Government of The People's Republic of Bangladesh

Ministry of Local Government, Rural Development and Co-operatives

Local Government Engineering Department (LGED)

Emergency Multi-Sector Rohingya Crisis Response Project (EMCRP)

ENVIRONMENTAL SCREENING REPORT

Sub-project: EMCRP/W-7
Construction of Field Office (EE Cox's Bazar) extension with renovation
Pourashava: Cox's Bazar; Upazila: Cox's Bazar Sadar;
District: Cox's Bazar
March 2020

Funded by:

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Government of the People's Republic of Bangladesh

Consultant:

Development Design Consultants Ltd.

Contents

ACRONYMS

BOQ	Bill of Quantities
D&SC	Design and Supervision Consultant
DoE	Department of Environment
DRP	Displaced Rohingya people
EA	Environmental Assessment
EC	Electrical Conductivity
EMCRP	Emergency Multi-Sector Rohingya Crisis Response Project
EMP	Environmental Management Plan
ERP	Emergency Response Plan
ESMF	Environmental and Social Management Framework
ESMP	Environmental and Social Management Plan
FDMN	Forcibly Displaced Myanmar National
FGD	Focus Group Discussion
FSM	Faecal Sludge Management
GBV	Gender Based violence
GPS	Government Primary School
GRM	Grievance Redress Mechanism
HBB	Herring Bone Brick
IEFs	Important Environmental Features
ISCG	Inter Sector Coordination Group
IUCN	International Union for Conservation of Nature
IWM	Institute of Water Modeling
LGED	Local Government Engineering Department
PIU	Project Implementation Unit
PMU	Project Management Unit
PPE	Personal Protective Equipment
PSC	Project Steering Committee
SPM	Suspended Particulate Matter
SWM	Solid Waste Management
TDS	Total Dissolved Solids
TSS	Total Suspended Solids

UNHCR	The United Nations High Commissioner for Refugees
VAT	Value-Added Tax
WB	World Bank

1. INTRODUCTION

1.1 Project background

An estimated 730,000[1] people of Rohingya community has fled to neighboring Cox's Bazar district of Bangladesh since August 25, 2017 to escape extreme violence in Rakhine State of Myanmar, which caused the total number of Forcibly Displaced Myanmar National (FDMN) in the district to be about 923,033[2]. This huge number of displaced population account for about one-third of the total population of Cox's bazar, a district which was already facing many development challenges and suffering from resource-constrained social service delivery system even before the crisis evolved and the mass exodus of FDMN has worsened the situation further. Almost all of these displaced people are hosted in Ukhiya and Teknaf Upazila of Cox's Bazar, in extremely congested settlements in areas having very minimal access to basic infrastructure and services and is prone to natural disasters. The Emergency Multi-Sector Rohingya Crisis Response Project (EMCRP) has been designed in order to reduce the vulnerability of Forcibly Displaced Myanmar National (FDMN) along with people from the host communities in Teknaf and Ukhiya Upazila under Cox's Bazar District, to different disasters and improve the social service delivery system and disaster resilience to both the communities. This project is a sustainable development pathway that is resilient to disaster and climate change.

The objective of the Project is to provide greater protection for the FDMN and host communities through:

- Reducing the vulnerability to natural disasters
- Improving social service delivery system
- Improving water and sanitation facilities
- Reducing vulnerability to accidental fire
- Provisioning better educational facilities and
- Strengthening and scaling up of GBV prevention services to the FDMN

The project is jointly being implemented by Local Government Engineering Department (LGED), Department of Public Health Engineering (DPHE) and Ministry of Disaster Management and Relief (MoDMR) under their respective mandate and scope of works. Given the project interventions, sensitivity of the areas and volume of people in or around the sites, the project is more likely to trigger certain Operational Policies and Bank Procedures, namely Environmental Assessment (OP/BP 4.01), Natural Habitat (OP/BP 4.04), Forest (OP/BP 4.36) and Physical Cultural Resources (OP /BP 4.11).

1.2 Background of the Sub-project

The Emergency Multi-Sector Rohingya Crisis Response Project (EMCRP) will support the Government of Bangladesh in addressing the immediate and urgent needs of the displaced people from Myanmar and host communities in Cox's Bazar, within the scope of improving access to basic services and building disaster and social resilience of the displaced population. This document represents the Findings from Environmental Screening of the sub-projects under **'Construction of**

[1] ISCG: Situation Report Rohingya Refugee Crisis, (September 27, 2018)

[2] IOM Needs and Population Monitoring round 12 as of October 10, 2018

Field Office (EE Cox's Bazar) extension with Renovation in Cox's Bazar Sadar Upazila of Cox's Bazar District**'** with the package code- **EMCRP/W-7.**

Under the package of LGED/EMCRP-W/7, Field office (EE Cox's Bazar) will be renovated in Cox's Bazar Pourashava under Sadar Upazila of Cox's Bazar district. Relevant significant features of the sub-project area have been tabulated in Table 1.2.1.

Table 1.2.1: Significant features of the Sub-project

Package Name: EMCRP/W-7: Construction of Field Office (EE Cox's Bazar) extension with Renovation in Cox's Bazar Sadar Upazila of Cox's Bazar District.

Component Location:

i. Place: Cox's Bazar XEN office	ii Name of Pourashava: Cox's Bazar
iii. Upazila: Cox's Bazar Sadar	iv. Construction Year: 2019-2020
v. Water Status: Available	vi. Water Source: Shallow Tube-well, Deep tube-well
viii. GPS Coordinates	Latitude Value: 21.436023 N Longitude Value: 91.971741 E
ix. Communication Source	Radio & Mobile Network
x. Owner of land	Government own land
xi. Tribal people	No tribal people found in the catchment area of the Sub-project
xii. Connecting road	01 BC road is passing by the subproject site
xiii. Land acquisition	Not required

Subproject Intervention:

- Maintenance works of Office-building, LGED, Cox's Bazar
- Retrofitting reconstruction work at LGED Cox's Bazar.
  a. Ground floor
  b. 1st and 2nd floor
- Renovation work of rest house at executive engineer's office.
- Renovation work of hall room at executive engineer's office.

Implementing Agency: Local Government Engineering Department (LGED)

Expected construction period : 2019-2020

Estimated total cost of component: 1,48,80,914.00 (Tk.)

[Field survey, 2019 and Design Unit]

This Environmental Screening Report will screen out the major environmental features of the proposed sub-project site and surrounding areas and assess the potential impacts in respect to the planned interventions on the site and also suggest with site and activities specific management plan including appropriate general mitigation options.

1.3 Location of Sub-Project

The Sub-project is located within LGED-XEN office compound in Sadar Upazila of Cox's Bazar District. The site location is relatively a plain land, free from any obstruction and easily accessible through a 20 feet wide BC road, which is passing by the subproject site. UNICEF field office is found on south side of the proposed site. The Bay of Bengal is situated at 1km west of the subproject location. The location details of the Sub-project have been summarized in Table 1.3.1. The District

Map with project location and Upazila Map with Sub-project location have been shown in Figure 1.3.1 and Figure 1.3.2 respectively.

Table 1.3.1: Location Details of the Sub-project

Division	Chittagong
District	Cox's Bazar
Upazila	Cox's Bazar Sadar
Pourashava	Cox's Bazar
GPS position	21.436023 N. 91.971741 E
Nearby major road	Motel Road, Cox's Bazar
Nearby river/canal	The Bay of Bengal is situated at 1km west
North side of the district	Chittagong District
South side of the district	Bay of Bengal
East side of the district	Bandarban District
West side of the district	Bay of Bengal

[Field survey, 2019 & LGED, 2015]

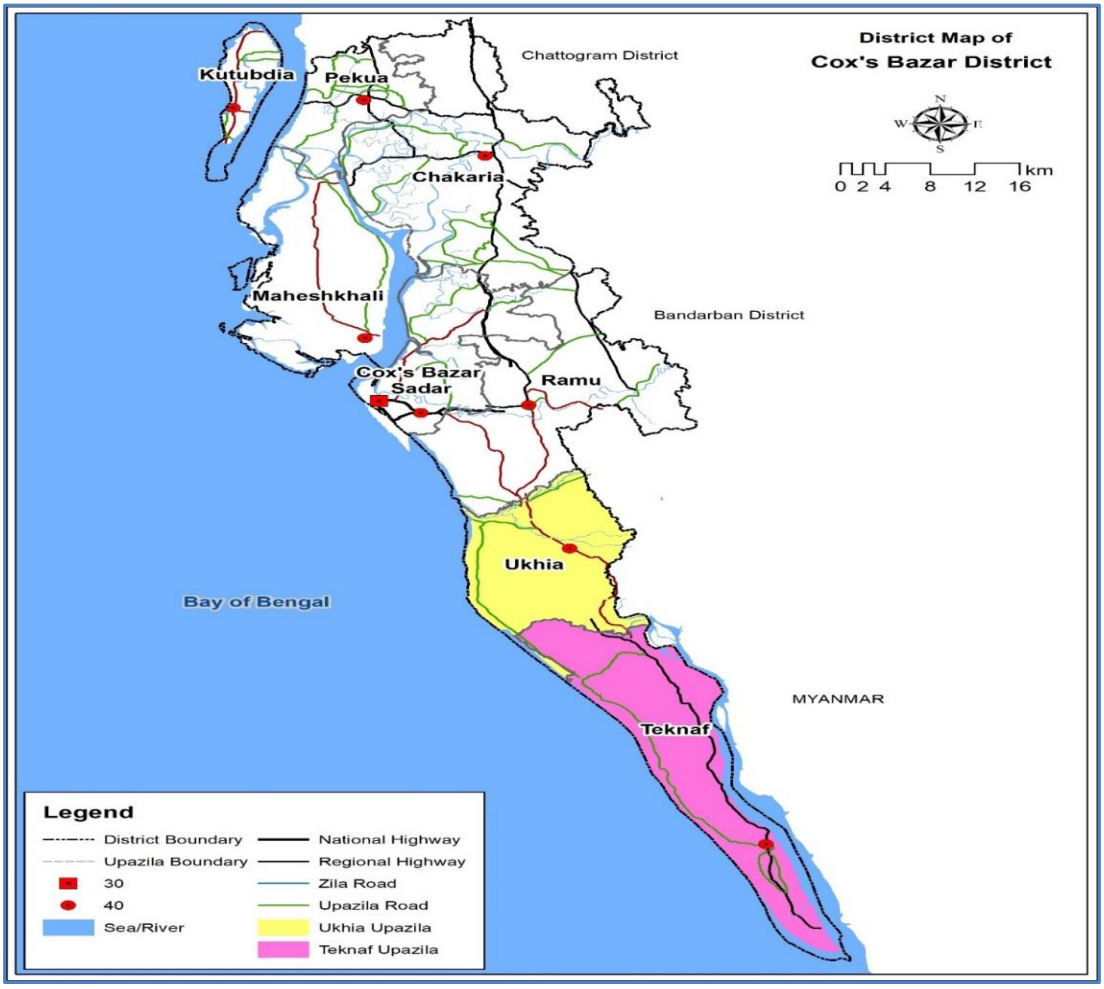


Figure 1.3.1: District Map with project location

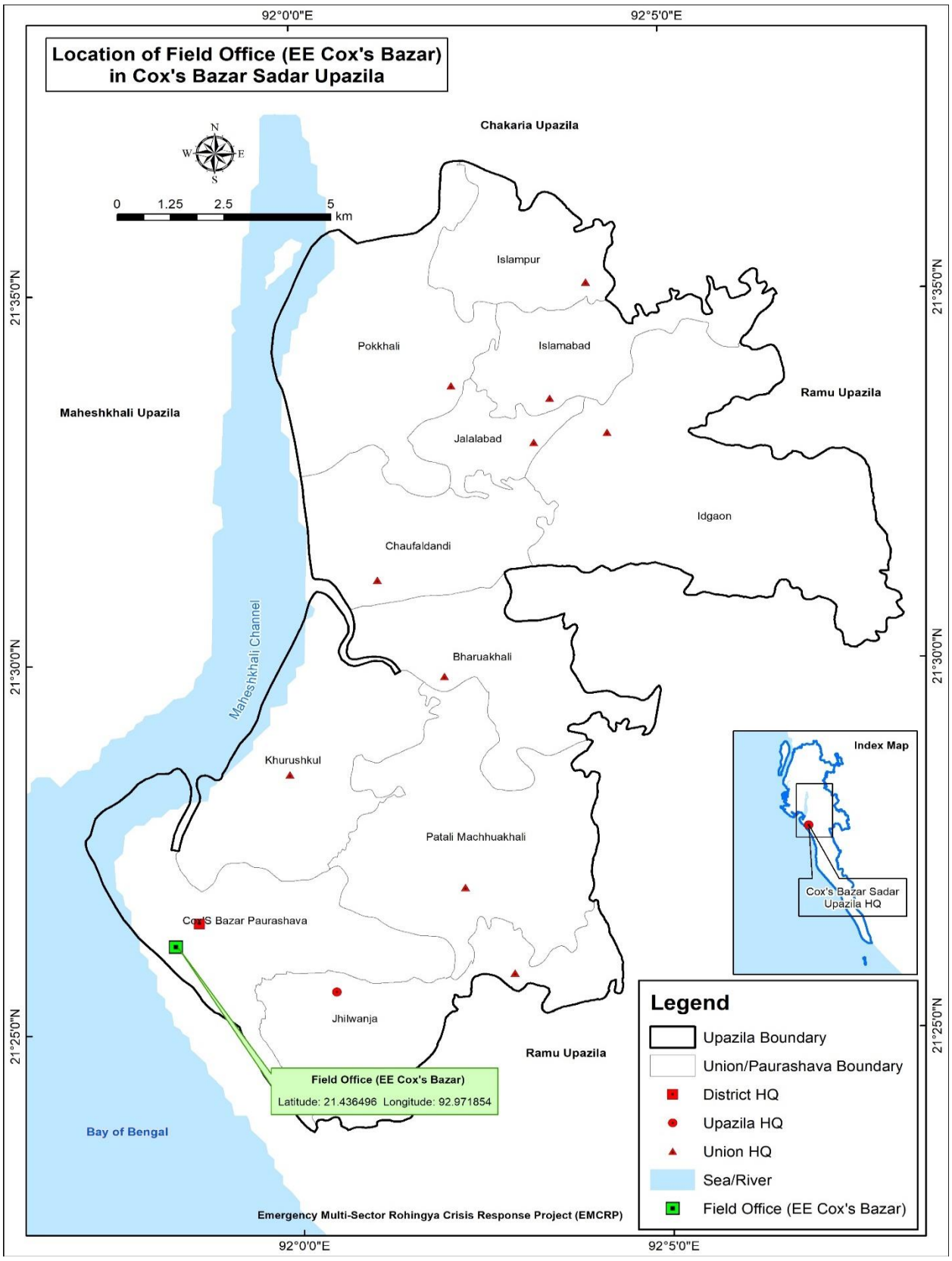


Figure 1.3.2: Sadar Upazila Map with Sub-project location

1.4 Boundary of the Sub-Project Site

The important establishments around the Sub-project site have been summarized in **Table 1.4.1**. Photographs showing present condition of the Sub-project area and location of construction area have been shown in **Figure 1.4.1** and **1.4.2** respectively.

Table 1.4.1: Important Establishments around the Sub-project site

Direction	Important establishment	Remarks
North side	UNICEF Cox's Bazar field office	Adjacent to the Sub-project boundary
South side	Settlements, shop	Adjacent to the Sub-project boundary
East side	Baptist Church (abandoned)	Adjacent to the Sub-project boundary
West side	Road, Hotel Shoibal	Adjacent to the Sub-project boundary

[Sources of data: Field survey, 2019]

Figure 1.4.1: Present condition of the Sub-project area

Figure 1.4.2: Location of construction area

2. PUBLIC CONSULTATION AND PARTICIPATION

2.1 Methodology

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 29th January 2020 in and around the Sub-project site. As part of the impact assessment, participatory public consultation was conducted in that area. The local individuals, Executive Engineer, Senior Assistant Engineer, Upazila Sub-assistant Engineer, office staffs and elites participated in that consultation meeting. Refer to **Figure 2.1.1, figure 2.1.2 and Appendix-5** for selected photographs of the participatory public consultation meeting held at site of the XEN Office and in local community, and list of attendees in those public consultation meetings, 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.

Figure 2.1.1: Public Consultation Meeting in the Proposed Sub-project Site

Figure 2.1.2: Public Consultation Meeting with local community

2.2 Issues Raised by the Participants

The issues raised by the participants were as follows:

- Minimizing the noise produced from different construction works during the office time.
- Ensuring the safety of office staffs at the site during construction works.

- Lacking of adequate spaces for car parking and alternative arrangements.
- Avoidance or minimizing dust pollution during the office working hours.
- Refraining from plucking flower from garden during construction activities.

2.3 Suggestions and recommendations of the participants

The participants presented the following suggestions and recommendations:

- The participants considered that the renovation of the office building is very much important from both the technical and safety point of view.
- The participants have expressed their greater interest to this work for their safety.
- Office staff's safety should be ensured by properly fencing the work sites, sprinkling water and noise reducing measures, and workers' safety should be ensured by providing necessary safety gears/first aid boxes, as required.
- They also requested to involve the local community to construction work.
- The participants assured that they would provide maintenance services on a regular basis.
- They have also assured that the selected site is free from any events related to resettlement as the entitlement of the present land area is vested upon government of Bangladesh.
- The adverse environmental impacts may occur during the construction period, and will be of a relatively short duration.

3. ENVIRONMENTAL SCREENING

3.1 General

Environmental Screening is the preliminary process of Environmental Assessment for the identification of significant impacts on important environmental components, depending on the nature and size of the project, its interventions and technology, location and time; and evaluation of screening findings will decide whether any further comprehensive assessment study is required or not. This assessment procedure will follow a definite scope of interventions, for example, this particular study will be based on the qualitative assessment of the surrounding environment of the particular site before any physical intervention starts, and maximum project impact area is considered to be half a kilometer of the radial distance around the site.

This section identifies the potential impacts that the various elements of the proposed Project may have on aspects of the physical, biological and socio-economic environment. Environmental Assessment (EA) based on this screening study for the Sub-project has been conducted with the purpose of fulfilling the requirements of GoB and World Bank. Assessment of potential impacts requires a multi-disciplinary approach in which a wide range of issues are taken into consideration to identify and determine which potential Project impacts may be significant and therefore require the application of reasonable and effective management and/or mitigation.

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 29th January 2020 in the Sub-project area. Environmental Screening form, as adopted in Appendix 2 of the Environmental and Social Management Framework of EMCRP, was administered for identifying the impacts and their extents.

The screening data and information for this Sub-project and details screening summary have been formulated and shown in Appendix-1

3.2 Assessment of Screening Findings

The proposed sub-project (Construction of Field Office [EE Cox's Bazar] extension with renovation) is not located within any environmentally sensitive area and will not cause any severe negative effects to the environmental settings of the area, thus not going to create intimidation to important environmental features. The Field Office [EE Cox's Bazar] will be renovated within an existing boundary so no agricultural land/ activities will be disturbed due to the construction of the sub project. UNICEF Cox's Bazar field office is located on south side. The Bay of Bengal is situated at 1km west side of the subproject area. A Baptist Church(abandoned) is found on east side. Some settlements are found at 20m north side. 18 nos. of column will be re-constructed and anti-salinity and damp proofed plaster work will be involved, so air, noise and dust pollution will be occurred within a small scale during construction period. 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. However, construction work must involve local labors; therefore, labor shed will not be required to set up for this package, which eventually limit the impacts from labor shed construction and management. Noise pollution from reconstructing of column, air pollution caused by dust or gaseous emissions from construction, running of motorized equipment and land clearing, will more likely to take place. Soil can further be eroded and polluted from chemical spills or improper disposal of waste materials.

Moreover, in order to offset the loss or attenuating the environmental degradation, a set of mitigation measures will be adopted, on top of general practice of standard construction procedure or following the relevant codes of practices. There is no evidence of presence of elephants in the subproject area.

3.3 Climate Change Impact Screening

3.3.1 General Climatic Consideration of the area

Cox's Bazar is one of the coastal districts of Bangladesh and is prone to the effects of climate change due to its geomorphological siting and climate induced effects. The hilly tracts of Cox's Bazar could foster further environmental crisis brought on by indiscriminate deforestation and diminishing groundwater reservoirs, which have been taken place in recent months as the Rohingya crisis evolved. A recent study conducted by World Bank[3] has found that Cox's Bazar will be the worst-hit district in South Asia as average temperatures rise and rainfall patterns become disruptive, by 2050, if greenhouse gas emissions continue unabated.

The hilly region of the country, especially the part in Cox's Bazar is characteristically of muddy or soil structure, not of any rocky formation and the stability comes from the roots of the trees. Denudation of trees from hilltops in order for the huge settlement of Rohingya people has already increased the vulnerability to the risk of hill collapse by destabilizing the terrain. Also, the

[3] https://openknowledge.worldbank.org/bitstream/handle/10986/28723/9781464811555.pdf

vigorous monsoons make the area prone to landslides, and there is always the lurking threat of cyclones and thunderstorm across the area.

Together with the above mentioned hazardous situation, availability of potable water from shallow tube wells that pump water up from about 150 feet has already reached to a critical level. Averting the problem requires new tube wells to be plumbing deeper into the poorly mapped aquifer, but going deeper than 700 feet in some places may cause salt water to contaminate freshwater resources, which could be disastrous for both refugees and local residents.

Considering the general climate change effects in Cox's Bazar area and offsetting the aggravating environmental situation due to the mass arrival of Rohingya communities, several specific measures including tree planation in sub-project areas, construction of drainage facilities along the road length and installing thunder arrester across the areas, have been suggested and will be implemented.

3.3.2 Site Specific Consideration:

The cyclone has higher impact in the area and water stagnation has higher impact in this area, Intensity of precipitation has been seen to have increased in the past few years. Salinity and the occurrence of cyclonic storm surge were not reported in the vicinity of the subproject. Temperature was reported to be increased and Thunder storm is found to have highest impact in the area. Thunder storm has been seen create more damage than before. So, there is very low climate change impact at the office premises.

Site specific climate change impacts are often not so easy to measure or deduce plausibly, and associated mitigation or offsetting measures are really hard to plot on the same tiny impact areas, though an overall set of measures are considered in practical aspect such as tree plantation etc.

4. ENVIRONMENTAL MANAGEMENTPLAN (EMP)

4.1 General

Considering the environmental settings of the sub-project area, it can be assumed that possible impacts would be largely construction-related, and could be addressed through adoption of good engineering practices; good housekeeping; better *in-situ* construction materials management; and observance of health and safety protocols during the implementation period.

Specific Environmental Management Plan (EMP) has been prepared to eliminate, reduce or regulate the adverse impacts for this subproject. The purpose of this Environmental Management Plan (EMP) is to formulate measures which will mitigate adverse impacts on various environmental components, which have been identified during observation, and protect environmental resources where possible and enhance the value of environmental and social components where possible.

The Field Office (EE Cox's Bazar) in Cox's Bazar will be renovated within an existing boundary. Due to the construction activities of this Sub-project, no tree will be cut down. The Bay of Bengal is situated at 1km west side of the subproject area. A Baptist Church(abandoned) is found on east side. Some settlements are found at 20m north side. Further, UNICEF Cox's Bazar field office is located on south side might get affected during the construction period with the generated debris and dust, though for the time being. Contractor must adhere to the best practice debris

management procedure and regular adoption of dust control measures (spraying of water at least twice a day) to minimize the effect to the level best. Further construction related activities which may result in adverse impacts in the surrounding environment of the sub project must be kept under close consideration and appropriate mitigation and management measures will be taken with due care and vigilance. Once the effects are minimized to its least level and controlled efficiently, it will turn into a welcoming and beneficial project for the local communities.

The subproject specific environmental management plan has been outlined in Appendix-2. The mitigation measures as well as monitoring program of EMP have also been incorporated in the management plan.

4.2 Cost of Environmental Enhancement Works in BOQ

In consideration to the above mentioned environmental impacts and their mitigation measures for this sub-project, a set of items are included in the BOQ of this sub-project. The estimated cost to implement the EMP is shown in Appendix-3, which is nearly 1 lac 63 thousand 500 Bangladeshi taka.

5. CONCLUSIONS AND RECOMMENDATIONS

The overall conclusion is that if the mitigation, compensation and enhancement measures are implemented in full, there will be no significant negative environmental impacts as a result of location, design, construction, and/or operation of the proposed Sub-project.

The conclusions of the Screening study can be summarized as follows:

- The short-term negative impacts that may come by the way of air quality, noise, solid waste, occupational health & safety need to be minimized through the management plan. These issues might be problematic if necessary mitigation measures, as suggested in the EMP, would not be properly taken into consideration.
- The project will create employment for the workforce who live in the vicinity of the construction site and will provide them a short-term economic gain.
- A comprehensive Environmental Management & Monitoring Plan (EMP) has been prepared to mitigate and reduce the adverse impacts that will come out from the Subproject activities. The EMP mainly focuses on managing, mitigating and reducing the impacts exhibited in design, construction and operational phase.
- The tentative cost has been estimated around **01 Lac & 63 Thousands BDT** (Bangladeshi Taka) to implement the EMP. The detail cost estimation has been shown in **Appendix-3.** This budget can change due to change of market prices and if the project implementation period extends.

Appendix-1

Environmental Screening Form

Sub-Project Description Form:

Name of Sub-Project: Construction of Field Office (EE Cox's Bazar) extension with renovation in Cox's Bazar Sadar Upazila of Cox's Bazar District. (LGED/EMCRP-W/7)
Implementing Agency/Agencies: Local Government Engineering Department (LGED)
Estimated total cost of sub-project (in Taka): 1,48,80,914.00 (Tk.)
Estimated construction period duration: 24 months
Estimated Operation and Maintenance period (life of sub-project):
District: Cox's Bazar **Sub-District**: Ukhiya **Union**: Rajapalong
Name of Community/Local Area: XEN office, Cox's Bazar
Description of proposed sub-project activities (incl. type of activities, footprint area, natural resources required, etc.): Construction of Field Office (EE Cox's Bazar) extension with renovation within an existing area.

- Maintenance works of Office-building, LGED, Cox's Bazar
- Retrofitting reconstruction work at LGED Cox's Bazar.
  a. Ground floor
  b. 1st and 2nd floor
- Renovation work of rest house at executive engineer's office.
- Renovation work of hall room at executive engineer's office.

Estimated footprint / land area for this sub-project is 14000 sqft
Brief description of sub-project site: (e.g. present land use, Important Environmental Features (IEFs) near site, etc.:
A four storied L shape building is located on northeast side of the subproject area. There is a flower garden in front of the building. A 20ft wide BC road is passing by the west side of the subproject site. The Bay of Bengal is situated at 1km west side of the subproject area. A Baptist Church (abandoned) is found on east side. Some settlements are found at 20m north side. Further, UNICEF Cox's Bazar field office is located on south side.

Overall Comments
People of the subproject area are very much optimistic about the success of the project and the expected benefits. The subproject is environmentally sustainable and socially acceptable. The local individuals, Executive Engineer, Senior Assistant Engineer, Upazila Sub-assistant Engineer, office staffs, local people and elites participated in that consultation meetings. The public consultation meeting results confirmed that construction of Field Office (EE Cox's Bazar) extension with renovation will increase the strength of office building which will confirm the security of office staffs along with extended facilities for official meetings and resting places. They also requested to involve the local community to construction work.

The proposed Sub-project area is not located within any identified environmentally sensitive area, and therefore, does not seem to cause any adverse impact on the important environmental features. No significant impact is expected on the ecosystem and biodiversity, no agricultural land/ activities or fish farming will be disturbed, due to the construction of the sub projects. As the building construction work is restricted to within the boundary, no outside disturbing activities will be involved.

Types of waste to be generated during construction and operation phase:
During construction period solid waste will be generated due to construction activities. The types of wastes are gravel, stones, rock, wood, copper wires, concrete, iron, plastic etc.

Sensitive environmental, cultural, archaeological, religious sites near (within 1km) of site including elephant migration routes and remaining forests:
Within the influence area of the subproject no historical sites were identified. The Bay of Bengal is situated at 1km west side of the subproject area. A Baptist Church was found on east side during the first visit for screening, but it was revealed to be abandoned while approached for consultation with the Priest/management committee. Some settlements are found at 20m north side. Further, UNICEF Cox's Bazar field office is located on south side. No disturbance is anticipated due to construction activities to those sensitive components due to the nature of construction works which are primarily in-house and of very less disturbing renovation/retrofitting types. In this sub-project area, no elephant migration routes exists (ref. IUCN).

Completed environmental and social screening forms are given below

Section A: Sub-Project Overview

Description of sub-project/component interventions: **Subproject Intervention:** 1. Anti-Salinity and Damp Proofed Plaster 2. Weather coat 3. Plastic Paint 4. Interior Decoration 5. Retrofitting 6. Reconstruction of 18 nos. Column
Sub-project Location: The sub-project area is situated in Cox's Bazar Pourashava under Cox's Bazar Sadar Upazila of Cox's Bazar district. The sub-project area is located at 21.436023 N. 91.971741 E. Nearby major road is motel road and width is 20 feet (BC road). **Land ownership** Government own land
Expected construction period: 24 (Twenty four months)
Description of project intervention area and project influence area with schematic diagram (where relevant, indicate distance to sensitive environmental areas such as elephant corridors, water bodies, etc. and historical or socio cultural assets): Please also explain any analysis on alternative

location was conducted:

Project intervention area will be confined within an existing boundary, but influence area should consider nearly half a kilometer radius around the proposed site.

- UNICEF field office is located at 10m South
- Hotel Soibal is located at 50m west
- The Bay of Bengal is situated at 1km west
- Baptist Church(abandoned) is located at 50m east
- A water body is located at 100m northwest

Within the influence area of the subproject no historical sites were identified. There is no evidence of presence of elephants in the subproject influence area (checked with local IUCN representative).

Section B: Environmental Screening

***B.1*: Environmental feature of sub-project location**

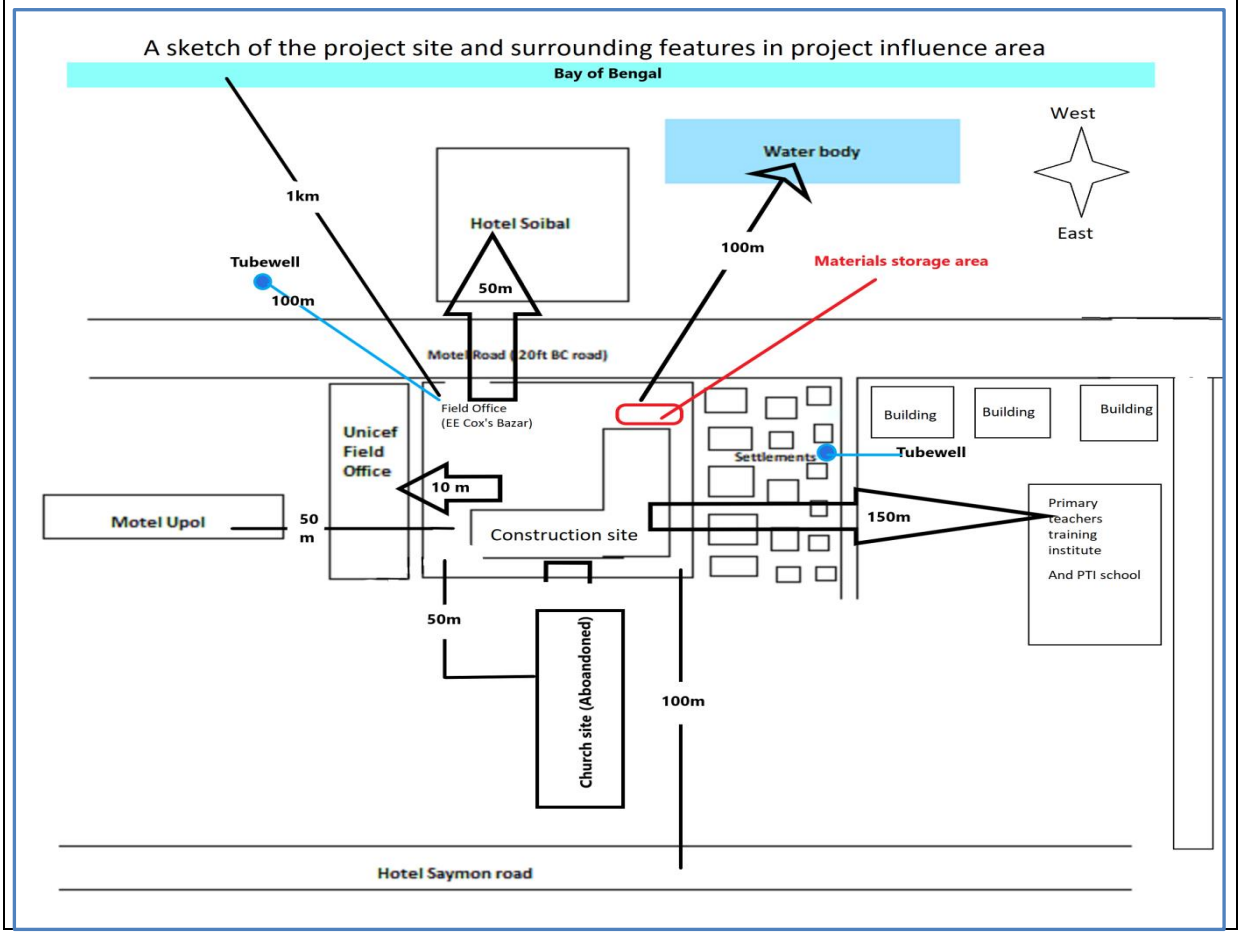
Description of cultural properties (if applicable, including distance from site):

Sensitive environmental, cultural, archaeological, religious sites near (within the catchment area) of site including elephant migration routes and remaining forests:

A mosque is found at 1km south west side. Primary Teachers Training Institute (PTI) is located at 150m north side of the subproject. A Baptist church (abandoned) is located at 50m east but there is no scope of being affected during the construction period.

There is no sensitive environmental, cultural, archaeological sites exists within the catchment area of this sub-project.

A sketch of the project site and surrounding features in project influence area



Location of environmentally important and sensitive areas:

This location is not environmentally important and sensitive. The area is mostly occupied by different offices- both government and NGOs, though there are some human settlements near to the proposed construction area. The Bay of Bengal is located at 1km west side. The impacts are negative but very small scale, site-specific within a relatively small area and adjustable by mitigation measures.

(1) Within/near Elephant Migration Routes Yes/No*

There is no existence of Elephant corridor/ route now.

The elephant migration route has been checked with the assistance of maps established by UNHCR/IUCN (latest updated maps as of 22 February 2018 and later June 05, 2018)

(2) potential impacts on remaining forests in/around camps Yes/No

N/A

(3) Other issues:

No more mentionable issues raised.

*This question needs to be answered by checking the elephant migration route map established by UNHCR/IUCN

Baseline air quality and noise levels:

Dust:

Ambient air quality data was not readily available, but quality is apparently good. During day time the number of vehicle movement on the road is relatively high. Dust is generated in through movement of vehicles such as bus, truck, mini truck, motor cycle, auto rickshaw, tempo, trolley, tractor etc. over the road surface which causes air pollution.

Noise: Noise in the Sub-project area is not a major concern because noise level is within the tolerance limit. Vehicles such as motor cycle, bus, truck, mini truck, tempo, auto rickshaw, tractor, trailer, etc. move on the road surface adjacent to sub-project during day and night. These vehicles generate noise adjacent to the Sub-project area but within tolerable limit in most cases.

Baseline soil quality:

The Sub-project area is located mainly in red, alluvial, muddy and sandy soil. The soils developing from the weathered sandstones tend to be sandy to clay loams. Presence of Organic matter content in the soil is moderate.

Landslide potential (high/medium/low, with explanation): N/A (the sub-project will be constructed in a plain land and within an existing boundary)

Baseline surface water and groundwater quality (FE, TDS, fecal coliform, pH):

Surface water quality: No surface water.

Ground Water: Groundwater is the main source of potable water in the Sub-project area. The shallow depth is about 100 feet and deep tubewell depth is 600 feet. In the sub-project area, deep groundwater is salt and arsenic free. Shallower aquifers having depth around 100 feet surrounding the Sub-project area are full of iron. Deep groundwater table (drinkable) varies from 600-800ft (Field survey, 2019).
Status of wildlife movement: N/A (None of the information was found about the wildlife movement in or across the area)
State of forestation: **N/A**
Summary of water balance analysis (For water supply scheme only): **N/A**

B.2: Pre construction Phase

Information on Ancillary Facilities (e.g. status of access road or any other facility required for sub-project to be viable): A 20ft BC road is passing by the west side of the sub-project. It is possible to carry the construction materials on the road to the construction site.
Requirement of accommodation or service amenities (toilet, water supply, electricity) to support the workforce during construction: Toilet and water supply are sufficiently available in the existing building, which can be used by the workforce during construction. Electricity is available into the proposed site.
Possible location of labor camps: This subproject will use local workforce for the entire work, which is readily available in the upazila in sufficient numbers. Labor camp is therefore, not necessary to build at all.
Requirement and type of raw materials (e.g. sand, stone, wood, etc.): i) Bricks, ii) Sand iii) cement iv) aggregates v) metals vi) water vii) concretes vii) Bamboo & wood from mobilized materials and other electro-mechanical equipment and viii) clay are the most common type of building material used in construction.
Identification of access road for transportation (Yes/No): About 20ft. wide BC road is the main way for transportation of raw materials. It is located on west side of adjacent sub-project.
Location identification for raw material storage:

On east side of construction site, within the existing subproject boundary.
Possible composition and quantities of wastes (Solids wastes, demolition materials, sludge from old latrines, etc.): **Solid waste:** Small demolition or recovery works will produce solid waste during the pre-construction stage. **Type**: wood, copper wires, concrete, iron, plastic etc. **Quantity:** Nearly 1.5 metric ton of solid wastes including demolition materials will be produced.

B.3: Construction Phase

Type and quantity of waste generated (e.g. Solids wastes, liquid wastes, etc.): **Solid waste:** Iron, concrete, metal, drywall, wood, plastic, rubber, copper wires, excavated soils etc. **Quantity:** During the construction period nearly 10 kg of waste will be generated each working day, which are mainly construction wastes; human/liquid wastes are not anticipated to be produced during the construction period as workers will use sanitary latrine in the ground/1st floor floor of the existing building compound. However, some plastic, paper and organic waste will be generated from the use of workers, though a very negligible amount- half a kilogram a day maximum.
Type and quantity of raw materials used (wood, bricks, cement, water, etc.): **Type:** i) Bricks, ii) Sand iii) cement iv) aggregates v) metals vi) water vii) concretes vii) Bamboo & wood from mobilized materials and other electro-mechanical equipment and viii) clay are the most common type of building material used in construction. **Quantity**: It is difficult to give exact figures of raw/construction materials to be used on a typical construction site.
Approx. area (in square meters) of vegetation and soil in the right-of-way, borrow pits, waste dumps, and equipment yards: Around 14000 sqft. soil land is required for the sub-project establishment. There is thick vegetation around the sup-project area. A flower garden is found in front of the subproject side. The vegetation will not be affected by construction work.
Possibility of stagnant water bodies in borrow pits, quarries, etc., encouraging for mosquito breeding and other disease vectors: **(High/Medium/Low with explanation)** **Low**: No borrow pit or quarries are found around/ adjacent the sub-project area. Provision for stagnant water reservoir during construction period, if needed.
Disturbance or modification of existing drainage channels (rivers, canals) or surface water bodies (wetlands, marsh es):

(High/Medium/Low with description) A man made existing drainage channel is found. But it is not affected due to construction activities.
Destruction or damage of terrestrial or aquatic ecosystems or endangered species directly or by induced development: (High/Medium/Low with description) Low: The site is free from any aquatic ecosystems or habitats of endangered species. There are some terrestrial flora species around the project site, which will not be affected by the works. Life cycle or movement of some terrestrial living species (fauna) (i.e. Insects - ant, bees, earthworm, reptiles, birds etc.) might be disturbed for the time being, but with very less impact indeed. So, overall potential effect is very low or absent for this specific sub project.
Activities that can lead to landslides, slumps, slips and other mass movements in road cuts: N/A
Erosion of lands below the roadbed receiving concentrated outflow carried by covered or open drains: (High/Medium/Low with description) N/A
Describe possible traffic movement impacts on (unwanted) light, noise and air pollution: No traffic movement impacts on light but low effects of noise and air pollution.

High = Likely to cause long-term impacts or over large area (>1sqkm); Medium = Likely to cause temporary damage or over moderate area (0.5 to 1sqkm); Low = Likely to cause little, short-term damage and over small area (<0.5sqkm)

B.4: Operation Phase

Activities leading to health hazards and interference of plant growth adjacent to roads by dust raised and blown by vehicles: During the operation phase of this subproject, small amount of dust and exhaust gas might be produced by the vehicles bound to this office; the quantity of exhaustion is expected to be the same as it was before the construction period. However, keeping vehicles in good condition and sprinkling water twice a day within the office premises are among the general practices at all LGED offices. So, causing any health hazards and interference of plant growth is not very likely to happen.
Chance of long-term or semi-permanent destruction of soils: (High/Medium/Low with description) It's not likely at all during the operation stage.
Possibility of odor and water, soil quality impacts from SWM and FSM disposal system: (High/Medium/Low with description) Low. There is no possibility of odor and water, soil quality impacts from SWM and FSM disposal system in this subproject site during the operation phase, rather those systems will be more instrumental and effective to support services. LGED field office has its own SWM and FSM disposal system, with regular monitoring and maintenance services, with the assistance from existing

municipal waste management system.
Possibility of stagnant water bodies in borrow pits, quarries, etc., encouraging for mosquito breeding and other disease vectors: **(High/Medium/Low with explanation)** There is no possibility of creating borrow pits, quarries, etc. during the operation phase.
Likely direct and indirect impacts on economic development in the project areas by the sub-project: During the operation phase, this field office will have more capacity to house more project staffs and more in-house government activities in hall room, which effectively will strengthen LGED's capacity in local level (in Cox's Bazar District) to provide different forms of project oriented supports, which eventually will have numerous positive impacts on economic development in/around the project areas (Sadar Upazila) and surpass the boundary as well.
Extent of disturbance or modification of existing drainage channels (rivers, canals) or surface water bodies (wetlands, marshes): **(High/Medium/Low with description)** No natural drainage channels or surface water bodies are present in the sub-project area but man made drainage channel is found inside the proposed site, but will not be affected or disturbed at all.
Extent of destruction or damage of terrestrial or aquatic ecosystems or endangered species directly or by induced development: **(High/Medium/Low with description)** There is no protected area in or around the project site, and no known areas of ecological interest.
Activities leading to landslides, slumps, slips and other mass movements in road cuts: Not applicable for this site, as the site is completely flat and after the proposed development it will be more stable and risk free.
Erosion of lands below the roadbed receiving concentrated outflow carried by covered or open drains: (High/Medium/Low with explanation) **N/A**
Describe possible traffic movement impacts on (unwanted) light, noise and air pollution: A BC road is passing by the subproject site, which is not so busy in traffic movement. The road is mainly used for vehicles like bicycles, three wheelers, bus, truck etc. and there is no reason for increased vehicular movement on the adjoining road during the operation period. However, if not properly managed and supervised, low effects of noise and air pollution will be occurred and accidents may occur due to the bad condition of the access road and unscrupulous driving, even with the presence of same number of vehicles on the road.

High = Likely to cause long-term impacts or over large area (>1sqkm); Medium = Likely to cause temporary damage or over moderate area (0.5 to 1sqkm); Low = Likely to cause little, short-term damage and over small area (<0.5sqkm).

Section D: Environmental Screening Summary

Section	Main Environmental Impacts	Impact Significance*	Suggested Mitigation Measures	Person/ Institution Responsible	Monitoring Suggestions	
					Indicators	Frequency
1.Pre-construction Phase	**Site planning** (i.e. Labor camp, construction of material storage area etc.)	Under the sub-project intervention the overall score is low.	• Construction camp and material storage area should be located at the site & approved by the Environmental Specialist of D&SC. • A motel named Soibal, UNICEF field office and some settlements are located within 50m of subproject area boundary, thus using local labors in construction works will be the most preferred option. This would make possible to avoid setting up of labor camp and minimize the impacts generated therefore.	Contractor, environmental specialist of D&SC	Location of stockpiles	Prior to the start of Construction works.
	Material storage area for construction (Creating dust/ air pollution, Spillage of liquid/ hazardous substances i.e. oil, paint, chemicals, bitumen etc., Risk of crime, Access of staffs and children.)	Under the sub-project intervention the overall score is low.	• The contractor shall submit a method statement and plans for the storage of hazardous materials (fuels, oils, and chemicals) and emergency procedures. • Proper stockpiling/ storage of construction materials at the site proposed by the contractor & approved by the Environmental Specialist of D&SC. • Proper covering of dust producing materials with polythene sheet, • Spills/ hazardous substances should be disposed off at the site proposed by the contractor & approved by the Environmental Specialist of D&SC to avoid soil/ water contamination.	Contractor, environmental specialist of D&SC	List of selected sites; Identified sources of materials.	During Design Stage

Section	Main Environmental Impacts	Impact Significance*	Suggested Mitigation Measures	Person/ Institution Responsible	Monitoring Suggestions	
					Indicators	Frequency
	Setting up of labor facilities(Generation of sewage waste; solid Waste; Water, soil, air & dust pollution/ environmental pollution; health hazard of workers due to poor quality drinking water)	Under the sub-project intervention the overall score is low.	• No trees, shrubs will be removed or vegetation stripped without the prior permission of the Environmental Specialist. • Labor camp will not be established in the site as local labors will be engaged only for this sub-project. • Sanitary latrines for workers will not be constructed anew; rather two latrines in the existing office building will be designated for the use of the workers at site. • The site already has an existing system of drinking water supply for all the office staffs; further, workers will be provided with water filters for ensuring access to the safe drinking water. • 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 and/ or at the site pre-approved by Environmental Specialist of D&SC.	Contractor, environmental specialist of D&SC	Complaints from community; Regular inspection of waste management activity; Waste disposal record.	Prior to the start of Construction works
	Accidents	Under the sub-project intervention the overall score is low.	• Provision of standard safety protocol. • Providing training on Environmental health and safety to the labors and associated field staffs is the responsibility of Upazila Engineer & fContractors. • Training should be scheduled twice, once	Contractor, environmental specialist of D&SC	Complaints from community; Regular inspection of materials	Before construction and during construct

Section	Main Environmental Impacts	Impact Significance*	Suggested Mitigation Measures	Person/ Institution Responsible	Monitoring Suggestions	
					Indicators	Frequency
			before starting the construction & another in the middle of construction period. • Safety & protection gears, first aid box etc. will be available in the site during construction period.		transport vehicles.	ion phase
2. Construction Phase	**Noise Impacts**	Under the sub-project intervention the overall score is low.	• Avoid high noise making activities during active office hours. One very effective method is to discuss with the office authority and settle for a time for heavy machinery usage. • Involve the community in planning the work program so that any particularly noisy or otherwise invasive activities can be scheduled to avoid sensitive times. • Avoid using of construction equipment producing excessive noise at office time & at night. • Ear protection devices for the workers & site staffs should be available in site during construction period.	Contractor, environmental specialist of D&SC	Number of complaints from stakeholders, Use of silencers in noise producing equipment and sound barriers, Noise Level following decibel meter (dB)	Daily
	Air Quality Conducting works at dry season and moving large quantity of materials may create dusts and increase in concentration of vehicle related	Under the sub-project intervention the overall score is low.	• Damp down exposed soil and any sand stockpiled on site by spraying with water during dry weather. • Use tarpaulins to cover soils, sand and other loose material when transported by trucks. • Unpaved surfaces used for haulage of materials within settlements shall be maintained dust-free.	Contractor, environmental specialist of D&SC	Location of stockpiles, Covering of trucks, Records of air quality inspection, Numbers of complaints from sensitive	Monthly

Section	Main Environmental Impacts	Impact Significance*	Suggested Mitigation Measures	Person/ Institution Responsible	Monitoring Suggestions	
					Indicators	Frequency
	pollutants which will affect people who live and work near the sites. The impacts are negative but short-term, site-specific within a relatively small area and reversible by mitigation measures.		• Arrangements to control dust through provision of water sprinklers and dust extraction systems shall be provided at all stone crushers (if these establishments are being setup exclusively for the subproject). • Limiting speed of construction vehicles in work sites to maximum of 20 km/h. • Regular monitoring of air quality.		receptors, Heavy equipment and pollution control devices, Maintain records	
	Dismantling of existing/ damaged columns and parts of structure	Under the sub-project intervention the overall score is low.	• Water spraying at the demolition site • Fencing / installing barriers should be shield from dust and aggregates • Avoid usage of machines/equipment with extra noise; • It is needed to Identify proper location to dispose solid waste from dismantling and other activities in consultation with respective bodies • Make mandatory the use of safety gears (helmets, safety belts, masks, gloves and boot) by workers depending on nature of work.	Contractor, environmental specialist of D&SC	List of selected sites; Identified sources of materials.	During Design Stage
	Biodiversity (There are no protected areas in or around subproject sites, and no known areas of ecological interest. No trees will be cut down.)	Under the sub-project intervention the overall score is low.	• Prohibit employees from cutting of trees for firewood. • If during detailed design cutting of trees is required, compensatory plantation for trees lost at a rate of 5 trees for every tree cut. • Prevent workers or any other person from removing and damaging any flora (plant/vegetation) and fauna.	Contractor, environmental specialist of D&SC	If tree cutting required, to be determined during Design stage, Numbers of complaints from sensitive receptors	Monthly

Section	Main Environmental Impacts	Impact Significance*	Suggested Mitigation Measures	Person/ Institution Responsible	Monitoring Suggestions	
					Indicators	Frequency
	Workers health and safety	Under the sub-project intervention the overall score is low.	• Prevent excessive noise; • No fires permitted on site except if needed for the construction works; • Staff must be trained up for operating equipment, • Availability and access to first-aid equipment and medical supplies. • Ensure the presence and use of safety gear at site: Ear protection devices, Goggles, Illuminating jackets, Masks, Gloves, Helmets, Uniforms etc., • Ensure adequate supply of drinking water. • Sanitation facilities for male & female workers separately.	Contractor, environmental specialist of D&SC	Numbers of complaints from sensitive receptors; Number of walkways signage, and metal sheets placed at project location	Monthly
3. Post-Construction Phase	**Construction clean-up** (Damage due to debris, spoils, excess construction materials)	Under the sub-project intervention the overall score is low.	• Remove all spoils wreckage, rubbish, or temporary structures (such as buildings, shelters, and latrines) which are no longer required; • All affected structures to be rehabilitated/compensated; • The contractor must arrange the cancellation of all temporary services;	Contractor, monitored by Consultant and PMU	Worksite is restored to original conditions; worksite cleanup is satisfactory, camp has been restored to pre project conditions.	After the completion of Works

Section	Main Environmental Impacts	Impact Significance*	Suggested Mitigation Measures	Person/ Institution Responsible	Monitoring Suggestions	
					Indicators	Frequency
	Odor& waste disposal	Under the issue the overall score is low.	• Use bin covers and/or tarpaulins during transport of wastes.	Contractor, monitored by Consultant and PMU	Complaints from communities	Site inspection daily / weekly basis.

* Overall Impact Score: High = Likely to cause long-term E&S impacts; Medium = Likely to cause temporary impacts; Low = Likely to cause little, short-term impacts; post-construction phase denotes the time period contractor use to clear and clean up the sites after the construction work is ended, perform tree plantation, grass turfing, and minor rectification till the official handing over the site to LGED, or owner of the site.

Recommendation for further environmental and social assessment and/or site specific environmental and social management plan: Yes

**If yes, please specify what assessments/plans would be required.* Mention some recommendation on E&S assessment …. ESMP

If site specific environmental and social management plan (ESMP) is followed the impacts can be mitigated and monitored. ESMP is attached.

Appendix-2

Environmental and Social Management Plan (ESMP) of this Sub project (site specific)

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
Pre-Construction Stage	Loss of land / and other physical assets	• No land acquisition is allowed for this sub-project activity, so there is no mitigation measures according to this impact.	PIU	Social Development Specialist and Gender Specialist of PIU, PSC
Pre-Construction Stage	Loss of livelihood	• Under this subproject, there is no scope of negative impact on livelihoods of the people of catchment area.	PIU & Contractor	Social Development Specialist and Gender Specialist of PIU, PSC
Pre-Construction Stage	Stakeholders Engagement	• All the project stakeholders will be consulted • Separate community level consultation meeting with the potentially affected HHs • People living in nearby community will be involved with the GRM	PIU & Contractor	Social Development Specialist and Gender Specialist of PIU, PSC
Pre-Construction Stage	Loss of right to access	• In case of unavoidable circumstances, alternative access will be provided. • Access road shall be well demarcated and accessibly paved.	PIU	Social Development Specialist and Gender Specialist of PIU, PSC

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
Pre-Construction Stage	Site Selection & implementing interventions: Human-elephant conflict	• Selection of sub-project sites and all implementing interventions must take place outside of the elephant corridor/influence area.	PIU	Environmental Consultant of PIU, PSC
Pre-Construction Stage	Site Preparation: Soil Erosion; Alteration of natural drainage	• Selected site will be far away from any water bodies or natural flow path to avoid the flash flood or any kind of surface runoff. • Minimize cut & fill operations, the site clearing and grabbing operations should be limited to specific locations only. • The existing slope and natural drainage pattern on the site should not be significantly altered. • The contractor shall ensure that site preparation activities do not lead to disruption of activities of the local residents and office staffs.	PIU & Contractor	Environmental Consultant of PIU, PSC
Construction Activity	Noise from construction works	• Construction activities will be finished at day time within 05 PM. Proper measures will be taken to avoid any disturbances. • All Personal Protective Equipment (PPE) will be available in site before starting any kind of construction works.	Contractor	Environmental Consultant of PIU, PSC
Construction Activity	Dust	• Construction machinery shall be properly maintained to minimize exhaust emissions of CO, particulate matter (SPM, PM2.5, PM 10) and Hydrocarbons. • Provision of using water sprinklers to dust control.	Contractor	Environmental Consultant of PIU, PSC

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		• Construction materials should be covered properly while carrying in vehicles to the site. • Vehicle movement will be controlled on haul roads/access roads for limiting dust generation.		
Construction Activity	Safety Issues	• Unauthorized entry to the site area is completely prohibited and the site will be properly fenced with a single entry, for this purpose. • It will be ensured that proper training and guidance are provided on general and occupational health and safety to Contractors' personnel and labors forces, and records of training sessions are to be kept on site. • All kinds of Child labor will be completely prohibited.	Contractor	Environmental Consultant of PIU, PSC
Construction Activity	Traffic Management	• Contractors will discuss with traffic management authorities and take site specific traffic management measures to avoid traffic jam and any unwanted incidents or accidents.	Contractor	Environmental Consultant of PIU, PSC
Construction Activity	Conflicts with existing users due to the scarcity of resource base.	• A detailed assessment of the available resources and consent of the local representative for withdrawal of water from existing surface water sources shall be taken. • If ground water is withdrawn, adequate approvals from the appropriate department need to be undertaken before setting up bore wells. • Any type of consent letter or agreement for withdrawing water from either surface or underground sources shall be kept on site. • Local community must be consulted before any	PIU & Contractor	Social Development Specialist and Gender Specialist of PIU, PSC

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		construction work starts.		
Construction Activity	Increase in road accidents	• Maintain safety measures during the movement and operation of heavy machineries and equipment. • Local community will be trained up about traffic management and awareness.	Contractor	Environmental Consultant of PIU, PSC
Construction Activity	Conflicts with the local residents and facilities for labor	• Awareness building session will be undertaken about prevention of child abuse, child marriage, GBV, sexual harassment, trafficking of women and children as well as illegal drug trade. Written records of this awareness building session shall be kept on site. • Work force should be prohibited from disturbing the flora, fauna including hunting of animals, wildlife hunting, and tree felling. • Adequate facilities ensuring sanitation services for labor will be put in place. • Treated water will be made available at site for drinking purpose. • Labor code of conduct is to be disclosed through consultation.	Contractor	Social Development Specialist and Gender Specialist of PIU, PSC
Construction Activity	Waste Management: Improper management and handling of hazardous and non-hazardous waste during construction.	Preparation of a waste management plan covering the following aspects: • A set of designated toilets in the present office building will be used by the labors, as labors are expected to come from local community and an improved sanitation system is already in place in the	Contractor	Environmental Consultant of PIU, PSC

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		building premises. • Working areas are kept clean and tidy at all times. • Construction site is to be checked for spills of substances i.e. chemical, oil, paint, etc. • Bins and/ or skips should be emptied regularly and waste/ debris should be disposed off at waste disposal areas and/ or at the site. • Hazardous waste viz. waste oil etc. will be collected and stored in the paved and bounded area and subsequently sold to authorized recyclers.		
Construction Activity	Health & Safety Risks: • The potential for exposure to safety events such as tripping, working at height activities, fire from hot works, smoking, failure in electrical installation, mobile plant and vehicles, and electrical shocks. • Exposure to health events during construction activities such as manual handling and musculoskeletal	• All construction equipment will be properly inspected timely. • The risk assessment will be prepared and updated time to time for all types of work activities on site. • Proper Signpost at any slippery areas will be ensured in construction site. • Fire extinguishers will be located at identified fire points around the site. The extinguishers must be appropriate to the nature of the potential fire. • This sub project has Proper communicative emergency response plan (ERP) with all parties, the ERP to consider such things as specific foreseeable emergency situations, organizational roles and authorities' responsibilities and expertise, emergency response and evacuation procedure and personnel will be trained and drilled to test and	PIU & Contractor	Environmental Consultant as well as Social Development and Gender Specialists of PIU, PSC

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
	disorders, hand-arm vibration, temporary or permanent hearing loss, heat stress, and dermatitis.	ensure the coherence with the plan. • All people of construction site will be concerned about the safety and maintenance of Electrical equipment; works will be carried out on live systems. • Provision to first aid box in sub-project areas will be ensured. • Proper Emergency evacuation response plan will exist in sub-project area. • All safety equipment will be available in sub-project site (safety, size, power, efficiency, ergonomics, cost, user acceptability etc.), the lowest vibration tools will be provided that are suitable and can do the works. • Regulated noise exposure assessments and noise level surveys of noisy areas, processes and equipment shall be carried out in order to form the basis for remedial actions when necessary • Contractor will provide Awareness training to all personnel involved during the construction phase in order to highlight the heat related illnesses of working in hot conditions such as heat cramps, heat exhaustion, heat stroke, and dehydration. Written records of this awareness training shall be kept on site. • Adequate quantities of drinking water will be		

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		available at all Sites, on different locations within the site. • Provision to maintain proper PPE wherever necessary and to ensure that there are satisfactory washing and changing facilities. • Provision to ensure all workers exposed to a risk are aware of the possible dangers and also given thorough training on how to protect themselves and there should be effective supervision to ensure that the correct methods are being used.		
Decommissioning during the project implementation period (including site clearance after the construction)	The impacts are similar to those listed in construction stage: • Pollution from waste materials • Health & Safety risks to workers and local communities.	• Provision to proper measure of mitigation and monitoring to minimize or reduce the environmental and social impacts during decommissioning are anticipated to be similar to those identified for the construction phase. • Third party monitoring of air quality as well as on receiving land and water bodies, may be undertaken, if the condition of those compartments seems to be significantly worse.	PIU / Contractor	PSC. Union Member
Operation & Maintenance	Noise disturbances to fauna	• Provision to maintain noise from the operation and maintenance of machinery and equipment by proper monitoring and measures. • Provision to take necessary lighting, caution for the works and most of the time contractor will avoid the night time construction works.	Maintenance Staff at the Office of Executive Engineer, LGED, Cox's Bazar	Executive Engineer, LGED, Cox's Bazar

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
Operation & Maintenance	Odours and pollution caused by leaking latrines and faecal sludge impacting surrounding water bodies, flora and fauna	• Preventative maintenance schedule should be followed.	Maintenance Staff at the Office of Executive Engineer, LGED, Cox's Bazar	Executive Engineer, LGED, Cox's Bazar

Note: Implementation Contractor shall not be available at the site after the construction followed by necessary post-construction clearing & cleaning of sites, and the official handover of the site to the LGED. Therefore, the said contractor doesn't have involvement with any of the activities undertaken during the operation phase; neither the contractor has any responsibilities for any mismanagement, accidents or hazards occurred during that period. However, the contactor remains responsible for any construction related failure, disintegration, or breaching which may cause defects to the constructed facilities/infrastructures and incurred loss to resources and/or people; and is obliged to address the defects or losses with necessary maintenance and associated measures, within the statutory defect liability period. Suggested activities in the ESMP to be followed during the operation and maintenance stage of the sub-project, as such, refers only some guidance that should be maintained by the owner/caretaking authority of the construction site/infrastructure, without having any effective monitoring or controlled measures from contractor's end.

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Appendix-3

Cost of Environmental Mitigation and Enhancement Works in BOQ

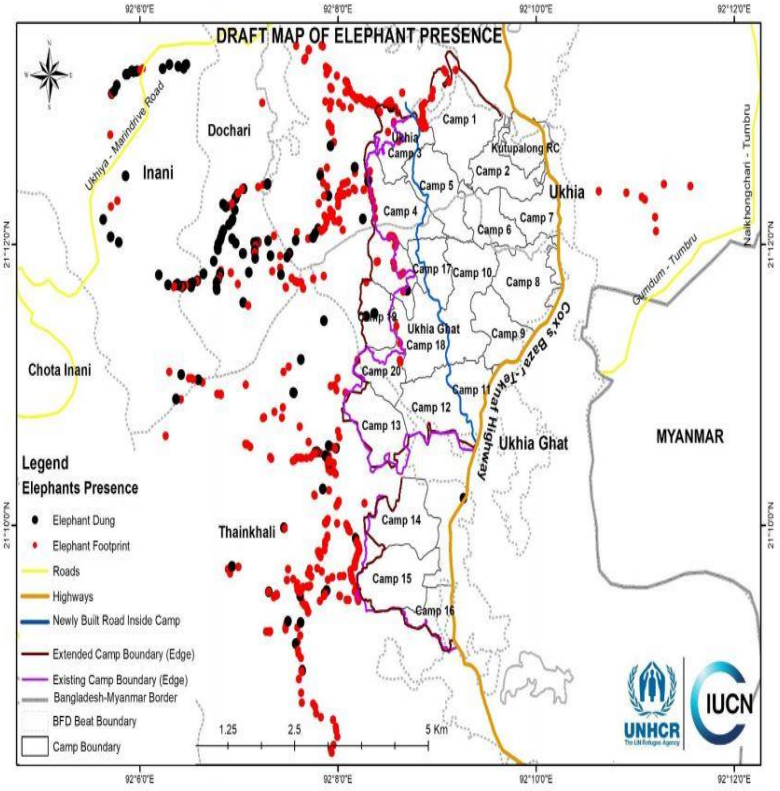
In consideration to the above mentioned environmental impacts and their mitigation measures for this sub-project, the following items are included in the BOQ of this sub-project.

Cost of Environmental Enhancement Works in BOQ

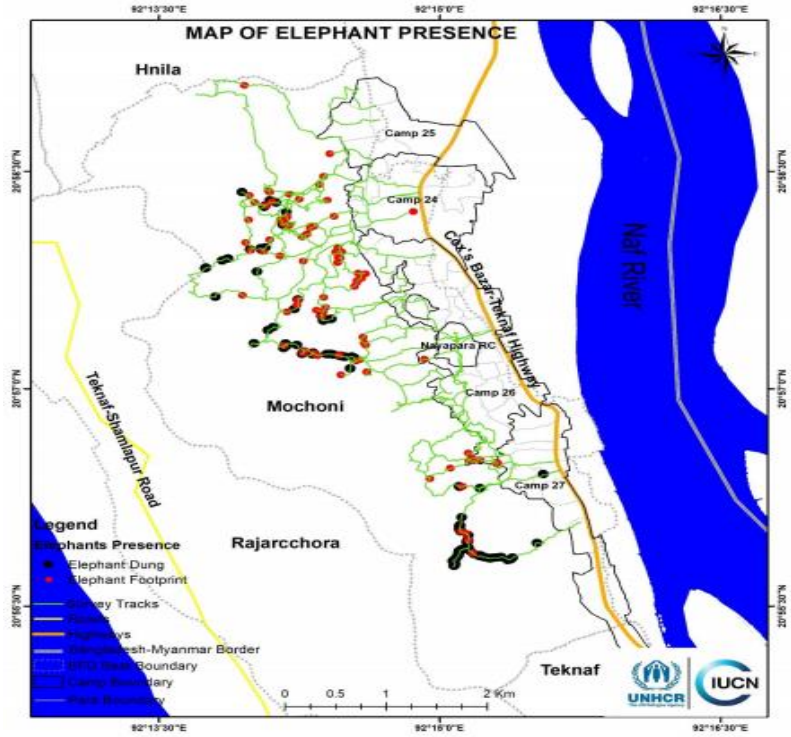
Sl no.	Description of item	Quantity	Unit price	Total amount
1.	**Aid Box** Supply of first aid box with standard contents and as per direction of the E.I.C.	2 nos.	@6500 Tk. Per box	13,000
2.	**Dust suppression measures** Dust suppression measures like water sprinkling on aggregates/ unpaved roads, in and around the work site and as per direction of the E.I.C.	Each	Lump sum @ 40,000 BDT	40,000
3.	**Site Cleaning and preparation** Site Cleaning and preparation including providing necessary protective fencing and safety measures with sign board and removal and disposal at a safe distance etc. all complete as per direction of E.I.C.	Each	Lump sum @ 10,000	10,000
4.	**Providing Safety gear** Providing Safety gear package like hand gloves, eye protection glasses, helmets, rubber shoes, light reflecting dress etc. for 10 sets as per direction of E.I.C.	10 sets	@ Tk. 5,000 for each set	50,000

Sl no.	Description of item	Quantity	Unit price	Total amount
5.	**Waste disposal** Temporary camp site waste disposal facility improvement 2 nos. (1 no of organic waste and 1 no of inorganic waste disposal facility) and as per direction of E.I.C.	2 nos.	@20,000 each	40,000
6.	**Water filter** Supplying of best quality **Water Filter** (32 liters) including and extra set of faucets ceramic and at least 3 sets of ceramic filters as per direction of E.I.C	3 nos.	@3500 tk for each filter	10,500
	Subtotal Bill: Environmental facilities			1,63,500

Appendix-4



Map 3: Elephant presence around Kutupalong Camp in Cox's Bazar, based on elephant signs (foot-prints and dung piles). (Data from IUCN Bangladesh's field survey conducted during 31 January-10 February 2018 and maps provided by UNHCR)



Map 2: Elephant presence, along with traversing routes, around the camps 24, 25 26 and 27, based on elephant signs - foot-prints and dung piles. (Based on data from IUCN Bangladesh's field survey conducted during 13-24 May 2018 and on maps provided by the UNHCR)

Elephant routes in subproject area as well in Ukhiya Upazila
(latest information published by IUCN-10 Feb 2018 and 24 May 2018)

Appendix-5

Emergency Multi-Sector Rohingya Crisis Response Project (EMCRP)

Public Consultation Participants List

Time: 01:00 PM Date: 29.01.20

COMMUNICATION AND PARTICIPATION PROGRAMME

FOCUS GROUP DISCUSSION

ইমার্জেন্সি মাল্টি সেক্টর রোহিঙ্গা ক্রাইসিস রেসপন্স প্রোজেক্ট (ই এম সি আর পি)

প্রকল্পের নামঃ Field Office (EE Cox's Bazar) Extension with Renovation
মত বিনিময়ের স্থানঃ LGED, Cox's Bazar

ইউনিয়নঃ
ডাকঘরঃ
উপজেলাঃ
জেলাঃ Cox's Bazar

অংশগ্রহণকারীদের হাজিরা (পরিচয় ও স্বাক্ষর)

ক্রমিক নং	নাম	বয়স	পুরুষ/ নারী	গ্রাম	স্বাক্ষর
১.	মো: জাহিদুল ইসলাম	৪৯	পুরুষ	LGED	
2	আবদুল আমিন	৪২	পুরুষ	LGED	
৩	মো: তরিকুল ইসলাম	৪৬	পুরুষ	LGED	
৪	সন্তু কুমার দে	৩৪	পুরুষ	LGED	
৫.	মোঃ জিয়াউর রহমান	৪৮	পুরুষ	LGED.	
৬.	মোঃ আনজির আলিম	৩০	পুরুষ	LGED	
৭	মো: নুরুল আমিন	৫৩	পুরুষ	LGED	
৮	সৈয়দ আলী আহসান	৫২	পুরুষ	LGED	
৯.	মোহাম্মদ হারুন	২৬	পুরুষ	LGED	

Emergency Multi-Sector Rohingya Crisis Response Project (EMCRP)
Consultation Participants List

Time: 12:15 pm   Date: 16/03/20

Subject: Consultation meeting with locals regarding church near the W-7 package construction site.

Consultation/FGD with.............................

ইমার্জেন্সি মাল্টি সেক্টর রোহিঙ্গা ক্রাইসিস রেসপন্স প্রোজেক্ট (ই এম সি আর পি)

প্রকল্পের নামঃ EMCRP/W7
মত বিনিময়ের স্থানঃ Cox's Bazar (South Bahar-Chora)

কোড নংঃ
ইউনিয়নঃ ঝিলংজা Cox's Bazar
ডাকঘরঃ
উপজেলাঃ Cox's Bazar Sadar
জেলাঃ Cox's Bazar

অংশগ্রহণকারীদের হাজিরা (পরিচয় ও স্বাক্ষর)

১	মোঃ মাহতুর রহমান	৪৬	ব্যবসা	পুরুষ	বাহারছড়া ১১ নং	01838047980	[signature]
২.	আমজুল আকবর	৫৪	চাকরী	"	"	018783175-87	[signature]
৩.	আব্দুর রহমান	৬০	ব্যবসা	"	"	01825896590	রহমান
৪.	আবুল কাশেম	৬০	মিস্ত্রী	"	"	0164072429 21	আবুল কাশেম
৫.	মো: সাইফুদ্দিন	৭২	ব্যবসা	"	"	01907963855	[signature]
৬	মুজিবুল হাকিম	৩৫	"	"	"	01319267775	[signature]
৭.	আমানত হোসেন	৩০	"	"	"	01812611769	[signature]
৮।	আবুবক্কর সোহেল	৪০	"	"	"	01619-323239	[signature]
৯	রহমত উল্লাহ	৬০	শ্রমিক	"	"	01870715681	[signature]

Public Consultation Participants' List