices among the workers; • Ensure availability and access to first-aid equipment and medical supplies for the workers. • Ensure safety gear worn: ear plug, goggles, mask, gloves, helmets, and uniforms etc.	Contractor	Environmental and Social Development Specialists of PIU and D&SC

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Ref.	Activity / Issues	Potentials Impacts	Proposed Mitigation and Enhancement Measures	Responsible for Implementation	Responsible for Monitoring
			- Staff must be trained up for operating equipment - Ensure adequate supply of drinking water. Sanitation facilities for male & female workers separately.		
5.	Construction Materials storage areas	- Use of surrounding open area, playground, road side etc. for stockpiling of construction materials. - Creating dust/ air pollution, - Spillage of liquid/hazardous substances i.e. oil, paint, chemicals, bitumen etc. - Access of students, children, animals, etc. - Not cleaning of construction materials storage areas after completion of construction.	- Proper stockpiling/ storage of construction materials at the site as proposed by the contractor & approved by the Environmental Specialist of D&SC. - Proper covering of dust producing materials with polythene sheet, - Proper fencing around the storage area in order to be secure, to minimize the risk of crime and to be safe from access by students, children, animals, etc. - Spills/ hazardous substances should be disposed off at the site as proposed by the contractor & approved by the Environmental Specialist of DSC to avoid soil/ water contamination. - Materials storage area must be cleaned after completion of construction.	Contractor	Environmental and Social Development Specialists of PIU and D&SC

Ref.	Activity / Issues	Potentials Impacts	Proposed Mitigation and Enhancement Measures	Responsible for Implementation	Responsible for Monitoring
6.	Demolition of Old Structures	- Demolition works may create Air and water pollution, generate hazardous materials, which are too disturbing and may cause health and safety issues to the school users, community people and workers. - During movement of heavy Construction machineries, equipment can damage the utility services if not previously removed.	- Advise demolition Contractor about Controlled demolition with water suppression, debris containment; salvage reusable materials; safe disposal plan, and following the SOP for Demolition Works (Annexure-06). - Prior to start demolition, the utility services (electrical cables, telephone line, water supply pipeline, gas supply pipeline and internet line) should be shifted with the consultation of the relevant organizations; - Inform the local community before starting removal or demolishing work; - Carefully remove the utilities that are connected to any structures; - Proper Health and safety measures for the workers should be taken throughout the demolition period to avoid any incidents.	Demolition Contractor	SMC
7.	General construction work	Drainage congestion and flooding	- Plinth level of the Shelter should be higher than the highest flood water level. - Ensure provision for adequate drainage of storm water and pumping of congested water if needed; - Ensure adequate monitoring of drainage effects, especially if construction works are carried out during the monsoon season.	Contractor	Environmental and Social Development Specialists of PIU and D&SC

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Ref.	Activity / Issues	Potentials Impacts	Proposed Mitigation and Enhancement Measures	Responsible for Implementation	Responsible for Monitoring
		Air pollution	- Check regularly and ensure that all the subproject vehicles and equipment are in good operating condition; - Ensure contractor spray water on dry surfaces/unpaved to reduce dust generation; - Maintain adequate moisture content of the sand; - Ensure contractor sprinkle water and cover stockpiles of loose materials (e.g., fine aggregates); - Inform and make regular consultation with the local people about the subproject activities and potential impact; - Cover loaded truck used for carrying sand with tarpaulin/other suitable material to prevent spreading by air blown. - Provision of Masks for the workers, site staffs, students and teachers & Masks should be available in site during construction period. - Construction works should be scheduled before and after school hour, prayer/religious ritual time, or during holidays. - Avoid use of equipment e.g. stone crushers at site, if possible, which produce significant amount of particulate matter.	Contractor	Environmental and Social Development Specialists of PIU and D&SC
		Traffic congestion, effect on traffic and pedestrian safety	Ensure schedule deliveries of materials/ heavy vehicle movement/ equipment during off-peak hours;	Contractor	Environmental and Social Development Specialists of PIU and D&SC

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Ref.	Activity / Issues	Potentials Impacts	Proposed Mitigation and Enhancement Measures	Responsible for Implementation	Responsible for Monitoring
			- Place traffic sign/cautionary sign to avoid undue traffic congestion if required; - Maintain vehicles and enforce legal load limits, and impose speed limits within settlements - Use flagmen, signage, and barriers near schools and markets; - Spray water on access roads to reduce dust - Coordinate with local authorities and inform communities.		
		Noise pollution	- Check and maintenance the equipment properly; - Avoid using of construction equipment such as concrete mixer machine, pile driving equipment (pile rig, winch machine), vibrator machine that produce excessive noise at night; - Avoid prolonged exposure to noise (produced by equipment) by the workers; - Regulate use of horns and avoid un-due use of hydraulic horns by subproject vehicles; - Provision of Ear plugs for the workers & site staffs should be available in site during construction period. - Inform local people about the subproject activities and potential impact. - Construction works should be scheduled before and after school hour and prayer time.	Contractor	Environmental and Social Development Specialists of PIU and D&SC
		Felling of trees, clearing of vegetation	Replace each felled tree with at least 3 nos. saplings, due to 01 tree felling, 03 trees to be replanted around	Contractor	Environmental and Social Development

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Ref.	Activity / Issues	Potentials Impacts	Proposed Mitigation and Enhancement Measures	Responsible for Implementation	Responsible for Monitoring
		and ecological disturbances	the periphery of the proposed site at an interval of not less than 3m, to enhance the ecological condition.		Specialists of PIU and D&SC
		Water & Soil pollution	- Avoid complete closing of the channel that affects reproduction of aquatic species; - Any illegal discharge of wastewater, leaked oil shall be prohibited.	Contractor	Environmental and Social Development Specialists of PIU and D&SC
		Spills and leaks of oil, toxic chemicals	- Proper handling of lubricating oil and fuel so that it does not fall on the soil; - Good housekeeping - Collection and proper disposal of spills; - Refueling and fuel tank should not be placed on the ground directly. - Spillage wasters should be disposed in the waste disposal area located at the site proposed by the contractor & approved by the Environmental Specialist of D&SC	Contractor	Environmental and Social Development Specialists of PIU and D&SC
8.	Rigorous Monitoring and Report Preparation and Submission		- The Contractor shall appoint (i) ES Manager (ii) Community Organizer and (iii) H&S Officer for strict management and monitoring of all ES related works at each site and the budget for this engagement shall be borne from the Contractor's management budget. - Contractor shall submit regular monthly monitoring report to the D&SC and PIU as per reporting standard set by the ES Consultants of D&SC/PIU.	Contractor	PIU

COST OF ENVIRONMENTAL ENHANCEMENT WORKS IN BOQ

Considering the environmental impacts and their mitigation measures for this subproject, several items are included in the BOQ to address these issues. The detailed estimate, with tentative cost for implementing the ESMP, is given in **Table 5**.

Table 5: Environmental Social Management Budget (Bill of Quantity)

Item No.	Description of the Works	Unit	Quantity	Unit Rate (BDT)	Amount (BDT)
1.	<u>Site Cleaning, Removal and Disposal Activity:</u> Cleaning and maintaining at all times, keeping the construction area, storage areas used, free from accumulations of waste materials or rubbish, with necessary arrangement for collecting at a central disposal area, on a daily basis and disposing in a manner approved and satisfaction by the Engineer, especially waste water and sewage from office, residential and mobile camps shall be piped to soak pits or other disposal areas, all used fuels, oils, other plant or vehicle fluids, old tyres, tubes, other solid waste from household, office, workshop, construction materials, etc. to be kept at safe places and any spillages shall be cleaned up by either burning in place or collecting the contaminated soils and burning them at the central disposal area, including removing all waste, debris, rubbish, unused materials, concrete forms and other like material, tools, equipment, machinery and surplus/ unwanted materials buried or cleaned up in a manner acceptable to the Engineer after completion of work etc. all complete as per requirement and full satisfaction of Engineer-in-charge. Payment will be made after 100% completion of the contract successfully	Each	1	19,000	19,000.00
2.	<u>First Aid Box:</u> Supplying, equipping and maintaining adequate first-aid box throughout the working period at worksite and site office, and erect conspicuous notice boards directing where these are situated and providing all requisite emergency medical first aid kits, including complying with the government medical or labour requirements at all times, and provide, equip and maintain necessary dressing kits throughout the working period for attending minor injuries, etc. all complete as per requirement and full satisfaction of Engineer-in-charge. Payment will be made after 100% completion of the contract successfully.	Each	2 nos.	6500 Tk. Per box	13,000.00

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Item No.	Description of the Works	Unit	Quantity	Unit Rate (BDT)	Amount (BDT)
3.	Providing Safety gear package like hand gloves, eye protection glasses, air plug, helmets, rubber shoes, light reflecting dress etc. for 20 sets.	Set	20 sets	5,000	100,000.00
4.	<u>Temporary Toilet Facilities:</u> Provide at least two nos. portable toilets or constructing temporary semi-pucca toilets with twin pit latrines, one for female worker and other for male worker at worksite and workers accommodation site in a safe location, so that no adverse impact will generate on the surrounding environment, including providing requisite arrangements for water supplying etc. All complete as per drawing, specification, direction and satisfaction of the Engineer-in-Charge. All relevant accessories and arrangements under this item shall be property of the contractor and payment will be made only upon 100% completion of the contract successfully.	No.	2 nos.	20,000	40,000.00
5.	<u>Water Test (Drinking Water samples):</u> "Test (Drinking Water samples) Out of 5 nos. of tube well 1-no of tube well should be Install at the beginning of construction works so that labour and other site staff can get drinking water. In addition, Water samples to be collected periodically (half yearly) for one Tube well of the shelter for laboratory analysis for different parameters such as pH, arsenic, iron, chloride, hardness and total dissolved solids or electrical conductivity etc. all complete as per direction of EIC (including the cost of actual fees for testing from reputed laboratory and report) as desired by EIC."	LS	3 times	13,800	41,400.00
6.	<u>Drinking Water Facilities:</u> Providing continuous adequate drinking water supply at worksite and site office as well by installing necessary tube-well/s where applicable or any other means depending on local situation, also providing essential arrangement for storing drinking water by supplying portable best quality water tank equivalent to Gazi/Padma of adequate capacity depending on the number of users, including supplying 1 (one) no. best quality water filter of minimum capacity 30 liters with necessary kits, etc. all complete as per satisfaction and direction of the Engineer-in-charge, all relevant goods and equipment under this item shall be property of the contractor and payment will be made after 100% completion of the contract successfully.	Each	2 nos.	LS @ Tk. 35,000	7,000.00

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Item No.	Description of the Works	Unit	Quantity	Unit Rate (BDT)	Amount (BDT)
7.	<u>Waste Disposal Facilities:</u> Providing, installing and maintaining at least 2 (two) nos. waste collection bins one for organic waste and other for inorganic waste of minimum capacity of 30 liters with hinge supported 450mm dia. cover plate for opening, made of durable plastic material at worksite, both bins will be kept in a safe and easily accessible place, so that will easy to use and no adverse impact will generate on the surrounding environment, including continuing the full functioning of waste disposal (buried/incineration) in accordance with the full satisfaction of the project manager throughout the contract period, all complete as per drawing, specification and direction of the Engineer-in-charge. Entire relevant accessories and arrangements under this item shall be property of the contractor and payment will be made after 100% completion of the contract successfully.	LS	1 set	20,000 BDT	40,000.00
8.	<u>Motivation training:</u> Motivation training of the Upazila Engineer's and Contractor's representatives for safety practice & environmental others facilities.	LS	2	15,000	30,000.00
9.	<u>Hazards and Hazardous Materials:</u> Handling Storing and store hazardous materials in accordance with the following requirements: Hazardous materials shall be stored above flood level and at least 20m from any watercourse; Hazardous liquid substances (e.g. petrol, diesel, oils) shall be stored on top of sealed plastic sheets in a secure, flat enclosed area. Bund walls shall be at least 25 cm high.	LS	1	12,000 BDT	12,000.00
10.	<u>Dust suppression measures</u> like water sprinkling on aggregates/ unpaved roads in and around the work site (Frequency of measures has been proposed to be increased as sensitive receptors are located around).	LS	1	50,000 BDT	50,000.00
11.	<u>Supplying and planting</u> specified healthy coconut (local) saplings of minimum 0.60m height, free from any diseases', collected from different nurseries (collection of saplings from government horticulture is preferable) & carrying the same to the worksite; preparation of pit prior to minimum 10 days of plantation by earthwork in excavation of 450mm x 450mm x 450mm size for plantation, applying 0.015 cum cow dung and 100gm normal salt mixed with exceled earth properly; planting the plants, weltering for will be as per tree plantation guideline.	Each	03	500.00	1,500.00

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Item No.	Description of the Works	Unit	Quantity	Unit Rate (BDT)	Amount (BDT)
12.	Turfing on embankment top and slope, building compound with good quality turf supplied by the contractor of not less than 225mm square in dimension including placing and watering till grass is fully grown, etc. all complete as per direction of the E-I-C. (payment to be made only when grass is fully grown).	sqm	240	31.65 Tk. Per sqm	7,596.00
13.	Construction Work nearby busy access roads may cause temporary disruption to local traffic movement, pedestrian safety issues, and increased accident risks.	This is part of normal site management and does not require a separate BOQ item, measures implemented under Environmental and Social Codes of Practice (ESCoPs).			
14.	Construction of Temporary Facilities such as site offices, labor sheds, storage yards, material stockpiles etc.	The cost for construction, maintenance, and removal of these facilities is included in the civil works BOQ under the contractor's responsibility.			
15.	Disturbance to nearby paddy field or water bodies	No separate BOQ item required — measures implemented under Environmental and Social Codes of Practice (ESCoPs).			
Total budget for this sub-project					3,60,893.60

As per project ESMF, PIU, project engineer's suggestion and experience from other LGED projects such as MDSP, EMCRP etc. adequate budget has been proposed for the environmental management for the mitigation and enhancement measures. It may vary depending on the real time situation and requirement of the construction. The subproject activities have temporary and localized negative impact on noise level during construction phase due to movement of the subproject vehicles and equipment. Hence, budget includes analytical monitoring for noise level. For solid waste management adequate waste bins will be installed. The budget for labor shed, and site office construction is included in the civil works items. Therefore, it is not included in the environmental budget. It should be noted that the contractor will be paid as per actual work done.

Name of Subproject: Development of Multipurpose Flood Shelter at ***Raghunathpur Government Primary School***

Village: Kholabari Union: 5 No. Bollomjhar

Upazila: Gaibandha Sadar; District: Gaibandha

Package No/Database Unique ID: GAI-038; School Code: 91108011302

SUB-PROJECT DESCRIPTION

The Raghunathpur Government Primary School is a subproject of “Resilient Infrastructure for Adaptation and Vulnerability Reduction (RIVER) Project”. It is located in Kholabari village under 5 No. Bollomjhar Union of Gaibandha Sadar Upazila of Gaibandha District. Major components of the subproject are to construct resilient flood shelters and community structures and strengthen the capacity for disaster preparedness and response. Significant features of this subproject are summarized in **Table 1:**

Table 10: The Significant Features of the Subproject Site

Name of the Subproject	:	Raghunathpur Government Primary School
Educational Institute ID	:	91108011302
Land Owner	:	Raghunathpur Government Primary School
Available Land	:	50 Decimals
Average Capacity of Flood Shelter	:	650
Catchment Population	:	35,000
Catchment Village	:	Kajoldhop (N), Raghunathpur (S), Kholabari (E), Bollomjhar (W)
Major profession of local population	:	Agriculture-(80%), Businessman (5%), Service (5%), Others-(10%)
Brief Description of Subproject Site: (e.g. present land use, Important Social and Environmental Features (IEFs) near site, etc.)	:	Existing GPS building, Playground, local settlements, Shops, High School, Agricultural land, Trees, Roads etc.
Sensitive environmental, cultural, archaeological, religious sites near (within 1km) of site including major water bodies/forests	:	None
Ethnic Minority	:	None
Connecting Road	:	12ft wide Raghunathpur GPS Connecting Road
Land acquisition	:	None

(Source: Field survey and Public Consultation Meeting, November 2025)

LOCATION OF THE SUB-PROJECT

The subproject is located in the Western part of Gaibandha Sadar Upazila in Gaibandha District, which is within the Rangpur Division. The location details of the subproject have been summarized in **Table 2**.

Table 2: Location Details of the Subproject Site

District	:	Gaibandha
Upazila	:	Gaibandha Sadar
Union	:	5 No. Bollomjhar
Village	:	Kholabari
GPS Location	:	25.346614 N; 89.498964 E
Distance of the site from Upazila HQ	:	8km-East
Nearby Major Road:	:	Gaibandha –Rangpur-Bogura Road (5km-South)
Nearby River/ Canal:	:	Brahmaputra River (20km-East)

(Source: Field survey and Public Consultation Meeting, November2025)

The catchment area of the subproject predominantly includes the villages of Kajoldhop (N), Raghunathpur (S), Kholabari (E), Bollomjhar (W) which frequently experience recurrent flooding. Gaibandha Sadar Upazila is situated within the active floodplain of the Brahmaputra–Jamuna River system and is strongly influenced by monsoon-driven hydrological dynamics. Kholabari Village is characterized by low-lying alluvial land, intersected by natural khals (canals), floodplain depressions, and extensive agricultural fields that collectively control local drainage patterns and flood behavior. During the monsoon season, intense rainfall combined with increased upstream river discharge often leads to overtopping of nearby riverbanks and backflow through local drainage channels. These processes cause widespread inundation of homesteads, crop fields, and community infrastructure. The predominantly flat terrain and limited drainage gradients significantly slow floodwater recession, resulting in prolonged waterlogging in agricultural land and settlement areas. Although annual sediment deposition improves soil fertility and supports crop production, recurrent flooding frequently disrupts agricultural activities, damages standing crops, delays planting and harvesting cycles, and temporarily reduces cultivable land availability. Flooding in Kholabari Village also affects critical rural infrastructure, including earthen access roads, embankments, culverts, and small bridges, many of which become submerged or structurally weakened during peak flood periods. As a result, connectivity with markets, educational institutions, and healthcare facilities is often disrupted, increasing economic vulnerability and disproportionately affecting low-income and flood-exposed households. To address these challenges, priority investments for Kholabari Village and surrounding areas of

Bollomjhar Union should include: (a) Sustainable Water Management: Re-excavation and routine maintenance of khals, improvement of local drainage networks, removal of sediment blockages, and restoration of natural water flow paths to reduce prolonged waterlogging. (b) Climate-Resilient Infrastructure: Raising and strengthening rural roads, rehabilitation of embankments, upgrading culverts and small bridges with flood-resilient designs, and construction of multi-purpose flood shelters with adequate WASH facilities. (c) Community-Level Preparedness: Strengthening flood early warning dissemination, developing community-based flood contingency and evacuation plans, conducting preparedness and response drills, and clearly defining community roles for operation and maintenance of local infrastructure. These interventions will help reduce long-term flood-related damages and enhance the resilience of infrastructure, agriculture, and livelihoods in Kholabari Village, Bollomjhar Union, Gaibandha Sadar Upazila, within Gaibandha District.

The flood shelter will be constructed at Raghunathpur Government Primary School (GPS), which is located at the Kholabari village under 5 No. Bollomjhar Union of Gaibandha Sadar Upazila Gaibandha District. There are 9 teachers (Male: 01; Female: 08), and 256 students (Boys: 150; Girls: 106) in the school, operated by the guidance of School Management Committee (SMC) and government officials of Gaibandha Sadar Upazila Education Office. The students, teachers and residents of the catchment area come to the proposed site by using the connecting/access road named Raghunathpur GPS road. The road is 12 feet width and just passing beside the Raghunathpur Government Primary School at east side.

The population of the catchment area is about 35,000. People in the area are mostly dependent on shallow tubewell water for their daily uses and the average depth of water is 150ft below the ground. Analytical results confirmed the presence of a minor concentration of iron in the tested material. The catchment area of the subproject supports a variety of indigenous and brackish water fish species, including Tengra Catfish, Tank Goby, Stinging Catfish and Spotted snakehead *fish*. These species are important components of the local aquatic ecosystem and are considered to have ecological and, in some cases, conservation significance. In addition to aquatic biodiversity, several common local bird species such as, *Common Myna*, *Cuckoo*, *Crow*, *Kingfisher*, *Weaver Bird* and *Dove* are commonly observed in the area. The surrounding environment also provides habitat for a few wild animals, notably Tortoise, Monitor Lizard and Mongoose which are occasionally sighted within the catchment zone. The 5 No. Bollomjhar Union map indicating sub-project location has been shown respectively in **Figure 1**. The topographical Map with indicative and tentative location of labor camp, construction materials storage area, and waste disposal area have been shown in **Figure 2** which shall be placed as per direction and satisfaction of LGED and E.I.C.

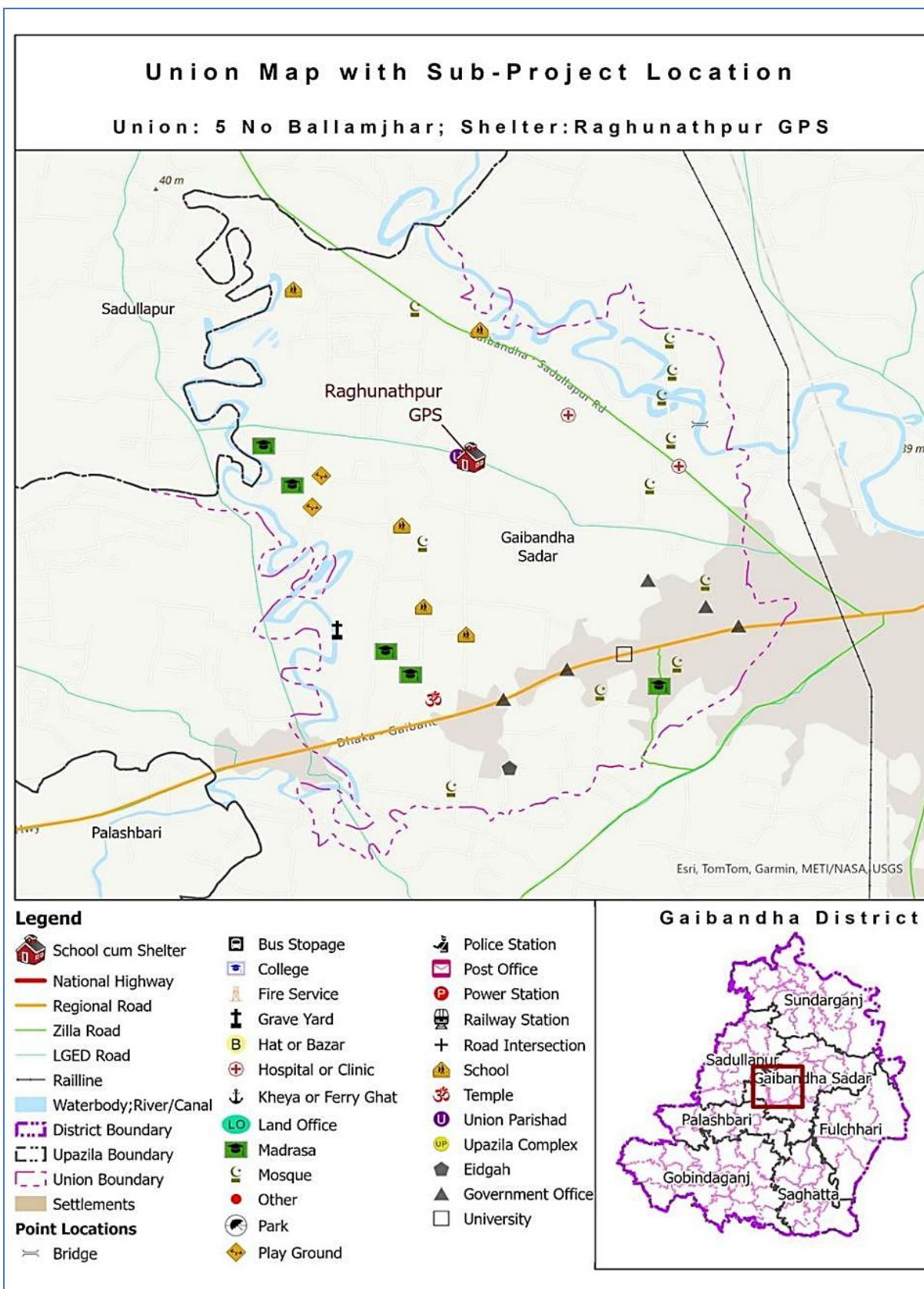


Figure 1: 5 No. Bollomjhar Union Map Indicating Proposed Subproject

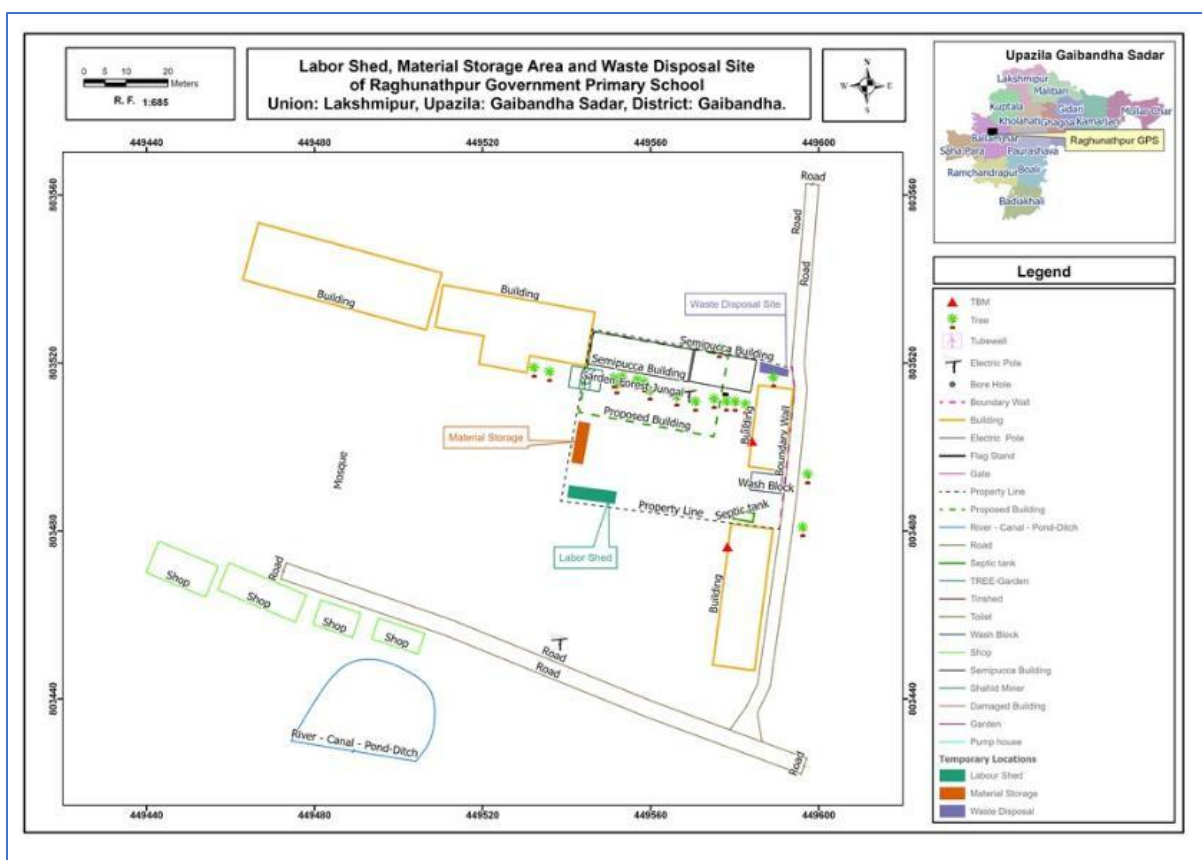


Figure 2: Proposed Labor Camp, Waste Disposal and Materials Storage Area

CURRENT SITUATION, PROPOSED INTERVENTIONS AND NEED FOR THE SUB-PROJECT

The present conditions of the subproject site and proposed labor camp, waste disposal area and construction materials storage area are visualized in **Figures 3, 4 and 5**.



Figure 3: Current Situation of the Existing Subproject Site



Figure 4: Proposed Labor Camp area & Materials Storage Area



Figure 5: Proposed Waste Disposal Area of the sub project site

The Raghunathpur Government Primary School occupies approximately 50 decimals of land and consists of a two-storied pucca (permanent) building and a one-storied, two-tin shed semi-pucca building. These existing structures currently house all of the school's classrooms as well as its administrative offices. The proposed redevelopment plan includes the construction of a flood shelter on the school premises, which will require the removal of several old buildings. Among these, two tin shed semi-pucca buildings are identified for demolition as part of the project. To support the construction process, temporary facilities will be established within the school boundary. These will include labour sheds, material storage areas, and a designated waste disposal site for the duration of the construction period. To ensure the continuation of academic activities during this time, a temporary school shed will be constructed within the campus. This will allow the school to function without disruption, ensuring that students and staff are not impacted by the ongoing construction activities. The existing electric pole within the project area will require relocation to accommodate the proposed construction. The relocation process will be coordinated with the relevant electricity authority to ensure that the power supply remains uninterrupted, while also adhering to all applicable safety standards. During the construction phase, essential utilities and services will be provided, including worker accommodation, toilet facilities, an electricity supply, and access to safe drinking water. For the safety of students, school staff, and visitors, the active construction area will be securely fenced off to prevent any direct or indirect exposure to construction-related hazards. The school compound contains a significant number of trees; however, fourteen trees will need to be removed to facilitate the proposed development activities. The school site is also adjacent to a mosque and graveyard, which will be considered in the development plans to ensure minimal disturbance to the local community. The project area has a documented history of severe flooding, with major flood events recorded in 1987 and 1988, during which floodwater levels rose to approximately 2 feet. These prolonged periods of inundation caused substantial disruption to school operations and presented significant challenges for both students and staff. This historical context underscores the need for the proposed flood shelter as part of the redevelopment. **Figure 6** Photographs of

the existing Government Primary School facilities, **Figure 7** Photographs of the buildings scheduled for demolition and **Figure 8** Photographs of the proposed temporary school shed area.



Figure 6: Existing School Building



Figure 7: Tin shed building needs to be demolished



Figure 8: Proposed Land for Temporary School Shed

The important establishments around the subproject site have been summarized in **Table-3**

Table 3: Important Establishments Adjacent to the Subproject Site

Direction	Important Establishments with Approximate Distance
North side	Kaderdhop Poschim Thakurer Mosque (840m), Notun Kuri Academic Coaching (1.15km), Mosque & Graveyard adjacent to the school, Agricultural Land
South side	Kherua Dighi Eidgah (700m), Bollomjhar Sub-Health Centre (100m), Raghunathpur Jame Mosque (990m), Moddhopara Jame Mosque (1.20km), Moddhopara Government primary School (1.10km)
East side	Chelagari Beel (100m), Gaibandha Homeopathic Medical College & Hospital (1.15km)
West side	Bollomjhar Central Jame Mosque (100m), Bollomjhar Union Parishad (160m), Matherpar Bazar, Bollomjhar (980m)

(Source: Field survey and Public Consultation Meeting, November 2025)

The proposed sub-project (construction of new School cum Flood shelter building) is not located within any environmentally sensitive area and will not cause any severe negative effects to the environmental settings of the area, neither to important environmental features. The disaster shelter will be constructed within an existing school boundary, so no agricultural land/ activities or fish farming will be disturbed due to the construction of the sub project. The project site is surrounded by various religious, educational, healthcare, administrative, and agricultural facilities. On the north side, the area includes Kaderdhop Poschim Thakurer Mosque located approximately 840 meters away, Notun Kuri Academic Coaching Centre at a distance of about 1.15 km, and a mosque with an adjacent graveyard near the local school. The remaining portion of the northern side is mainly agricultural land. On the south side, the site is bordered by Kherua Dighi Eidgah situated around 700 meters away, Bollomjhar Sub-Health Centre at a close distance of approximately 100 meters, Raghunathpur Jame Mosque at about 990 meters, Moddhopara Jame Mosque at nearly 1.20 km, and Moddhopara Government Primary School located around 1.10 km from the site. On the east side, Chelagari Beel is located approximately 100 meters from the site, while Gaibandha Homeopathic Medical College & Hospital is situated at a distance of about 1.15 km. On the west side, Bollomjhar Central Jame Mosque is located very close to the site at approximately 100 meters, followed by Bollomjhar Union Parishad at around 160 meters. Matherpar Bazar, Bollomjhar, is situated at a distance of approximately 980 meters.

No significant disturbance to all these establishments/features is anticipated due to construction activities for having sufficient distance from the construction site, and strict construction site management system- including restrictive work schedule during the daytime only, water-sprinkling twice a day in and around the site, proper fencing around the working area, safe storage of materials, etc.

Construction related activities and setting up of labor camps along with associated facilities and their management issues will be accounted for impacts more likely to be generated during the pre, post and construction period. Noise pollution from piling or drilling, air pollution caused by dust or gaseous emissions from vehicle movement, running of motorized equipment and land clearing, odors and soil pollution from leaking of latrines and fecal sludge, will more likely to take place. Soil can further be eroded and polluted from chemical spills or improper disposal of waste materials. Noise and vibration effects generated from piling and drilling may also trigger landslides and harmful disturbances to local fauna. Impact on surface and ground water bodies might get acute due mainly to the high abstraction rate and disposal/leakage of pollutants to the surface/ground water bodies. Clearing of trees, bushes or any type of vegetation may put impact on floral species and unscrupulous clearance also trigger habitat loss. All these impacts can only be prevented or minimized by adopting measures delineated into the ESMP and good practice engineering and site management.

ENVIRONMENTAL AND SOCIAL ASSESSMENT

This section identifies the potential impacts that the various elements of the proposed sub-project may have on the physical, biological and socio-economic environment within half a kilometer of the radial distance around the site. Environmental and Social Assessment (ESA) based on this assessment study for the Sub-project as Raghunathpur Government Primary School of Gaibandha Sadar Upazila under Gaibandha District has been conducted to identify and determine which potential project impacts may be significant and therefore require the application of reasonable and effective management and/or mitigation measures. In order to realize the exact physical, biological and socio-economic environment of the proposed sub-project site and the influence area in regards to the implementation measures, an extensive field visit was carried out on 19 November 2025 in the Sub-project area. Environmental and Social Assessment form, as adopted in **Annexure-2** of the Environmental and Social Management Framework of RIVER, was administered for identifying the impacts and their extents.

PUBLIC CONSULTATION AND PARTICIPATION

Public participation and community consultation has been taken up as an integral part of environmental assessment process of the project. Field visit has been carried out on 19 November 2025 in and around the Sub-project component site. As part of the impact assessment, participatory public consultation was conducted in that area by the field level staffs, and consultants from D&SC. Checklist of the consultation is attached in **Annexure-3**. The consultation meeting was attended by 20 persons (Male-14 and Female-06) and local individuals, teachers, chairman and/or member of Union Parishad and school management committee were among the attendees in that meeting. The participants were selected from different cohorts of stakeholders, and some of whom will have major active roles before, during and even after the construction works. Therefore, the meeting was organized in an informed, expressive and unbiased manner, wherefrom different views and concerns came across which will be properly taken care of during the design and construction phases. Refer to **Figure 9** and **Annexure-4** for selected photographs of the participatory public consultation held at site of the Raghunathpur Government Primary School and list of attendees in that public consultation meeting, respectively. A questionnaire was kept ready and responses were elicited. During these consultations, the communities were explained about the project, its benefits, associated social and environmental aspects and possible mitigation measures.

The participants were also informed about the project GRM (Grievance Redress Mechanism) system in detail and the disclosure of project documents in websites, and their unrestricted and uninitiated access to those system and resources. As such, public consultation is a living process as the types of problems/ difficulties, involved parties or stakeholders and mode of settlement or resolution processes are more likely to differ with time. Thus, consultation with different parties or stakeholders will be continued throughout the sub-project implementation period and

records of resolutions, whatsoever and wherever possible, will be kept in writing at the site and made available on any enquiries or requests by all parties concerned.



Figure 9: Public Consultation Meeting in the Proposed Sub-project Site

SUMMARY OF ENVIRONMENTAL AND SOCIAL IMPACTS

Tree Cutting: Approximately fourteen (14) trees are likely to be cut down and no water bodies are likely to be filled up due to the construction of the flood shelter. The ecological impact of the subproject is low. There will be temporary negative impacts on physico-chemical environment. Nevertheless, these impacts are manageable if mitigation measures are taken according to ESMP.

Grass turfing: Grass turfs on embankment, slope, building compound & any critical place to enhance the ecological condition and protect the top soil. Tentative area of turf has been estimated as 240 square meters (half of total area), after discussion with architects and engineers. It is likely to be changed depending on the requirement during construction as per site design and as per direction of E.I.C.

Land Ownership: Availability of adequate public land area is as important as community consent to construct the flood shelter and access roads. The feasibility team did not find any conflicts over the school land. The land issue has been discussed in the meeting. Participants unanimously confirmed that the school has its own 50 decimals of land and there is no dispute about this land.

Land Acquisition: The proposed Sub-project, Raghunathpur Government Primary School, does not have any involuntary resettlement impacts due to the construction of flood shelter and approach roads as the Sub-projects will be constructed in existing Government Primary Schools' premises. The Government Primary School has 50 decimals of land. No land acquisition will be required for the activities to be implemented under the project. Access road needs to construct or rehabilitate within its existing alignment.

ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN

Site specific Environmental and Social Management Plan (ESMP) outlines tailored mitigation, monitoring, and management measures to address potential environmental and social impacts arising from school cum flood shelter construction at each sub-project site. It focuses on controlling dust, noise, and waste; protecting nearby agricultural land and water bodies; ensuring occupational health and safety; managing community interactions; and conserving local biodiversity. The ESMP integrates the Environmental and Social Codes of Practice (ESCoPs) are attached in **Annexure-5** and compliance with World Bank ESF and national environmental regulations throughout the construction and operation phases. The Site Specific Environmental and Social Management Plan (ESMP) under this sub-project is providing in **Table 4**:

Table 4: Site Specific ESMP for Raghunathpur Government Primary School

Ref.	Activity / Issues	Potentials Impacts	Proposed Mitigation and Enhancement Measures	Responsible for Implementation	Responsible for Monitoring
1.	Contractor's proposal for site specific temporary works	Accurate/ proper implementation of ESMP	Preparation of Work schedule, construction camp, materials storage area, access road, waste dumping/ disposal area etc.	Contractor	Environmental and Social Development Specialists of PIU and D&SC
2.	Site Clearing, Fencing, removal and Disposal Activity	Improper management and clearing of site may elevate risks of accidents, pollution and nuisance to public and school users.	- Clearing of site at the very outset with removal of all obstructions, including structures, materials, trees, etc. in order to keep the construction area, storage areas used, free from accumulations of waste materials or rubbish, with necessary arrangement for collection at a central disposal area. - Providing necessary protection fencing surrounding the total workplace area (including internal fencing made with bamboo for demarcating material storage areas mainly) and environmental and occupational health & safety sign boards, warning signs, etc.	Contractor	Environmental and Social Development Specialists of PIU and D&SC

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Ref.	Activity / Issues	Potentials Impacts	Proposed Mitigation and Enhancement Measures	Responsible for Implementation	Responsible for Monitoring
3.	Construction and operation of labor shed for the workers	• Generation of sewage and solid waste may cause environmental pollution in the surrounding area • Water, soil, air & dust pollution/ environmental pollution	• Construction of sanitary latrine at the labor shed (consider 15 persons for one toilet, separate toilet for male and female); • Construction of sanitary latrine/ Pit latrine with septic tank/ Ring slab system • Erection of “no litter” sign, provision of waste bins/cans (separate waste bins for organic and inorganic wastes); • Provision of waste bins/ cans, where appropriate, • Litter is to be collected daily. • Bins and/or skips should be emptied regularly and waste/ debris should be disposed off at waste disposal areas approved by Environmental Specialist of DSC. • Ensure wastes (solid wastes and other forms of the waste) disposal at designated places. • Camp and working areas are kept clean and tidy at all times. • Camp is to be checked for spills of substances i.e. chemical, oil, paint, etc.	Contractor	Environmental and Social Development Specialists of PIU and D&SC
4.	Health, Safety and Wellbeing of Workers	• Health and Safety of workers	• Conduct formal and unofficial discussion and training to increase awareness about hygiene practices among the workers; • Ensure availability and access to first-aid equipment and medical supplies for the workers. • Ensure safety gear worn: ear plug, goggles, mask, gloves, helmets, and uniforms etc. • Staff must be trained up for operating equipment	Contractor	Environmental and Social Development Specialists of PIU and D&SC

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Ref.	Activity / Issues	Potentials Impacts	Proposed Mitigation and Enhancement Measures	Responsible for Implementation	Responsible for Monitoring
			Ensure adequate supply of drinking water. Sanitation facilities for male & female workers separately.		
5.	Construction Materials storage areas	- Use of surrounding open area, playground, road side etc. for stockpiling of construction materials. - Creating dust/ air pollution, - Spillage of liquid/hazardous substances i.e. oil, paint, chemicals, bitumen etc. - Access of students, children, animals, etc. - Not cleaning of construction materials storage areas after completion of construction.	- Proper stockpiling/ storage of construction materials at the site as proposed by the contractor & approved by the Environmental Specialist of D&SC. - Proper covering of dust producing materials with polythene sheet, - Proper fencing around the storage area in order to be secure, to minimize the risk of crime and to be safe from access by students, children, animals, etc. - Spills/ hazardous substances should be disposed off at the site as proposed by the contractor & approved by the Environmental Specialist of DSC to avoid soil/ water contamination. - Materials storage area must be cleaned after completion of construction.	Contractor	Environmental and Social Development Specialists of PIU and D&SC
6.	Demolition of Old Structures	Demolition works may create Air and water pollution, generate hazardous materials, which are too disturbing and may cause health and	- Advise demolition Contractor about Controlled demolition with water suppression, debris containment; salvage reusable materials; safe disposal plan, and following the SOP for Demolition Works (Annexure-06). - Prior to start demolition, the utility services (electrical cables, telephone line, water supply pipeline, gas	Demolition Contractor	SMC

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Ref.	Activity / Issues	Potentials Impacts	Proposed Mitigation and Enhancement Measures	Responsible for Implementation	Responsible for Monitoring
		safety issues to the School users, community people and workers. During movement of heavy Construction machineries, equipment can damage the utility services if not previously removed.	supply pipeline and internet line) should be shifted with the consultation of the relevant organizations; - Inform the local community before starting removal or demolishing work; - Carefully remove the utilities that are connected to any structures; - Proper Health and safety measures for the workers should be taken throughout the demolition period to avoid any incidents.		
7.	Construction of a new temporary school shed and facilities	Students are temporarily affected for demolition of classrooms and lacking of regular schooling.	- Contractors will arrange voluntary/temporary land donation or lease, with those who are interested in, for a stipulated period following the written consent. - Contractor shall construct a temporary school facility as per standard design provided by LGED. - Temporary school shall be removed by the Contractor at the end of all Construction works, with full satisfaction of E-I-C.	Contractor/ SMC	Environmental and Social Development Specialists of PIU, D&SC and SMC
8.	General construction work	Drainage congestion and flooding	- Plinth level of the Shelter should be higher than the highest flood water level. - Ensure provision for adequate drainage of storm water and pumping of congested water if needed; - Ensure adequate monitoring of drainage effects, especially if construction works are carried out during the monsoon season.	Contractor	Environmental and Social Development Specialists of PIU and D&SC

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Ref.	Activity / Issues	Potentials Impacts	Proposed Mitigation and Enhancement Measures	Responsible for Implementation	Responsible for Monitoring
		Air pollution	- Check regularly and ensure that all the subproject vehicles and equipment are in good operating condition; - Ensure contractor spray water on dry surfaces/unpaved to reduce dust generation; - Maintain adequate moisture content of the sand; - Ensure contractor sprinkle water and cover stockpiles of loose materials (e.g., fine aggregates); - Inform and make regular consultation with the local people about the subproject activities and potential impact; - Cover loaded truck used for carrying sand with tarpaulin/other suitable material to prevent spreading by air blown. - Provision of Masks for the workers, site staffs, students and teachers & Masks should be available in site during construction period. - Construction works should be scheduled before and after school hour, prayer/religious ritual time, or during holidays. - Avoid use of equipment e.g. stone crushers at site, if possible, which produce significant amount of particulate matter.	Contractor	Environmental and Social Development Specialists of PIU and D&SC
		Traffic congestion, effect on traffic and pedestrian safety	- Ensure schedule deliveries of materials/ heavy vehicle movement/ equipment during off-peak hours; - Place traffic sign/cautionary sign to avoid undue traffic congestion if required;	Contractor	Environmental and Social Development Specialists of PIU and D&SC

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Ref.	Activity / Issues	Potentials Impacts	Proposed Mitigation and Enhancement Measures	Responsible for Implementation	Responsible for Monitoring
			• Maintain vehicles and enforce legal load limits, and impose speed limits within settlements • Use flagmen, signage, and barriers near schools and markets; • Spray water on access roads to reduce dust • Coordinate with local authorities and inform communities.		
		• Noise pollution	• Check and maintenance the equipment properly; • Avoid using of construction equipment such as concrete mixer machine, pile driving equipment (pile rig, winch machine), vibrator machine that produce excessive noise at night; • Avoid prolonged exposure to noise (produced by equipment) by the workers; • Regulate use of horns and avoid un-due use of hydraulic horns by subproject vehicles; • Provision of Ear plugs for the workers & site staffs should be available in site during construction period. • Inform local people about the subproject activities and potential impact. • Construction works should be scheduled before and after school hour and prayer time.	Contractor	Environmental and Social Development Specialists of PIU and D&SC
		• Felling of trees, clearing of vegetation and ecological disturbances	Replace each felled tree with at least 3 nos. saplings, due to 14 trees felling, 42 trees to be replanted around the periphery of the proposed site at an interval of not less than 3m, to enhance the ecological condition.	Contractor	Environmental and Social Development Specialists of PIU and D&SC

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Ref.	Activity / Issues	Potentials Impacts	Proposed Mitigation and Enhancement Measures	Responsible for Implementation	Responsible for Monitoring
		Water & Soil pollution	- Avoid complete closing of the channel that affects reproduction of aquatic species; - Any illegal discharge of wastewater, leaked oil shall be prohibited.	Contractor	Environmental and Social Development Specialists of PIU and D&SC
		Spills and leaks of oil, toxic chemicals	- Proper handling of lubricating oil and fuel so that it does not fall on the soil; - Good housekeeping - Collection and proper disposal of spills; - Refueling and fuel tank should not be placed on the ground directly. - Spillage wasters should be disposed in the waste disposal area located at the site proposed by the contractor & approved by the Environmental Specialist of D&SC	Contractor	Environmental and Social Development Specialists of PIU and D&SC
9.	Rigorous Monitoring and Report Preparation and Submission		- The Contractor shall appoint (i) ES Manager (ii) Community Organizer and (iii) H&S Officer for strict management and monitoring of all ES related works at each site and the budget for this engagement shall be borne from the Contractor's management budget. - Contractor shall submit regular monthly monitoring report to the D&SC and PIU as per reporting standard set by the ES Consultants of D&SC/PIU.	Contractor	PIU

COST OF ENVIRONMENTAL ENHANCEMENT WORKS IN BOQ

Considering the environmental impacts and their mitigation measures for this subproject, several items are included in the BOQ to address these issues. The detailed estimate, with tentative cost for implementing the ESMP, is given in **Table 5**.

Table 5: Environmental Social Management Budget (Bill of Quantity)

Item No.	Description of the Works	Unit	Quantity	Unit Rate (BDT)	Amount (BDT)
1.	<u>Site Cleaning, Removal and Disposal Activity:</u> Cleaning and maintaining at all times, keeping the construction area, storage areas used, free from accumulations of waste materials or rubbish, with necessary arrangement for collecting at a central disposal area, on a daily basis and disposing in a manner approved and satisfaction by the Engineer, especially waste water and sewage from office, residential and mobile camps shall be piped to soak pits or other disposal areas, all used fuels, oils, other plant or vehicle fluids, old tyres, tubes, other solid waste from household, office, workshop, construction materials, etc. to be kept at safe places and any spillages shall be cleaned up by either burning in place or collecting the contaminated soils and burning them at the central disposal area, including removing all waste, debris, rubbish, unused materials, concrete forms and other like material, tools, equipment, machinery and surplus/ unwanted materials buried or cleaned up in a manner acceptable to the Engineer after completion of work etc. all complete as per requirement and full satisfaction of Engineer-in-charge. Payment will be made after 100% completion of the contract successfully	Each	1	19,000	19,000.00
2.	<u>First Aid Box:</u> Supplying, equipping and maintaining adequate first-aid box throughout the working period at worksite and site office, and erect conspicuous notice boards directing where these are situated and providing all requisite emergency medical first aid kits, including complying with the government medical or labour requirements at all times, and provide, equip and maintain necessary dressing kits throughout the working period for attending minor injuries, etc. all complete as per requirement and full satisfaction of Engineer-in-charge. Payment will be made after 100% completion of the contract successfully.	Each	2 nos.	6500 Tk. Per box	13,000.00

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Item No.	Description of the Works	Unit	Quantity	Unit Rate (BDT)	Amount (BDT)
3.	Providing Safety gear package like hand gloves, eye protection glasses, air plug, helmets, rubber shoes, light reflecting dress etc. for 20 sets.	Set	20 sets	5,000	100,000.00
4.	<u>Temporary Toilet Facilities:</u> Provide at least two nos. portable toilets or constructing temporary semi-pucca toilets with twin pit latrines, one for female worker and other for male worker at worksite and workers accommodation site in a safe location, so that no adverse impact will generate on the surrounding environment, including providing requisite arrangements for water supplying etc. All complete as per drawing, specification, direction and satisfaction of the Engineer-in-Charge. All relevant accessories and arrangements under this item shall be property of the contractor and payment will be made only upon 100% completion of the contract successfully.	No.	2 nos.	20,000	40,000.00
5.	<u>Water Test (Drinking Water samples):</u> "Test (Drinking Water samples) Out of 5 nos. of tube well 1-no of tube well should be Install at the beginning of construction works so that labour and other site staff can get drinking water. In addition, Water samples to be collected periodically (half yearly) for one Tube well of the shelter for laboratory analysis for different parameters such as pH, arsenic, iron, chloride, hardness and total dissolved solids or electrical conductivity etc. all complete as per direction of EIC (including the cost of actual fees for testing from reputed laboratory and report) as desired by EIC."	LS	3 times	13,800	41,400.00
6.	<u>Drinking Water Facilities:</u> Providing continuous adequate drinking water supply at worksite and site office as well by installing necessary tube-well/s where applicable or any other means depending on local situation, also providing essential arrangement for storing drinking water by supplying portable best quality water tank equivalent to Gazi/Padma of adequate capacity depending on the number of users, including supplying 1 (one) no. best quality water filter of minimum capacity 30 liters with necessary kits, etc. all complete as per satisfaction and direction of the Engineer-in-charge, all relevant goods and equipment under this item shall be property of the contractor and payment will be made after 100% completion of the contract successfully.	Each	2 nos.	LS @ Tk. 35,000	7,000.00
7.	<u>Waste Disposal Facilities:</u>	LS	1 set	20,000 BDT	40,000.00

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Item No.	Description of the Works	Unit	Quantity	Unit Rate (BDT)	Amount (BDT)
	Providing, installing and maintaining at least 2 (two) nos. waste collection bins one for organic waste and other for inorganic waste of minimum capacity of 30 liters with hinge supported 450mm dia. cover plate for opening, made of durable plastic material at worksite, both bins will be kept in a safe and easily accessible place, so that will easy to use and no adverse impact will generate on the surrounding environment, including continuing the full functioning of waste disposal (buried/incineration) in accordance with the full satisfaction of the project manager throughout the contract period, all complete as per drawing, specification and direction of the Engineer-in-charge. Entire relevant accessories and arrangements under this item shall be property of the contractor and payment will be made after 100% completion of the contract successfully.				
8.	Construction of temporary school facilities as per standard requirement and design set in the bidding document	LS	Estimate of this construction works is included in the Civil works part of the BOQ		
9.	Motivation training: Motivation training of the Upazila Engineer's and Contractor's representatives for safety practice & environmental others facilities.	LS	2	15,000	30,000.00
10.	Hazards and Hazardous Materials: Handling Storing and store hazardous materials in accordance with the following requirements: Hazardous materials shall be stored above flood level and at least 20m from any watercourse; Hazardous liquid substances (e.g. petrol, diesel, oils) shall be stored on top of sealed plastic sheets in a secure, flat enclosed area. Bund walls shall be at least 25 cm high.	LS	1	12,000 BDT	12,000.00
11.	Dust suppression measures like water sprinkling on aggregates/ unpaved roads in and around the work site (Frequency of measures has been proposed to be increased as sensitive receptors are located around).	LS	1	50,000 BDT	50,000.00
12.	Supplying and planting specified healthy coconut (local) saplings of minimum 0.60m height, free from any diseases', collected from different nurseries (collection of saplings from government horticulture is preferable) & carrying the same to the worksite; preparation of pit prior to minimum 10 days of plantation by earthwork in excavation of 450mm x 450mm x 450mm size for	Each	42	500.00	21000.00

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Item No.	Description of the Works	Unit	Quantity	Unit Rate (BDT)	Amount (BDT)
	plantation, applying 0.015 cum cow dung and 100gm normal salt mixed with exceled earth properly; planting the plants, weltering for will be as per tree plantation guideline.				
13.	Turfing on embankment top and slope, building compound with good quality turf supplied by the contractor of not less than 225mm square in dimension including placing and watering till grass is fully grown, etc. all complete as per direction of the E-I-C. (payment to be made only when grass is fully grown).	sqm	240	29.14 Tk. Per sqm	6,993.60
14.	Construction Work nearby busy access roads may cause temporary disruption to local traffic movement, pedestrian safety issues, and increased accident risks.	This is part of normal site management and does not require a separate BOQ item, measures implemented under Environmental and Social Codes of Practice (ESCoPs).			
15.	Construction of Temporary Facilities such as site offices, labor sheds, storage yards, material stockpiles etc.	The cost for construction, maintenance, and removal of these facilities is included in the civil works BOQ under the contractor's responsibility.			
16.	Disturbance to nearby paddy field or water bodies	No separate BOQ item required — measures implemented under Environmental and Social Codes of Practice (ESCoPs).			
Total budget for this site		3,80,393.60			

As per project ESMF, PIU, project engineer's suggestion and experience from other LGED projects such as MDSP, EMCRRP etc. adequate budget has been proposed for the environmental management for the mitigation and enhancement measures. It may vary depending on the real time situation and requirement of the construction. The subproject activities have temporary and localized negative impact on noise level during construction phase due to movement of the subproject vehicles and equipment. Hence, budget includes analytical monitoring for noise level. For solid waste management adequate waste bins will be installed. The budget for labor shed, and site office construction is included in the civil works items. Therefore, it is not included in the environmental budget. It should be noted that the contractor will be paid as per actual work done.

Name of Subproject: Development of Multipurpose Flood Shelter at **Lenga Government Primary School**

Village: Mouja Malibari; Union: 1 No. Lakshmipur;

Upazila: Gaibandha Sadar; District: Gaibandha;

Package No/Database Unique ID: GAI-039; School Code: 91108011205

SUB-PROJECT DESCRIPTION

The Lenga Government Primary School is a subproject of “Resilient Infrastructure for Adaptation and Vulnerability Reduction (RIVER) Project”. It is located in Mouja Malibari village under 1 No. Lakshmipur Union of Gaibandha Sadar Upazila of Gaibandha District. Major components of the subproject are to construct resilient flood shelters and community structures and strengthen the capacity for disaster preparedness and response. Significant features of this subproject are summarized in **Table 1**:

Table 10: The Significant Features of the Subproject Site

Name of the Subproject	:	Lenga Government Primary School
Educational Institute ID	:	91108011205
Land Owner	:	Lenga Government Primary School
Available Land	:	88 Decimals
Average Capacity of Flood Shelter	:	650
Catchment Population	:	20,000
Catchment Village	:	Mouja Malibari, Haji Para, Joyer Vita, Doctor Para, Bokshi Khamar, Master Para, Duler Vita, Fokir Para.
Major profession of local population	:	Agriculture-(60%), Daily Labour (20%), Others-(20%)
Brief Description of Subproject Site: (e.g. present land use, Important Social and Environmental Features (IEFs) near site, etc.)	:	Existing GPS building, Playground, Shaheed Minar, Bazar, Local Settlement, Trees, Roads etc.
Sensitive environmental, cultural, archaeological, religious sites near (within 1km) of site including major water bodies/forests	:	None
Ethnic Minority	:	None
Connecting Road	:	Joyar Vita Connecting RCC Road (16 feet width)
Land acquisition	:	None

(Source: Field survey and Public Consultation Meeting, November 2025)

LOCATION OF THE SUB-PROJECT

The subproject is located in the Northern part of Gaibandha Sadar Upazila in Gaibandha District, which is within the Rangpur Division. The location details of the subproject have been summarized in **Table 2**.

Table 2: Location Details of the Subproject Site

District	:	Gaibandha
Upazila	:	Gaibandha Sadar
Union	:	1 No. Lakshmipur
Mouza	:	Malibari
Village	:	Mouja Malibari
GPS Location	:	25.431829 N; 89.558211 E
Distance of the site from Upazila HQ	:	17km (North)
Nearby Major Road:	:	Lakshmipur- Kamarjani Road (50m –South)
Nearby River/ Canal:	:	Lenga River (500m -West)

(Source: Field survey and Public Consultation Meeting, November 2025)

Mouja Malibari village, in 1 No. Lakshmipur Union, Gaibandha Sadar Upazila (Gaibandha District), lies on the active Brahmaputra–Jamuna floodplain, a very low-relief alluvial landscape crisscrossed by khals (canals) and beels (wetland depressions) that store and route monsoon flows. Local flood behaviour is governed by the Brahmaputra–Jamuna main stem and the regional network of the Teesta and Ghaghat rivers; notably, the Ghaghat passes through Gaibandha town and joins the Brahmaputra a few kilometres north of Fulchhari Ghat, which intensifies backwater effects during peak flows. Routine hydrologic bulletins for nearby gauges (e.g., Ghaghat at Gaibandha and Fulchhari/Fulchhari Ghat on the Brahmaputra–Jamuna) regularly record high and danger-level stages in flood seasons, consistent with long-standing flood dynamics in the district. The subproject catchment—covering Mouja Malibari, Haji Para, Joyer Vita, Doctor Para, Bokshi Khamar, Master Para, Duler Vita, and Fokir Para—experiences recurrent inundation when intense southwest-monsoon rainfall coincides with elevated upstream discharges. Flat micro-topography, limited drainage capacity, and episodic riverbank erosion prolong standing water across homesteads and cropland. These conditions repeatedly disrupt agriculture, the principal livelihood, through seedling wash-out; submergence and silt deposition on paddy (aus/aman/boro), jute, and vegetables; and damage to on-farm irrigation, shallow tubewells, and field embankments. Recurrent flooding also degrades rural infrastructure (earthen roads, small bridges/culverts, local embankments) and intermittently interrupts services at schools, markets, and health posts, while flooded latrines and water points compromise WASH conditions; river-

proximate and land-poor households are disproportionately affected. These patterns are consistent with national and district evidence for Gaibandha's flood-prone belts, including the Population & Housing Census 2022 and recent government/sector assessments of the Brahmaputra–Jamuna system. In line with sector guidance for the Teesta–Brahmaputra corridor, priority measures for Mouja Malibari and neighbouring settlements are: (i) restoring hydrological conveyance via re-excavation/desilting of khals, outlet improvements, and sediment-aware O&M; (ii) climate-resilient infrastructure—raising critical road links to all-weather standards, strengthening and maintaining embankments, upgrading culverts/bridges for higher design discharges and debris passage, and targeted riverbank protection; and (iii) community preparedness—reliable last-mile early warning, union- and school-based contingency plans, inclusive drills, and clear O&M roles and budgets. Implemented together, these actions would reduce chronic flood losses and strengthen the adaptive capacity of Lakshmipur Union, Gaibandha Sadar Upazila, and the wider Gaibandha District.

The flood shelter will be constructed at Lenga Government Primary School (GPS), which is located at the Mouja Malibari village under 1 No. Lakshmipur Union of Gaibandha Sadar Upazila in Gaibandha District. There are 12 teachers (Male: 06; Female: 06), and 620 students (Boys: 307; Girls: 313) in the school, operated by the guidance of School Management Committee (SMC) and government officials of Gaibandha Sadar Upazila Education Office. The students, teachers and residents of the catchment area come to the proposed site by using the connecting/access road named Joyar Vita Connecting Connecting Road. The road is a RCC road with 16 feet width and just passing beside the Lenga Government Primary School at east side.

The population of the catchment area is about 20,000. Households in the subproject area rely primarily on groundwater abstracted from shallow tubewells, typically installed at depths of 200–250 feet below ground level. Recent water-quality testing has detected elevated iron in these sources, indicating potential public-health risks and the need for mitigation. Priority measures include shifting users to verified safe supplies (e.g., properly sited deep tubewells or community piped schemes where hydrogeology permits), deploying iron/arsenic removal technologies at household or community scale as appropriate, instituting routine water-quality surveillance against Bangladesh standards and WHO guideline values, strengthening sanitary sealing and source protection, and implementing risk communication on safe collection, storage, and use practices. The catchment supports freshwater fisheries resources, including giant snakehead (*Channa marulius*; locally *gojar*) and other native species locally known as *bou* and *urua*. Common birds include migratory waterfowl (*atithi pakhi*), crows (*Corvus* spp.), egrets/herons (family *Ardeidae*; *bok*), spotted dove (*Spilopelia chinensis*; *ghugu*), and kites (*chil*). Occasional wildlife sightings include foxes (*Vulpes* spp.), snakes, mongooses, and Bengal monitor lizards (*Varanus bengalensis*; *gaora*). These birds and animals provide essential ecosystem services—insect and rodent control, seed dispersal, scavenging, and bio-indication of habitat quality—that support agricultural productivity, public health, and overall ecological resilience. Collectively, the aquatic,

avian, and small terrestrial fauna indicate a functioning and balanced ecosystem that should be reflected in project design, construction management, and long-term operation and maintenance. The 1 No. Lakshmipur Union map indicating sub-project location has been shown respectively in **Figure 1**. The topographical Map with indicative and tentative location of labor camp, construction materials storage area, and waste disposal area have been shown in **Figure 2** which shall be placed as per direction and satisfaction of LGED and E.I.C.

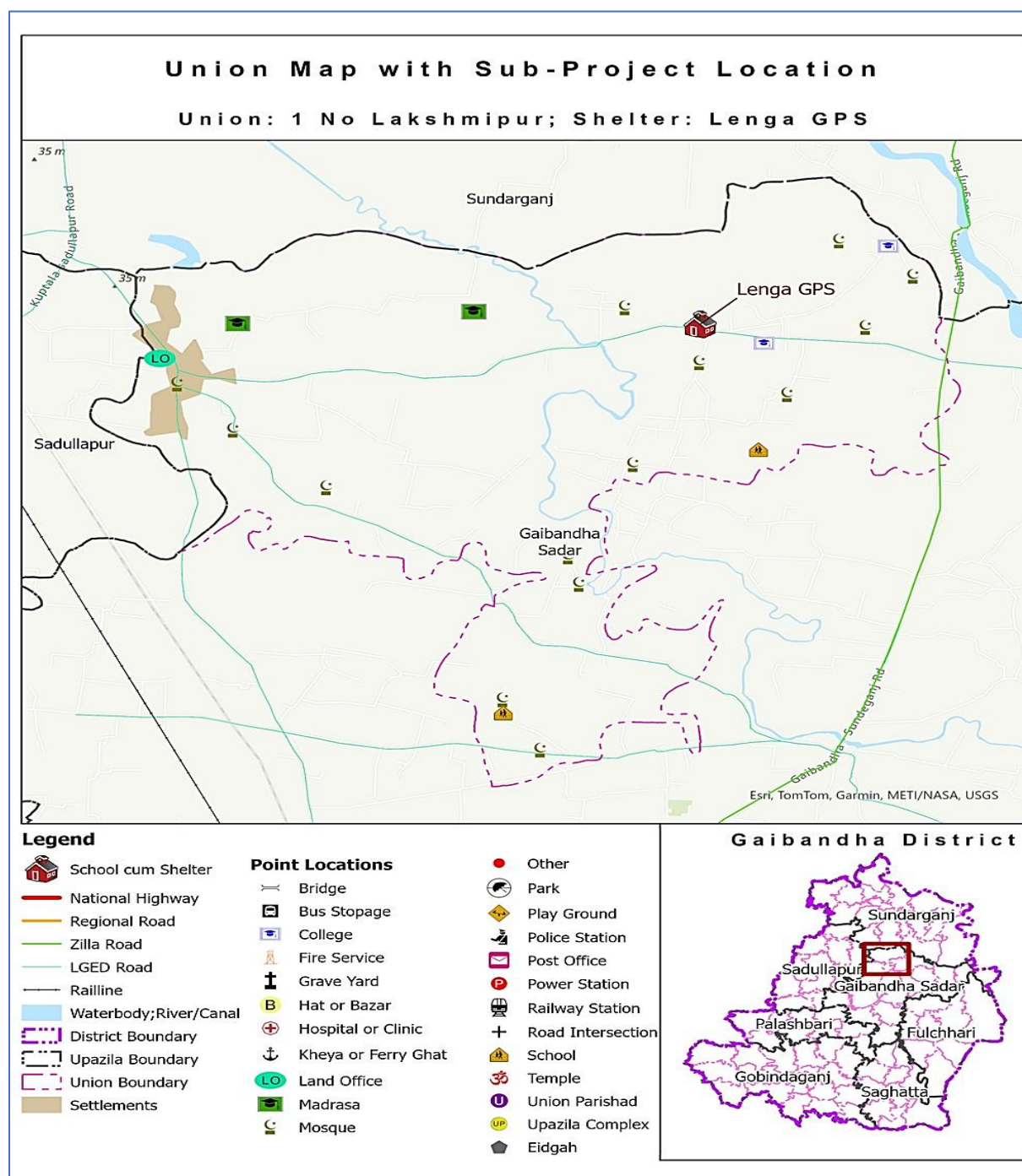


Figure 1: 1 No. Lakshmipur Union Map Indicating Proposed Subproject

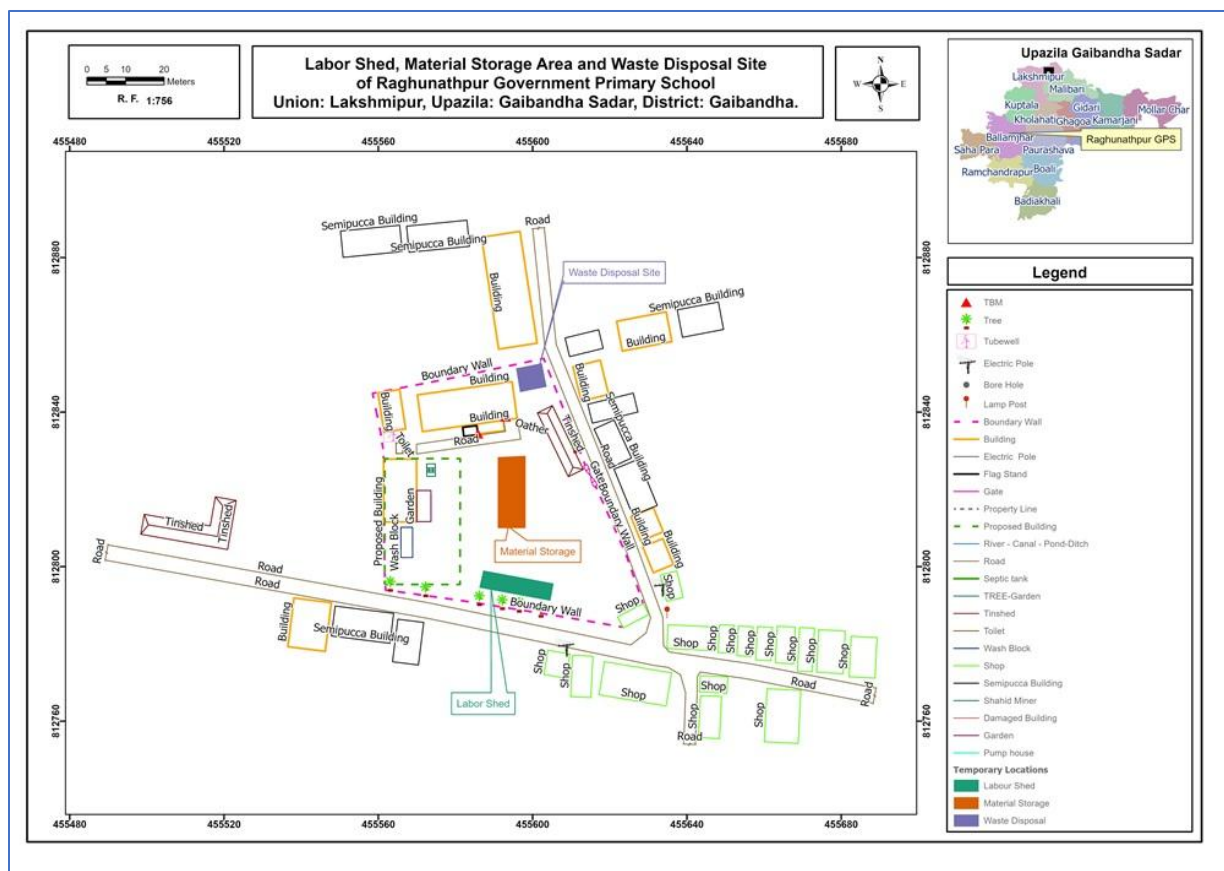


Figure 2: Proposed Labor Camp, Waste Disposal and Materials Storage Area

CURRENT SITUATION, PROPOSED INTERVENTIONS AND NEED FOR THE SUB-PROJECT

The present conditions and proposed labor camp, waste disposal area and construction materials storage area are visualized in **Figures 3, 4 and 5**.



Figure 3: Current Situation of the Existing Subproject Site



Figure 4: Proposed Labor Camp and Materials Storage Area



Figure 5: Proposed Waste Disposal Area for the Subproject Site

Lenga Government Primary School occupies approximately 88 decimals of land and comprises a new two-storey pucca building and an older single-storey RCC building that together accommodate all classrooms and administrative offices. A Shaheed Minar and a wash block are also present on the campus. The proposed multi-purpose flood shelter will be constructed on the footprint of the old RCC building, Shaheed Minar, and wash block; accordingly, these structures will be demolished (approximate dimensions: RCC building 58 ft × 32 ft [~17.7 m × 9.8 m], Shaheed Minar 15 ft × 20 ft [~4.6 m × 6.1 m], wash block 30 ft × 10 ft [~9.1 m × 3.0 m]). No temporary school sheds are required; classes will continue in the new two-storey building throughout construction. Within the campus, temporary construction facilities—including a labour shed, materials storage area, and a designated waste-disposal site—will be established with on-site provision of worker accommodation, toilets, electricity, and safe drinking water. To safeguard students and staff, the works area will be secured with protective fencing to clearly separate construction activities from school circulation. The site is surrounded by local settlements and rural homesteads and is proximate to beels (wetland depressions); additional community facilities—multiple mosques, a madrasa, schools, a bazar, and a college—are located within roughly 1 km. An access road segment (~25 ft × 15 ft / ~7.6 m × 4.6 m) will be upgraded to ensure safe construction access. A considerable number of trees are present within the compound; all applicable regulations and guidelines for tree protection and water-body management will be strictly followed. The area has a documented flood history, notably in 1988 (inundation of ~5 ft) and 2019 (~2.2 ft), with floodwaters persisting 22–30 days, disrupting daily life and education services. **Figure 6** presents current photographs of the existing school facilities, and **Figure 7** shows the structures proposed for demolition.



Figure 6: Existing school Building



Figure 7: Need to Demolished.

The important establishments around the subproject site have been summarized in **Table-3**

Table 3: Important Establishments Adjacent to the Subproject Site

Direction	Important Establishments with Approximate Distance
North side	Bama Sundori High School (10m), Joyer Vita Jame Mosque (150m), Chaparhati Islamia Dakhil Madrasa (1.30km), Hajipara Mosque (1km).
South side	Lenga Bazar Mosque (70m), Koyar Bari Beel (200m), Lenga Bazar –Adjacent to the school, Doctorpara Jame Mosque (240m), Mouja Malibari Moddhopara Govt Primary School (1.45km).
East side	Mouja Malibari Technical College (300m), Lenga Bazar Ideal College (500m), Jhakuapara Youth Development Club (1.25km), Jhakuapara Jame Mosque (1.30m), Souldubi Beel (700m), Girl's High School (250m), College Para Mosque (500m).
West side	Lenga Bazar Madrasa (1.40km), Namar Bondh Beel (300m), Dular Vita Puraton Jame Mosque (600m), Mouja Malibari Old Mosque (700m), Mouja Malibari New Mosque (1km).

(Source: Field survey and Public Consultation Meeting, November 2025)

The proposed sub-project (construction of new School cum Flood shelter building) is not located within any environmentally sensitive area and will not cause any severe negative effects to the environmental settings of the area, neither to important environmental features. The disaster shelter will be constructed within an existing school boundary, so no agricultural land/ activities or fish farming will be disturbed due to the construction of the sub project. Key community, educational, religious, and natural features surrounding the site are as follows: to the north, Bama Sundori High School (≈ 10 m), Joyer Vita Jame Mosque (≈ 150 m), Chaparhati Islamia Dakhil Madrasa (≈ 1.30 km), and Hajipara Mosque (≈ 1.0 km); to the south, Lenga Bazar Mosque (≈ 70 m), Koyar Bari Beel (≈ 200 m), Lenga Bazar (adjacent to the school), Doctorpara Jame Mosque (≈ 240 m), and Mouja Malibari Moddhopara Government Primary School (≈ 1.45 km); to the east, Mouja Malibari Technical College (≈ 300 m), Lenga Bazar Ideal College (≈ 500 m), Jhakuapara Youth

Development Club (≈1.25 km), Jhakuapara Jame Mosque (≈1.30 km), Souldubi Beel (≈700 m), Girl's High School (≈250 m), and College Para Mosque (≈500 m); and to the west, Lenga Bazar Madrasa (≈1.40 km), Namar Bondh Beel (≈300 m), Dular Vita Puraton Jame Mosque (≈600 m), Mouja Malibari Old Mosque (≈700 m), and Mouja Malibari New Mosque (≈1.0 km). Distances are approximate.

No significant disturbance to all these establishments/features is anticipated due to construction activities for having sufficient distance from the construction site, and strict construction site management system- including restrictive work schedule during the daytime only, water-sprinkling twice a day in and around the site, proper fencing around the working area, safe storage of materials, etc.

Construction related activities and setting up of labor camps along with associated facilities and their management issues will be accounted for impacts more likely to be generated during the pre, post and construction period. Noise pollution from piling or drilling, air pollution caused by dust or gaseous emissions from vehicle movement, running of motorized equipment and land clearing, odors and soil pollution from leaking of latrines and fecal sludge, will more likely to take place. Soil can further be eroded and polluted from chemical spills or improper disposal of waste materials. Noise and vibration effects generated from piling and drilling may also trigger landslides and harmful disturbances to local fauna. Impact on surface and ground water bodies might get acute due mainly to the high abstraction rate and disposal/leakage of pollutants to the surface/ground water bodies. Clearing of trees, bushes or any type of vegetation may put impact on floral species and unscrupulous clearance also trigger habitat loss. All these impacts can only be prevented or minimized by adopting measures delineated into the ESMP and good practice engineering and site management.

ENVIRONMENTAL AND SOCIAL ASSESSMENT

This section identifies the potential impacts that the various elements of the proposed sub-project may have on the physical, biological and socio-economic environment within half a kilometer of the radial distance around the site. Environmental and Social Assessment (ESA) based on this assessment study for the Sub-project as Lenga Government Primary School of Gaibandha Sadar Upazila under Gaibandha District has been conducted to identify and determine which potential project impacts may be significant and therefore require the application of reasonable and effective management and/or mitigation measures. In order to realize the exact physical, biological and socio-economic environment of the proposed sub-project site and the influence area in regards to the implementation measures, an extensive field visit was carried out on 18 November 2025 in the Sub-project area. Environmental and Social Assessment form, as adopted in **Annexure-2** of the Environmental and Social Management Framework of RIVER, was administered for identifying the impacts and their extents.

PUBLIC CONSULTATION AND PARTICIPATION

Public participation and community consultation has been taken up as an integral part of environmental assessment process of the project. Field visit has been carried out on 18 November 2025 in and around the Sub-project component site. As part of the impact assessment, participatory public consultation was conducted in that area by the field level staffs, and consultants from D&SC. Checklist of the consultation is attached in **Annexure-3**. The consultation meeting was attended by 30 persons (Male -24 and Female -06) and local individuals, teachers, chairman and/or member of Union Parishad and school management committee were among the attendees in that meeting. The participants were selected from different cohorts of stakeholders, and some of whom will have major active roles before, during and even after the construction works. Therefore, the meeting was organized in an informed, expressive and unbiased manner, wherefrom different views and concerns came across which will be properly taken care of during the design and construction phases. Refer to **Figure 8** and **Annexure-4** for selected photographs of the participatory public consultation held at site of the Lenga Government Primary School and list of attendees in that public consultation meeting, respectively. A questionnaire was kept ready and responses were elicited. During these consultations, the communities were explained about the project, its benefits, associated social and environmental aspects and possible mitigation measures.

The participants were also informed about the project GRM (Grievance Redress Mechanism) system in detail and the disclosure of project documents in websites, and their unrestricted and uninitiated access to those system and resources. As such, public consultation is a living process as the types of problems/ difficulties, involved parties or stakeholders and mode of settlement or resolution processes are more likely to differ with time. Thus, consultation with different parties or stakeholders will be continued throughout the sub-project implementation period and records of resolutions, whatsoever and wherever possible, will be kept in writing at the site and made available on any enquiries or requests by all parties concerned.



Figure 8: Public Consultation Meeting in the Proposed Sub-project Site

SUMMARY OF ENVIRONMENTAL AND SOCIAL IMPACTS

Tree Cutting: Approximately one (1) tree will be removed to accommodate the construction footprint. Three beels are located within or immediately adjacent to the school site: to the south, Koyar Bari Beel ($\approx 1,000$ acres; depth 10–12 ft); to the east, Souldubi Beel ($\approx 1,500$ acres; depth 10–12 ft); and to the west, Namar Bondh Beel ($\approx 2,000$ acres; depth 15–20 ft). These water bodies function as important natural/managed storage areas, supporting local water conservation, flood attenuation, and drainage management. It is confirmed that no infilling, diversion, or alteration of these beels will be undertaken for the flood-shelter construction. Standard environmental controls (e.g., sediment barriers, careful spoil placement, and runoff management) will be applied to prevent secondary impacts on adjacent water bodies. The ecological impact of the subproject is low. There will be temporary negative impacts on physico-chemical environment. Nevertheless, these impacts are manageable if mitigation measures are taken according to ESMP.

Grass turfing: Grass turfs on embankment, slope, building compound & any critical place to enhance the ecological condition and protect the top soil. Tentative area of turf has been estimated as 240 square meters (half of total area), after discussion with architects and engineers. It is likely to be changed depending on the requirement during construction as per site design and as per direction of E.I.C.

Land Ownership: Availability of adequate public land area is as important as community consent to construct the flood shelter and access roads. The feasibility team did not find any conflicts over the school land. The land issue has been discussed in the meeting. Participants unanimously confirmed that the school has its own 88 decimals of land and there is no dispute about this land.

Land Acquisition: The proposed Sub-project Lenga Government Primary School, does not have any involuntary resettlement impacts due to the construction of flood shelter and approach roads as the Sub-projects will be constructed in existing Government Primary Schools' premises. The Government Primary School has 88 decimals of land. No land acquisition will be required for the activities to be implemented under the project. Access road needs to construct or rehabilitate within its existing alignment.

ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN

Site specific Environmental and Social Management Plan (ESMP) outlines tailored mitigation, monitoring, and management measures to address potential environmental and social impacts arising from school cum flood shelter construction at each sub-project site. It focuses on controlling dust, noise, and waste; protecting nearby agricultural land and water bodies; ensuring occupational health and safety; managing community interactions; and conserving local biodiversity. The ESMP integrates the Environmental and Social Codes of Practice (ESCoPs) are attached in **Annexure-5** and compliance with World Bank ESF and national environmental regulations throughout the construction and operation phases. The Site Specific Environmental and Social Management Plan (ESMP) under this sub-project is providing in **Table 4**:

Tabel 4: Site Specific ESMP for Lenga Government Primary School

Ref.	Activity / Issues	Potentials Impacts	Proposed Mitigation and Enhancement Measures	Responsible for Implementation	Responsible for Monitoring
1.	Contractor's proposal for site specific temporary works	Accurate/ proper implementation of ESMP	Preparation of Work schedule, construction camp, materials storage area, access road, waste dumping/ disposal area etc.	Contractor	Environmental and Social Development Specialists of PIU and D&SC
2.	Site Clearing, Fencing, removal and Disposal Activity	Improper management and clearing of site may elevate risks of accidents, pollution and nuisance to public and school users.	- Clearing of site at the very outset with removal of all obstructions, including structures, materials, trees, etc. in order to keep the construction area, storage areas used, free from accumulations of waste materials or rubbish, with necessary arrangement for collection at a central disposal area. - Providing necessary protection fencing surrounding the total workplace area (including internal fencing made with bamboo for demarcating material storage areas mainly) and environmental and occupational health & safety sign boards, warning signs, etc.	Contractor	Environmental and Social Development Specialists of PIU and D&SC

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Ref.	Activity / Issues	Potentials Impacts	Proposed Mitigation and Enhancement Measures	Responsible for Implementation	Responsible for Monitoring
3.	Construction and operation of labor shed for the workers	• Generation of sewage and solid waste may cause environmental pollution in the surrounding area • Water, soil, air & dust pollution/ environmental pollution	• Construction of sanitary latrine at the labor shed (consider 15 persons for one toilet, separate toilet for male and female); • Construction of sanitary latrine/ Pit latrine with septic tank/ Ring slab system • Erection of “no litter” sign, provision of waste bins/cans (separate waste bins for organic and inorganic wastes); • Provision of waste bins/ cans, where appropriate, • Litter is to be collected daily. • Bins and/or skips should be emptied regularly and waste/ debris should be disposed off at waste disposal areas approved by Environmental Specialist of DSC. • Ensure wastes (solid wastes and other forms of the waste) disposal at designated places. • Camp and working areas are kept clean and tidy at all times. • Camp is to be checked for spills of substances i.e. chemical, oil, paint, etc.	Contractor	Environmental and Social Development Specialists of PIU and D&SC
4.	Health, Safety and Wellbeing of Workers	• Health and Safety of workers	• Conduct formal and unofficial discussion and training to increase awareness about hygiene practices among the workers; • Ensure availability and access to first-aid equipment and medical supplies for the workers. • Ensure safety gear worn: ear plug, goggles, mask, gloves, helmets, and uniforms etc.	Contractor	Environmental and Social Development Specialists of PIU and D&SC

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Ref.	Activity / Issues	Potentials Impacts	Proposed Mitigation and Enhancement Measures	Responsible for Implementation	Responsible for Monitoring
			- Staff must be trained up for operating equipment - Ensure adequate supply of drinking water. Sanitation facilities for male & female workers separately.		
5.	Construction Materials storage areas	- Use of surrounding open area, playground, road side etc. for stockpiling of construction materials. - Creating dust/ air pollution, - Spillage of liquid/hazardous substances i.e. oil, paint, chemicals, bitumen etc. - Access of students, children, animals, etc. - Not cleaning of construction materials storage areas after completion of construction.	- Proper stockpiling/ storage of construction materials at the site as proposed by the contractor & approved by the Environmental Specialist of D&SC. - Proper covering of dust producing materials with polythene sheet, - Proper fencing around the storage area in order to be secure, to minimize the risk of crime and to be safe from access by students, children, animals, etc. - Spills/ hazardous substances should be disposed off at the site as proposed by the contractor & approved by the Environmental Specialist of DSC to avoid soil/ water contamination. - Materials storage area must be cleaned after completion of construction.	Contractor	Environmental and Social Development Specialists of PIU and D&SC
6.	Demolition of Old Structures	Demolition works may create Air and water pollution, generate hazardous materials, which are too disturbing and may cause health and safety	- Advise demolition Contractor about Controlled demolition with water suppression, debris containment; salvage reusable materials; safe disposal plan, and following the SOP for Demolition Works (Annexure-06). - Prior to start demolition, the utility services (electrical cables, telephone line, water supply pipeline, gas	Demolition Contractor	SMC

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Ref.	Activity / Issues	Potentials Impacts	Proposed Mitigation and Enhancement Measures	Responsible for Implementation	Responsible for Monitoring
		issues to the School users, community people and workers. During movement of heavy Construction machineries, equipment can damage the utility services if not previously removed.	supply pipeline and internet line) should be shifted with the consultation of the relevant organizations; - Inform the local community before starting removal or demolishing work; - Carefully remove the utilities that are connected to any structures; - Proper Health and safety measures for the workers should be taken throughout the demolition period to avoid any incidents.		
7.	Construction of a new temporary school shed and facilities	Students are temporarily affected for demolition of classrooms and lacking of regular schooling.	- Contractors will arrange voluntary/temporary land donation or lease, with those who are interested in, for a stipulated period following the written consent. - Contractor shall construct a temporary school facility as per standard design provided by LGED. - Temporary school shall be removed by the Contractor at the end of all Construction works, with full satisfaction of E-I-C.	Contractor/ SMC	Environmental and Social Development Specialists of PIU, D&SC and SMC
8.	General construction work	Drainage congestion and flooding	- Plinth level of the Shelter should be higher than the highest flood water level. - Ensure provision for adequate drainage of storm water and pumping of congested water if needed; - Ensure adequate monitoring of drainage effects, especially if construction works are carried out during the monsoon season.	Contractor	Environmental and Social Development Specialists of PIU and D&SC

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Ref.	Activity / Issues	Potentials Impacts	Proposed Mitigation and Enhancement Measures	Responsible for Implementation	Responsible for Monitoring
		Air pollution	- Check regularly and ensure that all the subproject vehicles and equipment are in good operating condition; - Ensure contractor spray water on dry surfaces/unpaved to reduce dust generation; - Maintain adequate moisture content of the sand; - Ensure contractor sprinkle water and cover stockpiles of loose materials (e.g., fine aggregates); - Inform and make regular consultation with the local people about the subproject activities and potential impact; - Cover loaded truck used for carrying sand with tarpaulin/other suitable material to prevent spreading by air blown. - Provision of Masks for the workers, site staffs, students and teachers & Masks should be available in site during construction period. - Construction works should be scheduled before and after school hour, prayer/religious ritual time, or during holidays. - Avoid use of equipment e.g. stone crushers at site, if possible, which produce significant amount of particulate matter.	Contractor	Environmental and Social Development Specialists of PIU and D&SC
		Traffic congestion, effect on traffic and pedestrian safety	Ensure schedule deliveries of materials/ heavy vehicle movement/ equipment during off-peak hours;	Contractor	Environmental and Social Development

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Ref.	Activity / Issues	Potentials Impacts	Proposed Mitigation and Enhancement Measures	Responsible for Implementation	Responsible for Monitoring
			- Place traffic sign/cautionary sign to avoid undue traffic congestion if required; - Maintain vehicles and enforce legal load limits, and impose speed limits within settlements - Use flagmen, signage, and barriers near schools and markets; - Spray water on access roads to reduce dust - Coordinate with local authorities and inform communities.		Specialists of PIU and D&SC
		Noise pollution	- Check and maintenance the equipment properly; - Avoid using of construction equipment such as concrete mixer machine, pile driving equipment (pile rig, winch machine), vibrator machine that produce excessive noise at night; - Avoid prolonged exposure to noise (produced by equipment) by the workers; - Regulate use of horns and avoid un-due use of hydraulic horns by subproject vehicles; - Provision of Ear plugs for the workers & site staffs should be available in site during construction period. - Inform local people about the subproject activities and potential impact. - Construction works should be scheduled before and after school hour and prayer time.	Contractor	Environmental and Social Development Specialists of PIU and D&SC
		Felling of trees, clearing of vegetation and ecological disturbances	Replace each felled tree with at least 3 nos. saplings, due to 01 tree felling, 03 trees to be replanted around the	Contractor	Environmental and Social Development

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Ref.	Activity / Issues	Potentials Impacts	Proposed Mitigation and Enhancement Measures	Responsible for Implementation	Responsible for Monitoring
			periphery of the proposed site at an interval of not less than 3m, to enhance the ecological condition.		Specialists of PIU and D&SC
		Water & Soil pollution	- Avoid complete closing of the channel that affects reproduction of aquatic species; - Any illegal discharge of wastewater, leaked oil shall be prohibited.	Contractor	Environmental and Social Development Specialists of PIU and D&SC
		Spills and leaks of oil, toxic chemicals	- Proper handling of lubricating oil and fuel so that it does not fall on the soil; - Good housekeeping - Collection and proper disposal of spills; - Refueling and fuel tank should not be placed on the ground directly. - Spillage wasters should be disposed in the waste disposal area located at the site proposed by the contractor & approved by the Environmental Specialist of D&SC	Contractor	Environmental and Social Development Specialists of PIU and D&SC
9.	Rigorous Monitoring and Report Preparation and Submission		- The Contractor shall appoint (i) ES Manager (ii) Community Organizer and (iii) H&S Officer for strict management and monitoring of all ES related works at each site and the budget for this engagement shall be borne from the Contractor's management budget. - Contractor shall submit regular monthly monitoring report to the D&SC and PIU as per reporting standard set by the ES Consultants of D&SC/PIU.	Contractor	PIU

COST OF ENVIRONMENTAL ENHANCEMENT WORKS IN BOQ

Considering the environmental impacts and their mitigation measures for this subproject, several items are included in the BOQ to address these issues. The detailed estimate, with tentative cost for implementing the ESMP, is given in **Table 5**.

Table 5: Environmental Social Management Budget (Bill of Quantity)

Item No.	Description of the Works	Unit	Quantity	Unit Rate (BDT)	Amount (BDT)
1.	<u>Site Cleaning, Removal and Disposal Activity:</u> Cleaning and maintaining at all times, keeping the construction area, storage areas used, free from accumulations of waste materials or rubbish, with necessary arrangement for collecting at a central disposal area, on a daily basis and disposing in a manner approved and satisfaction by the Engineer, especially waste water and sewage from office, residential and mobile camps shall be piped to soak pits or other disposal areas, all used fuels, oils, other plant or vehicle fluids, old tyres, tubes, other solid waste from household, office, workshop, construction materials, etc. to be kept at safe places and any spillages shall be cleaned up by either burning in place or collecting the contaminated soils and burning them at the central disposal area, including removing all waste, debris, rubbish, unused materials, concrete forms and other like material, tools, equipment, machinery and surplus/ unwanted materials buried or cleaned up in a manner acceptable to the Engineer after completion of work etc. all complete as per requirement and full satisfaction of Engineer-in-charge. Payment will be made after 100% completion of the contract successfully	Each	1	19,000	19,000.00
2.	<u>First Aid Box:</u> Supplying, equipping and maintaining adequate first-aid box throughout the working period at worksite and site office, and erect conspicuous notice boards directing where these are situated and providing all requisite emergency medical first aid kits, including complying with the government medical or labour requirements at all times, and provide, equip and maintain necessary dressing kits throughout the working period for attending minor injuries, etc. all complete as per requirement and full satisfaction of Engineer-in-charge. Payment will be made after 100% completion of the contract successfully.	Each	2 nos.	6500 Tk. Per box	13,000.00

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Item No.	Description of the Works	Unit	Quantity	Unit Rate (BDT)	Amount (BDT)
3.	Providing Safety gear package like hand gloves, eye protection glasses, air plug, helmets, rubber shoes, light reflecting dress etc. for 20 sets.	Set	20 sets	5,000	100,000.00
4.	<u>Temporary Toilet Facilities:</u> Provide at least two nos. portable toilets or constructing temporary semi-pucca toilets with twin pit latrines, one for female worker and other for male worker at worksite and workers accommodation site in a safe location, so that no adverse impact will generate on the surrounding environment, including providing requisite arrangements for water supplying etc. All complete as per drawing, specification, direction and satisfaction of the Engineer-in-Charge. All relevant accessories and arrangements under this item shall be property of the contractor and payment will be made only upon 100% completion of the contract successfully.	No.	2 nos.	20,000	40,000.00
5.	<u>Water Test (Drinking Water samples):</u> "Test (Drinking Water samples) Out of 5 nos. of tube well 1-no of tube well should be Install at the beginning of construction works so that labour and other site staff can get drinking water. In addition, Water samples to be collected periodically (half yearly) for one Tube well of the shelter for laboratory analysis for different parameters such as pH, arsenic, iron, chloride, hardness and total dissolved solids or electrical conductivity etc. all complete as per direction of EIC (including the cost of actual fees for testing from reputed laboratory and report) as desired by EIC."	LS	3 times	13,800	41,400.00
6.	<u>Drinking Water Facilities:</u> Providing continuous adequate drinking water supply at worksite and site office as well by installing necessary tube-well/s where applicable or any other means depending on local situation, also providing essential arrangement for storing drinking water by supplying portable best quality water tank equivalent to Gazi/Padma of adequate capacity depending on the number of users, including supplying 1 (one) no. best quality water filter of minimum capacity 30 liters with necessary kits, etc. all complete as per satisfaction and direction of the Engineer-in-charge, all relevant goods and equipment under this item shall be property of the contractor and payment will be made after 100% completion of the contract successfully.	Each	2 nos.	LS @ Tk. 35,000	7,000.00

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Item No.	Description of the Works	Unit	Quantity	Unit Rate (BDT)	Amount (BDT)
7.	<u>Waste Disposal Facilities:</u> Providing, installing and maintaining at least 2 (two) nos. waste collection bins one for organic waste and other for inorganic waste of minimum capacity of 30 liters with hinge supported 450mm dia. cover plate for opening, made of durable plastic material at worksite, both bins will be kept in a safe and easily accessible place, so that will easy to use and no adverse impact will generate on the surrounding environment, including continuing the full functioning of waste disposal (buried/incineration) in accordance with the full satisfaction of the project manager throughout the contract period, all complete as per drawing, specification and direction of the Engineer-in-charge. Entire relevant accessories and arrangements under this item shall be property of the contractor and payment will be made after 100% completion of the contract successfully.	LS	1 set	20,000 BDT	40,000.00
8.	Construction of temporary school facilities as per standard requirement and design set in the bidding document	LS	Estimate of this construction works is included in the Civil works part of the BOQ		
9.	<u>Motivation training:</u> Motivation training of the Upazila Engineer's and Contractor's representatives for safety practice & environmental others facilities.	LS	2	15,000	30,000.00
10.	<u>Hazards and Hazardous Materials:</u> Handling Storing and store hazardous materials in accordance with the following requirements: Hazardous materials shall be stored above flood level and at least 20m from any watercourse; Hazardous liquid substances (e.g. petrol, diesel, oils) shall be stored on top of sealed plastic sheets in a secure, flat enclosed area. Bund walls shall be at least 25 cm high.	LS	1	12,000 BDT	12,000.00
11.	Dust suppression measures like water sprinkling on aggregates/ unpaved roads in and around the work site (Frequency of measures has been proposed to be increased as sensitive receptors are located around).	LS	1	50,000 BDT	50,000.00
12.	Supplying and planting specified healthy coconut (local) saplings of minimum 0.60m height, free from any diseases', collected from different nurseries (collection of saplings from government horticulture is preferable) & carrying the same to the worksite; preparation of pit prior to minimum	Each	03	500.00	1500.00

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Item No.	Description of the Works	Unit	Quantity	Unit Rate (BDT)	Amount (BDT)
	10 days of plantation by earthwork in excavation of 450mm x 450mm x 450mm size for plantation, applying 0.015 cum cow dung and 100gm normal salt mixed with exceled earth properly; planting the plants, weltering for will be as per tree plantation guideline.				
13.	Turfing on embankment top and slope, building compound with good quality turf supplied by the contractor of not less than 225mm square in dimension including placing and watering till grass is fully grown, etc. all complete as per direction of the E-I-C. (payment to be made only when grass is fully grown).	sqm	240	31.65 Tk. Per sqm	7,596.00
14.	Construction Work nearby busy access roads may cause temporary disruption to local traffic movement, pedestrian safety issues, and increased accident risks.	This is part of normal site management and does not require a separate BOQ item, measures implemented under Environmental and Social Codes of Practice (ESCoPs).			
15.	Construction of Temporary Facilities such as site offices, labor sheds, storage yards, material stockpiles etc.	The cost for construction, maintenance, and removal of these facilities is included in the civil works BOQ under the contractor's responsibility.			
16.	Disturbance to nearby paddy field or water bodies	No separate BOQ item required — measures implemented under Environmental and Social Codes of Practice (ESCoPs).			
Total budget for this sub-project		3,60,893.60			

As per project ESMF, PIU, project engineer's suggestion and experience from other LGED projects such as MDSP, EMCRP etc. adequate budget has been proposed for the environmental management for the mitigation and enhancement measures. It may vary depending on the real time situation and requirement of the construction. The subproject activities have temporary and localized negative impact on noise level during construction phase due to movement of the subproject vehicles and equipment. Hence, budget includes analytical monitoring for noise level. For solid waste management adequate waste bins will be installed. The budget for labor shed, and site office construction is included in the civil works items. Therefore, it is not included in the environmental budget. It should be noted that the contractor will be paid as per actual work done.

Name of Subproject: Development of Multipurpose Flood Shelter at **Analer Tari Government Primary School**

Village: Dakkhin Analer Tari Union: 9 No. kholahati

Upazila: Gaibandha Sadar; District: Gaibandha

Package No/Database Unique ID: GAI-040; School Code: 91108011107

SUB-PROJECT DESCRIPTION

The Analer Tari Government Primary School is a subproject of “Resilient Infrastructure for Adaptation and Vulnerability Reduction (RIVER) Project”. It is located in Dakkhin Analer Tari village under 9 No. kholahati Union of Gaibandha Sadar Upazila of Gaibandha District. Major components of the subproject are to construct resilient flood shelters and community structures and strengthen the capacity for disaster preparedness and response. Significant features of this subproject are summarized in **Table 1:**

Table 10: The Significant Features of the Subproject Site

Name of the Subproject	:	Analer Tari Government Primary School
Educational Institute ID	:	91108011107
Land Owner	:	Analer Tari Government Primary School
Available Land	:	93 Decimals
Average Capacity of Flood Shelter	:	650
Catchment Population	:	16,000
Catchment Village	:	Moddho Analer Tari (N), Dakkhin Analer Tari (S), Kholahati (E), Ghagua (W)
Major profession of local population	:	Agriculture-(90%), Businessman (5%) and Service (5%)
Brief Description of Subproject Site: (e.g. present land use, Important Social and Environmental Features (IEFs) near site, etc.)	:	Existing GPS building, Playground, local settlements, Agricultural land, Trees, Roads etc.
Sensitive environmental, cultural, archaeological, religious sites near (within 1km) of site including major water bodies/forests	:	None
Ethnic Minority	:	None
Connecting Road	:	12ft wide Analer Tari GPS Connecting Road
Land acquisition	:	None

(Source: Field survey and Public Consultation Meeting, November 2025)

LOCATION OF THE SUB-PROJECT

The subproject is located in the North-East part of Gaibandha Sadar Upazila in Gaibandha District, which is within the Rangpur Division. The location details of the subproject have been summarized in **Table 2**.

Table 2: Location Details of the Subproject Site

District	:	Gaibandha
Upazila	:	Gaibandha Sadar
Union	:	9 No. Kholahati
Village	:	Dakkhin Analer Tari
GPS Location	:	25.362900 N; 89.569786 E
Distance of the site from Upazila HQ	:	7km-North
Nearby Major Road:	:	Gaibandha –Kurigram road (2km-West)
Nearby River/ Canal:	:	Brahmaputra River (10km-East)

(Source: Field survey and Public Consultation Meeting, November2025)

The catchment area of the subproject predominantly includes the villages of Moddho Analer Tari (N), Dakkhin Analer Tari (S), Kholahati (E), Ghagua (W) which frequently experience recurrent flooding. Gaibandha Sadar Upazila lies within the active floodplain of the Brahmaputra–Jamuna River system and is strongly influenced by monsoon-driven hydrological processes. Dakkhin Analer Tari Village is characterized by low-lying alluvial terrain, intersected by natural khals (canals), floodplain depressions, and expansive agricultural lands that collectively regulate local drainage patterns and flood behavior. During the monsoon season, intense rainfall combined with increased upstream river discharge frequently causes overtopping of nearby riverbanks and backflow through local drainage channels and khals. These hydrological processes result in widespread inundation of homesteads, cropland, and community infrastructure within Dakkhin Analer Tari Village. The predominantly flat topography and limited drainage gradients slow the recession of floodwaters, leading to prolonged waterlogging in both agricultural fields and settlement areas. While annual sediment deposition enhances soil fertility and supports agricultural productivity, recurrent flooding regularly disrupts farming activities by damaging standing crops, delaying planting and harvesting cycles, and temporarily reducing cultivable land availability. Flooding also adversely affects critical rural infrastructure, including earthen village roads, embankments, culverts, and small bridges, many of which become submerged, eroded, or structurally weakened during peak flood periods. As a result, access to markets, schools, and healthcare facilities is often interrupted, increasing economic vulnerability—particularly for low-income and flood-prone households. To address these challenges, priority investments for

Dakkhin Analer Tari Village and surrounding areas of Kholahati Union should include: (a) Sustainable Water Management: Re-excavation and regular maintenance of khals, improvement of local drainage networks, removal of sediment and vegetation blockages, and restoration of natural water flow paths to reduce prolonged waterlogging and improve floodwater drainage. (b) Climate-Resilient Infrastructure: Raising and strengthening rural access roads, rehabilitation and protection of embankments, upgrading culverts and small bridges with flood-resilient designs, and construction of multi-purpose flood shelters equipped with adequate WASH facilities to ensure safety during extreme flood events. (c) Community-Level Preparedness: Strengthening flood early warning dissemination systems, developing community-based flood contingency and evacuation plans, conducting preparedness and response drills, and clearly defining community roles for the operation and maintenance of local water management and transport infrastructure. These integrated interventions will help reduce long-term flood-related damages and enhance the resilience of infrastructure, agriculture, and livelihoods in Dakkhin Analer Tari Village, Kholahati Union, Gaibandha Sadar Upazila, Gaibandha District.

The flood shelter will be constructed at Analer Tari Government Primary School (GPS), which is located at the Dakkhin Analer Tari village under 9 No. Kholahati Union of Gaibandha Sadar Upazila Gaibandha District. There are 5 teachers (Male-00; Female: 05), and 203 students (Boys: 96; Girls: 107) in the school, operated by the guidance of School Management Committee (SMC) and government officials of Gaibandha Sadar Upazila Education Office. The students, teachers and residents of the catchment area come to the proposed site by using the connecting/access road named Analer Tari GPS road. The road is a earthen road with 12 feet width and just passing beside the Analer Tari Government Primary School at east side.

The population of the catchment area is about 16,000. People in the area are mostly dependent on shallow tubewell water for their daily uses and the average depth of water is 80ft below the ground. The catchment area of the subproject supports a variety of indigenous and brackish water fish species, including Climbing Perch Fish, Walking Catfish, Puti Fish, Stinging Catfish and Spotted snakehead *fish*. These species are important components of the local aquatic ecosystem and are considered to have ecological and, in some cases, conservation significance. In addition to aquatic biodiversity, several common local bird species such as, *Common Myna*, *Heron*, *Kingfisher* and *Dove* are commonly observed in the area. The surrounding environment also provides habitat for a few wild animals, notably Fox, The Vulture, Jungle Cat and Mongoose which are occasionally sighted within the catchment zone. The 9 No. Kholahati Union map indicating sub-project location has been shown respectively in **Figure 1**. The topographical Map with indicative and tentative location of labor camp, construction materials storage area, and waste disposal area have been shown in **Figure 2** which shall be placed as per direction and satisfaction of LGED and E.I.C.

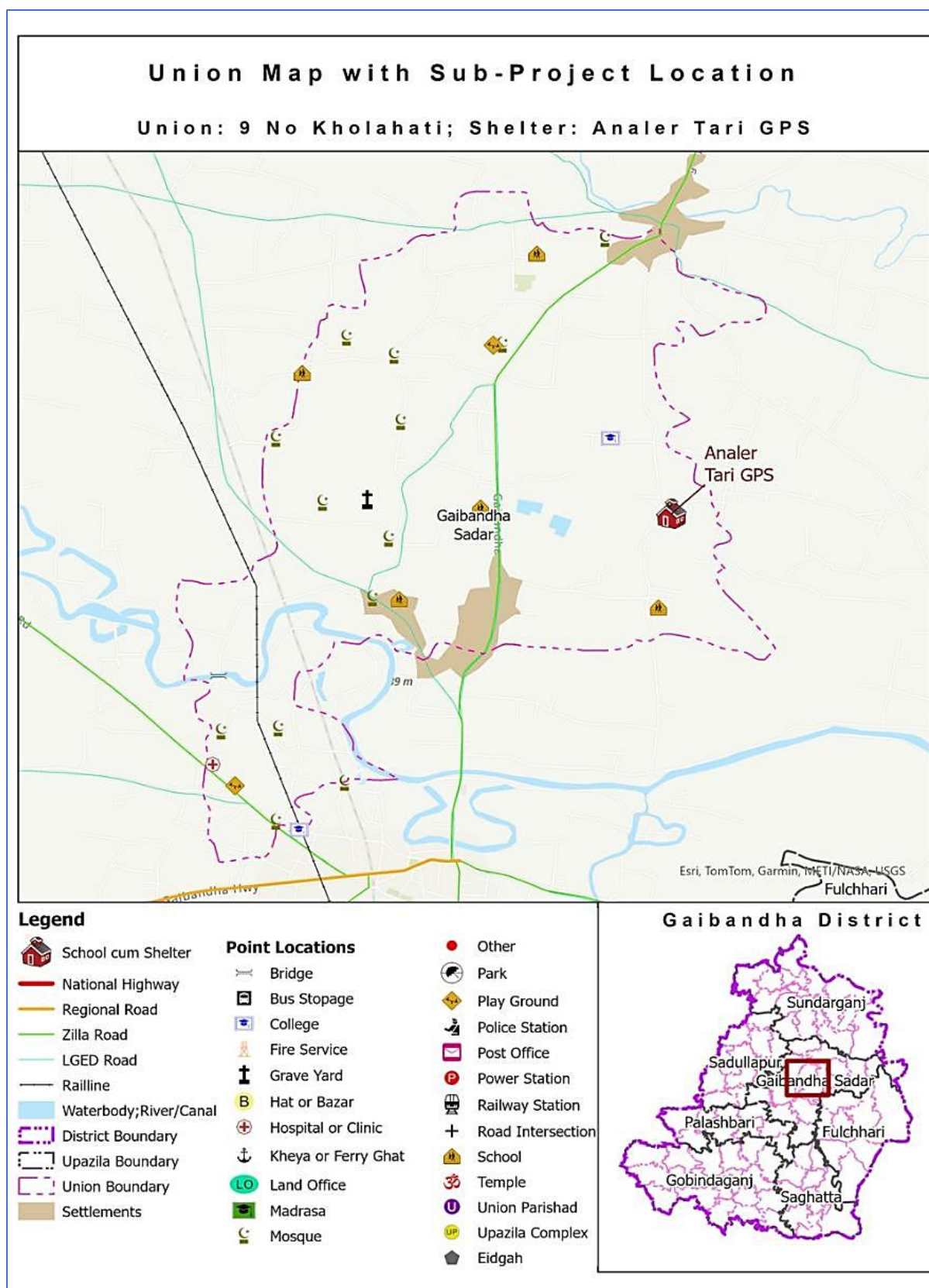


Figure 1: 9 No. Kholahati Union Map Indicating Proposed Subproject

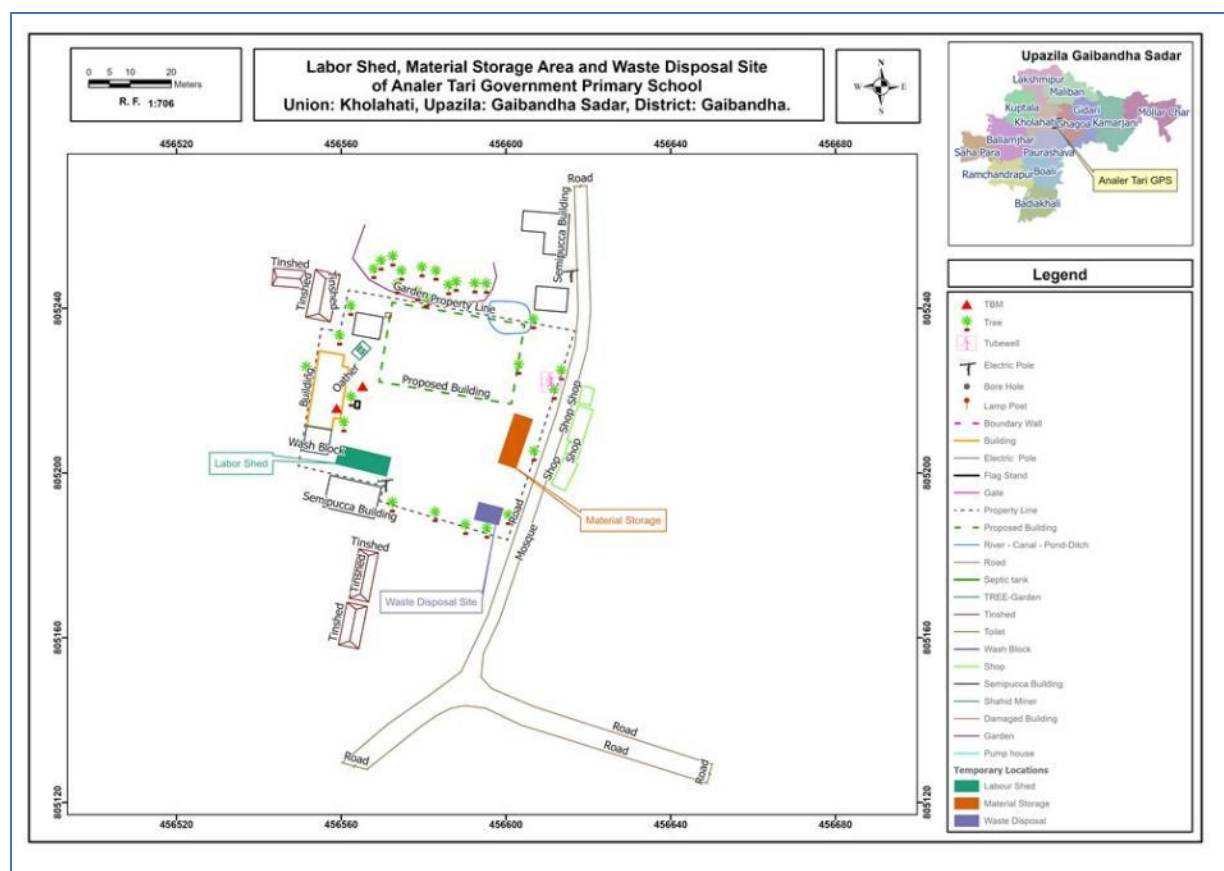


Figure 2: Proposed Labor Camp, Waste Disposal and Materials Storage Area

CURRENT SITUATION, PROPOSED INTERVENTIONS AND NEED FOR THE SUB-PROJECT

The present conditions of the subproject site and proposed labor camp, waste disposal area and construction materials storage area are visualized in **Figures 3, 4, 5 and 6**.



Figure 3: Current Situation of the Existing Subproject Site



Figure 4: Proposed Labor Camp area



Figure 5: Proposed Materials Storage Area



Figure 6: Proposed Waste Disposal Area

The existing Analer Tari Government Primary School is situated on approximately 93 decimals of land and consists of a one-storied pucca building that currently accommodates all classrooms as well as administrative offices. The proposed flood shelter will be constructed on vacant land within the school premises, and its development will not require the demolition or alteration of any existing structures. During the construction period, temporary facilities—including labor sheds, material storage areas, and a designated waste disposal site—will be established within the school boundary to support construction activities. An access road will be constructed to ensure proper connectivity to the site, facilitating safe and convenient movement of people, vehicles, and essential services. This access road will link the site with surrounding infrastructure, including nearby schools, mosques, clinics, markets, and other community facilities. Moreover, it will improve accessibility for emergency services and support the smooth flow of local traffic. Construction operations will be supported by essential utilities and services, including worker accommodation, toilet facilities, electricity supply, and access to safe drinking water. To ensure the safety of students, school staff, and visitors, the active construction zone will be securely fenced to prevent any direct or indirect exposure to construction-related hazards. The school compound contains a substantial number of trees; however, two trees will need to be removed to facilitate the proposed development activities. Agricultural land is located in close proximity to the school site. The project area has a documented history of severe flooding, with major flood events recorded in 1988, 1996, 2004, and 2019. During these events, floodwater levels rose to approximately 4 feet, 5 feet, 4 feet, and 3 feet, respectively. Such prolonged inundation has caused significant disruption to school operations and posed considerable challenges for students and staff. **Figure 7** presents current photographs of the existing Government Primary School facilities.



Figure 7: Existing School Building

The important establishments around the subproject site have been summarized in **Table-3**

Table 3: Important Establishments Adjacent to the Subproject Site

Direction	Important Establishments with Approximate Distance
North side	Baitul Nur Jame Mosque (300m), Moddho Analer Tari Madrasa (900m), Baitul Nur Graveyard (300m), Anondo Bazar (800m)
South side	Dakhkhin Analer Tari Community Clinic (400m), Shobhanlia Ebtadeyi Madrasa (400m), Sonarpara graveyard (400m), Baitul Mukaddas Jame Mosque(300m), Bishnupur S.N.B Girls School (870m)
East side	Analer Tari Nur Jame Mosque (20m), Dangirpar Morgahati Crematorium (800m), Uttar Ghagoa Moddhopur Government Primary Schol (780m)
West side	Dakhkhin Analer Tari Eidgah 9200m), Dakhkhin Analer Tari graveyard (200m), Ghagoa Beel (200m), Agricultural Land

(Source: Field survey and Public Consultation Meeting, November 2025)

The proposed sub-project (construction of new School cum Flood shelter building) is not located within any environmentally sensitive area and will not cause any severe negative effects to the environmental settings of the area, neither to important environmental features. The disaster shelter will be constructed within an existing school boundary, so no agricultural land/ activities or fish farming will be disturbed due to the construction of the sub project. The project site is surrounded by various religious, educational, healthcare and agricultural facilities. The north side of the project area is surrounded by several important religious, educational, and commercial establishments. Notable landmarks include the Baitul Nur Jame Mosque and Baitul Nur Graveyard, both located approximately 300 meters away. Moddho Analer Tari Madrasa is situated at a distance of about 900 meters to the north, while Anondo Bazar, a local commercial center, is located approximately 800 meters from the site. On the south side, the area is characterized by a mix of healthcare, educational, religious, and burial facilities. The Dakhkhin

Analer Tari Community Clinic and Shobhanja Ebtadeyi Madrasa are both located within 400 meters of the site. Sonarpara Graveyard is also situated about 400 meters away. Additionally, Baitul Mukaddas Jame Mosque lies approximately 300 meters to the south, and Bishnupur S.N.B. Girls' School is located at a distance of around 870 meters. The eastern side of the project area includes several nearby religious and educational institutions. Analer Tari Nur Jame Mosque is located very close to the site, at a distance of approximately 20 meters. Dangirpar Morgahati Crematorium is situated about 800 meters to the east, while Uttar Ghaghoa Moddhopur Government Primary School is located approximately 780 meters from the project area. On the western side, the surroundings are primarily open and semi-rural in nature. The Dakkhin Analer Tari Eidgah is located at a distance of approximately 200 meters, and the Dakkhin Analer Tari Graveyard is situated about 200 meters away. Ghaghoa Beel, a local water body, is also located within 200 meters of the site. Beyond these features, the western side is predominantly surrounded by agricultural land.

No significant disturbance to all these establishments/features is anticipated due to construction activities for having sufficient distance from the construction site, and strict construction site management system- including restrictive work schedule during the daytime only, water-sprinkling twice a day in and around the site, proper fencing around the working area, safe storage of materials, etc.

Construction related activities and setting up of labor camps along with associated facilities and their management issues will be accounted for impacts more likely to be generated during the pre, post and construction period. Noise pollution from piling or drilling, air pollution caused by dust or gaseous emissions from vehicle movement, running of motorized equipment and land clearing, odors and soil pollution from leaking of latrines and fecal sludge, will more likely to take place. Soil can further be eroded and polluted from chemical spills or improper disposal of waste materials. Noise and vibration effects generated from piling and drilling may also trigger landslides and harmful disturbances to local fauna. Impact on surface and ground water bodies might get acute due mainly to the high abstraction rate and disposal/leakage of pollutants to the surface/ground water bodies. Clearing of trees, bushes or any type of vegetation may put impact on floral species and unscrupulous clearance also trigger habitat loss. All these impacts can only be prevented or minimized by adopting measures delineated into the ESMP and good practice engineering and site management.

ENVIRONMENTAL AND SOCIAL ASSESSMENT

This section identifies the potential impacts that the various elements of the proposed sub-project may have on the physical, biological and socio-economic environment within half a kilometer of the radial distance around the site. Environmental and Social Assessment (ESA) based on this assessment study for the Sub-project as Analer Tari Government Primary School of Gaibandha Sadar Upazila under Gaibandha District has been conducted to identify and determine which potential project impacts may be significant and therefore require the application of

reasonable and effective management and/or mitigation measures. In order to realize the exact physical, biological and socio-economic environment of the proposed sub-project site and the influence area in regards to the implementation measures, an extensive field visit was carried out on 18 November 2025 in the Sub-project area. Environmental and Social Assessment form, as adopted in **Annexure-2** of the Environmental and Social Management Framework of RIVER, was administered for identifying the impacts and their extents.

PUBLIC CONSULTATION AND PARTICIPATION

Public participation and community consultation has been taken up as an integral part of environmental assessment process of the project. Field visit has been carried out on 18 November 2025 in and around the Sub-project component site. As part of the impact assessment, participatory public consultation was conducted in that area by the field level staffs, and consultants from D&SC. Checklist of the consultation is attached in **Annexure-3**. The consultation meeting was attended by 20 persons (Male-14 and Female-06) and local individuals, teachers, chairman and/or member of Union Parishad and school management committee were among the attendees in that meeting. The participants were selected from different cohorts of stakeholders, and some of whom will have major active roles before, during and even after the construction works. Therefore, the meeting was organized in an informed, expressive and unbiased manner, wherefrom different views and concerns came across which will be properly taken care of during the design and construction phases. Refer to **Figure 8** and **Annexure-4** for selected photographs of the participatory public consultation held at site of the Analer Tari Government Primary School and list of attendees in that public consultation meeting, respectively. A questionnaire was kept ready and responses were elicited. During these consultations, the communities were explained about the project, its benefits, associated social and environmental aspects and possible mitigation measures.

The participants were also informed about the project GRM (Grievance Redress Mechanism) system in detail and the disclosure of project documents in websites, and their unrestricted and uninitiated access to those system and resources. As such, public consultation is a living process as the types of problems/ difficulties, involved parties or stakeholders and mode of settlement or resolution processes are more likely to differ with time. Thus, consultation with different parties or stakeholders will be continued throughout the sub-project implementation period and records of resolutions, whatsoever and wherever possible, will be kept in writing at the site and made available on any enquiries or requests by all parties concerned.



Figure 8: Public Consultation Meeting in the Proposed Sub-project Site

SUMMARY OF ENVIRONMENTAL AND SOCIAL IMPACTS

Tree Cutting: Approximately two (02) trees are likely to be cut down during the construction period. A ditch, located in the northern direction, requires filling. The dimensions of the ditch are 84 feet in length, 32 feet in width, and 4 feet in depth. The necessary work will involve filling the ditch to meet these specified dimensions. Additionally, a pond, situated in the western direction, has been measured to be 18 feet by 18 feet in size, with a depth of 10 feet. The pond's current dimensions are crucial for determining potential water capacity and any additional requirements for maintenance or modification. The ecological impact of the subproject is low. There will be temporary negative impacts on physico-chemical environment. Nevertheless, these impacts are manageable if mitigation measures are taken according to ESMP.

Grass turfing: Grass turfs on embankment, slope, building compound & any critical place to enhance the ecological condition and protect the top soil. Tentative area of turf has been estimated as 240 square meters (half of total area), after discussion with architects and engineers. It is likely to be changed depending on the requirement during construction as per site design and as per direction of E.I.C.

Land Ownership: Availability of adequate public land area is as important as community consent to construct the flood shelter and access roads. The feasibility team did not find any conflicts over the school land. The land issue has been discussed in the meeting. Participants unanimously confirmed that the school has its own 93 decimals of land and there is no dispute about this land.

Land Acquisition: The proposed Sub-project, Analer Tari Government Primary School, does not have any involuntary resettlement impacts due to the construction of flood shelter and approach roads as the Sub-projects will be constructed in existing Government Primary Schools' premises. The Government Primary School has 93 decimals of land. No land acquisition will be required for the activities to be implemented under the project. Access road needs to construct or rehabilitate within its existing alignment.

ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN

Site specific Environmental and Social Management Plan (ESMP) outlines tailored mitigation, monitoring, and management measures to address potential environmental and social impacts arising from school cum flood shelter construction at each sub-project site. It focuses on controlling dust, noise, and waste; protecting nearby agricultural land and water bodies; ensuring occupational health and safety; managing community interactions; and conserving local biodiversity. The ESMP integrates the Environmental and Social Codes of Practice (ESCoPs) are attached in **Annexure-5** and compliance with World Bank ESF and national environmental regulations throughout the construction and operation phases. The Site Specific Environmental and Social Management Plan (ESMP) under this sub-project is providing in **Table 4**:

Tabel 4: Site Specific ESMP for Analer Tari Government Primary School

Ref.	Activity / Issues	Potentials Impacts	Proposed Mitigation and Enhancement Measures	Responsible for Implementation	Responsible for Monitoring
1.	Contractor's proposal for site specific temporary works	Accurate/ proper implementation of ESMP	Preparation of Work schedule, construction camp, materials storage area, access road, waste dumping/ disposal area etc.	Contractor	Environmental and Social Development Specialists of PIU and D&SC
2.	Site Clearing, Fencing, removal and Disposal Activity	Improper management and clearing of site may elevate risks of accidents, pollution and nuisance to public and school users.	- Clearing of site at the very outset with removal of all obstructions, including structures, materials, trees, etc. in order to keep the construction area, storage areas used, free from accumulations of waste materials or rubbish, with necessary arrangement for collection at a central disposal area. - Providing necessary protection fencing surrounding the total workplace area (including internal fencing made with bamboo for demarcating material storage areas mainly) and environmental and occupational health & safety sign boards, warning signs, etc.	Contractor	Environmental and Social Development Specialists of PIU and D&SC

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Ref.	Activity / Issues	Potentials Impacts	Proposed Mitigation and Enhancement Measures	Responsible for Implementation	Responsible for Monitoring
3.	Construction and operation of labor shed for the workers	• Generation of sewage and solid waste may cause environmental pollution in the surrounding area • Water, soil, air & dust pollution/ environmental pollution	• Construction of sanitary latrine at the labor shed (consider 15 persons for one toilet, separate toilet for male and female); • Construction of sanitary latrine/ Pit latrine with septic tank/ Ring slab system • Erection of “no litter” sign, provision of waste bins/cans (separate waste bins for organic and inorganic wastes); • Provision of waste bins/ cans, where appropriate, • Litter is to be collected daily. • Bins and/or skips should be emptied regularly and waste/ debris should be disposed off at waste disposal areas approved by Environmental Specialist of DSC. • Ensure wastes (solid wastes and other forms of the waste) disposal at designated places. • Camp and working areas are kept clean and tidy at all times. • Camp is to be checked for spills of substances i.e. chemical, oil, paint, etc.	Contractor	Environmental and Social Development Specialists of PIU and D&SC
4.	Health, Safety and Wellbeing of Workers	• Health and Safety of workers	• Conduct formal and unofficial discussion and training to increase awareness about hygiene practices among the workers; • Ensure availability and access to first-aid equipment and medical supplies for the workers. • Ensure safety gear worn: ear plug, goggles, mask, gloves, helmets, and uniforms etc.	Contractor	Environmental and Social Development Specialists of PIU and D&SC

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Ref.	Activity / Issues	Potentials Impacts	Proposed Mitigation and Enhancement Measures	Responsible for Implementation	Responsible for Monitoring
			- Staff must be trained up for operating equipment - Ensure adequate supply of drinking water. Sanitation facilities for male & female workers separately.		
5.	Construction Materials storage areas	- Use of surrounding open area, playground, road side etc. for stockpiling of construction materials. - Creating dust/ air pollution, - Spillage of liquid/hazardous substances i.e. oil, paint, chemicals, bitumen etc. - Access of students, children, animals, etc. - Not cleaning of construction materials storage areas after completion of construction.	- Proper stockpiling/ storage of construction materials at the site as proposed by the contractor & approved by the Environmental Specialist of D&SC. - Proper covering of dust producing materials with polythene sheet, - Proper fencing around the storage area in order to be secure, to minimize the risk of crime and to be safe from access by students, children, animals, etc. - Spills/ hazardous substances should be disposed off at the site as proposed by the contractor & approved by the Environmental Specialist of DSC to avoid soil/ water contamination. - Materials storage area must be cleaned after completion of construction.	Contractor	Environmental and Social Development Specialists of PIU and D&SC
6.	General construction work	Drainage congestion and flooding	- Plinth level of the Shelter should be higher than the highest flood water level. - Ensure provision for adequate drainage of storm water and pumping of congested water if needed; - Ensure adequate monitoring of drainage effects, especially if construction works are carried out during the monsoon season.	Contractor	Environmental and Social Development Specialists of PIU and D&SC

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Ref.	Activity / Issues	Potentials Impacts	Proposed Mitigation and Enhancement Measures	Responsible for Implementation	Responsible for Monitoring
		Air pollution	- Check regularly and ensure that all the subproject vehicles and equipment are in good operating condition; - Ensure contractor spray water on dry surfaces/unpaved to reduce dust generation; - Maintain adequate moisture content of the sand; - Ensure contractor sprinkle water and cover stockpiles of loose materials (e.g., fine aggregates); - Inform and make regular consultation with the local people about the subproject activities and potential impact; - Cover loaded truck used for carrying sand with tarpaulin/other suitable material to prevent spreading by air blown. - Provision of Masks for the workers, site staffs, students and teachers & Masks should be available in site during construction period. - Construction works should be scheduled before and after school hour, prayer/religious ritual time, or during holidays. - Avoid use of equipment e.g. stone crushers at site, if possible, which produce significant amount of particulate matter.	Contractor	Environmental and Social Development Specialists of PIU and D&SC
		Traffic congestion, effect on traffic and pedestrian safety	Ensure schedule deliveries of materials/ heavy vehicle movement/ equipment during off-peak hours;	Contractor	Environmental and Social Development

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Ref.	Activity / Issues	Potentials Impacts	Proposed Mitigation and Enhancement Measures	Responsible for Implementation	Responsible for Monitoring
			- Place traffic sign/cautionary sign to avoid undue traffic congestion if required; - Maintain vehicles and enforce legal load limits, and impose speed limits within settlements - Use flagmen, signage, and barriers near schools and markets; - Spray water on access roads to reduce dust - Coordinate with local authorities and inform communities.		Specialists of PIU and D&SC
		Noise pollution	- Check and maintenance the equipment properly; - Avoid using of construction equipment such as concrete mixer machine, pile driving equipment (pile rig, winch machine), vibrator machine that produce excessive noise at night; - Avoid prolonged exposure to noise (produced by equipment) by the workers; - Regulate use of horns and avoid un-due use of hydraulic horns by subproject vehicles; - Provision of Ear plugs for the workers & site staffs should be available in site during construction period. - Inform local people about the subproject activities and potential impact. - Construction works should be scheduled before and after school hour and prayer time.	Contractor	Environmental and Social Development Specialists of PIU and D&SC
		Felling of trees, clearing of vegetation and ecological disturbances	Replace each felled tree with at least 3 nos. saplings, due to 2 trees felling, 6 trees to be replanted around the	Contractor	Environmental and Social Development

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Ref.	Activity / Issues	Potentials Impacts	Proposed Mitigation and Enhancement Measures	Responsible for Implementation	Responsible for Monitoring
			periphery of the proposed site at an interval of not less than 3m, to enhance the ecological condition.		Specialists of PIU and D&SC
		Water & Soil pollution	- Avoid complete closing of the channel that affects reproduction of aquatic species; - Any illegal discharge of wastewater, leaked oil shall be prohibited.	Contractor	Environmental and Social Development Specialists of PIU and D&SC
		Spills and leaks of oil, toxic chemicals	- Proper handling of lubricating oil and fuel so that it does not fall on the soil; - Good housekeeping - Collection and proper disposal of spills; - Refueling and fuel tank should not be placed on the ground directly. - Spillage wasters should be disposed in the waste disposal area located at the site proposed by the contractor & approved by the Environmental Specialist of D&SC	Contractor	Environmental and Social Development Specialists of PIU and D&SC
7.	Rigorous Monitoring and Report Preparation and Submission		- The Contractor shall appoint (i) ES Manager (ii) Community Organizer and (iii) H&S Officer for strict management and monitoring of all ES related works at each site and the budget for this engagement shall be borne from the Contractor's management budget. - Contractor shall submit regular monthly monitoring report to the D&SC and PIU as per reporting standard set by the ES Consultants of D&SC/PIU.	Contractor	PIU

COST OF ENVIRONMENTAL ENHANCEMENT WORKS IN BOQ

Considering the environmental impacts and their mitigation measures for this subproject, several items are included in the BOQ to address these issues. The detailed estimate, with tentative cost for implementing the ESMP, is given in **Table 5**.

Table 5: Environmental Social Management Budget (Bill of Quantity)

Item No.	Description of the Works	Unit	Quantity	Unit Rate (BDT)	Amount (BDT)
1.	<u>Site Cleaning, Removal and Disposal Activity:</u> Cleaning and maintaining at all times, keeping the construction area, storage areas used, free from accumulations of waste materials or rubbish, with necessary arrangement for collecting at a central disposal area, on a daily basis and disposing in a manner approved and satisfaction by the Engineer, especially waste water and sewage from office, residential and mobile camps shall be piped to soak pits or other disposal areas, all used fuels, oils, other plant or vehicle fluids, old tyres, tubes, other solid waste from household, office, workshop, construction materials, etc. to be kept at safe places and any spillages shall be cleaned up by either burning in place or collecting the contaminated soils and burning them at the central disposal area, including removing all waste, debris, rubbish, unused materials, concrete forms and other like material, tools, equipment, machinery and surplus/ unwanted materials buried or cleaned up in a manner acceptable to the Engineer after completion of work etc. all complete as per requirement and full satisfaction of Engineer-in-charge. Payment will be made after 100% completion of the contract successfully	Each	1	19,000	19,000.00
2.	<u>First Aid Box:</u> Supplying, equipping and maintaining adequate first-aid box throughout the working period at worksite and site office, and erect conspicuous notice boards directing where these are situated and providing all requisite emergency medical first aid kits, including complying with the government medical or labour requirements at all times, and provide, equip and maintain necessary dressing kits throughout the working period for attending minor injuries, etc. all	Each	2 nos.	6500 Tk. Per box	13,000.00

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Item No.	Description of the Works	Unit	Quantity	Unit Rate (BDT)	Amount (BDT)
	complete as per requirement and full satisfaction of Engineer-in-charge. Payment will be made after 100% completion of the contract successfully.				
3.	Providing Safety gear package like hand gloves, eye protection glasses, air plug, helmets, rubber shoes, light reflecting dress etc. for 20 sets.	Set	20 sets	5,000	100,000.00
4.	<u>Temporary Toilet Facilities:</u> Provide at least two nos. portable toilets or constructing temporary semi-pucca toilets with twin pit latrines, one for female worker and other for male worker at worksite and workers accommodation site in a safe location, so that no adverse impact will generate on the surrounding environment, including providing requisite arrangements for water supplying etc. All complete as per drawing, specification, direction and satisfaction of the Engineer-in-Charge. All relevant accessories and arrangements under this item shall be property of the contractor and payment will be made only upon 100% completion of the contract successfully.	No.	2 nos.	20,000	40,000.00
5.	<u>Water Test (Drinking Water samples):</u> "Test (Drinking Water samples) Out of 5 nos. of tube well 1-no of tube well should be Install at the beginning of construction works so that labour and other site staff can get drinking water. In addition, Water samples to be collected periodically (half yearly) for one Tube well of the shelter for laboratory analysis for different parameters such as pH, arsenic, iron, chloride, hardness and total dissolved solids or electrical conductivity etc. all complete as per direction of EIC (including the cost of actual fees for testing from reputed laboratory and report) as desired by EIC."	LS	3 times	13,800	41,400.00
6.	<u>Drinking Water Facilities:</u> Providing continuous adequate drinking water supply at worksite and site office as well by installing necessary tube-well/s where applicable or any other means depending on local situation, also providing essential arrangement for storing drinking water by supplying portable best quality water tank equivalent to Gazi/Padma of adequate capacity depending on the number of users, including supplying 1 (one) no. best quality water filter of minimum capacity 30 liters with necessary kits, etc. all complete as per satisfaction and direction of the Engineer-in-charge,	Each	2 nos.	LS @ Tk. 35,000	7,000.00

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Item No.	Description of the Works	Unit	Quantity	Unit Rate (BDT)	Amount (BDT)
	all relevant goods and equipment under this item shall be property of the contractor and payment will be made after 100% completion of the contract successfully.				
7.	<u>Waste Disposal Facilities:</u> Providing, installing and maintaining at least 2 (two) nos. waste collection bins one for organic waste and other for inorganic waste of minimum capacity of 30 liters with hinge supported 450mm dia. cover plate for opening, made of durable plastic material at worksite, both bins will be kept in a safe and easily accessible place, so that will easy to use and no adverse impact will generate on the surrounding environment, including continuing the full functioning of waste disposal (buried/incineration) in accordance with the full satisfaction of the project manager throughout the contract period, all complete as per drawing, specification and direction of the Engineer-in-charge. Entire relevant accessories and arrangements under this item shall be property of the contractor and payment will be made after 100% completion of the contract successfully.	LS	1 set	20,000 BDT	40,000.00
8.	<u>Motivation training:</u> Motivation training of the Upazila Engineer's and Contractor's representatives for safety practice & environmental others facilities.	LS	2	15,000	30,000.00
9.	<u>Hazards and Hazardous Materials:</u> Handling Storing and store hazardous materials in accordance with the following requirements: Hazardous materials shall be stored above flood level and at least 20m from any watercourse; Hazardous liquid substances (e.g. petrol, diesel, oils) shall be stored on top of sealed plastic sheets in a secure, flat enclosed area. Bund walls shall be at least 25 cm high.	LS	1	12,000 BDT	12,000.00
10.	Dust suppression measures like water sprinkling on aggregates/ unpaved roads in and around the work site (Frequency of measures has been proposed to be increased as sensitive receptors are located around).	LS	1	50,000 BDT	50,000.00
11.	Supplying and planting specified healthy coconut (local) saplings of minimum 0.60m height, free from any diseases', collected from different nurseries (collection of saplings from government horticulture is preferable) & carrying the same to the worksite; preparation of pit prior to	Each	6	500.00	3000.00

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Item No.	Description of the Works	Unit	Quantity	Unit Rate (BDT)	Amount (BDT)
	minimum 10 days of plantation by earthwork in excavation of 450mm x 450mm x 450mm size for plantation, applying 0.015 cum cow dung and 100gm normal salt mixed with exceled earth properly; planting the plants, weltering for will be as per tree plantation guideline.				
12.	Turfing on embankment top and slope, building compound with good quality turf supplied by the contractor of not less than 225mm square in dimension including placing and watering till grass is fully grown, etc. all complete as per direction of the E-I-C. (payment to be made only when grass is fully grown).	sqm	240	29.14 Tk. Per sqm	6,993.60
13.	Construction Work nearby busy access roads may cause temporary disruption to local traffic movement, pedestrian safety issues, and increased accident risks.	This is part of normal site management and does not require a separate BOQ item, measures implemented under Environmental and Social Codes of Practice (ESCoPs).			
14.	Construction of Temporary Facilities such as site offices, labor sheds, storage yards, material stockpiles etc.	The cost for construction, maintenance, and removal of these facilities is included in the civil works BOQ under the contractor's responsibility.			
15.	Disturbance to nearby paddy field or water bodies	No separate BOQ item required — measures implemented under Environmental and Social Codes of Practice (ESCoPs).			
Total budget for this site					3,62,393.60

As per project ESMF, PIU, project engineer's suggestion and experience from other LGED projects such as MDSP, EMCRP etc. adequate budget has been proposed for the environmental management for the mitigation and enhancement measures. It may vary depending on the real time situation and requirement of the construction. The subproject activities have temporary and localized negative impact on noise level during construction phase due to movement of the subproject vehicles and equipment. Hence, budget includes analytical monitoring for noise level. For solid waste management adequate waste bins will be installed. The budget for labor shed, and site office construction is included in the civil works items. Therefore, it is not included in the environmental budget. It should be noted that the contractor will be paid as per actual work done.

Name of Subproject: Development of Multipurpose Flood Shelter at ***Kisamat Balua Government Primary School***

Village: Kisamat Balua; Union: 9 No. Kholahati

Upazila: Gaibandha Sadar; District: Gaibandha

Package No/Database Unique ID: GAI-041; School Code: 91108011106

SUB-PROJECT DESCRIPTION

The Kisamat Balua Government Primary School is a subproject of “Resilient Infrastructure for Adaptation and Vulnerability Reduction (RIVER) Project”. It is located in Kisamat Balua village under 9 No. Kholahati Union of Gaibandha Sadar Upazila of Gaibandha District. Major components of the subproject are to construct resilient flood shelters and community structures and strengthen the capacity for disaster preparedness and response. Significant features of this subproject are summarized in **Table 1:**

Table 10: The Significant Features of the Subproject Site

Name of the Subproject	:	Kisamat Balua Government Primary School
Educational Institute ID	:	91108011106
Land Owner	:	Kisamat Balua Government Primary School
Available Land	:	104.36 Decimals
Average Capacity of Flood Shelter	:	650
Catchment Population	:	10,000
Catchment Village	:	Dakkhin Chapadaho (N), Chak Mamojpur (S), Kholahati, Farazipara (E), Narayanpur (W)
Major profession of local population	:	Agriculture-(15%), Day Laborer (50%), Businessman (10%), Service (10%) and Others (15%)
Brief Description of Subproject Site: (e.g. present land use, Important Social and Environmental Features (IEFs) near site, etc.)	:	Existing GPS building, Playground, local settlements, Embankment, New Bazar, Trees, Roads etc.
Sensitive environmental, cultural, archaeological, religious sites near (within 1km) of site including major water bodies/forests	:	None
Ethnic Minority	:	None
Connecting Road	:	10ft wide Kisamat Balua GPS Connecting Road
Land acquisition	:	None

(Source: Field survey and Public Consultation Meeting, November 2025)

LOCATION OF THE SUB-PROJECT

The subproject is located in the Western part of Gaibandha Sadar Upazila in Gaibandha District, which is within the Rangpur Division. The location details of the subproject have been summarized in **Table 2**.

Table 2: Location Details of the Subproject Site

District	:	Gaibandha
Upazila	:	Gaibandha Sadar
Union	:	9 No. Kholahati
Village	:	Kisamat Balua
GPS Location	:	25.354897 N; 89.533719 E
Distance of the site from Upazila HQ	:	8km-(South-East)
Nearby Major Road:	:	Gaibandha to Kurigram road (3km-East)
Nearby River/ Canal:	:	Brahmaputra River (5km-East)

(Source: Field survey and Public Consultation Meeting, November 2025)

The catchment area of the subproject predominantly includes the villages of Dakkhin Chapadaho (N), Chak Mamojpur (S), Kholahati, Farazipara (E), Narayanpur (W) which frequently experience recurrent flooding. Gaibandha Sadar Upazila lies within the active floodplain of the Brahmaputra–Jamuna River system and is strongly influenced by monsoon-driven hydrological processes. Kisamat Balua Village is characterized by low-lying alluvial terrain, interspersed with natural khals (canals), floodplain depressions, and extensive agricultural land that collectively govern local drainage conditions and flood behavior. During the monsoon season, heavy rainfall combined with increased upstream river discharge often results in overtopping of nearby riverbanks and backflow through local drainage channels and khals. These hydrological processes cause widespread inundation of homesteads, crop fields, and community infrastructure in Kisamat Balua Village. The predominantly flat topography and limited natural drainage gradients slow the recession of floodwaters, leading to prolonged waterlogging in both agricultural lands and residential areas. Although annual sediment deposition enhances soil fertility and supports agricultural productivity, recurrent flooding frequently disrupts farming activities by damaging standing crops, delaying sowing and harvesting cycles, and temporarily reducing cultivable land availability. Flooding also adversely affects critical rural infrastructure in Kisamat Balua Village, including earthen access roads, embankments, culverts, and small bridges, many of which become submerged, eroded, or structurally weakened during peak flood periods. As a result, connectivity to local markets, schools, and healthcare facilities is often interrupted, increasing economic vulnerability and disproportionately affecting low-income and flood-prone

households. To address these challenges, priority investments for Kisamat Balua Village and surrounding areas of Kholahati Union should include: (a) Sustainable Water Management: Re-excavation and regular maintenance of khals, improvement of local drainage systems, removal of sediment and vegetation blockages, and restoration of natural water flow paths to reduce prolonged waterlogging. (b) Climate-Resilient Infrastructure: Elevation and strengthening of rural roads, rehabilitation and protection of embankments, upgrading culverts and small bridges with flood-resilient designs, and construction of multi-purpose flood shelters equipped with adequate WASH facilities. (c) Community-Level Preparedness: Strengthening flood early warning dissemination mechanisms, developing community-based flood contingency and evacuation plans, conducting preparedness and response drills, and clearly defining community roles for operation and maintenance of local infrastructure. These interventions will contribute to reducing long-term flood-related damages and enhancing the resilience of infrastructure, agriculture, and livelihoods in Kisamat Balua Village, Kholahati Union, Gaibandha Sadar Upazila, Gaibandha District.

The flood shelter will be constructed at Kisamat Balua Government Primary School (GPS), which is located at the Kisamat Balua village under 9 No. Kholahati Union of Gaibandha Sadar Upazila Gaibandha District. There are 9 teachers (Male: 02; Female: 07), and 392 students (Boys: 185; Girls: 207) in the school, operated by the guidance of School Management Committee (SMC) and government officials of Gaibandha Sadar Upazila Education Office. The students, teachers and residents of the catchment area come to the proposed site by using the connecting/access road named Kisamat Balua GPS road. The road is a BC road with 10 feet width and just passing beside the Kisamat Balua Government Primary School at south side.

The population of the catchment area is about 10,000. People in the area are mostly dependent on shallow tubewell water for their daily uses and the average depth of water is 150ft below the ground. The catchment area of the subproject supports a variety of indigenous and brackish water fish species, including Puti Fish, Tengra Catfish, Shrimp, Climbing Perch, Helicopter Ctfish, Ayer Fish, and Spotted snakehead *fish*. These species are important components of the local aquatic ecosystem and are considered to have ecological and, in some cases, conservation significance. In addition to aquatic biodiversity, several common local bird species such as, *Myna*, *Egret*, *Magpie-Robin*, *Weaver Bird* and *Dove* are commonly observed in the area. The surrounding environment also provides habitat for a few wild animals, notably Cotton Pygmy Goose and the Vulture which are occasionally sighted within the catchment zone. The 9 No. Kholahati Union map indicating sub-project location has been shown respectively in **Figure 1**. The topographical Map with indicative and tentative location of labor camp, construction materials storage area, and waste disposal area have been shown in **Figure 2** which shall be placed as per direction and satisfaction of LGED and E.I.C

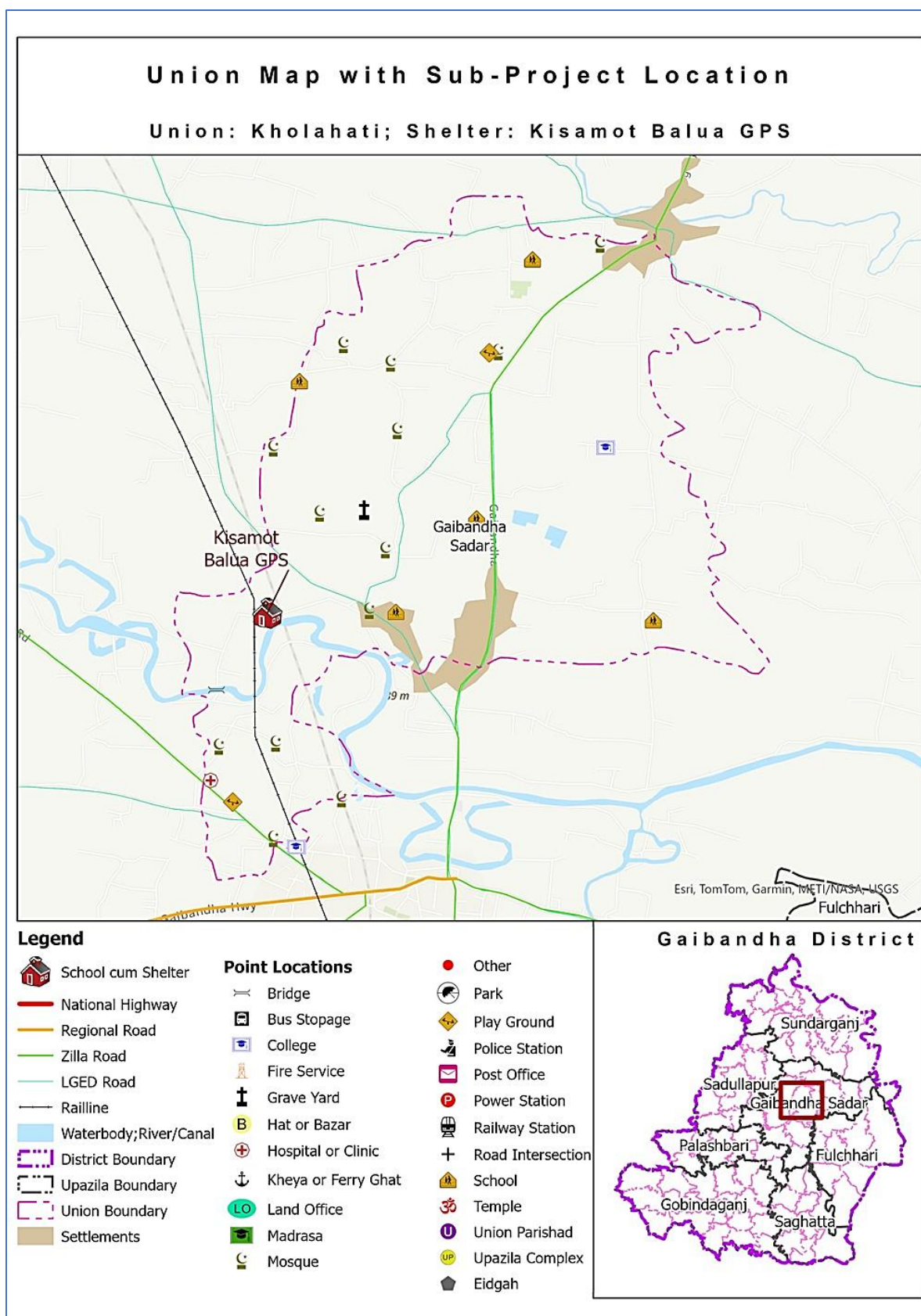


Figure 1: 9 No. Kholahati Union Map Indicating Proposed Subproject

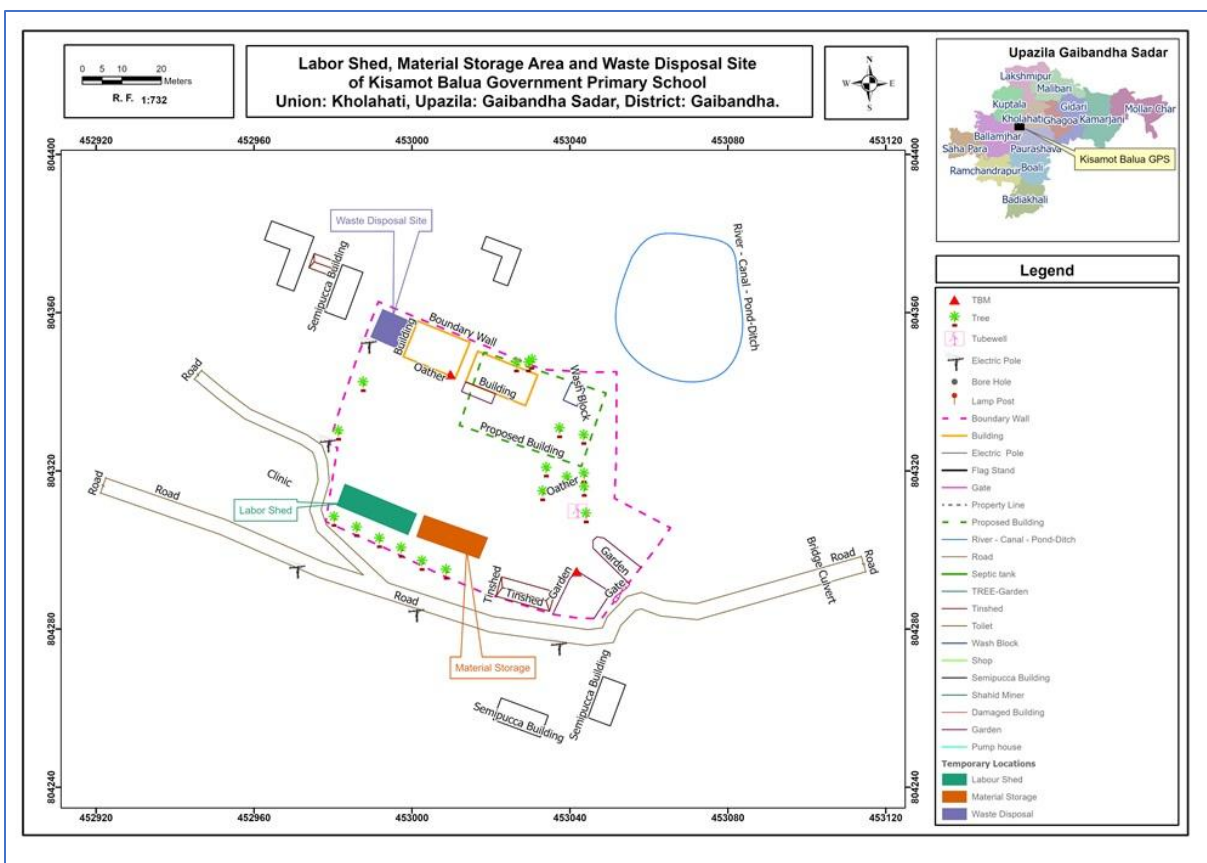


Figure 2: Proposed Labor Camp, Waste Disposal and Materials Storage Area

CURRENT SITUATION, PROPOSED INTERVENTIONS AND NEED FOR THE SUB-PROJECT

The present conditions of the subproject site and proposed labor camp, waste disposal area and construction materials storage area are visualized in **Figures 3, 4, and 5**.



Figure 3: Current Situation of the Existing Subproject Site



Figure 4: Proposed Labor Camp area & Materials Storage Area



Figure 5: Proposed Waste Disposal Area of the sub project site

The Kisamat Balua Government Primary School occupies approximately 104.36 decimals of land and currently comprises a three-storey pucca building and a one-storey pucca building. These existing structures accommodate all classrooms and administrative offices of the school. Under the proposed redevelopment plan, a flood shelter will be constructed within the school premises. To facilitate this development, several existing structures will be removed. Specifically, one old single-storey pucca building and two wash blocks have been identified for demolition as part of the project. During the construction period, temporary facilities will be established within the school boundary to support project activities. These facilities will include labour sheds, material storage areas, and a designated waste disposal site. To ensure the uninterrupted continuation of academic activities, a temporary school shed will be constructed within the campus. This arrangement will allow teaching and administrative functions to continue without disruption, thereby minimizing any adverse impact on students and staff. Essential utilities and services will be provided throughout the construction phase, including worker accommodation, sanitation facilities, electricity supply, and access to safe drinking water. For the safety of students, school personnel, and visitors, the active construction zones will be securely fenced to prevent direct or indirect exposure to construction-related hazards. The school compound contains a considerable number of trees; however, the removal of two trees will be necessary to accommodate the proposed development activities. The project area has a documented history of severe flooding. Notably, during the major flood event of 1988, floodwater levels rose to approximately one foot, resulting in prolonged inundation. These conditions significantly disrupted school operations and posed serious challenges for both students and staff. This historical flooding context highlights the critical need for the proposed flood shelter as part of the school's redevelopment initiative. **Figure 6** presents photograph of the existing Government Primary School facilities **Figure 7** shows photographs of the old school building & wash blocks identified for demolition and **Figure 8** illustrates the proposed location for the temporary school shed.



Figure 6: Existing School Building



Figure 7: The Old School Building needs to be Demolished



Figure 7: Wash Block need to be Demolish



Figure 8: Proposed Temporary School Shed area

The important establishments around the subproject site have been summarized in **Table-3**

Table 3: Important Establishments Adjacent to the Subproject Site

Direction	Important Establishments with Approximate Distance
North side	Kisamat Balua Uttorpara Graveyard (500m), Uttorpara Eidgah (500m), Kisamat Balua Uttor para–Jame Mosque (500m)
South side	Paramanaik Para Ahalahadi Jame Mosque (100m), Moddhopara Central Jame Mosque (150m), Moddhopara Graveyard (150m), Moddhopara Central Eidgah (500m), Ghagot River (780m)
East side	Molla Bazar Jame Mosque (500m), Veramara Railbridge (230m), Technical School (1km)
West side	Kisamat Balua Community Clinic (10m), Kisamat Balua Jame Mosque (300m), Kisamat Balua Graveyard (300m), Kisamat Balua Moktob (300m), Nolli Golli Beel (500m)

(Source: Field survey and Public Consultation Meeting, November 2025)

The proposed sub-project (construction of new School cum Flood shelter building) is not located within any environmentally sensitive area and will not cause any severe negative effects to the environmental settings of the area, neither to important environmental features. The disaster shelter will be constructed within an existing school boundary, so no agricultural land/ activities or fish farming will be disturbed due to the construction of the sub project. The project site is surrounded by various religious, educational, Cultural and Natural landmarks. On the north side, the project area is surrounded by Kisamat Balua Uttorpara Graveyard, Uttorpara Eidgah, and Kisamat Balua Uttorpara Jame Mosque, each located at an approximate distance of 500 meters from the site. These facilities indicate the presence of established residential and religious institutions in the northern vicinity. On the south side, the nearest landmark is Paramanaik Para Ahalahadi Jame Mosque, situated about 100 meters from the site. Moddhopara Central Jame Mosque and Moddhopara Graveyard are located approximately 150 meters away. Additionally, Moddhopara Central Eidgah is situated around 500 meters to the south, while the Ghagot River flows at an approximate distance of 780 meters from the site. On the east side, Molla Bazar Jame Mosque is located about 500 meters from the project site. The Veramara Rail Bridge is situated approximately 230 meters away, indicating rail connectivity in the area, and a Technical School is located at a distance of about 1 kilometer. On the west side, the Kismat Balua Community Clinic is located very close to the site at a distance of approximately 10 meters, providing immediate access to healthcare services. Other nearby landmarks include Kisamat Balua Jame Mosque, Kisamat Balua Graveyard, and Kisamat Balua Moktob, each situated about 300 meters away. The Nolli Golli Beel is located approximately 500 meters to the west, representing a nearby natural water body.

No significant disturbance to all these establishments/features is anticipated due to construction activities for having sufficient distance from the construction site, and strict construction site management system- including restrictive work schedule during the daytime only, water-sprinkling twice a day in and around the site, proper fencing around the working area, safe storage of materials, etc.

Construction related activities and setting up of labor camps along with associated facilities and their management issues will be accounted for impacts more likely to be generated during the pre, post and construction period. Noise pollution from pilling or drilling, air pollution caused by dust or gaseous emissions from vehicle movement, running of motorized equipment and land clearing, odors and soil pollution from leaking of latrines and fecal sludge, will more likely to take place. Soil can further be eroded and polluted from chemical spills or improper disposal of waste materials. Noise and vibration effects generated from pilling and drilling may also trigger landslides and harmful disturbances to local fauna. Impact on surface and ground water bodies might get acute due mainly to the high abstraction rate and disposal/leakage of pollutants to the surface/ground water bodies. Clearing of trees, bushes or any type of vegetation may put impact on floral species and unscrupulous clearance also trigger habitat loss. All these impacts can only

be prevented or minimized by adopting measures delineated into the ESMP and good practice engineering and site management.

ENVIRONMENTAL AND SOCIAL ASSESSMENT

This section identifies the potential impacts that the various elements of the proposed sub-project may have on the physical, biological and socio-economic environment within half a kilometer of the radial distance around the site. Environmental and Social Assessment (ESA) based on this assessment study for the Sub-project as Kisamat Balua Government Primary School of Gaibandha Sadar Upazila under Gaibandha District has been conducted to identify and determine which potential project impacts may be significant and therefore require the application of reasonable and effective management and/or mitigation measures. In order to realize the exact physical, biological and socio-economic environment of the proposed sub-project site and the influence area in regards to the implementation measures, an extensive field visit was carried out on 18 November 2025 in the Sub-project area. Environmental and Social Assessment form, as adopted in **Annexure-2** of the Environmental and Social Management Framework of RIVER, was administered for identifying the impacts and their extents.

PUBLIC CONSULTATION AND PARTICIPATION

Public participation and community consultation has been taken up as an integral part of environmental assessment process of the project. Field visit has been carried out on 18 November 2025 in and around the Sub-project component site. As part of the impact assessment, participatory public consultation was conducted in that area by the field level staffs, and consultants from D&SC. Checklist of the consultation is attached in **Annexure-3**. The consultation meeting was attended by 20 persons (Male-09 and Female-11) and local individuals, teachers, chairman and/or member of Union Parishad and school management committee were among the attendees in that meeting. The participants were selected from different cohorts of stakeholders, and some of whom will have major active roles before, during and even after the construction works. Therefore, the meeting was organized in an informed, expressive and unbiased manner, wherefrom different views and concerns came across which will be properly taken care of during the design and construction phases. Refer to **Figure 9** and **Annexure-4** for selected photographs of the participatory public consultation held at site of the Kisamat Balua Government Primary School and list of attendees in that public consultation meeting, respectively. A questionnaire was kept ready and responses were elicited. During these consultations, the communities were explained about the project, its benefits, associated social and environmental aspects and possible mitigation measures.

The participants were also informed about the project GRM (Grievance Redress Mechanism) system in detail and the disclosure of project documents in websites, and their unrestricted and uninitiated access to those system and resources. As such, public consultation is a living process as the types of problems/ difficulties, involved parties or stakeholders and mode of settlement

or resolution processes are more likely to differ with time. Thus, consultation with different parties or stakeholders will be continued throughout the sub-project implementation period and records of resolutions, whatsoever and wherever possible, will be kept in writing at the site and made available on any enquiries or requests by all parties concerned.



Figure 9: Public Consultation Meeting in the Proposed Sub-project Site

SUMMARY OF ENVIRONMENTAL AND SOCIAL IMPACTS

Tree Cutting: Approximately two (02) trees are likely to be cut down and no water bodies are likely to be filled up due to the construction of the flood shelter. The ecological impact of the subproject is low. There will be temporary negative impacts on physico-chemical environment. Nevertheless, these impacts are manageable if mitigation measures are taken according to ESMP.

Grass turfing: Grass turfs on embankment, slope, building compound & any critical place to enhance the ecological condition and protect the top soil. Tentative area of turf has been estimated as 240 square meters (half of total area), after discussion with architects and engineers. It is likely to be changed depending on the requirement during construction as per site design and as per direction of E.I.C.

Land Ownership: Availability of adequate public land area is as important as community consent to construct the flood shelter and access roads. The feasibility team did not find any conflicts over the school land. The land issue has been discussed in the meeting. Participants unanimously confirmed that the school has its own 104.36 decimals of land and there is no dispute about this land.

Land Acquisition: The proposed Sub-project, Kisamat Balua Government Primary School, does not have any involuntary resettlement impacts due to the construction of flood shelter and approach roads as the Sub-projects will be constructed in existing Government Primary Schools' premises. The Government Primary School has 104.36 decimals of land. No land acquisition will be required for the activities to be implemented under the project. Access road needs to construct or rehabilitate within its existing alignment.

ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN

Site specific Environmental and Social Management Plan (ESMP) outlines tailored mitigation, monitoring, and management measures to address potential environmental and social impacts arising from school cum flood shelter construction at each sub-project site. It focuses on controlling dust, noise, and waste; protecting nearby agricultural land and water bodies; ensuring occupational health and safety; managing community interactions; and conserving local biodiversity. The ESMP integrates the Environmental and Social Codes of Practice (ESCoPs) are attached in **Annexure-5** and compliance with World Bank ESF and national environmental regulations throughout the construction and operation phases. The Site Specific Environmental and Social Management Plan (ESMP) under this sub-project is providing in **Table 4**:

Tabel 4: Site Specific ESMP for Kisamat Balua Government Primary School

Ref.	Activity / Issues	Potentials Impacts	Proposed Mitigation and Enhancement Measures	Responsible for Implementation	Responsible for Monitoring
1.	Contractor's proposal for site specific temporary works	Accurate/ proper implementation of ESMP	Preparation of Work schedule, construction camp, materials storage area, access road, waste dumping/ disposal area etc.	Contractor	Environmental and Social Development Specialists of PIU and D&SC
2.	Site Clearing, Fencing, removal and Disposal Activity	Improper management and clearing of site may elevate risks of accidents, pollution and nuisance to public and school users.	- Clearing of site at the very outset with removal of all obstructions, including structures, materials, trees, etc. in order to keep the construction area, storage areas used, free from accumulations of waste materials or rubbish, with necessary arrangement for collection at a central disposal area. - Providing necessary protection fencing surrounding the total workplace area (including internal fencing made with bamboo for demarcating material storage areas mainly) and environmental and occupational health & safety sign boards, warning signs, etc.	Contractor	Environmental and Social Development Specialists of PIU and D&SC

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Ref.	Activity / Issues	Potentials Impacts	Proposed Mitigation and Enhancement Measures	Responsible for Implementation	Responsible for Monitoring
3.	Construction and operation of labor shed for the workers	• Generation of sewage and solid waste may cause environmental pollution in the surrounding area • Water, soil, air & dust pollution/ environmental pollution	• Construction of sanitary latrine at the labor shed (consider 15 persons for one toilet, separate toilet for male and female); • Construction of sanitary latrine/ Pit latrine with septic tank/ Ring slab system • Erection of “no litter” sign, provision of waste bins/cans (separate waste bins for organic and inorganic wastes); • Provision of waste bins/ cans, where appropriate, • Litter is to be collected daily. • Bins and/or skips should be emptied regularly and waste/ debris should be disposed off at waste disposal areas approved by Environmental Specialist of DSC. • Ensure wastes (solid wastes and other forms of the waste) disposal at designated places. • Camp and working areas are kept clean and tidy at all times. • Camp is to be checked for spills of substances i.e. chemical, oil, paint, etc.	Contractor	Environmental and Social Development Specialists of PIU and D&SC
4.	Health, Safety and Wellbeing of Workers	• Health and Safety of workers	• Conduct formal and unofficial discussion and training to increase awareness about hygiene practices among the workers; • Ensure availability and access to first-aid equipment and medical supplies for the workers. • Ensure safety gear worn: ear plug, goggles, mask, gloves, helmets, and uniforms etc.	Contractor	Environmental and Social Development Specialists of PIU and D&SC

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Ref.	Activity / Issues	Potentials Impacts	Proposed Mitigation and Enhancement Measures	Responsible for Implementation	Responsible for Monitoring
			- Staff must be trained up for operating equipment - Ensure adequate supply of drinking water. Sanitation facilities for male & female workers separately.		
5.	Construction Materials storage areas	- Use of surrounding open area, playground, road side etc. for stockpiling of construction materials. - Creating dust/ air pollution, - Spillage of liquid/hazardous substances i.e. oil, paint, chemicals, bitumen etc. - Access of students, children, animals, etc. - Not cleaning of construction materials storage areas after completion of construction.	- Proper stockpiling/ storage of construction materials at the site as proposed by the contractor & approved by the Environmental Specialist of D&SC. - Proper covering of dust producing materials with polythene sheet, - Proper fencing around the storage area in order to be secure, to minimize the risk of crime and to be safe from access by students, children, animals, etc. - Spills/ hazardous substances should be disposed off at the site as proposed by the contractor & approved by the Environmental Specialist of DSC to avoid soil/ water contamination. - Materials storage area must be cleaned after completion of construction.	Contractor	Environmental and Social Development Specialists of PIU and D&SC
6.	Demolition of Old Structures	Demolition works may create Air and water pollution, generate hazardous materials, which are too disturbing and may cause health and safety	- Advise demolition Contractor about Controlled demolition with water suppression, debris containment; salvage reusable materials; safe disposal plan, and following the SOP for Demolition Works (Annexure-06). - Prior to start demolition, the utility services (electrical cables, telephone line, water supply pipeline, gas	Demolition Contractor	SMC

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Ref.	Activity / Issues	Potentials Impacts	Proposed Mitigation and Enhancement Measures	Responsible for Implementation	Responsible for Monitoring
		issues to the School users, community people and workers. During movement of heavy Construction machineries, equipment can damage the utility services if not previously removed.	supply pipeline and internet line) should be shifted with the consultation of the relevant organizations; - Inform the local community before starting removal or demolishing work; - Carefully remove the utilities that are connected to any structures; - Proper Health and safety measures for the workers should be taken throughout the demolition period to avoid any incidents.		
7.	Construction of a new temporary school shed and facilities	Students are temporarily affected for demolition of classrooms and lacking of regular schooling.	- Contractors will arrange voluntary/temporary land donation or lease, with those who are interested in, for a stipulated period following the written consent. - Contractor shall construct a temporary school facility as per standard design provided by LGED. - Temporary school shall be removed by the Contractor at the end of all Construction works, with full satisfaction of E-I-C.	Contractor/ SMC	Environmental and Social Development Specialists of PIU, D&SC and SMC
8.	General construction work	Drainage congestion and flooding	- Plinth level of the Shelter should be higher than the highest flood water level. - Ensure provision for adequate drainage of storm water and pumping of congested water if needed; - Ensure adequate monitoring of drainage effects, especially if construction works are carried out during the monsoon season.	Contractor	Environmental and Social Development Specialists of PIU and D&SC

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Ref.	Activity / Issues	Potentials Impacts	Proposed Mitigation and Enhancement Measures	Responsible for Implementation	Responsible for Monitoring
		Air pollution	- Check regularly and ensure that all the subproject vehicles and equipment are in good operating condition; - Ensure contractor spray water on dry surfaces/unpaved to reduce dust generation; - Maintain adequate moisture content of the sand; - Ensure contractor sprinkle water and cover stockpiles of loose materials (e.g., fine aggregates); - Inform and make regular consultation with the local people about the subproject activities and potential impact; - Cover loaded truck used for carrying sand with tarpaulin/other suitable material to prevent spreading by air blown. - Provision of Masks for the workers, site staffs, students and teachers & Masks should be available in site during construction period. - Construction works should be scheduled before and after school hour, prayer/religious ritual time, or during holidays. - Avoid use of equipment e.g. stone crushers at site, if possible, which produce significant amount of particulate matter.	Contractor	Environmental and Social Development Specialists of PIU and D&SC
		Traffic congestion, effect on traffic and pedestrian safety	Ensure schedule deliveries of materials/ heavy vehicle movement/ equipment during off-peak hours;	Contractor	Environmental and Social Development

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Ref.	Activity / Issues	Potentials Impacts	Proposed Mitigation and Enhancement Measures	Responsible for Implementation	Responsible for Monitoring
			- Place traffic sign/cautionary sign to avoid undue traffic congestion if required; - Maintain vehicles and enforce legal load limits, and impose speed limits within settlements - Use flagmen, signage, and barriers near schools and markets; - Spray water on access roads to reduce dust - Coordinate with local authorities and inform communities.		Specialists of PIU and D&SC
		Noise pollution	- Check and maintenance the equipment properly; - Avoid using of construction equipment such as concrete mixer machine, pile driving equipment (pile rig, winch machine), vibrator machine that produce excessive noise at night; - Avoid prolonged exposure to noise (produced by equipment) by the workers; - Regulate use of horns and avoid un-due use of hydraulic horns by subproject vehicles; - Provision of Ear plugs for the workers & site staffs should be available in site during construction period. - Inform local people about the subproject activities and potential impact. - Construction works should be scheduled before and after school hour and prayer time.	Contractor	Environmental and Social Development Specialists of PIU and D&SC
		Felling of trees, clearing of vegetation and ecological disturbances	Replace each felled tree with at least 3 nos. saplings, due to 2 trees felling, 6 trees to be replanted around the	Contractor	Environmental and Social Development

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Ref.	Activity / Issues	Potentials Impacts	Proposed Mitigation and Enhancement Measures	Responsible for Implementation	Responsible for Monitoring
			periphery of the proposed site at an interval of not less than 3m, to enhance the ecological condition.		Specialists of PIU and D&SC
		Water & Soil pollution	- Avoid complete closing of the channel that affects reproduction of aquatic species; - Any illegal discharge of wastewater, leaked oil shall be prohibited.	Contractor	Environmental and Social Development Specialists of PIU and D&SC
		Spills and leaks of oil, toxic chemicals	- Proper handling of lubricating oil and fuel so that it does not fall on the soil; - Good housekeeping - Collection and proper disposal of spills; - Refueling and fuel tank should not be placed on the ground directly. - Spillage wasters should be disposed in the waste disposal area located at the site proposed by the contractor & approved by the Environmental Specialist of D&SC	Contractor	Environmental and Social Development Specialists of PIU and D&SC
9.	Rigorous Monitoring and Report Preparation and Submission		- The Contractor shall appoint (i) ES Manager (ii) Community Organizer and (iii) H&S Officer for strict management and monitoring of all ES related works at each site and the budget for this engagement shall be borne from the Contractor's management budget. - Contractor shall submit regular monthly monitoring report to the D&SC and PIU as per reporting standard set by the ES Consultants of D&SC/PIU.	Contractor	PIU

COST OF ENVIRONMENTAL ENHANCEMENT WORKS IN BOQ

Considering the environmental impacts and their mitigation measures for this subproject, several items are included in the BOQ to address these issues. The detailed estimate, with tentative cost for implementing the ESMP, is given in **Table 5**.

Table 5: Environmental Social Management Budget (Bill of Quantity)

Item No.	Description of the Works	Unit	Quantity	Unit Rate (BDT)	Amount (BDT)
1.	<u>Site Cleaning, Removal and Disposal Activity:</u> Cleaning and maintaining at all times, keeping the construction area, storage areas used, free from accumulations of waste materials or rubbish, with necessary arrangement for collecting at a central disposal area, on a daily basis and disposing in a manner approved and satisfaction by the Engineer, especially waste water and sewage from office, residential and mobile camps shall be piped to soak pits or other disposal areas, all used fuels, oils, other plant or vehicle fluids, old tyres, tubes, other solid waste from household, office, workshop, construction materials, etc. to be kept at safe places and any spillages shall be cleaned up by either burning in place or collecting the contaminated soils and burning them at the central disposal area, including removing all waste, debris, rubbish, unused materials, concrete forms and other like material, tools, equipment, machinery and surplus/ unwanted materials buried or cleaned up in a manner acceptable to the Engineer after completion of work etc. all complete as per requirement and full satisfaction of Engineer-in-charge. Payment will be made after 100% completion of the contract successfully	Each	1	19,000	19,000.00
2.	<u>First Aid Box:</u> Supplying, equipping and maintaining adequate first-aid box throughout the working period at worksite and site office, and erect conspicuous notice boards directing where these are situated and providing all requisite emergency medical first aid kits, including complying with the government medical or labour requirements at all times, and provide, equip and maintain necessary dressing kits throughout the working period for attending minor injuries, etc. all complete as per requirement and full satisfaction of Engineer-in-charge. Payment will be made after 100% completion of the contract successfully.	Each	2 nos.	6500 Tk. Per box	13,000.00

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Item No.	Description of the Works	Unit	Quantity	Unit Rate (BDT)	Amount (BDT)
3.	Providing Safety gear package like hand gloves, eye protection glasses, air plug, helmets, rubber shoes, light reflecting dress etc. for 20 sets.	Set	20 sets	5,000	100,000.00
4.	<u>Temporary Toilet Facilities:</u> Provide at least two nos. portable toilets or constructing temporary semi-pucca toilets with twin pit latrines, one for female worker and other for male worker at worksite and workers accommodation site in a safe location, so that no adverse impact will generate on the surrounding environment, including providing requisite arrangements for water supplying etc. All complete as per drawing, specification, direction and satisfaction of the Engineer-in-Charge. All relevant accessories and arrangements under this item shall be property of the contractor and payment will be made only upon 100% completion of the contract successfully.	No.	2 nos.	20,000	40,000.00
5.	<u>Water Test (Drinking Water samples):</u> "Test (Drinking Water samples) Out of 5 nos. of tube well 1-no of tube well should be Install at the beginning of construction works so that labour and other site staff can get drinking water. In addition, Water samples to be collected periodically (half yearly) for one Tube well of the shelter for laboratory analysis for different parameters such as pH, arsenic, iron, chloride, hardness and total dissolved solids or electrical conductivity etc. all complete as per direction of EIC (including the cost of actual fees for testing from reputed laboratory and report) as desired by EIC."	LS	3 times	13,800	41,400.00
6.	<u>Drinking Water Facilities:</u> Providing continuous adequate drinking water supply at worksite and site office as well by installing necessary tube-well/s where applicable or any other means depending on local situation, also providing essential arrangement for storing drinking water by supplying portable best quality water tank equivalent to Gazi/Padma of adequate capacity depending on the number of users, including supplying 1 (one) no. best quality water filter of minimum capacity 30 liters with necessary kits, etc. all complete as per satisfaction and direction of the Engineer-in-charge, all relevant goods and equipment under this item shall be property of the contractor and payment will be made after 100% completion of the contract successfully.	Each	2 nos.	LS @ Tk. 35,000	7,000.00
7.	<u>Waste Disposal Facilities:</u>	LS	1 set	20,000 BDT	40,000.00

Item No.	Description of the Works	Unit	Quantity	Unit Rate (BDT)	Amount (BDT)
	Providing, installing and maintaining at least 2 (two) nos. waste collection bins one for organic waste and other for inorganic waste of minimum capacity of 30 liters with hinge supported 450mm dia. cover plate for opening, made of durable plastic material at worksite, both bins will be kept in a safe and easily accessible place, so that will easy to use and no adverse impact will generate on the surrounding environment, including continuing the full functioning of waste disposal (buried/incineration) in accordance with the full satisfaction of the project manager throughout the contract period, all complete as per drawing, specification and direction of the Engineer-in-charge. Entire relevant accessories and arrangements under this item shall be property of the contractor and payment will be made after 100% completion of the contract successfully.				
8.	Construction of temporary school facilities as per standard requirement and design set in the bidding document	LS	Estimate of this construction works is included in the Civil works part of the BOQ		
9.	Motivation training: Motivation training of the Upazila Engineer's and Contractor's representatives for safety practice & environmental others facilities.	LS	2	15,000	30,000.00
10.	Hazards and Hazardous Materials: Handling Storing and store hazardous materials in accordance with the following requirements: Hazardous materials shall be stored above flood level and at least 20m from any watercourse; Hazardous liquid substances (e.g. petrol, diesel, oils) shall be stored on top of sealed plastic sheets in a secure, flat enclosed area. Bund walls shall be at least 25 cm high.	LS	1	12,000 BDT	12,000.00
11.	Dust suppression measures like water sprinkling on aggregates/ unpaved roads in and around the work site (Frequency of measures has been proposed to be increased as sensitive receptors are located around).	LS	1	50,000 BDT	50,000.00
12.	Supplying and planting specified healthy coconut (local) saplings of minimum 0.60m height, free from any diseases', collected from different nurseries (collection of saplings from government horticulture is preferable) & carrying the same to the worksite; preparation of pit prior to minimum 10 days of plantation by earthwork in excavation of 450mm x 450mm x 450mm size for plantation,	Each	6	500.00	3000.00

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Item No.	Description of the Works	Unit	Quantity	Unit Rate (BDT)	Amount (BDT)
	applying 0.015 cum cow dung and 100gm normal salt mixed with exceled earth properly; planting the plants, weltering for will be as per tree plantation guideline.				
13.	Turfing on embankment top and slope, building compound with good quality turf supplied by the contractor of not less than 225mm square in dimension including placing and watering till grass is fully grown, etc. all complete as per direction of the E-I-C. (payment to be made only when grass is fully grown).	sqm	240	29.14 Tk. Per sqm	6,993.60
14.	Construction Work nearby busy access roads may cause temporary disruption to local traffic movement, pedestrian safety issues, and increased accident risks.	This is part of normal site management and does not require a separate BOQ item, measures implemented under Environmental and Social Codes of Practice (ESCoPs).			
15.	Construction of Temporary Facilities such as site offices, labor sheds, storage yards, material stockpiles etc.	The cost for construction, maintenance, and removal of these facilities is included in the civil works BOQ under the contractor's responsibility.			
16.	Disturbance to nearby paddy field or water bodies	No separate BOQ item required — measures implemented under Environmental and Social Codes of Practice (ESCoPs).			
Total budget for this site					3,62,393.60

As per project ESMF, PIU, project engineer's suggestion and experience from other LGED projects such as MDSP, EMCRP etc. adequate budget has been proposed for the environmental management for the mitigation and enhancement measures. It may vary depending on the real time situation and requirement of the construction. The subproject activities have temporary and localized negative impact on noise level during construction phase due to movement of the subproject vehicles and equipment. Hence, budget includes analytical monitoring for noise level. For solid waste management adequate waste bins will be installed. The budget for labor shed, and site office construction is included in the civil works items. Therefore, it is not included in the environmental budget. It should be noted that the contractor will be paid as per actual work done.

ANNEXURE 2: ASSESSMENT OF ENVIRONMENTAL AND SOCIAL SAFEGUARDS

ANNEXURE 2: ASSESSMENT CHECKLIST OF ENVIRONMENTAL AND SOCIAL SAFEGUARDS IN GAIBANDHA DISTRICT

Resilient Infrastructure for Adaptation and Vulnerability Reduction (RIVER) Project

Local Government Engineering Department
Government of the People's Republic of Bangladesh

Checklist for Environmental and Social Assessment

1. Subproject Description

Sl. #	Subproject Description			Response
1.	Package Name and Number:			
2.	Name of the Subproject/component:			
3.	Educational Institute ID/ Road ID:			
4.	Estimated total Cost of the sub project/component (in Taka):			
5.	Estimated Operation and Maintenance Period (Subproject life time):			
6.	Division: Rangpur	District: Gaibandha	Upazila: Gaibandha Sadar	Union:
7.	Name of the community/ Local area:			
8.	Size of the local population:			
9.	Major profession of local population:			
10.	Distance of the site from Upazila HQ:			
11.	Nearby Major Road:			
12.	Nearby River/ Canal:			
13.	Description of proposed Subproject activities (incl. type of activities, footprint area, natural resources required, etc.):			
14.	Brief description of Subproject site: (e.g. present land use, Important Social and Environmental Features (IEFs) near site, etc.)			
15.	Types of waste to be generated during construction and operation phase:			
16.	Sensitive environmental, cultural, archaeological, religious sites near (within 1km) of site including major water bodies/forests:			No

2. Environmental and Social Assessment Form

2.1 Section A: Subproject Overview

1.	Description of Subproject/component interventions:
2.	Subproject Location:
3.	Expected construction period:
4.	Description of project intervention area and project influence area with schematic diagram (where relevant, indicate distance to sensitive social and environmental areas such as archeological/religious/ historical or cultural assets or sites, human settlements, forests, water bodies, etc.): Archeological place: Not present Religious place: Not present Forest: Not present Wetland: Not present

2.2 Section B: Environmental and Social Assessment Checklist

Sl. #	Assessment Questions	Y	N	Impact ¹				Justification for the response (please provide answers to each question)
				L	M	S	H	
1.0	Subproject Sitting/Location							
	Is the Subproject area.....							
1.1	Adjacent to/or within any of the social/environmentally sensitive areas?		✓					
	• Cultural heritage site		✓					
	• Ethnic minority areas		✓					
	• Protected Area		✓					
	• Wetland		✓					
	• Mangrove		✓					
	• Estuarine		✓					
	• Buffer zone of protected areas		✓					
	• Special area for protecting biodiversity		✓					
	• Bay		✓					
1.2	Are there any ponds, khals, beels, haors, baors, rivers, etc. in/around the site?	✓		✓				No.: Distance: Direction:
	Please specify numbers and name for each.	✓		✓				Ponds:
		✓		✓				khals:
		✓		✓				Beels:
		✓		✓				Haors:
		✓		✓				Rivers:
		✓		✓				Others:
1.3	Any sensitive sites for river erosion? Where & Severity?		✓					
2.0	Baseline at Pre-Construction Stage							
2.1	Ancillary Facilities (e.g. status of access road or any other facility required for Subproject to be viable)?	✓						
2.2	Air quality status (apparently/ visibly)?							apparently/ visibly good

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Sl. #	Assessment Questions	Y	N	Impact ¹				Justification for the response (please provide answers to each question)
				L	M	S	H	
2.3	Requirement of accommodation or service amenities (toilet, water supply, electricity) to support the workforce during construction?	√						Accommodation, Toilet, Electricity, Supply water, drinking water.
2.4	Possible location of labor camps?	√						On site
2.5	Requirement and type of raw materials (e.g. sand, stone, wood, etc.)?	√						
2.6	Identification of access road for transportation?	√						
2.7	Location identification for raw material storage?	√						On site
2.8	Possible composition and quantities of wastes (Solids wastes, demolition materials, sludge from old latrines, etc.)?	√						Solids waste, demolition materials, concrete wastes etc.
2.9	Mention source of drinking water in dry and wet seasons	√						Shallow / √Deep Tube well: If deep tube well, mention depth (feet): If other, specify: Rainwater harvesting available: No Onsite/ off site/ NAV
2.10	Has the Subproject/component site any seismic risk (historically)?		√					
2.11	Identification of possible stakeholders, especially vulnerable groups?		√					
3.0	Potential Socio-environmental impacts. Will the Subproject cause.....							
3.1	Potential influx of workers to the project location? Whether significant for the local community?		√					
3.2	Possible conflict between workers and local people?		√					
3.3	Resource constraint for the local population (due to the additional burden of incoming workers/staff)?		√					
3.4	Possible loss of agricultural land/ crops?		√					
3.5	Involvement of any land acquisition and involuntary resettlement?		√					
3.6	Loss of residential, business or enterprises due to construction of flood shelter, land requisition/acquisition and so on?		√					
3.7	Loss of income sources and means of livelihoods due to construction of flood shelter, land acquisition/ requisition?		√					

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Sl. #	Assessment Questions	Y	N	Impact ¹				Justification for the response (please provide answers to each question)
				L	M	S	H	
3.8	Impacts on any vulnerable (poor, old-aged, female-headed households, ethnic people, etc.) people?		√					Detail out about the groups and how is impacted:
3.9	Loss of access to natural resources, communal facilities and services?		√					
3.10	Impacts on social and economic activities due to the change in land use (if any)?		√					
3.11	Cutting trees for construction works of with more than 3" girth diameters?		√					Species name & Number of trees:
3.12	Impact on pond or fish population or aquatic habitats?		√					
3.13	Any surface water pollution? If yes, Source?		√					
3.14	Any Groundwater pollution? If yes, Source?		√					Fe=Iron, As = Arsenic, Mn = Manganese, Hard = Hardness If other, Specify: Contaminant's depth (feet): (Shallow / Deep)
3.15	Possible contamination of surface and ground waters due to improper waste disposal:	√			√			
3.16	The type and quantity of waste generated (e.g. Solids wastes, liquid wastes, etc.):	√		√				Solids waste, demolition materials, concrete wastes etc.
3.17	Impacts on surrounding environment due to sanitation and solid waste disposal: (Briefly mention the sources and extent of impacts)	√			√			Disposal area available? √Yes/No If yes, where & how: √On-site, Off-site
3.18	Impacts from construction camp?		√					Camp area available? √Yes / No If yes, where? √Onsite /off site
3.19	Disturbance or modification of existing drainage channels (rivers, canals) or surface water bodies (wetlands, marshes)?		√					Water logged for (days): Water height (feet):
3.20	Destruction or damage of terrestrial or aquatic ecosystems or endangered species directly or by induced development?		√					
3.34	Flooding problem in the area? Mention frequency & severity	√						Year: Every year Height: 4-6 feet Days: 30-60 days
3.22	Traffic disturbances due to construction material transport and wastes?		√					

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Sl. #	Assessment Questions	Y	N	Impact ¹				Justification for the response (please provide answers to each question)
				L	M	S	H	
3.23	Possibility of Subproject induced air / dust pollution? Mention the sources and impacts.	√		√				Air pollutants will be emitted from the equipment and Construction vehicles as well as from building construction works. The impact will be very limited.
3.24	Noise pollution from construction, industrial and vehicles?	√			√			Noise and vibration may be generated due to cast-in-situ pile work for building, from the movement of the subproject vehicles, using of concrete mixer machine and vibrator machine etc.
3.25	Risks and vulnerabilities related to occupational health and safety due to hazards during construction and operation phase?	√			√			There is always a possibility of accident in a construction site. Labors can be exposed in different type of health hazards. To mitigate them, they have to be very alert during work and should wear proper PPE gears to save themselves from unwanted accidents.
3.26	Negative effects on neighborhood or community (Mention types and scale of impacts)?		√					
3.27	Degradation or disturbance of historically, culturally important site (mosque, graveyards, monuments, etc.)?		√					
3.28	Any Impediments to movements of people and livestock during construction period?		√					
3.29	The shelter buildings need to relocate/ Shift to another place? If yes, Mention Relocation place name, distance from site, for how long, is rent needed? Show relocation place in the topographical map.		√					
3.30	Disturbance to the student in taking the lesson in the classroom?		√					
3.31	Direct or indirect hazards to student for walking in the school campus by construction activities?	√		√				Protective fencing required
3.32	Is there any disaster early warning system? If Yes, by Whom?	√						Yes: UDMC, vMiking, TV, TNO, TEO, Red crescent, vMobile phone SMS, etc.
3.33	Are there any power transmission line on the school premises?		√					

¹ Y= Yes, N=No, H=High, S=Substantial, M=Medium, and L=Low

Checklist on Environmental Issues for Site-specific Assessment/ESIA

1: Important Establishments and boundary village/river around the Subproject site

Sl. #	Direction	Important Establishments	Village/ River
1.	North side		
2.	South side		
3.	East side		
4.	West side		

2: Trees within the school boundary

Sl. #	Name of trees	Particular and No. of Trees				Total	Remarks
		Large	Medium	Small	Sapling		
1.							
2.							

3: Pond/ Water bodies found inside and adjacent to the Subproject area:

Sl. #	Direction	Water body type (pond, river, canal, beel, drain)	Size (ft x ft)	Depth (ft)	Fish Firming (Yes or No)	Name of Firming Fish	Use of pond (Domestic/ Bathing / other)
1.	North						
2.	South						
3.	East						
4.	West						

4. Indigenous, brackish water and endangered fish species exist in catchment area of the Subproject:

Yes or No. If yes, Mention Name:

5. The common local birds found in the catchment area:

6. Wild animals found in the catchment area:

7. Endangered faunal species found in the catchment area:

8. The soils are highly/moderately/not saline at a depth of..... ft in and around the subproject areas throughout the year.

ANNEXURE 3:
CHECKLIST OF THE CONSULTATION MEETING

ANNEXURE 3: CHECKLIST OF THE CONSULTATION MEETING

Feasibility Study of Resilient Infrastructure for Adaptation and Vulnerability Reduction (RIVER) Project

Local Government Engineering Department
Government of the People's Republic of Bangladesh

(Checklist for Consultation Meeting for Identifying Environmental & Social Impacts)

Data Checklist & Consultation Meeting ID	

The meeting organizers will give a brief description of the project background, scope, goals, objectives and components in front of the participants. All participants must be informed about the overall project and the type of sub-project / activity. [e.g: Resilient Flood Shelter and Shelter Connecting Road etc.]

Meeting place: **Duration:**

Name of the School/ Shelter:

ID no. (School) **Union:** **Upazilla:**

District:

Total Students: **Number of Students (Male):**

Number of Students (Female) **Teacher (number)**

Participants: School Management Committee, Teacher, Students, Guardians, Local People, Elected Public Representative (Make a list of participants and collect signature including pictures)

1. The catchment area (location, population, occupation, financial status, religion, etc.) of the proposed school / flood shelter should be discussed in a participatory manner.

2. Vulnerable people, Tribal, Hijra (location, number, occupation, financial status, religion, etc.)

3. There should be participatory discussion about local flood situation, flood frequency, last flood, duration of flood and impact of flood on people, livestock and crops, etc.

4. Whether there is a need to establish a flood shelter! If so, describe. What are the benefits of flood shelters in this area?

5. Discuss volunteer service delivery, local workforce management, project collaboration, specialization skills at a local level, etc.
6. Are there any non-title holders within the school boundaries? Will the construction of the shelter cause any harm to them (income, shops, houses, boundary walls / fences etc.) (take pictures).
7. Length (m), width (m) of internal road of proposed school / flood shelter, what is the road made of, what is the current condition of the road? (Take picture)
8. Is the road connecting the proposed school / flood shelter connected to a nearby market / growth center / main road? Connection road name, length (m), whether the road is congested? (Take pictures).
9. Is the connecting road in need of repair? Will there be any damage if the road is repaired (income, shops, houses, boundary walls / fences, religious and cultural heritage sites, traffic jams, vegetation, ponds, canals, rivers etc.)? (Take picture)
10. Be aware of any socio-cultural / religious heritage, environmentally sensitive areas (wetlands, protected areas, special areas for conservation of biodiversity, etc.) from participants in meetings, within and near the proposed school / flood shelter boundary and approximate distance from that area. About trees (centennial) / building, public travel/gathering area, river erosion and other issues. LGED Sub Assistant Engineers / District Sociologists can also help you in this regard. (Take picture)
11. Is the existing proposed land under the government, non government or the donation process?
12. Is the land inside or outside of the school boundary? (Take picture)
13. Is there any conflict with the ownership of the land? (If yes, write in detail)
14. Have sufficient legal and valid document of lands? Collect the scan copy of the ownership (Ex. Evidence, ledger, Mouza map, treasury receipt etc).
15. Is land ready for immediate construction work?
16. Do you know project will not acquire any private land and need at least 33.00 decimal of government land (owned by the SMC/MoE)?
17. Will there be any harm to anyone as a result of the construction of the shelter (income, shops, House, wall/fences of boundary (religious and cultural traditional place etc). (take picture)
18. How is the school infrastructure? Is it necessary to demolish any infrastructure to build a shelter? (Take picture)

19. Should the school be relocated to continue the educational activities during the construction of the shelter? If so, the name of the relocation, the distance from the site, the free space available voluntarily at the time of construction or to be rented and what is the annual rent? (Take picture)

20. Will the play ground of the children be damaged during the construction of the shelter? (Totally damaged or partially damaged, If so, how much?). What is the opinion of the guardians, teachers and students regarding the damage of play ground? (Take picture).

21. Should any trees be cut in and around the school or shelter for construction work (which types of tree)? Whether to fill a pond or wetland?

22. Is there any issue regarding air pollution, sound pollution, water pollution and another environmental issue? ((Take picture).

23. Is there any possibility of environmental damage during construction of shelters? What steps can be taken to remove these damages and for traffic congestion, waste removal/management?

24. Whether there may be sexual harassment of local women and girls by the workers / workers in the project area?

Methodology

These meetings will be conducted through the participatory process. Onsite public meetings will take place amid CoViD-19. Take attendance and photographs of the meetings.

Challenges

CoVid-19 pandemic, (possible health protocols for gathering will be observed/followed).

PMU, LGED's Assistance

Introductory letter from the Project director, RIVER Project to XEN, UNO and UE for seeking assistance.

Name of the Moderator:

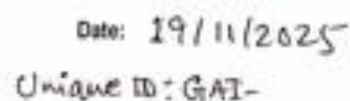
Name of the Notetaker:

Mobile No.

1.

2.

ANNEXURE 4: ATTENDANCE OF CONSULTATION MEETING



Signature
10.11.25
सुभाषचंद्र मारुपिण्ड
अध्यक्ष निगम (आचार्य)
एनिसिस्ट्री मरवाडी भारतीय निगम
अध्यक्ष, मरवाडी
01719345361



Resilient Infrastructure for Adaptation and Vulnerability Reduction (RIVER) Project
Local Government Engineering Department (LGED)
Public Consultation with Stakeholders

Name of School: স্মৃতিস্মানি বালিকা মধ্যশিক্ষা সড়ক

Date: 19.11.25

School ID: 99708019004

Unique Database ID:

Place of Consultation: School class room

Village: স্মৃতিস্মানি বালিকা Ward No.: ০২

Union: নরসিংপুর

Upazila: গাইবান্ধা সদর

District: গাইবান্ধা

Public Consultation Participants List

Sl. No.	Name	Male/Female	Age	Occupation	Village/Address	Mobile No.	Signature
০১	শ্রী: জে. এ. স. ম. ম. ম.	M	৫১	ম: শ্রমিক	স্মৃতিস্মানি বালিকা	৯৯৭৬১৪৫০৮	[Signature]
০২	শ্রী: বাদশা হুসেইন	M	৫৩	সহ: শ্রমিক	"		[Signature]
০৩	শ্রী: বাদশা হুসেইন	M	৪০	সহ: শ্রমিক	"		[Signature]
০৪	শ্রী: জি. ক. ম. ম. ম.	M	৬৮	সহ: শ্রমিক	"		[Signature]
০৫	শ্রী: মোহাম্মদ হুসেইন	M	৪৪	সহ: শ্রমিক	"		[Signature]
০৬	শ্রী: মোহাম্মদ হুসেইন	M	৬৬	বেকার	"		[Signature]
০৭	শ্রী: মোহাম্মদ হুসেইন	M	৬৭	বেকার	"		[Signature]
০৮	শ্রী: মোহাম্মদ হুসেইন	M	৬৯	মার্জিত	"		[Signature]
০৯	শ্রী: মোহাম্মদ হুসেইন	M	৬০	কৃষি	"		[Signature]
১০	শ্রী: মোহাম্মদ হুসেইন	M	২৯	কৃষি	"		[Signature]
১১	শ্রী: মোহাম্মদ হুসেইন	M	৪৪	কৃষি	"		[Signature]
১২	শ্রী: মোহাম্মদ হুসেইন	M	৬২	কৃষি	"		[Signature]
১৩	শ্রী: মোহাম্মদ হুসেইন	M	৫৫	কৃষি	"		[Signature]
১৪	শ্রী: মোহাম্মদ হুসেইন	M	৫৫	কৃষি	"		[Signature]
১৫	শ্রী: মোহাম্মদ হুসেইন	M	২৮	কৃষি	"		[Signature]
১৬	শ্রী: মোহাম্মদ হুসেইন	M	২৭	কৃষি	"		[Signature]
১৭	শ্রী: মোহাম্মদ হুসেইন	M	২৭	কৃষি	"		[Signature]
১৮	শ্রী: মোহাম্মদ হুসেইন	M	২৫	কৃষি	"		[Signature]
১৯	শ্রী: মোহাম্মদ হুসেইন	M	৬৬	কৃষি	"		[Signature]
২০	শ্রী: মোহাম্মদ হুসেইন	M	৫২	কৃষি	"		[Signature]

[Signature]
মোঃ জে. এ. স. ম. ম. ম.
স্বাক্ষরিত
মোঃ জে. এ. স. ম. ম. ম.
মোঃ জে. এ. স. ম. ম. ম.



Resilient Infrastructure for Adaptation and Vulnerability Reduction (RIVER) Project
Local Government Engineering Department (LGED)
Public Consultation with Stakeholders

Name of School: হাজিরাখানী মদ্রাশা জাঙ্গা GPS

Date: 19.11.25

School ID: 99708019004

Unique Database ID:

Place of Consultation: School class room

Village: হাজিরাখানী মদ্রাশা Ward No.: 09

Union: Larkshampur Upazila: Sadar

District: Gaibandha

Public Consultation Participants List

Sl. No.	Name	Male/Female	Age	Occupation	Village/Address	Mobile No.	Signature
২০	আঃ জাফর	M		কৃষি	হাজিরাখানী	—	
২১	বেকিরা	F	৭৫	গৃহিণী	"	—	হুজিরা
২২	কামনা	F	৪০	"	"	—	হুজিরা
২৩	আবু	M	৬২	কৃষি	"	—	হুজিরা
২৪	হানেক	F	৩০	গৃহিণী	"	—	হুজিরা
২৫	আবুজাদ	F	৪০	কৃষি	"	—	হুজিরা
২৬	বাবু	M	৩০	গৃহিণী	"	—	হুজিরা
২৭	হুজিরা	F	৬৮	গৃহিণী	"	—	হুজিরা
২৮	নাজি	F	৬৫	গৃহিণী	"	—	হুজিরা
৩০	আবুজাদ	F	৩৫	"	"	—	হুজিরা
৩১	পারভাত	F	৪০	"	"	—	হুজিরা
৩২	হাজিরা	F	৩০	"	"	—	হুজিরা
৩৩	হাজিরা	F	৩০	"	"	—	হাজিরা

স্বাক্ষর
মোঃ ফেরদাউস আলম
হাসান শিকদার
প্রোগ্রামার ও সফটওয়্যার ইঞ্জিনিয়ার
পরিচালক, পাইলট প্রকল্প



Resilient Infrastructure for Adaptation and Vulnerability Reduction (RIVER) Project
Local Government Engineering Department (LGED)
Public Consultation with Stakeholders

Name of School: Lunkshupur G.P.S

Date: 18.11.25

School ID: 91108011203

Unique Database ID:

Place of Consultation: School class room

Village: Dhankuti

Ward No.: 01

Union: 1 No Lunkshupur Upazila: Suchet

District: Gaibandha

Public Consultation Participants List

Sl. No.	Name	Male/Female	Age	Occupation	Village/Address	Mobile No.	Signature
01	শ্রী: অরুণ কুমার	M	৫৬	অফিসিয়াল	ধনকুটি		
02	শ্রীমতী কল্যাণ কুমার	F	৫৬	অফিসিয়াল	ধনকুটি		
06	শ্রীমতী অমল	F	৫২	অফিসিয়াল	ধনকুটি		
08	শ্রী: অরুণ কুমার	M	৪৬	অফিসিয়াল	ধনকুটি		
09	শ্রীমতী অরুণ কুমার	F	৪৬	অফিসিয়াল	ধনকুটি		
09	শ্রীমতী অরুণ কুমার	F	৪৭	অফিসিয়াল	ধনকুটি		
09	শ্রীমতী অরুণ কুমার	F	৪৭	অফিসিয়াল	ধনকুটি		
১৫	শ্রীমতী অরুণ কুমার	F	৫৭	অফিসিয়াল	ধনকুটি		
১৬	শ্রীমতী অরুণ কুমার	F	৫৭	অফিসিয়াল	ধনকুটি		
১৭	শ্রীমতী অরুণ কুমার	F	৫৭	অফিসিয়াল	ধনকুটি		
১৮	শ্রীমতী অরুণ কুমার	F	৫৭	অফিসিয়াল	ধনকুটি		
১৯	শ্রীমতী অরুণ কুমার	F	৫৭	অফিসিয়াল	ধনকুটি		
২০	শ্রীমতী অরুণ কুমার	F	৫৭	অফিসিয়াল	ধনকুটি		
২১	শ্রী: অরুণ কুমার	M	৪৬	অফিসিয়াল	ধনকুটি		
২২	শ্রী: অরুণ কুমার	M		অফিসিয়াল	ধনকুটি		
২৬	শ্রী: অরুণ কুমার	M	৫৭	অফিসিয়াল	ধনকুটি		
২৮	শ্রী: অরুণ কুমার	M	৫৭	অফিসিয়াল	ধনকুটি		
২৯	শ্রী: অরুণ কুমার	M	৫৭	অফিসিয়াল	ধনকুটি		
৩০	শ্রী: অরুণ কুমার	M	৫৭	অফিসিয়াল	ধনকুটি		
৩১	শ্রী: অরুণ কুমার	M	৫৭	অফিসিয়াল	ধনকুটি		
৩২	শ্রী: অরুণ কুমার	M	৫৭	অফিসিয়াল	ধনকুটি		
৩৩	শ্রী: অরুণ কুমার	M	৫৭	অফিসিয়াল	ধনকুটি		
৩৪	শ্রী: অরুণ কুমার	M	৫৭	অফিসিয়াল	ধনকুটি		
৩৫	শ্রী: অরুণ কুমার	M	৫৭	অফিসিয়াল	ধনকুটি		
৩৬	শ্রী: অরুণ কুমার	M	৫৭	অফিসিয়াল	ধনকুটি		
৩৭	শ্রী: অরুণ কুমার	M	৫৭	অফিসিয়াল	ধনকুটি		
৩৮	শ্রী: অরুণ কুমার	M	৫৭	অফিসিয়াল	ধনকুটি		
৩৯	শ্রী: অরুণ কুমার	M	৫৭	অফিসিয়াল	ধনকুটি		
৪০	শ্রী: অরুণ কুমার	M	৫৭	অফিসিয়াল	ধনকুটি		

শ্রী: অরুণ কুমার
অফিসিয়াল
অফিসিয়াল
অফিসিয়াল

Sl. No.	Name	Male/Female	Age	Occupation	Village/Address	Mobile No.	Signature
১১	মো: মোহাম্মদুল হক	M	31	Teacher	Dhankuti		[Signature]
১২	মো: মোহাম্মদুল হক	M	41	Teacher	Dhankuti		[Signature]
১৬	মো: মোহাম্মদুল হক	M		Business	"		[Signature]
২৪	মো: মোহাম্মদুল হক	M	59	Teacher	"		[Signature]
২৫	মো: মোহাম্মদুল হক	M	৫৬	Business	ইসরাইল		[Signature]
২৬	মো: মোহাম্মদুল হক	M	৩০	Business	ইসরাইল		[Signature]
২৭	মো: মোহাম্মদুল হক	M	৫৭	Teacher	ইসরাইল		[Signature]
২৮	মো: মোহাম্মদুল হক	M	৩৬	Business	ইসরাইল		[Signature]
৩০	মো: মোহাম্মদুল হক	M	৩৭	Teacher	ইসরাইল		[Signature]
৩১	মো: মোহাম্মদুল হক	F	৩৭	Teacher	ইসরাইল		[Signature]
৩২	মো: মোহাম্মদুল হক	M	২৫	Student	ইসরাইল	[Signature]	
৩২	মো: মোহাম্মদুল হক	M	১৪	Student	"	[Signature]	

Public Consultation with Stakeholders

Unique ID:

Union: 5 No. Bellomjhan Upazila: Sadaypur

Sr. No.	Name	Male/Female	Age	Occupation	Village/Address	Mobile No.	Signature
01	শ্রীমতী সত্যজিৎ	Female	৬৫	মিষ্টিভোগ্য	বালুগাতি		
02	শ্রীমতী সত্যজিৎ	Female	৫০	প্রচলিত	বালুগাতি		
06	শ্রীমতী সত্যজিৎ	Female	৫৫	বা.মি	বালুগাতি		
08	শ্রীমতী সত্যজিৎ	Female	৬২	মি.মি	বালুগাতি		
09	শ্রীমতী সত্যজিৎ	Female	৫৫	মি.মি	বালুগাতি		
0৬	শ্রীমতী সত্যজিৎ	Female	৫৫	মি.মি	বালুগাতি		
09	শ্রীমতী সত্যজিৎ	Female	৫৫	মি.মি	বালুগাতি		
0৫	শ্রীমতী সত্যজিৎ	Female	৫৫	মি.মি	বালুগাতি		
০৬	শ্রীমতী সত্যজিৎ	Female	৫৫	মি.মি	বালুগাতি		
০৭	শ্রীমতী সত্যজিৎ	Female	৫৫	মি.মি	বালুগাতি		
০৮	শ্রীমতী সত্যজিৎ	Female	৫৫	মি.মি	বালুগাতি		
০৯	শ্রীমতী সত্যজিৎ	Female	৫৫	মি.মি	বালুগাতি		
১০	শ্রীমতী সত্যজিৎ	Female	৫৫	মি.মি	বালুগাতি		
১১	শ্রীমতী সত্যজিৎ	Female	৫৫	মি.মি	বালুগাতি		
১২	শ্রীমতী সত্যজিৎ	Female	৫৫	মি.মি	বালুগাতি		
১৩	শ্রীমতী সত্যজিৎ	Female	৫৫	মি.মি	বালুগাতি		
১৪	শ্রীমতী সত্যজিৎ	Female	৫৫	মি.মি	বালুগাতি		
১৫	শ্রীমতী সত্যজিৎ	Female	৫৫	মি.মি	বালুগাতি		
১৬	শ্রীমতী সত্যজিৎ	Female	৫৫	মি.মি	বালুগাতি		
১৭	শ্রীমতী সত্যজিৎ	Female	৫৫	মি.মি	বালুগাতি		
১৮	শ্রীমতী সত্যজিৎ	Female	৫৫	মি.মি	বালুগাতি		
১৯	শ্রীমতী সত্যজিৎ	Female	৫৫	মি.মি	বালুগাতি		
২০	শ্রীমতী সত্যজিৎ	Female	৫৫	মি.মি	বালুগাতি		

(Signature)
১৭/০২/১৮
মেম্বার সচিব হিঃ আদালত
সংগঠন বিভাগ
আওয়ামী লীগের কার্যালয়
বাংলাদেশ সরকার, ঢাকা। ০১৭৬৫৬০৯২



Resilient Infrastructure for Adaptation and Vulnerability Reduction (RIVER) Project
Local Government Engineering Department (LGED)
Public Consultation with Stakeholders

Name of School: Longu GPS

Date: 18.11.25

School ID: 911108011205

Unique Database ID:

Place of Consultation: School classroom

Village: Moujamlibari

Ward No.: 07

Union: 01 Nalankhimpur Upazila: Sudest

District: Gaibandha

Public Consultation Participants List

Sl. No.	Name	Male/Female	Age	Occupation	Village/Address	Mobile No.	Signature
01	শ্রী. ব্রজেন কুমার	M	৫৬	সং. শ্রমিক	মৌজামলিয়ারি		
02	শ্রী. জিয়াউর রহমান	M	২৪	সং. শ্রমিক	"		
03	শ্রী. হামিদুল রহমান	M	৪৫	"	"		
04	শ্রী. আমরুল আলম	M	৪০	"	"		
05	শ্রী. মাহবুব বেগম	F	৪৫	"	"		
06	শ্রী. মোহন বেগম	F	৪২	"	"		
07	শ্রী. রানী	F	৬০	"	নালখিমুর		
08	শ্রী. নারায়ণ	F	৬০	"	মৌজামলিয়ারি		
09	শ্রী. মাহবুব বেগম	F	৪০	"	"		
10	শ্রী. রোজিনা	F	৬২	"	"		
11	শ্রী. রুবেল শ্রী	M	২০	"	"		
12	শ্রী. ব্রজেন	M	৫৬	কৃষি	"		
13	শ্রী. মোহন	M	৬২	সং. শ্রমিক	নালখিমুর		
14	শ্রী. হামিদুল	M	৬০	শ্রমিক	মৌজামলিয়ারি		
15	শ্রী. আবু হামান	M	৩৪	কৃষি	মৌজামলিয়ারি		
16	শ্রী. জিয়াউর রহমান	M	৬০	কৃষি	মৌজামলিয়ারি		
17	শ্রী. মাহবুব বেগম	M	৪৫	কৃষি	"		
18	শ্রী. জিয়াউর শ্রী	M	২৫	কৃষি	"		
19	শ্রী. আমরুল	M	২৬	কৃষি	"		
20	(শ্রী.)	M	৬০	কৃষি	"		

শ্রী. ব্রজেন কুমার
প্রকল্প পরিচালক
স্বাস্থ্য সুরক্ষা প্রকল্প পরিচালক
স্বাস্থ্য সুরক্ষা প্রকল্প, গাইবান্ধা।

Sl. No.	Name	Male/Female	Age	Occupation	Village/Address	Mobile No.	Signature
21	শ্রীমতি	M	৩৬	কৃষি	শ্রীমতী		
22	শ্রীমতি	M	৩৬	কৃষি	—		
23	শ্রীমতি	M	৩৬	কৃষি	—		
24	শ্রীমতি	M	৩০	কৃষি	—		
25	শ্রীমতি	M	৩২	কৃষি	—		
26	শ্রীমতি	M	৩৩	কৃষি	—		
27	শ্রীমতি	M	২৮	কৃষি	—		
28	শ্রীমতি	M	৩২	কৃষি	—		
29	শ্রীমতি	M	৪০	কৃষি	—		
30	শ্রীমতি	M	৩৩	কৃষি	—		

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Resilient Infrastructure for Adaptation and Vulnerability Reduction (RIVER) Project
Local Government Engineering Department (LGED)
Public Consultation with Stakeholders

Name of School: Analeptani Gps

Date: 18/11/2025

School ID: 9508011107

Unique ID:

Place of Consultation: Playground

Village: Dakhin Analer Ward No: 03

Union: 9 No. Kholahati Upazila: Sadar

District: Gaibandha

Public Consultation Participants List

Sl. No.	Name	Male/Female	Age	Occupation	Village/Address	Mobile No.	Signature
01	বকুল বসু	Male	62	Farmer	16, 2nd St. Kholahati		Bakul Basu
02	ব্রজবাবু লাহারী	"	62	"	16, 2nd St. Kholahati		Braj Babu Lahari
03	জাহানারা খাতুন	"	80	"	"		Jahanara Khatun
04	মোঃ মোস্তাফিজ	"	80	"	16, 2nd St. Kholahati		Mosstafiz
05	মোঃ মিজানুর রহমান	"	20	"	16, 2nd St. Kholahati		Mizanur Rahman
06	মোঃ মজিবুল হক	Male	82	Farmer	16, 2nd St. Kholahati		Majibul Haque
07	মোঃ মাহবুব আলী	Male	68	Farmer	16, 2nd St. Kholahati		Mahbub Ali
08	মোঃ মুন্সুর মিয়া	Male	20	Farmer	16, 2nd St. Kholahati		Munsur Mia
09	মোঃ মাহাবুব আলী	Male	28	Farmer	16, 2nd St. Kholahati		Mahabub Ali
10	মোঃ মিজানুর রহমান	Male	80	Farmer	16, 2nd St. Kholahati		Mizanur Rahman
11	মোঃ মাহাবুব আলী	Male	20	Farmer	16, 2nd St. Kholahati		Mahabub Ali
12	মোঃ মিজানুর রহমান	Male	29	Farmer	16, 2nd St. Kholahati		Mizanur Rahman
13	মোঃ মাহাবুব আলী	Male	65	Farmer	16, 2nd St. Kholahati		Mahabub Ali
14	মোঃ মাজিবুল হক	Male	69	Farmer	16, 2nd St. Kholahati		Majibul Haque
15	মোঃ মাহাবুব আলী	Male	68	Farmer	16, 2nd St. Kholahati		Mahabub Ali
16	মোঃ মাজিবুল হক	Male	68	Farmer	16, 2nd St. Kholahati		Majibul Haque
17	মোঃ মাহাবুব আলী	Male	68	Farmer	16, 2nd St. Kholahati		Mahabub Ali
18	মোঃ মাজিবুল হক	Male	68	Farmer	16, 2nd St. Kholahati		Majibul Haque
19	মোঃ মাহাবুব আলী	Male	68	Farmer	16, 2nd St. Kholahati		Mahabub Ali
20	মোঃ মাজিবুল হক	Male	68	Farmer	16, 2nd St. Kholahati		Majibul Haque

বকুল বসু
20/11/2025
01731929878

Public Consultation with Stakeholders

District: Graibandha

Sl. No.	Name	Male/Female	Age	Occupation	Village/Address	Mobile No.	Signature
01	একাদেশ কলিকতা	পুরুষ	৪৭	মিস্ত্রিকর্ম	বিলুপাড়া		
02	আঃ রফিকুল ইসলাম	পুরুষ	৬০	কৃষক	কিলাত জামাল		
03	আঃ হামিদুল ইসলাম	পুরুষ	৬৫	বৈদ্য	"		
04	আঃ আব্দুল হক	পুরুষ	৬৫	কৃষক	"		
05	আঃ মাহমুদুল হক	পুরুষ	৫০	মিস্ত্রিকর্ম	আঃ মোহাম্মদ		
06	মুহাম্মদ আলী	মহিলা	৪৫	মিস্ত্রিকর্ম	বিলুপাড়া		
07	নাজিম আলী	মহিলা	৫৫	মিস্ত্রিকর্ম	কিলাত জামাল		
08	আব্দুল হামিদ	মহিলা	৫০	মিস্ত্রিকর্ম	বিলুপাড়া		
09	মুহাম্মদ আলী	মহিলা	৬০	মিস্ত্রিকর্ম	কিলাত জামাল		
10	মাহমুদ আলী	মহিলা	৫৫	মিস্ত্রিকর্ম	বিলুপাড়া		
11	মাহমুদ আলী	মহিলা	৫৫	মিস্ত্রিকর্ম	বিলুপাড়া		
12	মাহমুদ আলী	মহিলা	৫৫	মিস্ত্রিকর্ম	বিলুপাড়া		
13	মাহমুদ আলী	মহিলা	৫৫	মিস্ত্রিকর্ম	বিলুপাড়া		
14	মাহমুদ আলী	মহিলা	৫৫	মিস্ত্রিকর্ম	বিলুপাড়া		
15	মাহমুদ আলী	মহিলা	৫৫	মিস্ত্রিকর্ম	বিলুপাড়া		
16	মাহমুদ আলী	মহিলা	৫৫	মিস্ত্রিকর্ম	বিলুপাড়া		
17	মাহমুদ আলী	মহিলা	৫৫	মিস্ত্রিকর্ম	বিলুপাড়া		
18	মাহমুদ আলী	মহিলা	৫৫	মিস্ত্রিকর্ম	বিলুপাড়া		
19	মাহমুদ আলী	মহিলা	৫৫	মিস্ত্রিকর্ম	বিলুপাড়া		
20	মাহমুদ আলী	মহিলা	৫৫	মিস্ত্রিকর্ম	বিলুপাড়া		

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ANNEXURE 5:
ENVIRONMENTAL AND SOCIAL CODE OF PRACTICES (ESCOPS)

ANNEXURE 5: ENVIRONMENTAL AND SOCIAL CODE OF PRACTICES (ESCoPs)

ESCoP 1: Waste Management

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
General Waste	Soil and water pollution from the improper management of wastes and excess materials from the construction sites.	The Contractor shall • Develop waste management plan for various specific waste streams (e.g., reusable waste, flammable waste, construction debris, food waste etc.) prior to commencing of construction and submit to for approval. • Organize disposal of all wastes generated during construction in an environmentally acceptable manner. This will include consideration of the nature and location of disposal site, so as to cause less environmental impact. • Minimize the production of waste materials by 3R (Reduce, Recycle and Reuse) approach. • Segregate and reuse or recycle all the wastes, wherever practical. • Prohibit burning of solid waste • Collect and transport non-hazardous wastes to all the approved disposal sites. Vehicles transporting solid waste shall be covered with tarps or nets to prevent spilling waste along the route • Train and instruct all personnel in waste management practices and procedures as a component of the environmental induction process. • Provide refuse containers at each worksite. • Request suppliers to minimize packaging where practicable. • Place a high emphasis on good housekeeping practices. • Maintain all construction sites in a cleaner, tidy and safe condition and provide and maintain appropriate facilities as temporary storage of all wastes before transportation and final disposal.
Hazardous Waste	Health hazards and environmental impacts due	The Contractor shall

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
	to improper waste management practices	- Collect chemical wastes in 200 litre drums (or similar sealed container), appropriately labelled for safe transport to an approved chemical waste depot. - Store, transport and handle all chemicals avoiding potential environmental pollution. - Store all hazardous wastes appropriately in bunded areas away from water courses. - Make available Material Safety Data Sheets (MSDS) for hazardous materials on-site during construction. - Collect hydrocarbon wastes, including lube oils, for safe transport off-site for reuse, recycling, treatment or disposal at approved locations. - Construct concrete or other impermeable flooring to prevent seepage in case of spills.

ESCoP 2: Fuels and Hazardous Substances Management

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
Fuels and hazardous goods	Materials used in construction have a potential to be a source of contamination. Improper storage and handling of fuels, lubricants, chemicals and hazardous goods/materials on-site, and potential spills from these goods may harm the environment or health of construction workers.	The Contractor shall - Prepare spill control procedures and submit the plan for approval. - Train the relevant construction personnel in handling of fuels and spill control procedures. - Store dangerous goods in bunded areas on a top of a sealed plastic sheet away from watercourses. - Refueling shall occur only within bunded areas. - Make available MSDS for chemicals and dangerous goods on-site. - Transport waste of dangerous goods, which cannot be recycled, to a designated disposal site approved by DoE. - Provide absorbent and containment material (e.g., absorbent matting) where hazardous material are used and stored and personnel trained in the correct use.

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
		• Provide protective clothing, safety boots, helmets, masks, gloves, goggles, to the construction personnel, appropriate to materials in use. • Make sure all containers, drums, and tanks that are used for storage are in good condition and are labeled with expiry date. Any container, drum, or tank that is dented, cracked, or rusted might eventually leak. Check for leakage regularly to identify potential problems before they occur. • Store hazardous materials above flood plain level. • Put containers and drums in temporary storages in clearly marked areas, where they will not be run over by vehicles or heavy machinery. The area shall preferably slope or drain to a safe collection area in the event of a spill. • Put containers and drums in permanent storage areas on an impermeable floor that slopes to a safe collection area in the event of a spill or leak. • Take all precautionary measures when handling and storing fuels and lubricants, avoiding environmental pollution. • Avoid the use of material with greater potential for contamination by substituting them with more environmentally friendly materials. • Return the gas cylinders to the supplier. However, if they are not empty prior to their return, they must be labeled with the name of the material they contained or contain, information on the supplier, cylinder serial number, pressure, their last hydrostatic test date, and any additional identification marking that may be considered necessary.

ESCoP 3: Water Resources Management

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
Hazardous Material and Waste	Water pollution from the storage, handling and disposal of hazardous materials and general construction waste, and accidental spillage.	The Contractor shall • Follow the management guidelines proposed in ECOPs 1 and 2. • Minimize the generation of sediment, oil and grease, excess nutrients, organic matter, litter, debris and any form of waste (particularly petroleum and chemical wastes). These substances must not enter waterways, storm water systems or underground water tables.
Discharge from Construction sites	During construction both surface and groundwater quality may be deteriorated due to construction activities in the river, sewerages from construction sites and work camps. The construction works will modify groundcover and topography changing the surface water drainage patterns of the area including infiltration and storage of storm water. These changes in hydrological regime lead to increased rate of runoff, increase in sediment and contaminant loading, increased flooding, groundwater contamination, and effect habitat of fish and other aquatic biology.	The Contractor shall • Install temporary drainage works (channels and bunds) in areas required for sediment and erosion control and around storage areas for construction materials • Install temporary sediment basins, where appropriate, to capture sediment-laden run-off from site • Divert runoff from undisturbed areas around the construction site • Stockpile materials away from drainage lines • Prevent all solid and liquid wastes entering waterways by collecting solid waste, oils, chemicals, bitumen spray waste and wastewaters from brick, concrete and asphalt cutting where possible and transport to an approved waste disposal site or recycling depot • Wash out ready-mix concrete agitators and concrete handling equipment at washing facilities off site or into approved bunded areas on site. Ensure that tires of construction vehicles are cleaned in the washing bay (constructed at the entrance of the construction site) to remove the mud from the wheels. This shall be done in every exit of each construction vehicle to ensure the local roads are kept clean.

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
Soil Erosion and siltation	Soil erosion and dust from the material stockpiles will increase the sediment and contaminant loading of surface water bodies.	The Contractor shall • Stabilize the cleared areas not used for construction activities with vegetation or appropriate surface water treatments as soon as practicable following earthwork to minimize erosion • Ensure that roads used by construction vehicles are swept regularly to remove sediment • Water the material stockpiles, access roads and bare soils on an as required basis to minimize dust. Increase the watering frequency during periods of high risk (e.g. high winds)
Construction activities in water bodies	Construction works in the water bodies will increase sediment and contaminant loading, and effect habitat of fish and other aquatic biology.	The Contractor shall • Dewater sites by pumping water to a sediment basin prior to release off site – do not pump directly off site • Monitor the water quality in the runoff from the site or areas affected by dredge plumes, and improve work practices as necessary • Protect water bodies from sediment loads by silt screen or bubble curtains or other barriers • Minimize the generation of sediment, oil and grease, excess nutrients, organic matter, litter, debris and any form of waste (particularly petroleum and chemical wastes). These substances must not enter waterways, storm water systems or underground water tables. • Use environment friendly and nontoxic slurry during construction of piles to discharge into the river. • Reduce infiltration of contaminated drainage through storm water management design • Do not discharge cement and water curing used for cement concrete directly into water courses and drainage inlets.

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
Drinking water	Groundwater at shallow depths is contaminated with arsenic and hence not suitable for drinking purposes.	The Contractor shall • Pumping of groundwater shall be from deep aquifers of more than 300 m to supply arsenic free water. Safe and sustainable discharges are to be ascertained prior to selection of pumps. • Tube wells will be installed with due regard for the surface environment, protection of groundwater from surface contaminants, and protection of aquifer cross contamination • All tube wells, test holes, monitoring wells that are no longer in use or needed shall be properly decommissioned.
	Depletion and pollution of groundwater resources	• Install monitoring wells both upstream and downstream areas near construction yards and construction camps to regularly monitor the water quality and water levels. • Protect groundwater supplies of adjacent lands

ESCoP 4: Drainage Management

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
Excavation and earth work, and construction yards	Lack of proper drainage for rainwater/liquid waste or wastewater owing to the construction activities harms environment in terms of water and soil contamination, and mosquito growth.	The Contractor shall • Prepare a project for prevent/avoid standing waters, which will verify in advance and confirm during implementation • Provide alternative drainage for rainwater if the construction works/earth-fillings cut the established drainage line • Establish local drainage line with appropriate silt collector and silt screen for rainwater or wastewater connecting to the existing established drainage lines already there

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
		• Rehabilitate road drainage structures immediately if damaged by contractors' road transports. • Build new drainage lines as appropriate and required for wastewater from construction yards connecting to the available nearby recipient water bodies. Ensure wastewater quality conforms to the relevant standards provided by DoE, before it being discharged into the recipient water bodies. • Ensure the internal roads/hard surfaces in the construction yards/construction camps that generate has storm water drainage to accommodate high runoff during downpour and that there is no stagnant water in the area at the end of the downpour. • Construct wide drains instead of deep drains to avoid sand deposition in the drains that require frequent cleaning. • Provide appropriate silt collector and silt screen at the inlet and manholes and periodically clean the drainage system to avoid drainage congestion. • Protect natural slopes of drainage channels to ensure adequate storm water drains. • Regularly inspect and maintain all drainage channels to assess and alleviate any drainage congestion problem. • Reduce infiltration of contaminated drainage through storm water management design.
Ponding of water	Health hazards due to mosquito breeding	The Contractor shall • Do not allow ponding/storage of water especially near the waste storage areas and construction camps • Discard all the storage containers that are capable of storing of water, after use or store them in inverted position.

ESCoP 5: Soil Quality Management

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
Filling of Sites with dredge spoils	Soil contamination will occur from drainage of dredged spoils	The Contractor shall • Ensure that dredged sand used for land filling shall be free of pollutants. Prior to filling, sand quality shall be tested to confirm whether soil is pollution free. Sediments shall be properly compacted. Top layer shall be the 0.5 m thick clay on the surface and boundary slopes along with grass. Side Slope of Filled Land of 1:2 shall be constructed by suitable soils with proper compaction as per design. Slope surface shall be covered by top soils/ cladding materials (0.5m thick) and grass turfing with suitable grass. • Leaching from the sediments shall be contained to seep into the subsoil or shall be discharged into settling lagoons before final disposal. • No sediment laden water in the adjacent lands near the construction sites, and/or wastewater of suspended materials excessive of 200mg/l from dredge spoil storage/use area in the adjacent agricultural lands.
Storage of hazardous and toxic chemicals	Spillage of hazardous and toxic chemicals will contaminate the soils	The Contractor shall • Strictly manage the wastes management plans proposed in ECP1 and storage of materials in ECP2 • Construct appropriate spill contaminant facilities for all fuel storage areas • Establish and maintain a hazardous materials register detailing the location and quantities of hazardous substances including the storage, use of disposals • Train personnel and implement safe work practices for minimizing the risk of spillage • Identify the cause of contamination, if it is reported, and contain the area of contamination. The impact may be contained by isolating the source or implementing controls around the affected site

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
		Remediate the contaminated land using the most appropriate available method to achieve required commercial/industrial guideline validation results.
Construction material stock piles	Erosion from construction material stockpiles may contaminate the soils	The Contractor shall Protect the toe of all stockpiles, where erosion is likely to occur, with silt fences, straw bales or bunds.

ESCoP 6: Erosion and Sediment Control

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
Clearing of construction sites	Cleared areas and slopes are susceptible for erosion of top soils that affects the growth of vegetation which causes ecological imbalance	The Contractor shall - Reinstate and protect cleared areas as soon as possible. - Mulch to protect batter slopes before planting - Cover unused area of disturbed or exposed surfaces immediately with mulch/grass turfing/tree plantations.
Construction activities and material stockpiles	The impact of soil erosion is (i) Increased run off and sedimentation causing a greater flood hazard to the downstream, (ii) destruction of aquatic environment in nearby lakes, streams, and reservoirs caused by erosion and/or deposition of sediment damaging the spawning grounds of	The Contractor shall - Locate stockpiles away from drainage lines - Protect the toe of all stockpiles, where erosion is likely to occur, with silt fences, straw bales or bunds - Remove debris from drainage paths and sediment control structures - Cover the loose sediments and water them if required - Divert natural runoff around construction areas prior to any site disturbance - Install protective measures on site prior to construction, for example, sediment traps

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
	fish, and (iii) destruction of vegetation by burying or gullyng.	• Control drainage through a site in protected channels or slope drains • Install 'cut off drains' on large cut/fill batter slopes to control water runoff speed and hence erosion • Observe the performance of drainage structures and erosion controls during rain and modify as required.

ESCoP 7: Top Soil Management

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
Land clearing and earth works	Earthworks will impact the fertile top soils that are enriched with nutrients required for plant growth or agricultural development	The Contractor shall • Strip the top soil to a depth of 15 cm and store in stock piles of height not exceeding 2m. • Remove unwanted materials from top soil like grass, roots of trees and similar others. • The stockpiles will be done in slopes of 2:1 to reduce surface runoff and enhance percolation through the mass of stored soil. • Locate topsoil stockpiles in areas outside drainage lines and protect from erosion. • Construct diversion channels and silt fences around the topsoil stockpiles to prevent erosion and loss of topsoil. • Spread the topsoil to maintain the physico-chemical and biological activity of the soil. The stored top soil will be utilized for covering all disturbed area and along the proposed plantation sites • Prior to the re-spreading of topsoil, the ground surface will be ripped to assist the bunding of the soil layers, water penetration and revegetation.

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
Transport	Vehicular movement outside ROW or temporary access roads will affect the soil fertility of the agricultural lands	The Contractor shall • Limit equipment and vehicular movements to within the approved construction zone • Construct temporary access tracks to cross concentrated water flow lines at right angles • Plan construction access to make use, if possible, of the final road alignment • Use vehicle-cleaning devices, for example, ramps or wash down areas.

ESCoP 8: Topography and Landscaping

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
Land clearing and earth works	Flood plains of the existing Project area will be affected by the construction of various project activities. Construction activities especially earthworks will change topography and disturb the natural rainwater/flood water drainage as well as will change the local landscape.	The Contractor shall • Ensure the topography of the final surface of all raised lands (construction yards, approach roads, access roads, bridge end facilities, etc.) are conducive to enhance natural draining of rainwater/flood water; • Keep the final or finished surface of all the raised lands free from any kind of depression that insists water logging • Undertake mitigation measures for erosion control/prevention by grass-turfing and tree plantation, where there is a possibility of rain-cut that will change the shape of topography. • 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.

ESCoP 9: Sand Extraction

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
Sand extraction	Sand extraction can potentially impact the aquatic habitat, water quality, and key aquatic species and their food availability.	The Contractor shall • not extract sand from the river bed in long continuous stretches; alternate patches of river bed will be left undisturbed to minimize the potentially negative impacts on the aquatic habitat. • not collect large quantities of sand from any single location • not excavate deeper than 3 m at any single location. • not carry out sand extraction near chars that have sensitive Habitats • not carry out sand extraction during the night particularly near the chars • obtain approval from before starting sand extraction from any location. • carry out sand extraction from sand bars to the extent possible. • maintain record of all sand extraction (quantities, location shown on map, timing, any sighting of key species) • provide silt fences, sediment barriers or other devices around the extraction areas to prevent migration of sediment rich water in to the river channels. • refuel of barges and boats with a proper care to avoid any spills. • make available spill kits and other absorbent material at refueling points on the barges. • properly collect, treat and dispose the bilge water from of barges, and boats. • regularly service all waterborne plant as per the manufacturer's guidelines and be inspected daily prior to operation. • carry out survey of the area prior to sand extraction • identify any sensitive receptors/habitats (eg, turtle nesting area, bird colony) at or near the proposed sand extraction locations. • determine 'no-go' areas for sand extraction, based upon the above survey, • monitor the activity to ensure that the contractor complies with the conditions described earlier.

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
		survey the area after sand extraction to identify any leftover impacts.

ESCoP 10: Air Quality Management

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
Construction vehicular traffic	Air quality can be adversely affected by vehicle exhaust emissions and combustion of fuels.	The Contractor shall - Fit vehicles with appropriate exhaust systems and emission control devices. Maintain these devices in good working condition. - Operate the vehicles in a fuel-efficient manner - Cover haul vehicles carrying dusty materials moving outside the construction site Impose speed limits on all vehicle movement at the worksite to reduce dust emissions - Control the movement of construction traffic - Water construction materials prior to loading and transport - Service all vehicles regularly to minimize emissions - Limit the idling time of vehicles not more than 2 minutes.
Construction machinery	Air quality can be adversely affected by emissions from machinery and combustion of fuels.	The Contractor shall - 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 the contaminant emissions. Proof or maintenance register shall be required by the equipment suppliers and contractors/subcontractors - Focus special attention on containing the emissions from generators - Machinery causing excess pollution (e.g. visible smoke) will be banned from construction sites

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
		• Service all equipment regularly to minimize emissions • Provide filtering systems, duct collectors or humidification or other techniques (as applicable) to the concrete batching and mixing plant to control the particle emissions in all its stages, including unloading, collection, aggregate handling, cement dumping, circulation of trucks and machinery inside the installations
Construction activities	Dust generation from construction sites, material stockpiles and access roads is a nuisance in the environment and can be a health hazard.	The Contractor shall • Water 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. high winds). Stored materials such as gravel and sand shall be covered and confined to avoid their being wind-drifted • Minimize the extent and period of exposure of the bare surfaces • Reschedule earthwork activities or vegetation clearing activities, where practical, if necessary to avoid during periods of high wind and if visible dust is blowing off-site • Restore disturbed areas as soon as practicable by vegetation/grass-turfing • Store the cement in silos and minimize the emissions from silos by equipping them with filters. • Establish adequate locations for storage, mixing and loading of construction materials, in a way that dust dispersion is prevented because of such operations • Crushing of rocky and aggregate materials shall be wet-crushed, or performed with particle emission control systems.

ESCoP 11: Noise and Vibration Management

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
Construction vehicular traffic	Noise quality will be deteriorated due to vehicular traffic	The Contractor shall • Maintain all vehicles in order to keep it in good working order in accordance with manufactures maintenance procedures • Make sure all drivers will comply with the traffic codes concerning maximum speed limit, driving hours, etc. • Organize the loading and unloading of trucks, and handling operations for the purpose of minimizing construction noise on the work site
Construction machinery	Noise and vibration may have an impact on people, property, fauna, livestock and the natural environment.	The Contractor shall • Appropriately site all noise generating activities to avoid noise pollution to local residents • Use the quietest available plant and equipment • Modify equipment to reduce noise (for example, noise control kits, lining of truck trays or pipelines) • 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. • Install acoustic enclosures around generators to reduce noise levels. • Fit high efficiency mufflers to appropriate construction equipment • Avoid the unnecessary use of alarms, horns and sirens.
Construction activities	Noise and vibration may have an impact on people, property, fauna, livestock and the natural environment.	The Contractor shall • Notify adjacent landholders prior any typical noise events outside of daylight hours • Educate the operators of construction equipment on potential noise problems and the techniques to minimize noise emissions

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
		• Employ best available work practices on-site to minimize occupational noise levels • Install temporary noise control barriers where appropriate • Notify affected people if major noisy activities will be undertaken, e.g. pile driving • Plan activities on site and deliveries to and from site to minimize impact • Monitor and analyze noise and vibration results and adjust construction practices as required. • Avoid undertaking the noisiest activities, where possible, when working at night near the residential areas.

ESCoP 12: Protection of Flora

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
Vegetation clearance	Local flora is important to provide shelters for the birds, offer fruits and/or timber/fire wood, protect soil erosion and overall keep the environment very friendly to human living. As such damage to flora has wide range of adverse environmental impacts.	The Contractor shall • Reduce disturbance to surrounding vegetation • Use appropriate type and minimum size of machine to avoid disturbance to adjacent vegetation. • Get approval from supervision consultant for clearance of vegetation. • Make selective and careful pruning of trees where possible to reduce need of tree removal. • Control noxious weeds by disposing of at designated dump site or burn on site. • 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 and construction of diversion roads, etc.

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
		- 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. Mulch provides a seed source, can limit embankment erosion, retains soil moisture and nutrients, and encourages regrowth and protection from weeds. - Return topsoil and mulched vegetation (in areas of native vegetation) to approximately the same area of the roadside it came from. - Avoid work within the drip-line of trees to prevent damage to the tree roots and compacting the soil. - Minimize the length of time the ground is exposed or excavation left open by clearing and re-vegetate the area at the earliest practically possible. - Ensure excavation works occur progressively and revegetation done at the earliest - Provide adequate knowledge to the workers regarding nature protection and the need of avoid felling trees during construction - Supply appropriate fuel in the work caps to prevent fuel wood collection

ESCoP 13: Protection of Fauna

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
Construction activities	The location of construction activities can result in the loss of wild life habitat and habitat quality.	The Contractor shall - Limit the construction works within the designated sites allocated to the contractors - Check the site for animals trapped in, or in danger from site works and use a qualified person to relocate the animal.
	Impact on migratory birds, its habitat and its active nests	The Contractor shall Not be permitted to destruct active nests or eggs of migratory birds

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
		- Minimize the tree removal during the bird breeding season. If works must be continued during the bird breeding season, a nest survey will be conducted by a qualified biologist prior to commence of works to identify and located active nests - Minimize the release of oil, oil wastes or any other substances harmful to migratory birds to any waters or any areas frequented by migratory birds.
Vegetation clearance	Clearance of vegetation may impact shelter, feeding and/or breeding and/or physical destruction and severing of habitat areas	The Contractor shall - Restrict the tree removal to the minimum required. - Retain tree hollows on site, or relocate hollows, where appropriate - Leave dead trees where possible as habitat for fauna - Fell the hollow bearing trees in a manner which reduces the potential for fauna mortality. Felled trees will be inspected after felling for fauna and if identified and readily accessible will be removed and relocated or rendered assistance if injured. After felling, hollow bearing trees will remain unmoved overnight to allow animals to move of their own volition.
Construction camps	Illegal poaching	The Contractor shall Provide adequate knowledge to the workers regarding protection of flora and fauna, and relevant government regulations and punishments for illegal poaching.

ESCoP 14: Protection of Fisheries

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
Construction activities in River and Floodplain Water	The main potential impacts to fisheries are hydrocarbon spills and leaks from riverine transport and disposal of wastes into the river and floodplain water	The Contractor shall • Ensure the riverine transports, vessels and ships are well maintained and do not have oil leakage to contaminate river water. • Contain oil immediately on river in case of accidental spillage from vessels and ships and in this regard, make an emergency oil spill containment plan to be supported with enough equipment, materials and human resources • Do not dump wastes, be it hazardous or non-hazardous into the nearby water bodies or in the river.
	The main potential impacts to aquatic flora and fauna River are increased suspended solids from earthworks erosion, sanitary discharge from work camps, and hydrocarbon spills	The Contractor shall • follow mitigation measures proposed in ESCoP 3 : Water Resources Management and EC4: Drainage Management
Construction activities on the land	Filling of ponds for site preparation will impact the fishes	The Contractor shall • Inspect any area of a water body containing fish that is temporarily isolated for the presence of fish, and all fish shall be captured and released unharmed in adjacent fish habitat • Install and maintain fish screens etc. on any water intake with drawing water from any water body that contain fish.

ESCoP 15: Road Transport and Road Traffic Management

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
Construction vehicular traffic	Increased traffic use of road by construction vehicles will affect the movement of normal road traffics and the safety of the road-users.	The Contractor shall • Prepare and submit a traffic management plan to the for his approval at least 30 days before commencing work on any project component involved in traffic diversion and management. • Include in the traffic management plan to ensure uninterrupted traffic movement during construction: detailed drawings of traffic arrangements showing all detours, temporary road, temporary bridges temporary diversions, necessary barricades, warning signs / lights, and road signs. • Provide signs at strategic locations of the roads complying with the schedules of signs contained in the Bangladesh Traffic Regulations. • Install and maintain a display board at each important road intersection on the roads to be used during construction, which shall clearly show the following information in Bangla: ○ Location: Village name ○ Duration of construction period ○ Period of proposed detour / alternative route ○ Suggested detour route map ○ Name and contact address/telephone number of the concerned personnel ○ Name and contact address / telephone number of the Contractor ○ Inconvenience is sincerely regretted.
	Accidents and spillage of fuels and chemicals	The Contractor shall • Restrict truck deliveries, where practicable, to day time working hours. • Restrict the transport of oversize loads.

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
		• Operate road traffics/transport vehicles, if possible, to nonpeak periods to minimize traffic disruptions. • Enforce on-site speed limit

ESCoP 16: River Transport management

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
Construction activities in River	The presence of construction and dredging barges, pipe lines and other construction activities in the river can cause hindrance and risks to the river traffic.	The Contractor shall • Not obstruct other normal riverine transport while doing riverine transport and works • Identify the channel to be followed clearly using • navigation aids such as buoys, beacons, and lighting • Provide proper buoyage, navigation lights and markings for bridge and dredging works to guide the other normal riverine transport • Keep regular and close contacts with Bangladesh Inland Water Transport Authority (BIWTA) regarding their needs during construction of the project • Plan the river transport and transportation of large loads in coordination with BIWTA to avoid traffic congestions. • Provide signage for river traffic conforming to the BIWTA requirements • Position the dredge and pipeline in such a way that no disruption to the channel traffic will occur
	Accidents	The Contractor shall • Prepare an emergency plan for dealing with accidents causing accidental sinking of the vessels and ships • Ensure sufficient equipment and staffs available to execute the emergency plans • Provide appropriate lighting to barges and construction vessels.

ESCoP 17: Construction Camp Management

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
Siting and Location of construction camps	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.	The Contractor shall • Locate the construction camps at areas which are acceptable from environmental, cultural or social point of view. • Consider the location of construction camps away from communities in order to avoid social conflict in using the natural resources such as water or to avoid the possible adverse impacts of the construction camps on the surrounding communities. • Submit to the for approval a detailed layout plan for the development of the construction camp showing the relative locations of all temporary buildings and facilities that are to be constructed together with the location of site roads, fuel storage areas (for use in power supply generators), solid waste management and dumping locations, and drainage facilities, prior to the development of the construction camps. • 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
Construction Camp Facilities	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: • Adequate housing for all workers • Safe and reliable water supply. Water supply from deep tube wells of 300 m depth that meets the national standards • Hygienic sanitary facilities and sewerage system. The toilets and domestic waste water will be collected through a common sewerage. Provide separate latrines and bathing places for males and females with total isolation by wall or by location. The minimum number of toilet facilities required is one toilet for every ten persons. • Treatment facilities for sewerage of toilet and domestic wastes

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
		• Storm water drainage facilities. Both sides of roads are to be provided with shallow v drains to drain off storm water to a silt retention pond which shall be sized to provide a minimum of 20 minutes retention of storm water flow from the whole site. Channel all discharge from the silt retention pond to natural drainage via a grassed swale at least 20 meters in length with suitable longitudinal gradient. • Paved internal roads. Ensure with grass/vegetation coverage to be made of the use of top soil that there is no dust generation from the loose/exposed sandy surface. Pave the internal roads of at least haring-bond bricks to suppress dusts and to work against possible muddy surface during monsoon. • Provide child crèches for women working construction site. The crèche shall have facilities for dormitory, kitchen, indoor and outdoor play area. Schools shall be attached to these crèches so that children are not deprived of education whose mothers are construction workers • Provide in-house community/common entertainment facilities dependence of local entertainment outlets by the construction camps to be discouraged/prohibited to the extent possible.
Disposal of waste	Management of wastes is crucial to minimize impacts on the environment	The Contractor shall • Ensure proper collection and disposal of solid wastes within the construction camps • Insist waste separation by source; organic wastes in one pot and inorganic wastes in another pot at household level. • Store inorganic wastes in a safe place within the household and clear organic wastes on daily basis to waste collector. Establish waste collection, transportation and disposal systems with the manpower and equipment/vehicles needed. • Dispose organic wastes in a designated safe place on daily basis. At the end of the day cover the organic wastes with a thin layer of sand so that flies, mosquitoes, dogs, cats, rats, are not attracted. One may dig a large hole to put organic wastes in it; take care to protect groundwater from contamination by leachate formed

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
		due to decomposition of wastes. Cover the bed of the pit with impervious layer of materials (clayey or thin concrete) to protect groundwater from contamination. • Locate the garbage pit/waste disposal site min 500 m away from the residence so that peoples are not disturbed with the odor likely to be produced from anaerobic decomposition of wastes at the waste dumping places. Encompass the waste dumping place by fencing and tree plantation to prevent children to enter and play with. • Do not establish site specific landfill sites. All solid waste will be collected and removed from the work camps and disposed in approval waste disposal sites.
Fuel supplies for cooking purposes	Illegal sourcing of fuel wood by construction workers will impact the natural flora and fauna	The Contractor shall • Provide fuel to the construction camps for their domestic purpose, in order to discourage them to use fuel wood or other biomass. • Made available alternative fuels like natural gas or kerosene on ration to the workforce to prevent them using biomass for cooking. • Conduct awareness campaigns to educate workers on preserving the protecting the biodiversity and wildlife of the project area, and relevant government regulations and punishments on wildlife protection.
Health and Hygiene	There will be a potential for diseases to be transmitted including malaria, exacerbated by inadequate health and safety practices. There will be an increased risk of work crews spreading sexually transmitted infections and HIV/AIDS.	The Contractor shall • Provide adequate health care facilities within construction sites. • Provide first aid facility round the clock. Maintain stock of medicines in the facility and appoint fulltime designated first aider or nurse. • Provide ambulance facility for the laborers during emergency to be transported to nearest hospitals. • Initial health assessment of the laborers coming from outside areas • Train all construction workers in basic sanitation and health care issues and safety matters, and on the specific hazards of their work

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
		• Provide HIV awareness project ming, including STI (sexually transmitted infections) and HIV information, education and communication for all workers on regular basis • Complement educational interventions with easy access to condoms at campsites as well as voluntary counseling and testing • Provide adequate drainage facilities throughout the camps to ensure that disease vectors such as stagnant water bodies and puddles do not form. Regular mosquito repellent sprays during monsoon. • Carryout short training sessions on best hygiene practices to be mandatorily participated by all workers. Place display boards at strategic locations within the camps containing messages on best hygienic practices
Safety	In adequate safety facilities to the construction camps may create security problems and fire hazards	The Contractor shall • Provide appropriate security personnel (police / home guard or private security guards) and enclosures to prevent unauthorized entry in to the camp area. • Maintain register to keep a track on a head count of persons present in the camp at any given time. • Encourage use of flameproof material for the construction of labor housing / site office. Also, ensure that these houses/rooms are of sound construction and capable of withstanding wind storms/cyclones. • Provide appropriate type of firefighting equipment suitable for the construction camps • Display emergency contact numbers clearly and prominently at strategic places in camps. • Communicate the roles and responsibilities of laborers in case of emergency in the monthly meetings with contractors
Site Restoration	Restoration of the construction camps to original condition	The Contractor shall

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
	requires demolition of construction camps.	• Dismantle and remove from the site all facilities established within the construction camp including the perimeter fence and lockable gates at the completion of the construction work. • Dismantle camps in phases and as the work gets decreased and not wait for the entire work to be completed • Give prior notice to the laborers before demolishing their camps/units • Maintain the noise levels within the national standards during demolition activities • Different contractors shall be hired to demolish different structures to promote recycling or reuse of demolished material. • Reuse the demolition debris to a maximum extent. Dispose remaining debris at the designated waste disposal site. • Handover the construction camps with all built facilities as it is if agreement between both parties (contractor and land-owner) has been made so. • Restore the site to its condition prior to commencement of the works or to an agreed condition with the landowner. • Not make false promises to the laborers for future employment in O&M of the project.

ESCoP 18: Cultural and Religious Issues

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
Construction activities near religious and cultural sites	Disturbance from construction works to the cultural and religious sites, and contractors lack of knowledge on cultural issues cause social disturbances.	The Contractor shall • Communicate to the public through community consultation and newspaper announcements regarding the scope and schedule of construction, as well as certain construction activities causing disruptions or access restriction. • Do not block access to cultural and religious sites, wherever possible • Restrict all construction activities within the foot prints of the construction sites. • Stop construction works that produce noise (particularly during prayer time) shall there be any mosque/religious/educational institutions close to the construction sites and users make objections. • Take special care and use appropriate equipment when working next to a cultural/religious institution. • Stop work immediately and notify the site manager if, during construction, an archaeological or burial site is discovered. It is an offence to recommence work in the vicinity of the site until approval to continue is given by the /D&SC/PIU. Provide separate prayer facilities to the construction workers. • Show appropriate behavior with all construction workers especially women and elderly people • Allow the workers to participate in praying during construction time • Resolve cultural issues in consultation with local leaders and supervision consultants • Establish a mechanism that allows local people to raise grievances arising from the construction process. • Inform the local authorities responsible for health, religious and security duly informed before commencement of civil works so as to maintain effective surveillance over public health, social and security matters

ESCoP 19: Worker Health and Safety

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
Best practices	Construction works may pose health and safety risks to the construction workers and site visitors leading to severe injuries and deaths. The population in the proximity of the construction site and the construction workers will be exposed to a number of (i) biophysical health risk factors, (e.g. noise, dust, chemicals, construction material, solid waste, waste water, vector transmitted diseases etc.), (ii) risk factors resulting from human behavior (e.g. STD, HIV etc.) and (iii) road accidents from construction traffic.	The Contractor shall • Implement suitable safety standards for all workers and site visitors which shall not be less than those laid down on the international standards (e.g., International Labor Office guideline on ‘Safety and Health in Construction; World Bank Group’s ‘Environmental Health and Safety Guidelines’) and contractor’s own national standards or statutory regulations, in addition to complying with the national standards of the Government of Bangladesh (e.g. ‘The Bangladesh Labor Code, 2006’) • Provide the workers with a safe and healthy work environment, taking into account inherent risks in its particular construction activity and specific classes of hazards in the work areas, • Provide personal protection equipment (PPE) for workers, such as safety boots, helmets, masks, gloves, protective clothing, goggles, full-face eye shields, and ear protection. Maintain the PPE properly by cleaning dirty ones and replacing them with the damaged ones. • Safety procedures include provision of information, training and protective clothing to workers involved in hazardous operations and proper performance of their job • Appoint an environment, health and safety manager to look after the health and safety of the workers • Inform the local authorities responsible for health, religious and security duly informed before commencement of civil works and establishment of construction camps so as to maintain effective surveillance over public health, social and security matters.
	Child and pregnant labor	The Contractor shall

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
		Not hire children of less than 14 years of age and pregnant women or women who delivered a child within 8 preceding weeks, in accordance with the Bangladesh Labor Code, 2006
Accidents	Lack of first aid facilities and health care facilities in the immediate vicinity will aggravate the health conditions of the victims	- Provide health care facilities and first aid facilities are readily available. Appropriately equipped first-aid stations shall be easily accessible throughout the place of work - Document and report occupational accidents, diseases, and incidents. - 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. In a manner consistent with good international industry practice. - Identify potential hazards to workers, particularly those that may be life-threatening and provide necessary preventive and protective measures. - Provide awareness to the construction drivers to strictly follow the driving rules - Provide adequate lighting in the construction area and along the roads
Construction Camps	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 ESCoP 17 Construction Camp Management - Adequate ventilation facilities - Safe and reliable water supply. Water supply from deep tube wells that meets the national standards - Hygienic sanitary facilities and sewerage system. The toilets and domestic waste water will be collected through a common sewerage. - Treatment facilities for sewerage of toilet and domestic wastes - Storm water drainage facilities. - Recreational and social facilities - Safe storage facilities for petroleum and other chemicals in accordance with ESCoP 2 - Solid waste collection and disposal system in accordance with ESCoP 1.

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
		• Arrangement for trainings • Paved internal roads. • Security fence at least 2 m height. • Sick bay and first aid facilities
Water and sanitation facilities at the construction sites	Lack of Water sanitation facilities at construction sites cause inconvenience to the construction workers and affect their personal hygiene.	• The contractor shall provide portable toilets at the construction sites, if about 25 people are working the whole day for a month. Location of portable facilities shall be at least 6 m away from storm drain system and surface waters. These portable toilets shall be cleaned once a day and all the sewerage shall be pumped from the collection tank once a day and shall be brought to the common septic tank for further treatment. • Contractor shall provide bottled drinking water facilities to the construction workers at all the construction sites.
Other ESCoPs	Potential risks on health and hygiene of construction workers and general public	The Contractor shall follow the following ESCoPs to reduce health risks to the construction workers and nearby community • ESCoP 2: Fuels and Hazardous Goods Management • ESCoP 4: Drainage Management • ESCoP 10: Air Quality Management • ESCoP 11: Noise and Vibration Management • ESCoP 15: Road Transport and Road Traffic Management • ESCoP 16: River Transport management
Trainings	Lack of awareness and basic knowledge in health care among the construction workforce, make them susceptible to potential diseases.	The Contractor shall • Train all construction workers in basic sanitation and health care issues (e.g., how to avoid malaria and transmission of sexually transmitted infections (STI) HIV/AIDS. • Train all construction workers in general health and safety matters, and on the specific hazards of their work Training shall consist of basic hazard awareness, site

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
		specific hazards, safe work practices, and emergency procedures for fire, evacuation, and natural disaster, as appropriate. • Commence the malaria, HIV/AIDS and STI education campaign before the start of the construction phase and complement it with by a strong condom marketing, increased access to condoms in the area as well as to voluntary counseling and testing. • Implement malaria, HIV/AIDS and STI education campaign targeting all workers hired, international and national, female and male, skilled, semi- and unskilled occupations, at the time of recruitment and thereafter pursued throughout the construction phase on ongoing and regular basis. This shall be complemented by easy access to condoms at the workplace as well as to voluntary counseling and testing.

ANNEXURE 6:
STANDARD OPERATING PROCEDURE (SOP)

1. STANDARD OPERATING PROCEDURE (SOP) FOR DEMOLITION WORKS AT SITE

1.0 PURPOSE

The purpose of this Standard Operating Procedure (SOP) is to establish safe, efficient, standardized and environmentally responsible methods for carrying out building demolition works at construction sites. The SOP aims to minimize risks to workers, the public, adjacent structures, and the environment while ensuring compliance with applicable laws, standards, and contract requirements.

2.0 SCOPE

Since the demolition works fall under the responsibility of the Directorate of Primary Education (DPE), the Upazila Education Officer, on behalf of the DPE, is tasked with inviting tenders for the demolition works through a third-party contractor. However, the RIVER Project authority, under the supervision of the local LGED and project staff, will maintain additional oversight to ensure that no injuries, fatalities, or other accidents occur at the demolition sites. Accordingly, the project authority will provide guidance and recommendations to the demolition contractor on the following matters:

- Site preparation and safety measures
- Demolition execution
- Waste management and disposal
- Post-demolition site clearance and inspection

3.0 PROCEDURE

3.1 Pre-Demolition Planning & Engineering Survey

1. **Appoint a Competent Person:** A designated, experienced person (e.g., Project Manager or Demolition Specialist) must be appointed to plan, supervise, and direct the demolition.
2. **Engineering Survey:** A detailed survey must be conducted by a **Structural Engineer**. The report shall include:
 - The structure's design and construction method.
 - The condition of the structure, identifying any signs of weakness or damage.
 - The presence of pre-stressed or post-tensioned concrete members.
3. **Hazardous Materials Survey:** A pre-demolition audit must be conducted to identify and manage hazardous materials such as:

- Asbestos Containing Materials (ACM)
- Lead-based paints
- PCBs (in electrical equipment)
- Chemical or biological waste
- Underground/overhead services (gas, water, electricity, telecom)

4. Development of Demolition Plan: A comprehensive Demolition Plan must be developed, including:

- Method Statement (sequential steps for demolition).
- Equipment and machinery to be Used.
- Site-specific Risk.
- Health and Safety Plan.
- Traffic Management Plan.
- Environmental Management Plan (dust, noise, vibration, waste management).
- Emergency Response Plan.

5. Regulatory Approvals: Secure all necessary permits from local authorities before work commences.

3.2 Site Preparation & Establishment of Control Zones

- 1. Notification:** Inform adjacent property owners, occupants, and relevant authorities of the demolition schedule.
- 2. Site Security:** Erect a secure, physical perimeter fence/hoarding around the entire site. Post "DANGER – DEMOLITION IN PROGRESS" signs.
- 3. Utility Disconnection:** Obtain confirmation from all utility providers that all services (gas, water, electricity, and sewer) have been isolated, disconnected, and made safe.
- 4. Establish Exclusion Zones:**
 - **Demolition Zone:** The immediate area where demolition takes place. Access is strictly limited to essential personnel.
 - **Exclusion Zone:** A larger buffer area where no unauthorized personnel are allowed. This zone must account for the building height and potential debris fall.

5. **Protection of Adjacent Properties:** Install protective measures such as scaffolding with debris netting, sidewalk sheds (hoardings), or shoring as recommended by the Structural Engineer.

3.3 Pre-Work Clearance & Final Checks

1. **Strip-Out:** Remove all non-structural elements, fixtures, fittings, and windows not required for structural stability.
2. **Decontamination:** All identified hazardous materials, if available, must be removed by licensed contractors prior to structural demolition.
3. **Pre-Work Briefing (Tool-Box Talk):** Conduct a daily safety briefing with all personnel involved, covering the day's tasks, specific hazards, and emergency procedures.
4. **Equipment Inspection:** All plant, machinery, and equipment (cranes, excavators, hammers, personal fall protection) must be inspected and certified for safe operation.

3.4 Execution of Demolition Works

1. **Sequential Demolition:** The structure shall be demolished in a reverse sequence to its construction, typically top-down and from the inside out, to maintain stability.
2. **Controlled Demolition Methods:**
 - **Manual Demolition:** Used for smaller sections, intricate work, or where machinery cannot access. Use appropriate tools (e.g., jackhammers, saws).
 - **Mechanical Demolition:** Using excavators with hydraulic hammers, shears, or crushers. The operator must be competent and protected within an approved cab.
3. **Dust and Noise Suppression:** Implement continuous control measures such as water spraying (misting), use of dust suppression chemicals, and limiting work hours to comply with local regulations.
4. **Structural Stability Monitoring:** The Structural Engineer must monitor the structure's stability throughout the process, especially after significant structural members are removed.

3.5 Waste Management & Material Handling

1. **Segregation:** Segregate demolition waste (e.g., concrete, metal, wood, hazardous waste) into designated bins or stockpiles.

2. Recycling/Reuse: Maximize opportunities for recycling and reuse of materials (e.g., concrete for fill, scrap metal for recycling).

3. Safe Handling: Use correct lifting techniques and equipment for manual handling. For mechanical lifting, ensure slings and chains are in good condition and lifting plans are followed.

3.6 Post-Demolition Activities

1. Site Clearance: All demolition debris must be removed from the site. The site, including foundations, should be graded and leveled as specified.

2. Final Inspection: A joint inspection by the Demolition Contractor and Construction Project Contractor's representative including Project Manager, Site Supervisor, and Safety Officer shall be conducted to ensure the site is safe, clean, and all work is completed diligently.

4.0 PERSONAL PROTECTIVE EQUIPMENT (PPE)

The following minimum PPE is mandatory for all personnel within the demolition zone:

- * Safety Helmet
- * Safety Glasses/Goggles
- * High-Visibility Vest/Clothing
- * Steel-toed Safety Boots
- * Heavy-Duty Gloves
- * Hearing Protection (where necessary)
- * Respiratory Protection (as determined by the risk , e.g., for dust)

5.0 EMERGENCY PROCEDURES

- 1. First Aid:** Ensure first-aid kits are readily available and at least one trained first-aider is present on site at all times.
- 2. Emergency Contacts:** List of emergency numbers (ambulance, fire, hospital) must be prominently displayed.
- 3. Assembly Points:** Designated and clearly marked assembly points must be established outside the exclusion zone.
- 4. Communication:** Ensure reliable communication means (e.g., two-way radios, air horns) are available to raise an alarm.

2. STANDARD OPERATING PROCEDURE (SOP) FOR PILE DRIVING OPERATIONS

1.0 PURPOSE

To establish a standardized, safe, and environmentally compliant methodology for all pile driving activities. This procedure integrates industry best management practices in order to mitigate risks to personnel, the public, equipment, and the environment.

2.0 SCOPE

This SOP applies to all personnel involved in pile driving activities, including Project Managers, Site Engineers, Piling Foremen, Crane & Piling Rig Operators, Signalmen/ Riggers, and all workers within the piling work zone. It covers all pile types and driving methods, including impact (diesel, air, hydraulic, drop), vibratory, and press-in systems.

3.0 RESPONSIBILITIES

- **Project Manager of the Contractor:** Overall responsibility for the working sites, including resource allocation, approval of method statements, and ensuring compliance with this SOP and all permits.
- **Site Engineer / Piling Manager:** Responsible for technical execution, including reviewing the preconstruction survey, setting out, verifying driving criteria and reviewing pile logs.
- **Piling Foreman:** Direct daily supervision of the piling crew. Conducts pre-work briefings, ensures adherence to the Site-Specific Safety Plan, and is the primary point of contact for the crane operator.
- **Competent Person:** Designated individual responsible for daily inspections of equipment, rigging, and site conditions, with the authority to stop work if unsafe conditions are found.
- **Assembly/Disassembly (A/D) Personnel:** A qualified person responsible for developing and supervising the equipment assembly/disassembly plan.
- **Crane/Rig Operator:** Competent to operate the specific equipment. Must understand load charts and refuse unsafe instructions.
- **Signalman/Rigger:** Certified to give clear signals and perform rigging tasks. Responsible for pre-use inspection of all rigging gear.
- **Safety Officer (HSE):** Develops and monitors the Site-Specific Safety Plan, conducts risk s, and ensures overall site safety compliance.

- **All Personnel:** Responsible for following instructions, wearing required PPE, participating in pre-task meetings, and reporting hazards.

4.0 DEFINITIONS

- **Site-Specific Safety Plan (SSSP):** A comprehensive plan based on job hazard analysis, covering all site risks, responsibilities, and emergency procedures.
- **Fall Zone:** The area (including the drop zone) in which it is reasonably foreseeable that a load could fall. A best practice is a distance of 1.5 times the length of the suspended load.
- **Dedicated Pile Driver (DPD):** A machine designed exclusively to function as a pile driver.
- **Controlling Entity:** The project owner or their designated representative (e.g., General Contractor).

5.0 PROCEDURE

5.1 Pre-Operational Planning & Engineering Survey

1. Preconstruction Survey: Contractor's Representative must perform a detailed site visit to assess:

- **Site Access & Utilization:** Establish locations for access, laydown, assembly/ disassembly, material storage, and vehicle traffic.
- **Ground Stability:** Inspect the work area to determine ground bearing capacity. The Pile Driving Contractor must provide ground bearing pressure calculations to the Controlling Entity.
- **Underground & Overhead Utilities:** Contact relevant authorities to locate and mark underground utilities and identify the overhead utilities in and across the driving area; and maintain safe procedure in consultation with the applicable authorities.
- **Hazards & Environment:** Identify confined spaces, adjacent structures, public traffic, hazardous materials, and environmental requirements (noise, vibration, permits).

2. Development of Plans:

- Develop a sub-project-specific statement detailing pile type, driving equipment, sequence, and criteria (depth or blow count) as well as develop a plan including Job Hazard Analysis, traffic control, emergency response, and hazard communication.

5.2 Site Setup & Establishment of Control Zones

1. Site Preparation:

- Prepare a level, compacted, and well-drained working platform capable of supporting equipment under maximum load.
- Implement soil erosion and sediment controls, concrete washout areas, and storm water protection.

2. Establish Exclusion Zones:

- **Fall Zone:** Clearly mark an exclusion zone with a radius of at least 1.5 times the length of the longest suspended load (pile/hammer). Access is strictly prohibited for non-essential personnel.
- **General Exclusion Zone:** A larger perimeter to protect from general site activities, marked with fencing and signage.

3. Utility Clearance: Obtain written confirmation from all utility providers that services have been isolated or relocated. Physically verify locations where possible.

5.3 Equipment Inspection, Assembly & Positioning

1. Pre-Use Inspection:

- **Cranes/DPD:** Perform daily and monthly documented inspections. Check wire ropes, safety devices, and computer controls.
- **Pile Hammers:** Inspect before each shift for loose bolts, cracked components, and cushion condition. Follow manufacturer-specific checklists for Diesel, Air, Hydraulic, and Vibratory hammers, whichever is used.
- **Leads:** Perform a minimum weekly documented inspection of cords, lacing, ladders, and connections.
- **Rigging:** Inspect all slings, shackles, and hooks prior to each use by a competent person. Remove damaged rigging from service.

2. Assembly/Disassembly (A/D):

- An A/D Director must be designated to supervise the A/D process per an approved plan.
- Fixed lead attachments to a crane must be designed by a Registered Professional Engineer (RPE).
- Use extreme caution when raising/lowering leads. Keep the hammer at the base during the process.

3. Rig Positioning: Position the rig on a stable, level platform using outrigger mats/crane pads as necessary. Ensure level is within the manufacturer's specified tolerance.

5.4 Execution of Pile Driving Works

1. Pre-Work Briefing (Tool-Box Talk): Conduct a daily briefing with the entire crew covering tasks, hazards, emergency procedures, and hand signals.

2. Material Handling:

- Use proper rigging and qualified personnel. Never stand under a suspended load.
- Use stanchions and adequate dunnage for materials that could roll (e.g., pipe piles).
- Stack materials securely (4:1 ratio) and ensure they are not interlocked for easy access.

3. Pile Installation:

- **Positioning:** Guide the pile from the ground whenever possible to avoid climbing leads.
- **Driving:** The designated signal person is the only one to signal the operator. All non-essential personnel must remain outside the Fall Zone.
- **Monitoring:** Continuously check pile alignment and driving data (penetration, blow count). Shut down the hammer when removing rigging or alignment gates.

4. Access & Working at Height:

- Prohibit employees from remaining on leads or ladders while piles are being driven.
- If climbing leads is necessary, use fall protection and ensure the equipment operator has applied all brakes.
- For sheet pile access, use ladders, aerial lifts, or certified crane-suspended platforms with fall protection. Riding the headache ball is prohibited.

5. Ancillary Operations:

- **Jetting/Predrilling:** Inspect all hoses and equipment. Wear hearing and eye protection. Control water runoff and keep the area clear of mud.
- **Pile Cut-Off:** Suspend pile driving within twice the length of the longest pile being cut. Use rigging to control cut-off sections.
- **Welding/Burning:** For galvanized steel, use adequate ventilation and respiratory protection.

5.5 Post-Installation & Close-Out

- **Cut-off Level & Records:** Cut pile heads to the specified grade. Compile all driving records into formal pile logs.
- **Testing:** Arrange for required integrity tests (PIT, PDA) as per the project quality plan.
- **Demobilization:** Demobilize equipment per the A/D plan. Backfill excavations and clear the site of debris.

6.0 PERSONAL PROTECTIVE EQUIPMENT (PPE)

The following minimum PPE is mandatory within the piling work zone:

- Hard Hat
- Safety Glasses / Face Shield (for grinding, welding, jetting)

- Hearing Protection (TWA must not exceed 90 dBA; double protection may be required)
- Safety-Toed Footwear
- High-Visibility Vest/Clothing
- Heavy-Duty Work Gloves (task-specific: leather, rubber, cut-resistant)
- **Additional PPE:** Long pants, well-fitted clothing, secured long hair. Welding hoods, sleeves, and chaps for specific tasks. Fall protection for work at 6' or more.

7.0 EMERGENCY PROCEDURES

1. **Emergency Response Plan:** Must include

- Location of first-aid supplies and trained personnel (First Aid/CPR).
- Emergency phone numbers and directions to the nearest walk-in clinic and hospital.
- Pre-notification and site visit with local Fire/Rescue.
- Procedures for accident and hazardous spill reporting.

2. **Rescue Plan:** A specific plan for incidents like rig overturn, electrical contact, or personnel struck by a load must be in place.

3. **Communication:** Ensure reliable communication (two-way radios) between the operator, signalman, and foreman. Establish "All STOP" emergency signals.



Government of the People's Republic of Bangladesh
Ministry of Local Government, Rural Development & Co-operatives
Local Government Division
Local Government Engineering Department (LGED)

**Resilient Infrastructure for Adaptation and Vulnerability Reduction (RIVER)
Project**

Environmental and Social Assessment and Management Report

Package Name: LGED/RIVER/GAIB/21-22/NW-15

**Environmental and Social Assessment Checklist for Gaibandha
District**

JANUARY 2026

Resilient Infrastructure for Adaptation and Vulnerability Reduction (RIVER) Project
Environmental & Social Assessment and Management Report for Gaibandha District

Resilient Infrastructure for Adaptation and Vulnerability Reduction (RIVER) Project
Local Government Engineering Department
Government of the People's Republic of Bangladesh

Checklist for Environmental and Social Assessment

1. Subproject Description

GAI - 035

Date: 19/11/25

Sl. #	Subproject Description	Response
1.	Package Name and Number:	LGED/RIVER/
2.	Name of the Subproject/component:	Batikumari GPS
3.	Educational Institute ID/ Road ID:	91108010203
4.	Estimated total Cost of the sub project/component (in Taka):	
5.	Estimated Operation and Maintenance Period (Subproject life time):	
6.	Division: <u>Rangpur</u> District: <u>Gaibandha</u> Upazila: <u>Gaibandha Sadar</u> Union: <u>12 No. Kama Rajani</u>	
7.	Name of the community/ Local area:	Koraibari
8.	Size of the local population:	10,000
9.	Major profession of local population:	Agriculture (70%), Fisherman (10%), Business (10%), Service (5%), others (5%)
10.	Distance of the site from Upazila HQ:	25km - west
11.	Nearby Major Road:	Gaibandha - Kuraigram. 8 km - west
12.	Nearby River/ Canal:	Ghagot (115 km) - East
13.	Description of proposed Subproject activities (incl. type of activities, footprint area, natural resources required, etc.):	
14.	Brief description of Subproject site: (e.g. present land use, Important Social and Environmental Features (IEFs) near site, etc.)	Roads, trees, Local settlement, Playground etc.
15.	Types of waste to be generated during construction and operation phase:	Solid waste, Organic waste, Organic waste.
16.	Sensitive environmental, cultural, archaeological, religious sites near (within 1km) of site including major water bodies/forests:	N - Grogahat S - Dangarghat, Chahal Bedi E - Koraibari S No. W - Uttar Gidari masterplan.

Total Teacher - 03 , Male = 00 Female - 03

" Student = 103 , Boys - 54 , Girls = 49

Resilient Infrastructure for Adaptation and Vulnerability Reduction (RIVER) Project
Environmental & Social Assessment and Management Report for Gaibandha District

2. Environmental and Social Screening Form

2.1 Section A: Subproject Overview

1.	Description of Subproject/component interventions:
2.	Subproject Location:
3.	Expected construction period:
4.	Description of project intervention area and project influence area with schematic diagram (where relevant, indicate distance to sensitive social and environmental areas such as archeological/religious/ historical or cultural assets or sites, human settlements, forests, water bodies, etc.): Archeological place: N/A Religious place: Graveyard → East Forest: N/A Wetland: N/A

2.2 Section B: Environmental and Social Screening Checklist

Sl. #	Screening Questions	Y	N	Impact ¹				Justification for the response (please provide answers to each question)
				L	M	S	H	
1.0	Subproject Sitting/Location Is the Subproject area:							
1.1	Adjacent to/or within any of the social/environmentally sensitive areas?							
	• Cultural heritage site		✓					
	• Ethnic minority areas		✓					
	• Protected Area		✓					
	• Wetland		✓					
	• Mangrove		✓					
	• Estuarine		✓					
	• Buffer zone of protected areas		✓					
1.2	Are there any ponds, khals, beels, haors, baors, rivers, etc. in/around the site?							No.: Distance: Direction:
	Please specify numbers and name for each.		✓					Ponds:
			✓					khals:
			✓					Beels:
			✓					Haors:
			✓					Rivers:
1.3	Any sensitive sites for river erosion? Where & Severity?		✓					Others:
2.0	Baseline at Pre-Construction Stage							
2.1	Ancillary Facilities (e.g. status of access road or any other facility required for Subproject to be viable)?		✓					8ft pucca road but 2.5km access road needed
2.2	Air quality status (apparently/ visibly)?		✓					apparently/ visibly good
2.3	Requirement of accommodation or service amenities (toilet, water supply, electricity) to support the workforce during construction?	✓		✓				Accommodation, Toilet, Electricity, Supply water, drinking water.
2.4	Possible location of labor camps?	✓		✓				

**Resilient Infrastructure for Adaptation and Vulnerability Reduction (RIVER) Project
Environmental & Social Assessment and Management Report for Gaibandha District**

Sl. #	Screening Questions	Y	N	Impact ¹				Justification for the response (please provide answers to each question)
				L	M	S	H	
2.5	Requirement and type of raw materials (e.g. sand, stone, wood, etc.)?	✓		✓				
2.6	Identification of access road for transportation?		✓					
2.7	Location identification for raw material storage?	✓		✓				
2.8	Possible composition and quantities of wastes (Solids wastes, demolition materials, sludge from old latrines, etc.)?	✓			✓			Solids waste, demolition materials, concrete wastes etc.
2.9	Mention source of drinking water in dry and wet seasons Fe GRZ As T2							Shallow / ✓ Deep Tube well: If deep tube well, mention depth (feet): 150 ft If other, specify: Rainwater harvesting available: No Onsite/ off site/ NAV
2.10	Has the Subproject/component site any seismic risk (historically)?		✓					
2.11	Identification of possible stakeholders, especially vulnerable groups?		✓					
3.0	Potential Socio-environmental impacts. Will the Subproject cause.....							
3.1	Potential influx of workers to the project location? Whether significant for the local community?	✓			✓			
3.2	Possible conflict between workers and local people?		✓					
3.3	Resource constraint for the local population (due to the additional burden of incoming workers/staff)?		✓					
3.4	Possible loss of agricultural land/ crops?		✓					
3.5	Involvement of any land acquisition and involuntary resettlement?		✓					
3.6	Loss of residential, business or enterprises due to construction of flood shelter, land requisition/acquisition and so on?		✓					
3.7	Loss of income sources and means of livelihoods due to construction of flood shelter, land acquisition/ requisition?		✓					
3.8	Impacts on any vulnerable (poor, old-aged, female-headed households, ethnic people, etc.) people?		✓					Detail out about the groups and how is impacted:

**Resilient Infrastructure for Adaptation and Vulnerability Reduction (RIVER) Project
Environmental & Social Assessment and Management Report for Gaibandha District**

Sl. #	Screening Questions	Y	N	Impact ¹				Justification for the response (please provide answers to each question)
				L	M	S	H	
3.9	Loss of access to natural resources, communal facilities and services?	✓		✓				
3.10	Impacts on social and economic activities due to the change in land use (if any)?		✓					
3.11	Cutting trees for construction works of with more than 3" girth diameters?	✓		✓				Species name & Number of trees:
3.12	Impact on pond or fish population or aquatic habitats?		✓					
3.13	Any surface water pollution? If yes, Source?		✓					
3.14	Any Groundwater pollution? If yes, Source?		✓					Fe=Iron, As = Arsenic, Mn= Manganese, Hard = Hardness 150 ft If other, Specify: Contaminant's depth (feet): (Shallow / Deep)
3.15	Possible contamination of surface and ground waters due to improper waste disposal:		✓					
3.16	The type and quantity of waste generated (e.g. Solids wastes, liquid wastes, etc.):		✓					Solids waste, demolition materials, concrete wastes etc.
3.17	Impacts on surrounding environment due to sanitation and solid waste disposal: (Briefly mention the sources and extent of impacts)		✓					Disposal area available? vYes/No If yes, where & how: vOn-site, Off-site
3.18	Impacts from construction camp?	✓		✓				Camp area available? vYes / No If yes, where? vOnsite /off site
3.19	Disturbance or modification of existing drainage channels (rivers, canals) or surface water bodies (wetlands, marshes)?		✓					Water logged for (days): Water height (feet):
3.20	Destruction or damage of terrestrial or aquatic ecosystems or endangered species directly or by induced development?		✓					
3.21	Flooding problem in the area? Mention frequency & severity	✓		✓				Year: 1988 / 2013 / 2017 Height: 2 ft / 1.5 ft Days: 2 / 1.5
3.22	Traffic disturbances due to construction material transport and wastes?		✓					
3.23	Possibility of Subproject induced air / dust pollution? Mention the sources and impacts.		✓					

**Resilient Infrastructure for Adaptation and Vulnerability Reduction (RIVER) Project
Environmental & Social Assessment and Management Report for Gaibandha District**

Sl. #	Screening Questions	Y	N	Impact ¹				Justification for the response (please provide answers to each question)
				L	M	S	H	
3.24	Noise pollution from construction, industrial and vehicles?	✓		✓				
3.25	Risks and vulnerabilities related to occupational health and safety due to hazards during construction and operation phase?	✓			✓			
3.26	Negative effects on neighborhood or community (Mention types and scale of impacts)?		✓					
3.27	Degradation or disturbance of historically, culturally important site (mosque, graveyards, monuments, etc.)?		✓					
3.28	Any Impediments to movements of people and livestock during construction period?		✓					
3.29	The shelter buildings need to relocate/ Shift to another place? If yes, Mention Relocation place name, distance from site, for how long, is rent needed? Show relocation place in the topographical map.		✓					
3.30	Disturbance to the student in taking the lesson in the classroom?	✓			✓			
3.31	Direct or indirect hazards to student for walking in the school campus by construction activities?	✓		✓				Protective fencing required
3.32	Is there any disaster early warning system? If Yes, by Whom?	✓		✓				Yes: UDMC, vMiking, TV, TNO, TEO, Red crescent, vMobile phone SMS, etc.
3.33	Are there any power transmission line on the school premises?		✓					But electric wire need to shift

¹ Y= Yes, N=No, H=High, S=Substantial, M=Medium, and L=Low

Checklist on Environmental Issues for Site-specific Screening/ESIA

1: Important Establishments and boundary village/river around the Subproject site

Sl. No.	Direction	Important Establishments
1.	North side	① Kamarjani Bazar Jame mosque - 700m ② " " graveyard - 700m ③ Abdul Nasir Hafezia madrasa and Yakin khana - 700m ④ Kamarjani Eidgah - 700m ⑤ Bhatikuri GIPS - 950m ⑥ Fokirpara ⑦ Kamarjani Bazar - 650m Jame mosque - 1.20Km
2.	South side	① Dangarghat Jame mosque - 600m ② Bhatikamari graveyard = 600m ③ Bhatikamari madrasa = 600m ④ Chaoalpin Temple = 800m ⑤ Pandit Bari Jame mosque = 1.20Km
3.	East side	① Bhatikamari Eidgah = 10m ② Korabari Jame mosque - 300m ③ " Community clinic - 300m ④ " madrasa = 300m
4.	West side	① Sankarpara Masterpara madrasa - 700m ② Molebondi Jame mosque (1Km)

2: Trees within the school boundary

Sl. #	Name of trees	Particular and No. of Trees				Total	Remarks
		Large	Medium	Small	Sapling		
1.	Latim	2				2	
2.	Raintree	1				1	
3.	Paikora	1				1	
4.							
5.							
6.							

3: Pond/ Water bodies found inside and adjacent to the Subproject area:

Sl. #	Direction	Water body type (pond, river, canal, beel, drain)	Size (ft x ft)	Depth (ft)	Fish Farming (Yes or No)	Name of Farming Fish	Use of pond (Domestic/ Bathing / other)
1.	North						
2.	South						
3.	East						
4.	West						

4. Indigenous, brackish water and endangered fish species exist in catchment area of the Subproject: কৃষ্ণা, জাম্বি, মিল, বাঁশবাঁহ ইত্যাদি,

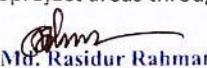
Yes or No. If yes, Mention Name:

5. The common local birds found in the catchment area: ধান, চাঁদা, মাঁকা, বাঁ,

6. Wild animals found in the catchment area: X

7. Endangered faunal species found in the catchment area: মজা,

8. The soils are highly/moderately/not saline at a depth of..... ft in and around the subproject areas throughout the year.


Md. Rasidur Rahman
District Resident Engineer (DRE)
D&S, RIVER Project
LGED, Gaibandha.


Harogopal Kabiraj
Sr. Environmental Specialist
D & S Consultant
RIVER Project, LGED, HQ.

GAI-035_ Batkamari GPS

Resilient Infrastructure for Adaptation and Vulnerability Reduction (RIVER) Project
Environmental & Social Assessment and Management Report for Gaibandha District

GAI-036

Resilient Infrastructure for Adaptation and Vulnerability Reduction (RIVER) Project
Local Government Engineering Department
Government of the People's Republic of Bangladesh

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Checklist for Environmental and Social Assessment

1. Subproject Description

Date: 19/11/2025

Sl. #	Subproject Description	Response
1.	Package Name and Number:	LGED/RIVER/
2.	Name of the Subproject/component:	Mouja Malibari Moddho
3.	Educational Institute ID/ Road ID:	Patra GPS 99708019004
4.	Estimated total Cost of the sub project/component (in Taka):	
5.	Estimated Operation and Maintenance Period (Subproject life time):	
6.	Division: Rangpur District: Gaibandha Upazila: Gaibandha Sadar Union: 1 no. lakhmi pur	
7.	Name of the community/ Local area:	Mouja Malibari (Bokshi)
8.	Size of the local population:	9,000 (Khamari)
9.	Major profession of local population:	Agriculture (60%), Daily labor (20%), Business (5%), service (5%), others (10%)
10.	Distance of the site from Upazila HQ:	15km → North (5%)
11.	Nearby Major Road:	Lakhimpur to Kamarjani Road North South → 1.5km
12.	Nearby River/ Canal:	Manosh River → West → 1.2km
13.	Description of proposed Subproject activities (incl. type of activities, footprint area, natural resources required, etc.):	
14.	Brief description of Subproject site: (e.g. present land use, Important Social and Environmental Features (IEFs) near site, etc.)	School building, playground, eidgah, Agricultural land
15.	Types of waste to be generated during construction and operation phase:	Organic / Inorganic waste
16.	Sensitive environmental, cultural, archaeological, religious sites near (within 1km) of site including major water bodies/forests:	N/A

→ Gobindapur, Jor Kishamot malibari, mouja malibari, bokshi khamari.

Resilient Infrastructure for Adaptation and Vulnerability Reduction (RIVER) Project
Environmental & Social Assessment and Management Report for Gaibandha District

2. Environmental and Social Screening Form

2.1 Section A: Subproject Overview

1.	Description of Subproject/component interventions:
2.	Subproject Location: 25.419621 / 89.562776
3.	Expected construction period:
4.	Description of project intervention area and project influence area with schematic diagram (where relevant, indicate distance to sensitive social and environmental areas such as archeological/religious/ historical or cultural assets or sites, human settlements, forests, water bodies, etc.): Archeological place: N/A Religious place: Eidgah → North → Adjacent Forest: > N/A Wetland: > N/A

2.2 Section B: Environmental and Social Screening Checklist

Sl. #	Screening Questions	Y	N	Impact ¹				Justification for the response (please provide answers to each question)
				L	M	S	H	
1.0	Subproject Sitting/Location Is the Subproject area.....							
1.1	Adjacent to/or within any of the social/environmentally sensitive areas?							
	• Cultural heritage site		✓					
	• Ethnic minority areas		✓					
	• Protected Area		✓					
	• Wetland		✓					
	• Mangrove		✓					
	• Estuarine		✓					
	• Buffer zone of protected areas		✓					
	• Special area for protecting biodiversity		✓					
1.2	Are there any ponds, khals, beels, haors, baors, rivers, etc. in/around the site?							No.: 01 Distance: 10m Direction: South
	Please specify numbers and name for each.	✓		✓				Ponds: 01
		✓		✓				khals:
				✓				Beels: 01
				✓				Haors:
				✓				Rivers:
				✓				Others:
				✓				
1.3	Any sensitive sites for river erosion? Where & Severity?		✓					
2.0	Baseline at Pre-Construction Stage							
2.1	Ancillary Facilities (e.g. status of access road or any other facility required for Subproject to be viable)?	✓				✓		Bokshi Khamar road → 12 feet
2.2	Air quality status (apparently/ visibly)?	✓				✓		Feathern apparently/ visibly good
2.3	Requirement of accommodation or service amenities (toilet, water supply, electricity) to support the workforce during construction?	✓				✓		Accommodation, Toilet, Electricity, Supply water, drinking water.
2.4	Possible location of labor camps?	✓				✓		On site

Resilient Infrastructure for Adaptation and Vulnerability Reduction (RIVER) Project
Environmental & Social Assessment and Management Report for Gaibandha District

Sl. #	Screening Questions	Y	N	Impact ¹				Justification for the response (please provide answers to each question)
				L	M	S	H	
2.5	Requirement and type of raw materials (e.g. sand, stone, wood, etc.)?	✓			✓			
2.6	Identification of access road for transportation?	✓			✓			Bokshi Khamar road
2.7	Location identification for raw material storage?	✓			✓			Agricultural land near site
2.8	Possible composition and quantities of wastes (Solids wastes, demolition materials, sludge from old latrines, etc.)?		✓					Solids waste, demolition materials, concrete wastes etc.
2.9	Mention source of drinking water in dry and wet seasons		✓					Shallow / ✓ Deep Tube well: If deep tube well, mention depth (feet): 200 If other, specify: Rainwater harvesting available: No Onsite/ off site/ NAV
2.10	Has the Subproject/component site any seismic risk (historically)?		✓					
2.11	Identification of possible stakeholders, especially vulnerable groups?		✓					
3.0	Potential Socio-environmental impacts. Will the Subproject cause.....							
3.1	Potential influx of workers to the project location? Whether significant for the local community?	✓		✓				
3.2	Possible conflict between workers and local people?		✓					
3.3	Resource constraint for the local population (due to the additional burden of incoming workers/staff)?		✓					
3.4	Possible loss of agricultural land/ crops?		✓					
3.5	Involvement of any land acquisition and involuntary resettlement?		✓					
3.6	Loss of residential, business or enterprises due to construction of flood shelter, land requisition/acquisition and so on?		✓					
3.7	Loss of income sources and means of livelihoods due to construction of flood shelter, land acquisition/ requisition?		✓					
3.8	Impacts on any vulnerable (poor, old-aged, female-headed households, ethnic people, etc.) people?		✓					Detail out about the groups and how is impacted:

Resilient Infrastructure for Adaptation and Vulnerability Reduction (RIVER) Project
Environmental & Social Assessment and Management Report for Gaibandha District

Sl. #	Screening Questions	Y	N	Impact ¹				Justification for the response (please provide answers to each question)
				L	M	S	H	
3.9	Loss of access to natural resources, communal facilities and services?		✓					
3.10	Impacts on social and economic activities due to the change in land use (if any)?		✓					
3.11	Cutting trees for construction works of with more than 3" girth diameters?		✓					Species name & Number of trees:
3.12	Impact on pond or fish population or aquatic habitats?	✓			✓			
3.13	Any surface water pollution? If yes, Source?							
3.14	Any Groundwater pollution? If yes, Source?	✓			✓			✓ Fe=Iron, As = Arsenic, Mn = Manganese, Hard = Hardness <i>Contamination in deep level</i> If other, Specify: Contaminant's depth (feet): (Shallow / Deep) ✓
3.15	Possible contamination of surface and ground waters due to improper waste disposal:	✓		✓				
3.16	The type and quantity of waste generated (e.g. Solids wastes, liquid wastes, etc.):		✓					Solids waste, demolition materials, concrete wastes etc.
3.17	Impacts on surrounding environment due to sanitation and solid waste disposal: (Briefly mention the sources and extent of impacts)	✓		✓				Disposal area available? ✓ Yes/No If yes, where & how: ✓ On-site, Off-site
3.18	Impacts from construction camp?	✓		✓				Camp area available? ✓ Yes / No If yes, where? ✓ Onsite / off site
3.19	Disturbance or modification of existing drainage channels (rivers, canals) or surface water bodies (wetlands, marshes)?		✓					Water logged for (days): Water height (feet):
3.20	Destruction or damage of terrestrial or aquatic ecosystems or endangered species directly or by induced development?	✓		✓				
3.21	Flooding problem in the area? Mention frequency & severity	✓		✓				Year: 1988 2019 Height: 6 feet 21 ft Days: 30 days 50 days 30 days
3.22	Traffic disturbances due to construction material transport and wastes?	✓		✓				
3.23	Possibility of Subproject induced air / dust pollution? Mention the sources and impacts.	✓		✓				Earthen road

Sl. #	Screening Questions	Y	N	Impact ¹				Justification for the response (please provide answers to each question)
				L	M	S	H	
3.24	Noise pollution from construction, industrial and vehicles?	✓		✓				
3.25	Risks and vulnerabilities related to occupational health and safety due to hazards during construction and operation phase?	✓		✓				
3.26	Negative effects on neighborhood or community (Mention types and scale of impacts)?	✓		✓				
3.27	Degradation or disturbance of historically, culturally important site (mosque, graveyards, monuments, etc.)?		✓					
3.28	Any Impediments to movements of people and livestock during construction period?		✓					
3.29	The shelter buildings need to relocate/ Shift to another place? If yes, Mention Relocation place name, distance from site, for how long, is rent needed? Show relocation place in the topographical map.		✓					
3.30	Disturbance to the student in taking the lesson in the classroom?		✓					
3.31	Direct or indirect hazards to student for walking in the school campus by construction activities?		✓					Protective fencing required
3.32	Is there any disaster early warning system? If Yes, by Whom?	✓		✓				Yes: UDMC, VMiking, TV, TNO, TEO, Red crescent, VMobile phone SMS, etc.
3.33	Are there any power transmission line on the school premises?	✓		✓				Pole removal

¹ Y= Yes, N=No, H=High, S=Substantial, M=Medium, and L=Low

Needed → Electric pole removal.
 ★ 4 accen road improvement
 Length = (3km
 @connecting)
 road 1km

Checklist on Environmental Issues for Site-specific Screening/ESIA

1: Important Establishments and boundary village/river around the Subproject site

Sl. No.	Direction	Important Establishments
1.	North side	1. Bashikhamar eidgah → Adjacent to school. 2. " mosque → 400m. 3. Akondopara mosque → 700m 4. Agricultural land. 5. Mouza Maliberi Akondopara Jame Mosque → 1.25km
2.	South side	1. Agricultural land + chakiri beel. → Adjacent to school
3.	East side	1. Agricultural land + chakiri beel → Adjacent to school.
4.	West side	1. Munshi 'Khamar Khamar mosque → 700m. 2. Bepari Para H → 1km

2: Trees within the school boundary

Sl. #	Name of trees	Particular and No. of Trees				Total	Remarks
		Large	Medium	Small	Sapling		
1.	Rain tree		01				
2.	Eucalyptus		01				
3.							
4.							
5.							
6.							

3: Pond/ Water bodies found inside and adjacent to the Subproject area:

Sl. #	Direction	Water body type (pond, river, canal, beel, drain)	Size (ft x ft)	Depth (ft)	Fish Farming (Yes or No)	Name of Farming Fish	Use of pond (Domestic/ Bathing / other)
1.	North						
2.	South	120 feet x 40 feet		40 feet	Yes	Carp	
3.	East	Chaklian beel	5000 acric	8-10			
4.	West						

4. Indigenous, brackish water and endangered fish species exist in catchment area of the Subproject:

Yes or No. If yes, Mention Name:

5. The common local birds found in the catchment area:

6. Wild animals found in the catchment area:

7. Endangered faunal species found in the catchment area:

8. The soils are highly/moderately/not saline at a depth of..... ft in and around the subproject areas throughout the year.

Md. Rasidur Rahman
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D&SC, RIVER Project
LGED, Gaibandha.

Harogopal Kabiraj
Sr. Environmental Specialist
D & S Consultant
RIVER Project, LGED, HQ.

GAI-036_ Mouja Malibari GPS

Resilient Infrastructure for Adaptation and Vulnerability Reduction (RIVER) Project
Local Government Engineering Department
Government of the People's Republic of Bangladesh

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Checklist for Environmental and Social Assessment

1. Subproject Description

GAI - 037

Date: 18/11/2025

Sl. #	Subproject Description	Response
1.	Package Name and Number:	LGED/RIVER/
2.	Name of the Subproject/component:	Lakhmipur GIPS
3.	Educational Institute ID/ Road ID:	91108011203
4.	Estimated total Cost of the sub project/component (in Taka):	
5.	Estimated Operation and Maintenance Period (Subproject life time):	
6.	Division: Rangpur District: Gaibandha Upazila: Gaibandha Union: 1 no. Lakhmipur	
7.	Name of the community/ Local area:	Dhonkuli
8.	Size of the local population:	22,000
9.	Major profession of local population:	Agriculture (60%), Daily labor (20%), Others (20%)
10.	Distance of the site from Upazila HQ:	North - 14km
11.	Nearby Major Road:	Gaibandha - Sunderganj road
12.	Nearby River/ Canal:	Lenga River - East → 32 km
13.	Description of proposed Subproject activities (incl. type of activities, footprint area, natural resources required, etc.):	
14.	Brief description of Subproject site: (e.g. present land use, Important Social and Environmental Features (IEFs) near site, etc.)	School buildings, Playground, high school, road,
15.	Types of waste to be generated during construction and operation phase:	Solid waste, concrete waste
16.	Sensitive environmental, cultural, archaeological, religious sites near (within 1km) of site including major water bodies/forests:	N/A

Hat Lakhmipur → Dhonkuli, Borio ala, Mgurakuti, Supari vita, Kutipara, Nandini vita, Adonsho gram, Janapara, &

Resilient Infrastructure for Adaptation and Vulnerability Reduction (RIVER) Project
Environmental & Social Assessment and Management Report for Gaibandha District

2. Environmental and Social Screening Form

2.1 Section A: Subproject Overview

1.	Description of Subproject/component interventions:
2.	Subproject Location: 25.430162 / 89.515235
3.	Expected construction period:
4.	Description of project intervention area and project influence area with schematic diagram (where relevant, indicate distance to sensitive social and environmental areas such as archeological/religious/ historical or cultural assets or sites, human settlements, forests, water bodies, etc.): Archeological place: Religious place: Forest: Wetland:

2.2 Section B: Environmental and Social Screening Checklist

Sl. #	Screening Questions	Y	N	Impact ¹				Justification for the response (please provide answers to each question)
				L	M	S	H	
1.0	Subproject Sitting/Location is the Subproject area							
1.1	Adjacent to/or within any of the social/environmentally sensitive areas?							
	• Cultural heritage site		✓					
	• Ethnic minority areas		✓					
	• Protected Area		✓					
	• Wetland		✓					
	• Mangrove		✓					
	• Estuarine		✓					
	• Buffer zone of protected areas		✓					
1.2	Are there any ponds, khals, beels, haors, baors, rivers, etc. in/around the site?							No.: 01
	Please specify numbers and name for each.		✓					Distance: south
			✓					Direction: (Protected boundary)
			✓					Ponds: 1
			✓					khals:
			✓					Beels:
1.3	Any sensitive sites for river erosion? Where & Severity?		✓					Haors:
			✓					Rivers:
2.0	Baseline at Pre-Construction Stage							Others:
2.1	Ancillary Facilities (e.g. status of access road or any other facility required for Subproject to be viable)?	✓		✓				Gaibandha Sunderganj Road
2.2	Air quality status (apparently/ visibly)?	✓		✓				apparently/ visibly good
2.3	Requirement of accommodation or service amenities (toilet, water supply, electricity) to support the workforce during construction?	✓		✓				Accommodation, Toilet, Electricity, Supply water, drinking water.
2.4	Possible location of labor camps?	✓		✓				On site

Resilient Infrastructure for Adaptation and Vulnerability Reduction (RIVER) Project
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Sl. #	Screening Questions	Y	N	Impact ¹				Justification for the response (please provide answers to each question)
				L	M	S	H	
2.5	Requirement and type of raw materials (e.g. sand, stone, wood, etc.)?	✓		✓				
2.6	Identification of access road for transportation?	✓		✓				
2.7	Location identification for raw material storage?	✓		✓				
2.8	Possible composition and quantities of wastes (Solids wastes, demolition materials, sludge from old latrines, etc.)?	✓		✓				Solids waste, demolition materials, concrete wastes etc.
2.9	Mention source of drinking water in dry and wet seasons		✓					Shallow / vDeep Tube well: If deep tube well, mention depth (feet): 190 If other, specify: Rainwater harvesting available: No Onsite/ off site/ NAV
2.10	Has the Subproject/component site any seismic risk (historically)?		✓					
2.11	Identification of possible stakeholders, especially vulnerable groups?		✓					
3.0	Potential Socio-environmental impacts. Will the Subproject cause.....							
3.1	Potential influx of workers to the project location? Whether significant for the local community?		✓					
3.2	Possible conflict between workers and local people?		✓					
3.3	Resource constraint for the local population (due to the additional burden of incoming workers/staff)?		✓					
3.4	Possible loss of agricultural land/ crops?		✓					
3.5	Involvement of any land acquisition and involuntary resettlement?		✓					
3.6	Loss of residential, business or enterprises due to construction of flood shelter, land requisition/acquisition and so on?		✓					
3.7	Loss of income sources and means of livelihoods due to construction of flood shelter, land acquisition/ requisition?		✓					
3.8	Impacts on any vulnerable (poor, old-aged, female-headed households, ethnic people, etc.) people?		✓					Detail out about the groups and how is impacted:

Resilient Infrastructure for Adaptation and Vulnerability Reduction (RIVER) Project
Environmental & Social Assessment and Management Report for Gaibandha District

Sl. #	Screening Questions	Y	N	Impact ¹				Justification for the response (please provide answers to each question)
				L	M	S	H	
3.9	Loss of access to natural resources, communal facilities and services?		✓					
3.10	Impacts on social and economic activities due to the change in land use (if any)?		✓					
3.11	Cutting trees for construction works of with more than 3" girth diameters?	✓		✓				Species name & Number of trees: 01, Jujube tree
3.12	Impact on pond or fish population or aquatic habitats?		✓					
3.13	Any surface water pollution? If yes, Source?		✓					
3.14	Any Groundwater pollution? If yes, Source?	✓		✓				Fe=Iron, As = Arsenic, Mn = Manganese, Hard = Hardness If other, Specify: Contaminant's depth (feet): (Shallow / Deep)
3.15	Possible contamination of surface and ground waters due to improper waste disposal:	✓		✓				
3.16	The type and quantity of waste generated (e.g. Solids wastes, liquid wastes, etc.):	✓		✓				Solids waste, demolition materials, concrete wastes etc.
3.17	Impacts on surrounding environment due to sanitation and solid waste disposal: (Briefly mention the sources and extent of impacts)	✓		✓				Disposal area available? ✓Yes/No If yes, where & how: ✓On-site, Off-site
3.18	Impacts from construction camp?	✓		✓				Camp area available? ✓Yes / No If yes, where? ✓Onsite /off site
3.19	Disturbance or modification of existing drainage channels (rivers, canals) or surface water bodies (wetlands, marshes)?		✓					Water logged for (days): Water height (feet):
3.20	Destruction or damage of terrestrial or aquatic ecosystems or endangered species directly or by induced development?		✓					
3.21	Flooding problem in the area? Mention frequency & severity	✓		✓				Year: 1998 Height: 2 feet Days: 20-22 Bazar Area
3.22	Traffic disturbances due to construction material transport and wastes?	✓		✓				
3.23	Possibility of Subproject induced air / dust pollution? Mention the sources and impacts.	✓		✓				

Sl. #	Screening Questions	Y	N	Impact ¹				Justification for the response (please provide answers to each question)
				L	M	S	H	
3.24	Noise pollution from construction, industrial and vehicles?	✓			✓			
3.25	Risks and vulnerabilities related to occupational health and safety due to hazards during construction and operation phase?	✓		✓				
3.26	Negative effects on neighborhood or community (Mention types and scale of impacts)?		✓					
3.27	Degradation or disturbance of historically, culturally important site (mosque, graveyards, monuments, etc.)?		✓					
3.28	Any Impediments to movements of people and livestock during construction period?		✓					
3.29	The shelter buildings need to relocate/ Shift to another place? If yes, Mention Relocation place name, distance from site, for how long, is rent needed? Show relocation place in the topographical map.		✓					
3.30	Disturbance to the student in taking the lesson in the classroom?	✓		✓				
3.31	Direct or indirect hazards to student for walking in the school campus by construction activities?	✓		✓				Protective fencing required <i>YES</i>
3.32	Is there any disaster early warning system? If Yes, by Whom?	✓		✓				Yes: UDMC, vMiking, TV, TNO, TEO, Red crescent, vMobile phone SMS, etc.
3.33	Are there any power transmission line on the school premises?		✓					

¹ Y= Yes, N=No, H=High, S=Substantial, M=Medium, and L=Low

Demolition
of
two classroom → 30 feet x 15
feet
63 decimal

Checklist on Environmental Issues for Site-specific Screening/ESIA

1: Important Establishments and boundary village/river around the Subproject site

Sl. No.	Direction	Important Establishments
1.	North side	1. Dhonkuti Jame mosque → 85m. 2. " Kali temple → 150m 3. Vorkuler kuti mosque → 1km 4. High school → Adjacent to school. 5. Vorkuler kuti beel → 1km.
2.	South side	1. Hat Laxmipur bazar + mosque → 500m 2. " Union Parishad → 500m 2. " Girls high school → 350m 3. Agricultural land → Adjacent 4. Solaghari beel → to school
3.	East side	1. Lakhmipur degree college → 320m 2. Lakhmipur Bazar → 20m 3. Bamunin beel → 1km
4.	West side	1. Radha Krishnao temple → 800m. 2. Dhonkutin beel → 150m. 3. Eidgah + graveyard → 1km.

2: Trees within the school boundary

Sl. #	Name of trees	Particular and No. of Trees				Total	Remarks
		Large	Medium	Small	Sapling		
1.	Koroi	02	01				
2.	Bonoi		0	01			
3.	Mehugni		02				
4.	Supari			01	~~01~~		
5.							
6.							

3: Pond/ Water bodies found inside and adjacent to the Subproject area:

Sl. #	Direction	Water body type (pond, river, canal, beel, drain)	Size (ft x ft)	Depth (ft)	Fish Farming (Yes or No)	Name of Farming Fish	Use of pond (Domestic/ Bathing / other)
1.	North	Vorikulon kuti beel	150 bigha				
2.	South	Solaghoi beel	120 bigha				
3.	East	Damunin beel	200 bigha				
4.	West						

4. Indigenous, brackish water and endangered fish species exist in catchment area of the Subproject:

Yes or No. If yes, Mention Name:

5. The common local birds found in the catchment area: *monal, son, chukar, arjun, shikar, shikar, shikar*

6. Wild animals found in the catchment area: *shikar, shikar, shikar*

7. Endangered faunal species found in the catchment area:

8. The soils are highly/moderately/not saline at a depth of *N/A* ft in and around the subproject areas throughout the year.

M. Rasidur Rahman
District Resident Engineer (DRE)
D&SC, RIVER Project
EGED, Gaibandha.

Rogopal Kabiraj
Sr. Environmental Specialist
D & S Consultant
RIVER Project, EGED, HQ.

Resilient Infrastructure for Adaptation and Vulnerability Reduction (RIVER) Project
Environmental & Social Assessment and Management Report for Gaibandha District

Resilient Infrastructure for Adaptation and Vulnerability Reduction (RIVER) Project
Local Government Engineering Department
Government of the People's Republic of Bangladesh

Checklist for Environmental and Social Assessment

1. Subproject Description

GAI - 038

Date: 19/11/25

Sl. #	Subproject Description	Response
1.	Package Name and Number:	LGED/RIVER/
2.	Name of the Subproject/component:	Raghunathpur GPS
3.	Educational Institute ID/ Road ID:	91108011302
4.	Estimated total Cost of the sub project/component (in Taka):	
5.	Estimated Operation and Maintenance Period (Subproject life time):	
6.	Division: ~~Rajshahi~~ District: Gaibandha Upazila: Gaibandha Sadar Union: 5No. Ballamjhar	
7.	Name of the community/ Local area:	Kholabari
8.	Size of the local population:	35,000
9.	Major profession of local population:	Agriculture (80%), Business (5%), Service (5%), other (10%)
10.	Distance of the site from Upazila HQ:	8km → East
11.	Nearby Major Road:	Gaibandha - Rangpur - Bagura 5km - South
12.	Nearby River/ Canal:	Ormahputra - 20km - East
13.	Description of proposed Subproject activities (incl. type of activities, footprint area, natural resources required, etc.):	
14.	Brief description of Subproject site: (e.g. present land use, Important Social and Environmental Features (IEFs) near site, etc.)	Roads, playground, shops, high school, trees, graveyard, Agricultural land
15.	Types of waste to be generated during construction and operation phase:	Demolition waste, Solid Waste
16.	Sensitive environmental, cultural, archaeological, religious sites near (within 1km) of site including major water bodies/forests:	N - Kajoldbiop S - Raghunathpur E - Kholabari W - Ballamjhar

Total teacher - 09, Male - 1 Female - 8
" Student - 256, Boys - 150, Girls - 106

2. Environmental and Social Screening Form

2.1 Section A: Subproject Overview

1.	Description of Subproject/component interventions:
2.	Subproject Location:
3.	Expected construction period:
4.	Description of project intervention area and project influence area with schematic diagram (where relevant, indicate distance to sensitive social and environmental areas such as archeological/religious/ historical or cultural assets or sites, human settlements, forests, water bodies, etc.): Archeological place: N/A Religious place: Graveyard at North side Forest: N/A Wetland: N/A

2.2 Section B: Environmental and Social Screening Checklist

Sl. #	Screening Questions	Y	N	Impact ¹				Justification for the response (please provide answers to each question)
				L	M	S	H	
1.0	Subproject Sitting/Location Is the Subproject area:							
1.1	Adjacent to/or within any of the social/environmentally sensitive areas?							
	• Cultural heritage site		✓					
	• Ethnic minority areas		✓					
	• Protected Area		✓					
	• Wetland		✓					
	• Mangrove		✓					
	• Estuarine		✓					
	• Buffer zone of protected areas		✓					
1.2	Are there any ponds, khals, beels, haors, baors, rivers, etc. in/around the site?							No.: Distance: Direction:
	Please specify numbers and name for each.		✓					Ponds:
			✓					khals:
			✓					Beels:
			✓					Haors:
			✓					Rivers:
1.3	Any sensitive sites for river erosion? Where & Severity?		✓					Others:
2.0	Baseline at Pre-Construction Stage							
2.1	Ancillary Facilities (e.g. status of access road or any other facility required for Subproject to be viable)?		✓					12 ft under construction road.
2.2	Air quality status (apparently/ visibly)?		✓					apparently/ visibly good
2.3	Requirement of accommodation or service amenities (toilet, water supply, electricity) to support the workforce during construction?	✓		✓				Accommodation, Toilet, Electricity, Supply water, drinking water.
2.4	Possible location of labor camps?	✓		✓				

**Resilient Infrastructure for Adaptation and Vulnerability Reduction (RIVER) Project
Environmental & Social Assessment and Management Report for Gaibandha District**

Sl. #	Screening Questions	Y	N	Impact ¹				Justification for the response (please provide answers to each question)
				L	M	S	H	
2.5	Requirement and type of raw materials (e.g. sand, stone, wood, etc.)?	✓		✓				onsite + offside
2.6	Identification of access road for transportation?	✓		✓				"
2.7	Location identification for raw material storage?	✓		✓				"
2.8	Possible composition and quantities of wastes (Solids wastes, demolition materials, sludge from old latrines, etc.)?	✓			✓			Solids waste, demolition materials, concrete wastes etc.
2.9	Mention source of drinking water in dry and wet seasons Fe WTRZ! No AS							Shallow / vDeep Tube well: If deep tube well, mention depth (feet): If other, specify: Rainwater harvesting available: No Onsite/ off site/ NAV
2.10	Has the Subproject/component site any seismic risk (historically)?		✓					
2.11	Identification of possible stakeholders, especially vulnerable groups?		✓					
3.0	Potential Socio-environmental impacts. Will the Subproject cause.....							
3.1	Potential influx of workers to the project location? Whether significant for the local community?	✓		✓				
3.2	Possible conflict between workers and local people?		✓					
3.3	Resource constraint for the local population (due to the additional burden of incoming workers/staff)?		✓					
3.4	Possible loss of agricultural land/ crops?		✓					
3.5	Involvement of any land acquisition and involuntary resettlement?		✓					
3.6	Loss of residential, business or enterprises due to construction of flood shelter, land requisition/acquisition and so on?		✓					
3.7	Loss of income sources and means of livelihoods due to construction of flood shelter, land acquisition/ requisition?		✓					
3.8	Impacts on any vulnerable (poor, old-aged, female-headed households, ethnic people, etc.) people?		✓					Detail out about the groups and how is impacted:

Resilient Infrastructure for Adaptation and Vulnerability Reduction (RIVER) Project
Environmental & Social Assessment and Management Report for Gaibandha District

Sl. #	Screening Questions	Y	N	Impact ¹				Justification for the response (please provide answers to each question)
				L	M	S	H	
3.9	Loss of access to natural resources, communal facilities and services?		✓					
3.10	Impacts on social and economic activities due to the change in land use (if any)?		✓					
3.11	Cutting trees for construction works of with more than 3" girth diameters?	✓			✓			Species name & Number of trees:
3.12	Impact on pond or fish population or aquatic habitats?		✓					
3.13	Any surface water pollution? If yes, Source?		✓					
3.14	Any Groundwater pollution? If yes, Source? No As							Fe=Iron, As = Arsenic, Mn = Manganese, Hard = Hardness 15 ft, 135 ft If other, Specify: Contaminant's depth (feet): (Shallow / Deep)
3.15	Possible contamination of surface and ground waters due to improper waste disposal:		✓					
3.16	The type and quantity of waste generated (e.g. Solids wastes, liquid wastes, etc.):	✓			✓			Solids waste, demolition materials, concrete wastes etc.
3.17	Impacts on surrounding environment due to sanitation and solid waste disposal: (Briefly mention the sources and extent of impacts)		✓					Disposal area available? vYes/No If yes, where & how: vOn-site, Off-site
3.18	Impacts from construction camp?	✓			✓			Camp area available? vYes / No If yes, where? vOnsite /off site
3.19	Disturbance or modification of existing drainage channels (rivers, canals) or surface water bodies (wetlands, marshes)?		✓					Water logged for (days): Water height (feet):
3.20	Destruction or damage of terrestrial or aquatic ecosystems or endangered species directly or by induced development?		✓					
3.21	Flooding problem in the area? Mention frequency & severity	✓			✓			Year: 1987, 1988 Height: 25, 125 Days:
3.22	Traffic disturbances due to construction material transport and wastes?		✓					
3.23	Possibility of Subproject induced air / dust pollution? Mention the sources and impacts.		✓					

Sl. #	Screening Questions	Y	N	Impact ¹				Justification for the response (please provide answers to each question)
				L	M	S	H	
3.24	Noise pollution from construction, industrial and vehicles?	✓		✓				
3.25	Risks and vulnerabilities related to occupational health and safety due to hazards during construction and operation phase?	✓		✓				
3.26	Negative effects on neighborhood or community (Mention types and scale of impacts)?		✓					
3.27	Degradation or disturbance of historically, culturally important site (mosque, graveyards, monuments, etc.)?		✓					
3.28	Any Impediments to movements of people and livestock during construction period?		✓					
3.29	The shelter buildings need to relocate/ Shift to another place? If yes, Mention Relocation place name, distance from site, for how long, is rent needed? Show relocation place in the topographical map.		✓					
3.30	Disturbance to the student in taking the lesson in the classroom?	✓		✓				
3.31	Direct or indirect hazards to student for walking in the school campus by construction activities?	✓		✓				Protective fencing required
3.32	Is there any disaster early warning system? If Yes, by Whom?	✓		✓				Yes: UDMC, VMiking, TV, TNO, TEO, Red crescent, vMobile phone SMS, etc.
3.33	Are there any power transmission line on the school premises?	✓			✓			Electric pole need to be shifted

¹Y= Yes, N=No, H=High, S=Substantial, M=Medium, and L=Low

Checklist on Environmental Issues for Site-specific Screening/ESIA

1: Important Establishments and boundary village/river around the Subproject site

Sl. No.	Direction	Important Establishments
1.	North side	① Gnavepar (Family oriented) - 0 m ② Mosque adjacent to school ③ Kaderdhop Porchion Thakurer Mosque - 840 m ④ Natun Kuri Academic Coaching - 1.15 km ⑤ Agricultural Land.
2.	South side	① Khuma Dighi Eidgah - 700 m ② Bollonghat Upasatho Kendra - 100 m ③ Raghunathpur Janna Mosque - 990 m ④ Moddhopara Janna Mosque - 1.20 km ⑤ u GPS - 1.10 km.
3.	East side	① Chelaguri Beel - 100 m ② Gaibandha Homeopathic Medical College and Hospital - 1.15 km.
4.	West side	① Ballamghar Central Janna Mosque - 100 m ② u UP - 1600 m ③ Matherpar Bazar Bollonghara - 980 m.

2: Trees within the school boundary

Sl. #	Name of trees	Particular and No. of Trees				Total	Remarks
		Large	Medium	Small	Sapling		
1.	Mehguni	4	1	3		8	
2.	Shil Boroi	1				1	
3.	Shimul Tula		1			1	
4.	Bohera			2		2	
5.	Chalta			1		1	
6.	Patabahar			1		1	

3: Pond/ Water bodies found inside and adjacent to the Subproject area:

Sl. #	Direction	Water body type (pond, river, canal, beel, drain)	Size (ft x ft)	Depth (ft)	Fish Farming (Yes or No)	Name of Farming Fish	Use of pond (Domestic/ Bathing / other)
1.	North						
2.	South						
3.	East						
4.	West						

4. Indigenous, brackish water and endangered fish species exist in catchment area of the Subproject: *দেঁরা, কোল, ঢাকি, লেপালা ইত্যাদি*

Yes or No. If yes, Mention Name:

5. The common local birds found in the catchment area: *ঘুঘু, মোহিন, বাবুড়ি,*

6. Wild animals found in the catchment area: *মাছরাঙ্গা, কাক ইত্যাদি*

7. Endangered faunal species found in the catchment area: *কামড়ান, বনঝিঁড়ান*

8. The soils are highly/moderately/not saline at a depth of..... ft in and around the subproject areas throughout the year. *১৫০, ১০০, ১০০, ১০০, ১০০, ১০০*

Md. Rasidur Rahman
District Resident Engineer (DRE)
D&SC, RIVER Project
LGED, Gaibandha.

Harogopal Kabiraj
Sr. Environmental Specialist
D & S Consultant
RIVER Project, LGED, HQ.

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Resilient Infrastructure for Adaptation and Vulnerability Reduction (RIVER) Project
Local Government Engineering Department
Government of the People's Republic of Bangladesh

Checklist for Environmental and Social Assessment

1. Subproject Description

GAI-039

Date: 18/11/2025

Sl. #	Subproject Description	Response
1.	Package Name and Number:	LGED/RIVER/
2.	Name of the Subproject/component:	Lenga GIPS
3.	Educational Institute ID/ Road ID:	91108011205
4.	Estimated total Cost of the sub project/component (in Taka):	
5.	Estimated Operation and Maintenance Period (Subproject life time):	
6.	Division: ~~Rangpur~~ District: <u>Gaibandha</u> Upazila: <u>Gaibandha Sadar</u> Union: <u>1 no. lakhmipur</u>	
7.	Name of the community/ Local area:	<u>Moujamali bari Lenga bazar</u>
8.	Size of the local population:	<u>20,000</u>
9.	Major profession of local population:	<u>Agriculture (60%), Daily labor (20%), others (20%)</u>
10.	Distance of the site from Upazila HQ:	<u>17 km - North</u>
11.	Nearby Major Road:	<u>Lakhmipur - Kamarjani</u>
12.	Nearby River/ Canal:	<u>West Lenga River - 500m</u>
13.	Description of proposed Subproject activities (incl. type of activities, footprint area, natural resources required, etc.):	
14.	Brief description of Subproject site: (e.g. present land use, Important Social and Environmental Features (IEFs) near site, etc.)	<u>School building, bazar, Rural settlement, playground</u>
15.	Types of waste to be generated during construction and operation phase:	<u>Demolition waste, septic sludge</u>
16.	Sensitive environmental, cultural, archaeological, religious sites near (within 1km) of site including major water bodies/forests:	<u>Lenga River - 500m</u>

Catchment Area: Moujamali bari, Hais Para, Joyer vita, Doctor Para, Bokshi Khamar, Master Para, Daler vita, Fokirpara

2. Environmental and Social Screening Form
2.1 Section A: Subproject Overview

1.	Description of Subproject/component interventions:
2.	Subproject Location: 25.431829 / 99.55821
3.	Expected construction period:
4.	Description of project intervention area and project influence area with schematic diagram (where relevant, indicate distance to sensitive social and environmental areas such as archeological/religious/ historical or cultural assets or sites, human settlements, forests, water bodies, etc.): Archeological place: Religious place: Forest: Wetland:

2.2 Section B: Environmental and Social Screening Checklist

Sl. #	Screening Questions	Y	N	Impact ¹				Justification for the response (please provide answers to each question)
				L	M	S	H	
1.0	Subproject Sitting/Location is the Subproject area							
1.1	Adjacent to/or within any of the social/environmentally sensitive areas?							
	• Cultural heritage site		✓					
	• Ethnic minority areas		✓					
	• Protected Area		✓					
	• Wetland		✓					
	• Mangrove		✓					
	• Estuarine		✓					
	• Buffer zone of protected areas		✓					
1.2	Are there any ponds, khals, beels, haors, baors, rivers, etc. in/around the site?							No.: Distance: Direction:
	Please specify numbers and name for each.		✓					Ponds:
			✓					khals:
			✓					Beels:
			✓					Haors:
			✓					Rivers:
			✓					Others:
			✓					
2.0	Baseline at Pre-Construction Stage							
2.1	Ancillary Facilities (e.g. status of access road or any other facility required for Subproject to be viable)?	✓		✓				Joyar Vitha road - RCC
2.2	Air quality status (apparently/ visibly)?	✓		✓				apparently/ visibly good
2.3	Requirement of accommodation or service amenities (toilet, water supply, electricity) to support the workforce during construction?	✓		✓				Accommodation, Toilet, Electricity, Supply water, drinking water.
2.4	Possible location of labor camps?	✓		✓				On site

Resilient Infrastructure for Adaptation and Vulnerability Reduction (RIVER) Project
Environmental & Social Assessment and Management Report for Gaibandha District

Sl. #	Screening Questions	Y	N	Impact ¹				Justification for the response (please provide answers to each question)
				L	M	S	H	
2.5	Requirement and type of raw materials (e.g. sand, stone, wood, etc.)?							
2.6	Identification of access road for transportation?							
2.7	Location identification for raw material storage?							
2.8	Possible composition and quantities of wastes (Solids wastes, demolition materials, sludge from old latrines, etc.)?							Solids waste, demolition materials, concrete wastes etc.
2.9	Mention source of drinking water in dry and wet seasons		✓					Shallow / vDeep Tube well: If deep tube well, mention depth (feet): 200-250 If other, specify: Rainwater harvesting available: No Onsite/ off site/ NAV
2.10	Has the Subproject/component site any seismic risk (historically)?							
2.11	Identification of possible stakeholders, especially vulnerable groups?							
3.0	Potential Socio-environmental impacts. Will the Subproject cause.....							
3.1	Potential influx of workers to the project location? Whether significant for the local community?	✓		✓				
3.2	Possible conflict between workers and local people?		✓					
3.3	Resource constraint for the local population (due to the additional burden of incoming workers/staff)?		✓					
3.4	Possible loss of agricultural land/ crops?		✓					
3.5	Involvement of any land acquisition and involuntary resettlement?		✓					
3.6	Loss of residential, business or enterprises due to construction of flood shelter, land requisition/acquisition and so on?		✓					
3.7	Loss of income sources and means of livelihoods due to construction of flood shelter, land acquisition/ requisition?		✓					
3.8	Impacts on any vulnerable (poor, old-aged, female-headed households, ethnic people, etc.) people?		✓					Detail out about the groups and how is impacted:

Resilient Infrastructure for Adaptation and Vulnerability Reduction (RIVER) Project
Environmental & Social Assessment and Management Report for Gaibandha District

Sl. #	Screening Questions	Y	N	Impact ¹				Justification for the response (please provide answers to each question)
				L	M	S	H	
3.9	Loss of access to natural resources, communal facilities and services?		✓					
3.10	Impacts on social and economic activities due to the change in land use (if any)?		✓					
3.11	Cutting trees for construction works of with more than 3" girth diameters?	✓		✓				Species name & Number of trees: 01, Krishn nonchur
3.12	Impact on pond or fish population or aquatic habitats?		✓					
3.13	Any surface water pollution? If yes, Source?		✓					
3.14	Any Groundwater pollution? If yes, Source?	✓			✓			Fe=Iron, As = Arsenic, Mn = Manganese, Hard = Hardness If other, Specify: Contaminant's depth (feet): (Shallow / Deep)
3.15	Possible contamination of surface and ground waters due to improper waste disposal:		✓					
3.16	The type and quantity of waste generated (e.g. Solids wastes, liquid wastes, etc.):	✓		✓				Solids waste, demolition materials, concrete wastes etc.
3.17	Impacts on surrounding environment due to sanitation and solid waste disposal: (Briefly mention the sources and extent of impacts)	✓		✓				Disposal area available? ✓Yes/No If yes, where & how: ✓On-site, Off-site
3.18	Impacts from construction camp?	✓			✓			Camp area available? ✓Yes / No If yes, where? ✓Onsite /off site
3.19	Disturbance or modification of existing drainage channels (rivers, canals) or surface water bodies (wetlands, marshes)?		✓					Water logged for (days): Water height (feet):
3.20	Destruction or damage of terrestrial or aquatic ecosystems or endangered species directly or by induced development?		✓					
3.21	Flooding problem in the area? Mention frequency & severity	✓			✓			Year: 1988 / 2019 Height: 5.5ft / 212 Days: 22-3
3.22	Traffic disturbances due to construction material transport and wastes?	✓			✓			Bazar Area
3.23	Possibility of Subproject induced air / dust pollution? Mention the sources and impacts.	✓			✓			

Sl. #	Screening Questions	Y	N	Impact ¹				Justification for the response (please provide answers to each question)
				L	M	S	H	
3.24	Noise pollution from construction, industrial and vehicles?	✓		✓				
3.25	Risks and vulnerabilities related to occupational health and safety due to hazards during construction and operation phase?	✓		✓				
3.26	Negative effects on neighborhood or community (Mention types and scale of impacts)?		✓					
3.27	Degradation or disturbance of historically, culturally important site (mosque, graveyards, monuments, etc.)?		✓					
3.28	Any Impediments to movements of people and livestock during construction period?		✓					
3.29	The shelter buildings need to relocate/ Shift to another place? If yes, Mention Relocation place name, distance from site, for how long, is rent needed? Show relocation place in the topographical map.		✓					
3.30	Disturbance to the student in taking the lesson in the classroom?	✓		✓				
3.31	Direct or indirect hazards to student for walking in the school campus by construction activities?		✓					Protective fencing required
3.32	Is there any disaster early warning system? If Yes, by Whom?	✓		✓				Yes: UDMC, vMiking, TV, TNO, TEO, Red crescent, vMobile phone SMS, etc.
3.33	Are there any power transmission line on the school premises?		✓					

¹ Y= Yes, N=No, H=High, S=Substantial, M=Medium, and L=Low

2014
DPHE
Wash block → 30 feet X 10 feet
School building → 58 feet X 32 feet
(LGSP) → 2006 (LGED),
Sahced Minar → 15 feet X 20 feet
Auxiliary facilities → 20 feet X 10 feet
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Checklist on Environmental Issues for Site-specific Screening/ESIA

1: Important Establishments and boundary village/river around the Subproject site

Sl. No.	Direction	Important Establishments
1.	North side	1. Barma Sundomri High school → 10m 2. Joyer Vita mosque → 150m 3. Madrasa → 500m 4. Itazipara Mosque → 1km
2.	South side	1. Lenga bazar + Mosque → 70m 2. Koyari bar beel → 200m 3. Lenga bazar → Adj. 4. Doctor para mosque → 500m
3.	East side	1. Mouja Malibari technical college → 300m 2. Souldubi beel → 700m 3. Rural settlements → Adj. 4. Ideal college → 500m 5. Girls High School → 250m
4.	West side	1. Lenga Bazar Madrasa → 1.40m 2. Namari' bondh beel → 300m 3. Lenga River → 500m 4. Mouja Malibari old mosque → 100m 5. u u new u → 1km

**Resilient Infrastructure for Adaptation and Vulnerability Reduction (RIVER) Project
Environmental & Social Assessment and Management Report for Gaibandha District**

Resilient Infrastructure for Adaptation and Vulnerability Reduction (RIVER) Project
Local Government Engineering Department
Government of the People's Republic of Bangladesh

Checklist for Environmental and Social Assessment

1. Subproject Description

GAI-090

Date: 18.11.25

Sl. #	Subproject Description	Response
1.	Package Name and Number:	LGED/RIVER/
2.	Name of the Subproject/component:	Analerhari GPs
3.	Educational Institute ID/ Road ID:	91108011107
4.	Estimated total Cost of the sub project/component (in Taka):	
5.	Estimated Operation and Maintenance Period (Subproject life time):	
6.	Division: <u>Rangpur</u> District: <u>Gaibandha</u> Upazila: <u>Gaibandha Sadar</u> Union: <u>9 No. Kholahati</u>	
7.	Name of the community/ Local area:	Dakhin Analerhari
8.	Size of the local population:	16,000
9.	Major profession of local population:	Agriculture (90%), Business (5%), Service (5%)
10.	Distance of the site from Upazila HQ:	7km. → North
11.	Nearby Major Road:	Gaibandha - Kurigram (2km) → west
12.	Nearby River/ Canal:	Branchputra (10km) → East
13.	Description of proposed Subproject activities (incl. type of activities, footprint area, natural resources required, etc.):	
14.	Brief description of Subproject site: (e.g. present land use, Important Social and Environmental Features (IEFs) near site, etc.)	Roads, shops, playground, local settlement, Agricultural land
15.	Types of waste to be generated during construction and operation phase:	Construction waste, Solid waste organic and Inorganic waste
16.	Sensitive environmental, cultural, archaeological, religious sites near (within 1km) of site including major water bodies/forests:	N - Moddo Analerhari S - Dakhin " W - Kholahati E - Chhagua

Total Teacher - 05, Male = 00, Female - 05

Total Student - 203, Boys - 96, Girls - 107

2. Environmental and Social Screening Form

2.1 Section A: Subproject Overview

1.	Description of Subproject/component interventions:
2.	Subproject Location:
3.	Expected construction period:
4.	Description of project intervention area and project influence area with schematic diagram (where relevant, indicate distance to sensitive social and environmental areas such as archeological/religious/ historical or cultural assets or sites, human settlements, forests, water bodies, etc.): Archeological place: N/A Religious place: Nur Jume Mosque Forest: N/A Wetland: pond

2.2 Section B: Environmental and Social Screening Checklist

Sl. #	Screening Questions	Y	N	Impact ¹				Justification for the response (please provide answers to each question)
				L	M	S	H	
1.0	Subproject Sitting/Location Is the Subproject area:							
1.1	Adjacent to/or within any of the social/environmentally sensitive areas?							
	• Cultural heritage site		✓					
	• Ethnic minority areas		✓					
	• Protected Area		✓					
	• Wetland	✓		✓				
	• Mangrove		✓					
	• Estuarine		✓					
	• Buffer zone of protected areas		✓					
	• Special area for protecting biodiversity		✓					
1.2	Are there any ponds, khals, beels, haors, baors, rivers, etc. in/around the site?							No.: Distance: Direction:
	Please specify numbers and name for each.	✓		✓				Ponds: 1
			✓					khals:
			✓					Beels:
			✓					Haors:
			✓					Rivers:
1.3	Any sensitive sites for river erosion? Where & Severity?		✓					Others:
2.0	Baseline at Pre-Construction Stage							
2.1	Ancillary Facilities (e.g. status of access road or any other facility required for Subproject to be viable)?	✓			✓			12.1 earthen road. Access road needed.
2.2	Air quality status (apparently/ visibly)?	✓	✓					apparently/ visibly good
2.3	Requirement of accommodation or service amenities (toilet, water supply, electricity) to support the workforce during construction?	✓		✓				Accommodation, Toilet, Electricity, Supply water, drinking water.
2.4	Possible location of labor camps?	✓		✓				onsite.

Resilient Infrastructure for Adaptation and Vulnerability Reduction (RIVER) Project
Environmental & Social Assessment and Management Report for Gaibandha District

Sl. #	Screening Questions	Y	N	Impact ¹				Justification for the response (please provide answers to each question)
				L	M	S	H	
2.5	Requirement and type of raw materials (e.g. sand, stone, wood, etc.)?	✓		✓				onsite
2.6	Identification of access road for transportation?		✓					Need access road
2.7	Location identification for raw material storage?	✓		✓				onsite
2.8	Possible composition and quantities of wastes (Solids wastes, demolition materials, sludge from old latrines, etc.)?	✓			✓			Solids waste, demolition materials, concrete wastes etc.
2.9	Mention source of drinking water in dry and wet seasons							Shallow / ✓ Deep Tube well: If deep tube well, mention depth (feet): 80 ft If other, specify: Rainwater harvesting available: No Onsite/ off site/ NAV
2.10	Has the Subproject/component site any seismic risk (historically)?		✓					
2.11	Identification of possible stakeholders, especially vulnerable groups?		✓					
3.0	Potential Socio-environmental impacts: Will the Subproject cause.....							
3.1	Potential influx of workers to the project location? Whether significant for the local community?	✓		✓				
3.2	Possible conflict between workers and local people?		✓					
3.3	Resource constraint for the local population (due to the additional burden of incoming workers/staff)?		✓					
3.4	Possible loss of agricultural land/ crops?		✓					
3.5	Involvement of any land acquisition and involuntary resettlement?		✓					
3.6	Loss of residential, business or enterprises due to construction of flood shelter, land requisition/acquisition and so on?		✓					
3.7	Loss of income sources and means of livelihoods due to construction of flood shelter, land acquisition/ requisition?		✓					
3.8	Impacts on any vulnerable (poor, old-aged, female-headed households, ethnic people, etc.) people?		✓					Detail out about the groups and how is impacted:

Resilient Infrastructure for Adaptation and Vulnerability Reduction (RIVER) Project
Environmental & Social Assessment and Management Report for Gaibandha District

Sl. #	Screening Questions	Y	N	Impact ¹				Justification for the response (please provide answers to each question)
				L	M	S	H	
3.9	Loss of access to natural resources, communal facilities and services?		✓					
3.10	Impacts on social and economic activities due to the change in land use (if any)?		✓					
3.11	Cutting trees for construction works of with more than 3" girth diameters?	✓		✓				Species name & Number of trees:
3.12	Impact on pond or fish population or aquatic habitats?		✓					
3.13	Any surface water pollution? If yes, Source?		✓					
3.14	Any Groundwater pollution? If yes, Source? No Fe and As	✓		✓				Fe=Iron, As = Arsenic, Mn = Manganese, Hard = Hardness 80 ft If other, Specify: Contaminant's depth (feet): (Shallow / Deep)
3.15	Possible contamination of surface and ground waters due to improper waste disposal:		✓					
3.16	The type and quantity of waste generated (e.g. Solids wastes, liquid wastes, etc.):	✓		✓				Solids waste, demolition materials, concrete wastes etc.
3.17	Impacts on surrounding environment due to sanitation and solid waste disposal: (Briefly mention the sources and extent of impacts)		✓					Disposal area available? ✓Yes/No If yes, where & how: ✓On-site, Off-site
3.18	Impacts from construction camp?	✓		✓				Camp area available? ✓Yes / No If yes, where? ✓Onsite /off site
3.19	Disturbance or modification of existing drainage channels (rivers, canals) or surface water bodies (wetlands, marshes)?		✓					Water logged for (days): Water height (feet):
3.20	Destruction or damage of terrestrial or aquatic ecosystems or endangered species directly or by induced development?		✓					
3.21	Flooding problem in the area? Mention frequency & severity	✓			✓			Year: 2019 / 2004 / 1996 / 1988 Height: 35 ft / 45 ft / 5 ft Days:
3.22	Traffic disturbances due to construction material transport and wastes?	✓		✓				
3.23	Possibility of Subproject induced air / dust pollution? Mention the sources and impacts.	✓		✓				

Sl. #	Screening Questions	Y	N	Impact ¹				Justification for the response (please provide answers to each question)
				L	M	S	H	
3.24	Noise pollution from construction, industrial and vehicles?	✓		✓				
3.25	Risks and vulnerabilities related to occupational health and safety due to hazards during construction and operation phase?	✓			✓			
3.26	Negative effects on neighborhood or community (Mention types and scale of impacts)?		✓					
3.27	Degradation or disturbance of historically, culturally important site (mosque, graveyards, monuments, etc.)?		✓					
3.28	Any Impediments to movements of people and livestock during construction period?		✓					
3.29	The shelter buildings need to relocate/ Shift to another place? If yes, Mention Relocation place name, distance from site, for how long, is rent needed? Show relocation place in the topographical map.		✓					
3.30	Disturbance to the student in taking the lesson in the classroom?	✓		✓				
3.31	Direct or indirect hazards to student for walking in the school campus by construction activities?	✓		✓				Protective fencing required
3.32	Is there any disaster early warning system? If Yes, by Whom?	✓		✓				Yes: UDMC, vMiking, TV, TNO, TEO, Red crescent, vMobile phone SMS, etc.
3.33	Are there any power transmission line on the school premises?		✓					

¹ Y= Yes, N=No, H=High, S=Substantial, M=Medium, and L=Low

Checklist on Environmental Issues for Site-specific Screening/ESIA

1: Important Establishments and boundary village/river around the Subproject site

Sl. No.	Direction	Important Establishments
1.	North side	① Baitul Nur Jame mosque - 300m ② Modda Analentari madrasa - 900m ③ Baitul Nur graveyard - 300m ④ Aronda Bazar - 800m
2.	South side	① Dakhin Analentari community clinic - 400m ② Shobhania Eftedai madrasa - 400m ③ Sonar para graveyard - 400m ④ Baitul Mukaddas Jame mosque - 300m ⑤ " " graveyard - 200m ⑥ Birshampur S.N.B Girl's School - 870m
3.	East side	① Analentari Nur Jame mosque - 200m ② Dangirpar Moraghati somsan - 800m ③ Uttar Ghogua madhupur GPS - 780m
4.	West side	① Dakhin Analentari Eidgah - 200m ② " " graveyard - 200m ③ Ghogua Beel - 200m

2: Trees within the school boundary

Sl. #	Name of trees	Particular and No. of Trees				Total	Remarks
		Large	Medium	Small	Sapling		
1.	Mango		1			1	
2.							
3.							
4.							
5.							
6.							

3: Pond/ Water bodies found inside and adjacent to the Subproject area:

Sl. #	Direction	Water body type (pond, river, canal, beel, drain)	Size (ft x ft)	Depth (ft)	Fish Farming (Yes or No)	Name of Farming Fish	Use of pond (Domestic/ Bathing / other)
1.	North	Ditch	84x32	1.5 ft			
2.	South						
3.	East						
4.	West	Pond	18x18 ft	10 ft	No	N/A	N/A

4. Indigenous, brackish water and endangered fish species exist in catchment area of the Subproject: টাঙ্গি, লি, মোক, মাছুর, গুটি

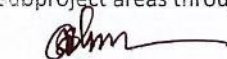
Yes or No. If yes, Mention Name:

5. The common local birds found in the catchment area: বক, মাহুয়া, কাকি, ধূসর হাঁস

6. Wild animals found in the catchment area: মাক, বেড়ি, বনবিড়াল

7. Endangered faunal species found in the catchment area: মকুন, বাদাম

8. The soils are highly/moderately/not saline at a depth of..... ft in and around the subproject areas throughout the year.



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**Resilient Infrastructure for Adaptation and Vulnerability Reduction (RIVER) Project
Environmental & Social Assessment and Management Report for Gaibandha District**

Resilient Infrastructure for Adaptation and Vulnerability Reduction (RIVER) Project
Local Government Engineering Department
Government of the People's Republic of Bangladesh

Checklist for Environmental and Social Assessment

1. Subproject Description

GAI - 091

Date: 18.11.25

Sl. #	Subproject Description	Response
1.	Package Name and Number:	LGED/RIVER
2.	Name of the Subproject/component:	Kisamat Balua GPS
3.	Educational Institute ID/ Road ID:	91108011106
4.	Estimated total Cost of the sub project/component (in Taka):	
5.	Estimated Operation and Maintenance Period (Subproject life time):	
6.	Division: <i>Rangpur</i> District: <i>Gaibandha</i> Upazila: <i>Gaibandha Sadar</i> Union: <i>9 No. Kholahati</i>	
7.	Name of the community/ Local area:	Kisamat Balua
8.	Size of the local population:	10,000
9.	Major profession of local population:	Agriculture (15%), Daily labour (50%), Business (10%), service (10%), others (15%)
10.	Distance of the site from Upazila HQ:	8km - South East
11.	Nearby Major Road:	3km - Gaibandha to Kurigram East
12.	Nearby River/ Canal:	5km - Brahmaputra - (East)
13.	Description of proposed Subproject activities (incl. type of activities, footprint area, natural resources required, etc.):	
14.	Brief description of Subproject site: (e.g. present land use, Important Social and Environmental Features (IEFs) near site, etc.)	Trees, Roads, new Bazar, playground, embankment, local settlement.
15.	Types of waste to be generated during construction and operation phase:	Demolition waste, construction waste, solid waste etc.
16.	Sensitive environmental, cultural, archaeological, religious sites near (within 1km) of site including major water bodies/forests:	N - Dakshin Chapardaha S - Chak mamojpur E - Kholahati, Farzipara W - Narayanpur

Total Teacher - 09. male = 02, female - 07

11 student - 392 Boys = 185 Girls = 207

2. Environmental and Social Screening Form

2.1 Section A: Subproject Overview

1.	Description of Subproject/component interventions:
2.	Subproject Location:
3.	Expected construction period:
4.	Description of project intervention area and project influence area with schematic diagram (where relevant, indicate distance to sensitive social and environmental areas such as archeological/religious/ historical or cultural assets or sites, human settlements, forests, water bodies, etc.): Archeological place: N/A Religious place: N/A Forest: N/A Wetland: N/A

2.2 Section B: Environmental and Social Screening Checklist

Sl. #	Screening Questions	Y	N	Impact ¹				Justification for the response (please provide answers to each question)
				L	M	S	H	
1.0	Subproject Sitting/Location Is the Subproject area:							
1.1	Adjacent to/or within any of the social/environmentally sensitive areas?							
	• Cultural heritage site		✓					
	• Ethnic minority areas		✓					
	• Protected Area		✓					
	• Wetland		✓					
	• Mangrove		✓					
	• Estuarine		✓					
	• Buffer zone of protected areas		✓					
1.2	Are there any ponds, khals, beels, haors, baors, rivers, etc. in/around the site?							No.: Distance: Direction:
	Please specify numbers and name for each.		✓					Ponds:
			✓					khals:
			✓					Beels:
			✓					Haors:
			✓					Rivers:
1.3	Any sensitive sites for river erosion? Where & Severity?		✓					Others:
2.0	Baseline at Pre-Construction Stage							
2.1	Ancillary Facilities (e.g. status of access road or any other facility required for Subproject to be viable)?		✓					10ft Be Road
2.2	Air quality status (apparently/ visibly)?	✓		✓				apparently/ visibly good
2.3	Requirement of accommodation or service amenities (toilet, water supply, electricity) to support the workforce during construction?		✓					Accommodation, Toilet, Electricity, Supply water, drinking water.
2.4	Possible location of labor camps?	✓		✓				

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Sl. #	Screening Questions	Y	N	Impact ¹				Justification for the response (please provide answers to each question)
				L	M	S	H	
2.5	Requirement and type of raw materials (e.g. sand, stone, wood, etc.)?	✓		✓				
2.6	Identification of access road for transportation?	✓		✓				
2.7	Location identification for raw material storage?	✓		✓				
2.8	Possible composition and quantities of wastes (Solids wastes, demolition materials, sludge from old latrines, etc.)?	✓			✓			Solids waste, demolition materials, concrete wastes etc.
2.9	Mention source of drinking water in dry and wet seasons No Fe and As	✓			✓			Shallow / ✓ Deep Tube well: If deep tube well, mention depth (feet): 150ft If other, specify: Rainwater harvesting available: No Onsite/ off site/ NAV
2.10	Has the Subproject/component site any seismic risk (historically)?		✓					
2.11	Identification of possible stakeholders, especially vulnerable groups?		✓					
3.0	Potential Socio-environmental impacts. Will the Subproject cause.....							
3.1	Potential influx of workers to the project location? Whether significant for the local community?	✓		✓				
3.2	Possible conflict between workers and local people?		✓					
3.3	Resource constraint for the local population (due to the additional burden of incoming workers/staff)?		✓					
3.4	Possible loss of agricultural land/ crops?		✓					
3.5	Involvement of any land acquisition and involuntary resettlement?		✓					
3.6	Loss of residential, business or enterprises due to construction of flood shelter, land requisition/acquisition and so on?		✓					
3.7	Loss of income sources and means of livelihoods due to construction of flood shelter, land acquisition/ requisition?		✓					
3.8	Impacts on any vulnerable (poor, old-aged, female-headed households, ethnic people, etc.) people?		✓					Detail out about the groups and how is impacted:

Sl. #	Screening Questions	Y	N	Impact ¹				Justification for the response (please provide answers to each question)
				L	M	S	H	
3.9	Loss of access to natural resources, communal facilities and services?		✓					
3.10	Impacts on social and economic activities due to the change in land use (if any)?		✓					
3.11	Cutting trees for construction works of with more than 3" girth diameters?	✓		✓				Species name & Number of trees:
3.12	Impact on pond or fish population or aquatic habitats?		✓					
3.13	Any surface water pollution? If yes, Source?		✓					
3.14	Any Groundwater pollution? If yes, Source? No Fe and As	✓			✓			Fe=Iron, As = Arsenic, Mn = Manganese, Hard = Hardness 150 ft If other, Specify: Contaminant's depth (feet): (Shallow / Deep)
3.15	Possible contamination of surface and ground waters due to improper waste disposal:		✓					
3.16	The type and quantity of waste generated (e.g. Solids wastes, liquid wastes, etc.):	✓			✓			Solids waste, demolition materials, concrete wastes etc.
3.17	Impacts on surrounding environment due to sanitation and solid waste disposal: (Briefly mention the sources and extent of impacts)		✓					Disposal area available? vYes/No If yes, where & how: vOn-site, Off-site
3.18	Impacts from construction camp?	✓			✓			Camp area available? vYes / No If yes, where? vOnsite /off site
3.19	Disturbance or modification of existing drainage channels (rivers, canals) or surface water bodies (wetlands, marshes)?		✓					Water logged for (days): Water height (feet):
3.20	Destruction or damage of terrestrial or aquatic ecosystems or endangered species directly or by induced development?		✓					
3.21	Flooding problem in the area? Mention frequency & severity	✓			✓			Year: 1988 Height: 15 ft Days:
3.22	Traffic disturbances due to construction material transport and wastes?	✓			✓			
3.23	Possibility of Subproject induced air / dust pollution? Mention the sources and impacts.	✓			✓			

Sl. #	Screening Questions	Y	N	Impact ¹				Justification for the response (please provide answers to each question)
				L	M	S	H	
3.24	Noise pollution from construction, industrial and vehicles?	✓		✓				
3.25	Risks and vulnerabilities related to occupational health and safety due to hazards during construction and operation phase?	✓		✓				
3.26	Negative effects on neighborhood or community (Mention types and scale of impacts)?		✓					
3.27	Degradation or disturbance of historically, culturally important site (mosque, graveyards, monuments, etc.)?		✓					
3.28	Any Impediments to movements of people and livestock during construction period?		✓					
3.29	The shelter buildings need to relocate/ Shift to another place? If yes, Mention Relocation place name, distance from site, for how long, is rent needed? Show relocation place in the topographical map.		✓					
3.30	Disturbance to the student in taking the lesson in the classroom?	✓		✓				
3.31	Direct or indirect hazards to student for walking in the school campus by construction activities?		✓					Protective fencing required
3.32	Is there any disaster early warning system? If Yes, by Whom?	✓		✓				Yes: UDMC, vMiking, TV, TNO, TEO, Red crescent, vMobile phone SMS, etc.
3.33	Are there any power transmission line on the school premises?		✓					

¹ Y= Yes, N=No, H=High, S=Substantial, M=Medium, and L=Low

Checklist on Environmental Issues for Site-specific Screening/ESIA

1: Important Establishments and boundary village/river around the Subproject site

Sl. No.	Direction	Important Establishments
1.	North side	① Uttarpara Jame mosque - 500m ② " " graveyard - 500m ③ " " Eidgah - 500m
2.	South side	① Pramanikpara Abulhadi Jame mosque - 100m ② Moddopara Central J " " - 150m ③ " " graveyard - 150m ④ " " central Eidgah - 500m ⑤ Ganga + River - 280m.
3.	East side	① Mollabazar Jame mosque - 500m ② Veraswara Railbridge - 230m ③ Technical school - 1Km
4.	West side	① Kismat Balua Community clinic - 10m ② " " Jame mosque - 300m ③ " " graveyard - 300m ④ " " water maktob - 300m ⑤ Nalli Gulli Beel - 500m

2: Trees within the school boundary

Sl. #	Name of trees	Particular and No. of Trees				Total	Remarks
		Large	Medium	Small	Sapling		
1.							
2.							
3.							
4.							
5.							
6.							

3: Pond/ Water bodies found inside and adjacent to the Subproject area:

Sl. #	Direction	Water body type (pond, river, canal, beel, drain)	Size (ft x ft)	Depth (ft)	Fish Farming (Yes or No)	Name of Farming Fish	Use of pond (Domestic/ Bathing / other)
1.	North						
2.	South						
3.	East						
4.	West						

4. Indigenous, brackish water and endangered fish species exist in catchment area of the Subproject: *চুড়ি, চিলুড়ি, ক্রি, কেমি, দইহুতা, চৌহতা, (বাগাল, ওলিহুতা)*

Yes or No. If yes, Mention Name:

5. The common local birds found in the catchment area: *কানিক, (মাখান, ময়ূর, খুয়ু)*

6. Wild animals found in the catchment area: *কিখান, (গড়ি হুতা)*

7. Endangered faunal species found in the catchment area: *কহুন, চিখা, (আদমবাসী, বানিয়ান)*

8. The soils are highly/moderately/not saline at a depth of..... ft in and around the subproject areas throughout the year.

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