GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH

Ministry of Local Government, Rural Development and Co-operatives

Local Government Division

Local Government Engineering Department

Emergency Multi-Sector Rohingya Crisis Response Project (EMCRP)

Project ID: P167762 **IDA Credit No. 5561-BD**

Design and Supervision Consultancy

Environmental Screening Report

For Gorakghata-Shaplapur Janata Bazar Road with culverts and side drain under Cox's Bazar District.

Under the package no. EMCRP/AF/W18

Development Design Consultants Ltd.

July 2021

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
ESMP	Environmental and Social 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 Bricks
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
SMC	School Management 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

Contents

Executive Summary

Rohingya influx in Bangladesh has been one of the highlighted issues of this decade. This has definitely modified our way of thinking for the future development of the country. This forcefully displaced population has posed challenges for the district of Cox's bazar in terms of livelihood improvement and environmental services. Nevertheless, to aid into the condition and improve the symbiotic relation between Hosting Community and Displaced Rohingya Population (DRP), different interventions are taking place. Emergency Multi-Sector Rohingya Crisis Response Project (EMCRP) aided by World Bank holds one of the objectives to provide improved communication network for all Upazilas under Cox's Bazar district. Among several components of this project such as preparation of school cum cyclone shelters, facilitating growth centers and RCC Bridge development; road development works are highly significant to ensure all branches of interventions are welded together. Local Government Engineering Department (LGED) as the implementing agency with D&SC (Development Design Consultants Limited-DDC) has identified the key project beneficiary as Displaced Rohingya Population (DRP) and Host Community or in other words, the local population. From many of the project's purposes, identification of environmental and social components which might fall into bargain for improvement works is a fundamental motive. In order to take these matters into consideration, screening and assessment of these elements has been adopted in accordance with guidelines from World Bank; as a result environmental and social screening reports have been produced along with worked out impact factors which are introduced with mitigation and management measures. In order to present a quick picturesque of the proposed sub-project, an overview is given hereunder.

The Gorakghata-Shaplapur Janata Bazar Road, which will be strengthened and widened under this package, is running through the localities of Thakurtola, Delpara, South Norbila, Lambaghona, Choto Moheshkhali, Boshirakhola, Borokhola, Kalmadia at Choto Moheshkhali union; Kutubdia para, Jumpara, Dineshpur, Itkholapara, Thelapara, Sahrafociar para, Moulavi para, Keyabunia para, Kaydabad, Bariapara, Muronghona, Sadeker kata, Khushiar para, Bodarpar, Gonarpara, Doliapara, Borokhola para, Monipur hindupara, Satghor para, Khushuripara, Jahidaghona, Shaplapur, Moulavi kata, West Gonarpara, Mithachori, jammer chori, Baria chori, Jamghat noyapara, Jamghat dalarpara, Katmara at Shaplapur union; Chaliatoli, Fulerjhiri, Shikortoli & Gudampara at Kalarmar chora union of Moheshkhali Upazila, Cox's Bazar. There are some community property resources, environmental components and other features located within 1km from the sub project, which are detailed out in this report. This road is one of the infrastructural lifeline of Moheshkhali Upazila, connecting Gorakghata and Shaplapur Janata Bazar, running nearly parallel to RHD constructed Janatabazar-Gorokghata Road (Road ID: Z1004), through numerous Socio-economic, environmental, and religious establishments and features. A good many smaller connecting roads/branches and alleys harbors at different chainages all along the road, pouring substantial numbers of commuters and passersby into the mainstream. Different types of nearly 2000 motorized and non-motorized vehicles and at least 8,000 people pass through the road in a typical day. Though the area is geographically differentiated between undulating and nearly flat land areas, and substantial forest coverage is present across the areas, an already defined Right of Ways (ROW) all through the road length and present road conditions state that the proposed sub-project is not located within any environmentally sensitive areas (for becoming affected by the interventions) and has no chance to create adverse impacts to important environmental components. The road is already occupying sufficient open spaces on both

sides for further widening and strengthening works, wherever required, and there is very little chance for felling trees therefore during the construction period. However, as part of offsetting measures for any potential felling trees and environmental enhancement works in the areas, 180 nos. of trees will be planted along the roadside, and sufficient budgeting has been planned for. Several water bodies though are located in the vicinity; water logging is not a regular phenomenon in the area. However, those water bodies may receive dust and chemicals (including asphalt/bitumen, burnt oil, etc.) primarily during the construction period that can cause huge detrimental impacts on biota and physicochemical characteristics of that compartment. Impacts on air quality during the construction phase may turn to negative as well. In fact, the main impacts include dust generation from crushers, vehicles and the transportation of all types of construction materials. Noise emission from construction machineries and equipment can cause nuisance to local residents, workers and faunal species in the forested lands. Thus, the ambient noise level might have potential to increase temporarily and intermittently in the close vicinity of active construction fronts. The most challenging part during the construction period would be managing traffic efficiently while running the works uninterrupted. Contractors need to pay especial heed on this issue during the construction period.

Not any sensitive environmental, cultural, archaeological, religious sites were found in the area, neither the road passes through any reserved forests/areas. However, as an exception, the presence of Adinath Temple in the vicinity should make the contractor more cautious about maintaining all legible or due safeguards measures during the construction period, as it has a great religious, cultural and touristic values.

As stated above, the construction works will generate significant amount of dust and air pollutants, create noise, and have a potential to pollute water resources and may affect several trees. All these impacts are site-specific and manageable by mitigation or offsetting measures. Good management practices in labor camps, material storage areas, borrow pits, and in the areas of occupational health safety, road safety, and hazardous material management would suffice in curbing the potential pollution, hazards and any further risks related to construction works. Appendix 02 of this report has detailed out the mitigation measures within the scope of interventions associated with this sub-project.

This sub-project has been proposed to ameliorate the socio-economic condition of the people living in the surrounding and connecting areas through providing climate resilient roadways and associated safeguard facilities. Since the road will not pass through or affect any sensitive areas of any kind and sufficient numbers of structures are included in proposed implementation works for the enhancement of ecosystem services in the area, and necessary environmental conservative, mitigation and offsetting measures will be adopted with due care and diligence during the construction period, the component should be taken undoubtedly in further consideration for development.

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 under Cox's Bazar District, to different disasters and improve the social service delivery system and disaster resilience to both the communities. This project will follow a sustainable development pathway that is resilient to disaster and climate change effects.

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. Apart from the interventions in Addressing Gender and Social Inclusiveness and Preventing Gender Based Violence with the Support from UNFPA and building Communication and Awareness among all affected parties through an effective engagement of BCCP (Bangladesh Center for Communication Programs) in the areas, LGED is implementing a good number of infrastructural facilities, namely piped water supply systems, rainwater harvesting systems, construction of toilets, integrated fecal sludge and solid waste management system, construction of drainage, rubber dams for irrigation, jetty rehabilitation, climate-resilient primary schools/disaster shelters, and climate-resilient community service centers/disaster shelters, climate-resilient access and evacuation roads and footpaths, awareness program for sanitation as well as lightning protection systems, solar street lights, nano-grids, firefighting/search and rescue warehouses. 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 Objective of the Sub-Project

In order to uplift the socio-economic condition of the host communities of different Upazilas of Cox's Bazar district along with providing benefits to the associated stakeholders, additional financing to the Emergency Multi-Sector Rohingya Crisis Response Project (EMCRP) has been initiated which will also improve the communication status as such. This project is designed to improve the road communication network of overall Cox's Bazar District and as part of project intervention, widening and strengthening of Gorakghata-Shaplapur Janata Bazar Road has been planned which is the key to reaching out and opening up new opportunities for Moheshkhali upazila. With the construction of this upazila road, rural capacity will be transforming rapidly. Wherever the road network comes up

[1] ISCG: Situation Report Rohingya Refugee Crisis, (September 27, 2018)
[2] IOM Needs and Population Monitoring round 12 as of October 10, 2018

the rural economy and quality of life get improved. This scenario makes rural infrastructure in general and rural transport infrastructure in particular an important element in supporting continuing growth of the economy and poverty reduction by providing better access of agricultural input and other relevant services and trading facilities of goods.

The sub-project has the primary target to improve the communication facilities of the area. This intervention, without a doubt facilitates the following: it will

- ✓ Support to rural development along with education, business, agriculture, farming etc.
- ✓ Widen access to the government support system including health, education and emergency evacuation and sheltering
- ✓ Improve the local planning, coordination and work execution capacity
- ✓ Facilitate emergency route in case of emergency situation
- ✓ Decrease road accidents & promote efficient use of existing facilities and increase road traffic safety
- ✓ Make a crucial contribution to economic development and growth and bring important social benefits

This document represents the Findings from Environmental Screening of the sub-project under the package name **'Strengthening and widening of Gorakghata-Shaplapur Janata Bazar Road under Cox's Bazar Districts.'** with the bid package no. **EMCRP/AF/W18**.

Table 1.2.1: Significant features of the Sub-project

<table>
<tr><td colspan="4">Package No. EMCRP/AF/W18

Description of Sub-project: Strengthening and widening of Gorakghata-Shaplapur Janata Bazar Road, ID-422492001 with culverts and side drains in Moheshkhali Upazila of Cox's Bazar District.</td></tr>
<tr><td colspan="4">Sub-Project Location:</td></tr>
<tr><td colspan="4">i. Road ID. 422492001</td></tr>
<tr><td colspan="4">ii. Ward and Union: Moheshkhali Municipality; 4, 5, 6, 7, 8 & 9 of Choto Moheshkhali union, from 1 to 9 of Shaplapur union and 1 no. of Kalamar Chorra union</td></tr>
<tr><td colspan="4">iii. Village: Thakurtola, Delpara, South Norbila, Lambaghona, Choto Moheshkhali, Boshirakhola, Borokhola, Kalmadia at Choto Moheshkhali union; Kutubdia para, Jumpara, Dineshpur, Itkholapara, Thelapara, Sahrafociar para, Moulavi para, Keyabunia para, Kaydabad, Bariapara, Muronghona, Sadeker kata, Khushiar para, Bodarpar, Gonarpara, Doliapara, Borokhola para, Monipur hindupara, Satghor para, Khushuripara, Jahidaghona, Shaplapur, Moulavi kata, West Gonarpara, Mithachori, jammer chori, Baria chori, Jamghat noyapara, Jamghat dalarpara, Katmara at Shaplapur union; Chaliatoli, Fulerjhiri, Shikortoli & Gudampara at Kalarmar chora union</td></tr>
<tr><td colspan="2">iv. Upazila: Moheshkhali</td><td colspan="2">v. Sub-Project construction period: 1 year</td></tr>
<tr><td>vi. Construction Year: 2021-2022</td><td>vii. Width (m): 5.5
Pavement-4.3m and
Shoulder-1.2m (0.6m+0.6m)</td><td colspan="2">viii. Length(m): 25,100</td></tr>
<tr><td colspan="4">ix. Distance from UZHQ: 350m (Starting point of the Sub-project)</td></tr>
</table>

	GPS Coordinates	Latitude Value: 21.521304 N Longitude Value: 91.96586 E	Starting Point
		Latitude Value: 21.711555 N Longitude Value: 91.934692 E	Ending Point
	Present Condition of Road	BC (Broken), RCC & HBB	
	Communication Source	Radio & Mobile Networks	

Subproject interventions:

- Bituminous Carpeting options.
- 6 Nos. RCC Box culvert (Dimension: 1vent x 1.50m x 1.50m) at Ch. 4834m, Ch. 10542m, Ch. 21585m, Ch. 21691m, Ch. 21825m & Ch. 21926m
- 1 no. RCC Box Culvert (Dimension: 1.00 X1.00 m) at Ch. 23044m of the road
- 4 nos. RCC Box Culvert (Dimension: 2.00 X2.00 m) at Ch. 6521m, Ch.14682m, Ch.15233 & Ch.22560m
- 4 nos. RCC Box Culvert (Dimension: 2- vent 2.50 X2.50 m) at Ch.7675m, Ch.13150 m, Ch 15767m & Ch. 24272m
- 2 nos. RCC Box Culvert (Dimension: 1 vent 3.50 X3.50 m) at Ch. 15618m & Ch. 21468m
- 2 nos. RCC Box Culvert (Dimension: 1 vent 4.50 X4.50 m) at Ch 9166m & Ch 1750m
- Construction of Protective work by Palisading and Brick Toe wall at different chainages
- Construction of L- Drain & U- Drain at different chainages
- Road safety works and
- Environmental Mitigation and Enhancement works

Implementing Agency: Local Government Engineering Department (LGED)

Expected construction period: 1 year

Estimated total cost of component: 452,111,988.21 (Tk.)

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. D&SC conducted 9 nos. consultation meetings from 16 March, 2021 to 19 March, 2021 with Upazila officials, local communities, local drivers community, local elected representatives, and some other stakeholders, that are exposed in the following Table 2.1.1 as well as refer to Figure 2.1.1, and Public Consultation Participants' List is attached in Appendix-4 and sub-project pictorial overview is attached in Appendix-6. Moreover, religious leaders, businessmen, teachers, students, local individuals of different groups and ages, numerous local GO & NGO officials, local service providers, among other stakeholders, were participated in those consultation events. A questionnaire was kept ready and responses were elicited. During these consultations, the communities were explained about the project, key interventions, benefits of the proposed components, associated social and environmental aspects.

Table 2.1.1: Consultation Meetings Details

Consultation No.	Date	Venue	No. of Participants			Remarks (if any)
			Male	Female	Total	
01.	16/03/2021	Dak Banglow Mor, Moheshkhali Municipilaty	16	0	16	The local individuals, chairman and/or member of Union Parishad, Local drivers, other stakeholders, businessmen, religious leaders, and representatives from different agencies were participated.
02.	Do	Chowraster Mor, Thakurtala	12	0	12	
03.	Do	Choto Moheshkhali UP Complex	11	3	14	
04.	17/03/2021	Upazila Engineer's office room	14	0	14	Upazila officials
05.	Do	Kaidabad Bazar, Shaplapur	15	0	15	The local individuals, chairman and/or member of Union Parishad, Local drivers, stakeholders, businessmen, religious leaders, representatives from different agencies, senior/honorable citizens participated.
06.	Do	In front of Tohid Store, Kaidabad Bazar, Shaplapur	08	0	08	
07.	Do	Beside of Sadekerkata Mosque, Shaplapur	7	3	10	
08.	18/03/2021	Shaplapur UP Complex	26	5	31	
09.	19/03/2021	Imran store, Chliatoli, Kalarmarchara	16	0	16	






Figure 2.1.1: Consultation meeting (FGD) with local community

Public consultation is a living process as type of problems/ difficulties, involved parties or stakeholders and mode of settlement or resolution process may 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.

2.2 Summary of Public Consultation Meeting

In the consultation meeting, environmental issues and their relevant impacts for the infrastructure development works such as road improvement or maintenance were discussed. The advantages and disadvantages regarding the sub-project activities were also revealed. A successful public consultation programme requires the following three elements to be effectively executed (i) dissemination of information to the stakeholders (ii) solicitation of views and information from affected parties and inhabitants on social and environmental issues. (iii) Consultation with interest groups and the public.

D&S Consultants conducted consultation meetings with community people and other relevant stakeholders regarding the sub-project activities. Community representatives have no objection regarding the construction of the sub-project. They have welcomed this as blessings and pointed out that this road would help them improve their socioeconomic condition as a whole. People will have

more growth in regards to economic activity which will surely bring development to their localities. They have also suggested increasing the height of the road. They were worried of facing any risks of whether this intervention may cause harm to their establishment of any kind and if their agriculture might be threatened. In reply they were assured that very low impact might accrue but the extent is very negligible. Components such as air quality might deteriorate a bit due to construction induced dust and noise pollution that might occur as well. Discussion was also made on other potential hazards like soil and water pollution, which are very likely to take place during the road construction, if proper measures are not followed.

It has been revealed that this project's scope of works does not intend to overtake their area of lodgment and funding entity has no intention to do so. Moreover, other issues have also been brought to their attention such as proper placement facility for labors and storage facility for materials is a crucial factor. The participants expected that none of the interventions would worsen their living conditions or surrounding environment and they requested for adopting all measures to reduce/avoid the environmental hazards during the implementation phase. Tree cutting might take place for the sub-project but only a few just along the existing road. A compensation method for tree cutting must be in place such as planting five trees for every tree to fall. Participants were also informed of the structure and redressing procedure under project Grievance Redress Mechanism (GRM).

Suggestions and recommendations of the participants

The significant suggestions that came out during the meeting are given below:

- Slope protection should properly be established on the side of the proposed road at different chainages.
- Best available measures should be adopted to avoid potential negative environmental impacts and enhance positive impacts.
- Participants' suggestions and expectations that came out through the different forms of consultation meetings are taken into consideration to reflect their wishes and minimize the adverse impacts of construction works.
- Steps should be taken for minimizing the air pollution by spraying water at the construction sites.
- Noise pollution should be effectively minimized to a tolerable limit and all construction works must be limited during the day time.
- Works will be conducted in phase wise maintaining alternative schedule, so that neither the passage of commuters and passersby nor the construction works are hampered, though a temporary traffic congestion may occur from time to time and local residents are expected to extend every support to keep the work progress smooth and uninterrupted as they promised in the meetings.
- Every possible measure should be taken to avoid any nuisance to public and surrounding inhabitants.

3 ENVIRONMENTAL SCREENING

3.1 General

This section identifies the potential impacts that the various elements of the proposed Project may have on the physical, biological and socio-economic environment within half a kilometer of the radial distance around the site. Environmental Assessment (EA) based on this screening study for the Sub-project 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 Environmental Screening form, as adopted in Appendix 2 of the Environmental and Social Management Framework of EMCRP, was administered and this will help identifying the impacts and their extents. The screening data and information for this Sub-project component and details screening summary have been formulated and shown in Appendix-1.

3.2 Major Findings

The proposed sub-project is one of the infrastructural lifeline of Moheshkhali Upazila, connecting Gorakghata and Shaplapur Janata Bazar, running nearly parallel to RHD constructed Janatabazar-Gorokghata Road (Road ID: Z1004), through numerous Socio-economic, environmental, and religious establishments and features. A good many smaller connecting roads/branches and alleys harbors at different chinages all along the road, pouring substantial numbers of commuters and passersby into the mainstream. Different types of nearly 2000 motorized and non-motorized vehicles and at least 8,000 people pass through the road in a typical day. Though the area is geographically differentiated between undulating and nearly flat land areas, and substantial forest coverage is present across the areas, an already defined Right of Ways (ROW) all through the road length and present road conditions state that the proposed sub-project is not located within any environmentally sensitive areas (for becoming affected by the interventions) and has no chance to create adverse impacts to important environmental components. The road is already occupying sufficient open spaces on both sides for further widening and strengthening works, wherever required, and there is very little chance for felling trees therefore during the construction period. However, as part of offsetting measures for any potential felling trees and environmental enhancement works in the areas, 180 nos. of trees will be planted along the roadside, and sufficient budgeting has been planned for. Impacts on air quality during the construction phase may turn to negative. In fact, the main impacts include dust generation from crushers, vehicles and the transportation of all types of construction materials. Noise emission from construction machineries and equipment can cause nuisance to local residents, workers and faunal species in the forested lands. Thus, the ambient noise level might have potential to increase temporarily and intermittently in the close vicinity of active construction fronts. The most challenging part during the construction period would be managing traffic efficiently while running the works uninterrupted. Contractors need to pay especial heed on this issue during the construction period.

During the survey conducted by the D&S safeguards team, many different features have been identified. Among those different socio-economic and environmental features within half a

kilometer from the centerline of the proposed road, major features in terms of potential sensitivity to receive any impacts and having closer proximity to the road length are tabulated hereunder.

Table 3.2.1: Major sensitive/important features along the road length and potential impacts (if any) from the subproject activities

Chainage	Features	Distance from the road center line	Direction/ Orientation	Key Potential impacts
25100m	Salt field	30m	North side	Dust and noise pollution may impose some impacts, esp. during construction period. Pollution from bituminous chemical and oils may pose serious threats.
	Fish project	500m		No significant Impact is anticipated due to sufficient distance in between.
	Matamuhuri river	800m		
000m	Upazila HQ pond	350m	South side	No significant Impact is anticipated due to sufficient distance in between.
	Upazila big pond	340m		
	Shikdarpara GPS	400m		
	Gorakghata bazar	250m		
	Gorakghata Bazar Mosque	300m		
	Upazila Post office	300m		
	Upazila land office	300m		
	Polli bidyut office	100m		
	BRDP office	300m		
	Upazila fisheries office	310m		
	Sub-registrar office	320m		
	Sonali Bank ltd.	400m		
000m	Moheshkhali Model GPS	200m	L	No significant Impact is anticipated due to sufficient distance in between.
2m	Adarsha High School	210m	L	
3m	High School Mosque	220m	L	
5m	Govt. Girls School	300m	L	
7m	Animal Husbandry Hospital	100m	L	
10m	Dak Banglow	50m	R	A little noise and dust impact may occur during construction period. Pollution from bituminous chemical and oils may pose serious threats to soil and biodiversity/ecological niche.
15m	Family planning office	60m	R	
30m	Barunaghat khal	10m	L	
32m	Upazila central mosque & graveyard	350m	N-W	No significant Impact is anticipated due to sufficient distance in between.
34m	Moheshkhali Upazila HQ	400m	N-W	
34m	Upazila forest office	380m	N-W	
35m	Upazila Health Complex	450m	N-W	
40m	Moheshkhali Degree College	600m	N-W	
40m	Judicial Court	150m	N-W	

Chainage	Features	Distance from the road center line	Direction/ Orientation	Key Potential impacts
42m	Baytul Falah mosque	5m	L	May be impacted due to dust & noise pollution during construction period
45m	Delpara Baytul Mamur mosque	500m	L	No significant Impact is anticipated due to sufficient distance in between.
50m	Gorakghata Buddhist temple	150m	R	
90m	Bakkhali river	700m	R	
100m	Burmiz GPS	170m	R	
105m	Food warehouse	180m	R	
110m	Gorakghata forest bit	100m	R	
112m	Gorakghata Buddhist crematory	100m	R	
115m	Icemill	120m	R	
150m	Gorakghata boro graveyard	350m	L	
200m	Telipara mosque	400m	L	
245m	Upazila Muktijoddha complex	100m	R	
250m	Ahmadia Tayabia Sunniya Madrasah	350m	L	
550m	Adinath temple	900m	R	
560m	Adinath GPS	10m	L	A little noise and dust impact may occur during construction period.
600m	Buddhist temple	910m	R	No significant Impact is anticipated due to having sufficient distance.
605m	Buddhist crematory	920m	R	
980m	Delpara mosque	5m	L	May be impacted due to dust & noise pollution during construction period
1320m	South Nurbila purbapara Baytul Ijjot mosque	5m	L	
1400m	Yousuf Nur GPS	500m	L	No significant Impact is anticipated due to having sufficient distance.
1800m	South Nolbila purbapara mosque	5m	L	May be impacted due to dust & noise pollution during construction period
1930m	Hazrat Sahjalal (Ra) Hafezia orphanage & graveyard	5m	R	
1970m	Kalamia Bolipara mosque	30m	L	A little dust and noise pollution may occur during construction period
2190m	Choto Moheshkhali Adarsha High School	30m	L	
2250m	Choto Moheshkhali UP	10m	R	
2320m	Dokhin kul Baytul Mamur mosque	5m	L	May be impacted due to dust & noise pollution during construction period
2580m	Choto Moheshkhali Dokhin kul Majherpara mosque	10m	L	A little dust and noise pollution may occur during construction period
2780m	Chamchori khal	5m	Crisscrossed	May be impacted due to dust

Chainage	Features	Distance from the road center line	Direction/ Orientation	Key Potential impacts
				& noise pollution during construction period
2800m	Mudirchorra hill	800m	R	No significant Impact is anticipated due to having sufficient distance.
2805m	Maispara Adarshagram project	150m	R	
2810m	Sohi-us-Sunnah Mosque & Koumi Madrasah	5m	R	May be impacted due to dust & noise pollution during construction period
2960m	Choto Moheshkhali GPS	30m	L	A little dust and noise pollution may occur during construction period
3535m	Amtoli khal	5m	Crisscrossed	May be impacted due to dust & noise pollution during construction period
3550m	Omorbin A. Aziz (Ra) Madrasah cum Hefzakhana & orphanage	800m	R	No significant Impact is anticipated due to having sufficient distance.
3750m	Uttar kul Choto Moheshkhali mosque	50m	L	A little dust and noise pollution may occur during construction period
3820m	Uttar kul graveyard	5m	L	May be impacted due to dust & noise pollution during construction period
3990m	Baytul Ezzot mosque & Hefzakhana	5m	L	
4775m	Boshirapara mosque	5m	R	
4830m	Shikdarpara mosque	5m	L	
5540m	Mudir chorra Forest bit office	10m	L	A little dust and noise pollution may occur during construction period
7830m	Moheshkhali channel	500m	R	No significant Impact is anticipated due to having sufficient distance.
8500m	12 No. Hill	10m	R	A little dust and noise pollution may occur during construction period
9600m	Jannatul Ferdous mosque	5m	L	May be impacted due to dust & noise pollution during construction period
9835m	Dineshpur Kutubdia para Hazrat Osman Jin Nurain (Ra),mosque & Nurani Madrasah	20m	R	A little dust and noise pollution may occur during construction period
9950m	Dineshpur Ashrayan	10m	R	
10100m	River embankment	100m	R	No significant Impact is anticipated due to having sufficient distance.
10350m	Dineshpur GPS	5m	L	May be impacted due to dust & noise pollution during
10420m	Dineshpur CCDB Bhaban	5m	R	

Chainage	Features	Distance from the road center line	Direction/ Orientation	Key Potential impacts
				construction period
10480m	Dineshpur Baytur Aman mosque	10m	L	A little dust and noise pollution may occur during construction period
10600m	Dineshpur graveyard	5m	L	May be impacted due to dust & noise pollution during construction period
10670m	Dineshpur Baytul Aman old mosque	5m	R	
10890m	Moulavipara Baytur Rahman mosque & Nurani madrasah	10m	L	A little dust and noise pollution may occur during construction period
11100m	Dineshpur forest bit office	10m	L	
11700m	Kaydabad bazar mosque	5m	L	May be impacted due to dust & noise pollution during construction period
11700m	Kaydabad bazar	5m	Both side	
11725m	Kaydabad Ashrayan	450m	R	No significant Impact is anticipated due to having sufficient distance.
11750m	Kaydabad GPS	5m	R	May be impacted due to dust & noise pollution during construction period
11750m	Kaydabad community clinic	5m	L	
11830m	Mobile Tower	10m	L	A little dust and noise pollution may occur during construction period
11920m	Muronghona bil community center	5m	R	May be impacted due to dust & noise pollution during construction period
12100m	Kaydabad Islamia Dakhil madrasah & graveyard	100m	L	No significant Impact is anticipated due to having sufficient distance.
12340m	Baria chorri Mosque & graveyard	10m	R	A little dust and noise pollution may occur during construction period
12460m	Bariapara New mosque	10m	L	
12900m	Bariapara old mosque	30m	L	
13500m	Muronghona mosque	40m	L	
13800m	Sadeker kata Ebtadia mosque & madrasah	10m	L	
14050m	Sadeker kata bazar	5m	Both side	A little dust and noise pollution may occur during construction period. Pollution from bituminous chemical and oils may pose serious threats to soil.
14100m	Sadeker kata mosque	10m	L	A little dust and noise pollution may occur during construction period
14300m	Sadeker kata Satantro Ebtedayee madrasha	5m	L	May be impacted due to dust & noise pollution during construction period

Chainage	Features	Distance from the road center line	Direction/ Orientation	Key Potential impacts
14400m	Mukbeki Notunpara mosque	250m	L	No significant Impact is anticipated due to having sufficient distance.
14560m	Mukbeki Kushiyar para mosque	95m	L	
14690m	Mukbeki GPS	10m	L	A little dust and noise pollution may occur during construction period
14720m	Budarpara graveyard	10m	R	
14800m	Budarpara Cluster village	460m	R	No significant Impact is anticipated due to having sufficient distance.
14850m	Budarpara Girls School	10m	R	A little dust and noise pollution may occur during construction period
15000m	Mukbeki Nurani Hafezia madrasah & Orphanage	150m	L	No significant Impact is anticipated due to having sufficient distance.
15010m	Budarpara mosque & graveyard	15m	L	A little dust and noise pollution may occur during construction period
15040m	Jahidaghona mosque	10m	L	
15300m	Mukbeki-Budharpara mosque	10m	L	
15460m	Jaidaghona uttorpara mosque	5m	L	May be impacted due to dust & noise pollution during construction period
15600m	Shaplapur UP office	10m	R	A little dust and noise pollution may occur during construction period
15700m	Shaplapur Girls Junior High School	13m	R	
15720m	Shaplapur GPS	10m	R	
15730m	Shaplapur bazar	5m	Both side	May be impacted due to dust & noise pollution during construction period
15750m	Shaplapur land office	10m	R	A little dust and noise pollution may occur during construction period
15760m	Shaplapur High School	20m	R	
15800m	Shaplapur crematory	10m	R	
15980m	Shaplapur Family planning office	10m	L	
15990m	Shaplapur forest office	50m	L	
16000m	Shaplapur Napitpara Durga Mondir	20m	L	
16100m	Shaplapur Alim Madrasah	10m	R	
16200	Shaplapur Launch ghat	900m	R	No significant Impact is anticipated due to having sufficient distance.
16400m	Mobile Tower	300m	R	
16500m	Gunarpara GPS	800m	L	
16650m	Ghonarpara mosque	5m	R	May be impacted due to dust & noise pollution during construction period
16700m	Fokira kata mosque cum	300m	L	No significant Impact is

Chainage	Features	Distance from the road center line	Direction/ Orientation	Key Potential impacts
	hefzakhana & orphanage			anticipated due to having sufficient distance.
17230m	Moulavi kata Anar Ali Shah Orphanage cum Hefzakhana & Mazar	50m	R	A little dust and noise pollution may occur during construction period
17250m	Mosque-E-Jubaida	10m	L	
17325m	Moulavikata mosque	5m	R	
17520m	Monipur Hori Mondir	1 km	L	No significant Impact is anticipated due to having sufficient distance.
17525m	Monipur Loknath Mondir	1 km	L	
17540m	Mitha chori mondir	20m	L	A little dust and noise pollution may occur during construction period
17560m	Mitha chori graveyard	5m	L	May be impacted due to dust & noise pollution during construction period
17600m	Mithachorri bazar	5m	Both side	
17750m	Mithachori Purbopara Mondir	80m	R	A little dust and noise pollution may occur during construction period
18900m	Jamer chori Polli Bidyut Sub-Station	15m	R	
19150m	Jamer chori bazar	5m	Both side	May be impacted due to dust & noise pollution during construction period.
19200m	Jamghat CCDB bhaban	300m	R	No significant Impact is anticipated due to having sufficient distance.
19550m	Jamghat GPS	300m	R	
20100m	Jamghat high School	305m	R	
20380m	Jamghat river port	200m	R	
21220m	Noyapar-Jamghat Koumi madrasah	15m	R	A little dust and noise pollution may occur during construction period
22590m	Abdullah Baper mosque & graveyard	300m	L	No significant Impact is anticipated due to having sufficient distance.
22630m	Satghor para mosque	7m	L	May be impacted due to dust & noise pollution during construction period
22670m	Shaitmara GPS	10m	R	A little dust and noise pollution may occur during construction period
22800m	Shaitmara Dakhil madrasah & mosque	10m	R	
22850m	Shaitmara Chaina market	5m	R	A little dust and noise pollution may occur during construction period. Pollution from bituminous chemical and oils may pose serious threats to soil.
22900m	Satghorpara mosque cum Hafezkhana & graveyard	200m	L	No significant Impact is anticipated due to having

Chainage	Features	Distance from the road center line	Direction/ Orientation	Key Potential impacts
				sufficient distance.
22980m	Shaitmara graveyard	30m	L	A little dust and noise pollution may occur during construction period
23200m	Shaitmara Hamidia Orphanage & Hefzakhana	15m	L	
23350m	Kalamia Saudagor mosque & graveyard	400m	L	No significant Impact is anticipated due to having sufficient distance.
23350m	Shaitmara Nokia market	5m	R	May be impacted due to dust & noise pollution during construction period
23400m	Mohammad Nagar Islamia Azizul Alom mosque & madrasah	400m	L	No significant Impact is anticipated due to having sufficient distance.
23450m	South Caliatoli Notunpara mosque	10m	L	A little dust and noise pollution may occur during construction period
23450m	Shaitmara Residential Model School	50m	R	
23465m	Mobile Tower	15m	L	
23480m	North Nolbila High School	150m	L	No significant Impact is anticipated due to having sufficient distance.
23490m	North Nolbila GPS	500m	L	
23500	Shikortoli mosque	800m	L	
23560m	Madrasah Ehyayee Ulumiddin	10m	R	A little dust and noise pollution may occur during construction period
23650m	Fuler jhiri mosque	500m	L	No significant Impact is anticipated due to having sufficient distance.
23900m	Gudampara mosque	10m	L	A little dust and noise pollution may occur during construction period
24100m	Caliatoli big graveyard	200m	L	No significant Impact is anticipated due to having sufficient distance.
24900m	Caliatoli Central mosque	5m	R	May be impacted due to dust & noise pollution during construction period
24970m	Caliatoli GPS	50m	R	A little dust and noise pollution may occur during construction period
25050m	Kuhelia river	1Km	L	No significant Impact is anticipated due to having sufficient distance.
25100m	Bodorkhali bridge	800m	R	

As tabulated above, some features may face dust and noise pollution due to having a closer proximity to the road but the impacts are short-term, site-specific within a relatively small area and reversible/ preventable by mitigation or conservative measures. Other features are located at places

having sufficient distances from the road length; therefore significant disturbances to all these establishments/features is not anticipated, specifically from the construction activities. Pollution from bituminous chemical and oils may pose serious threats to soil and water bodies. However, strict construction site management system including restrictive work schedule during the daytime only, water-sprinkling twice a day on and around the site, proper fencing around the working area, safe storage of materials, etc.- all these measures will be complied fully in the field. Construction equipment may generate vibration at the properties immediately adjacent to the road alignment. Any vibration would result in nuisance effects to nearby faunal species, but will be localized and temporary and will unlikely to result in structural damages to buildings or walls of the adjacent private properties. During the construction period, soil may get contaminated from activities such as handling of hazardous construction materials such as fuel, lubricants, paints, and solid waste and sewage. Since the road is fully functional even at this deteriorating condition, managing traffic and ensuring community safety during the construction period would the topmost challenges, in terms of potential or foreseeable impacts.

In order to offset the loss or attenuating the environmental degradation and ensuring community safety, a set of mitigation/management measures will be adopted, on top of general practice of standard construction procedure or following the relevant codes of practices.

3.3 Climate Change Impact

3.3.1 General Consideration

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 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 and construction of drainage facilities in optimum

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

numbers with wide opening, along the road length have been suggested and will be implemented under this project.

3.3.2 Site Specific Consideration

The sub-project area is not adjacent to the sea. The cyclone has higher impact in the area and 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 observed creating more damage than before but no casualty was reported.

Site specific climate change impacts are often not so easy to measure or deduce plausibly while the site is confined to a narrow strip of roadways only, and associated mitigation or offsetting measures are really hard to plot on the same tiny impact areas, though an overall set of measures are often considered in practical aspect. Tree planation on the road slope is suggested to sooth the temperature effect and increase the water retaining capacity of soil, at the same time.

4 ENVIRONMENTAL AND SOCIAL PROTECTION/SAFEGUARDS

4.1 Mitigation and Management Measures

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. The proposed road is on plain land, though there are some moderately hilly and undulating land surfaces present across the areas. Primarily it is anticipated that only a handful numbers of trees may need to be cut down for road widening, and as a mitigation measure, 5 nos. trees will be planted for each tree fell in the periphery of the subproject. There are some important socio-cultural and religious and educational establishments/features along the road length, which might face construction induced impacts to some extent.

Further, some settlements located adjacent to the sub-project area 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. Proposed subproject area experiences water logging problem during the monsoon sometimes. Also, there are some patches of agricultural lands in the area, which needs regular supply of irrigation water. In order to averting the waterlogging problem and facilitating optimum irrigation, 6 Nos. RCC Box culvert (Dimension: 1vent x 1.50m x 1.50m) at Ch. 4834m, Ch. 10542m, Ch. 21585m, Ch. 21691m, Ch. 21825m & Ch. 21926m, 1 no. RCC Box Culvert (Dimension: 1.00 X1.00 m) at Ch. 23044m, 4 nos. RCC Box Culvert (Dimension: 2.00 X2.00 m) at Ch. 6521m, Ch.14682m, Ch.15233 & Ch.22560m, 4 nos. RCC Box Culvert (Dimension: 2- vent 2.50 X2.50 m) at Ch.7675m, Ch.13150 m, Ch 15767m & Ch. 24272m, 2 nos. RCC Box Culvert (Dimension: 1 vent 3.50 X3.50 m) at Ch. 15618m & Ch. 21468m, 2 nos. RCC Box Culvert (Dimension: 1 vent 4.50 X4.50 m) at Ch 9166m & Ch 1750m will be constructed at the subproject area. Some high land is found beside the sub-project. So, L-Drain at different chainages will be constructed for drainage of high land eel water during rainy season. U-drain at different chainages is also considered for drainage facility that runs along the road for uninterrupted water flow. Due to the presence of low lying land along different chainage of the road some protective works by Palisading and Brick Toe wall at different chainage are included in design and

estimation. As traffic and community safety may pose a serious concern during the construction period, the contractor should draw up a comprehensive traffic management plan. It is anticipated from previous experiences in the construction works of such longer roads under LGED, contractor would implement the entire road works in different phases with partly closure of a road section at a time leaving another part open for vehicle-pedestrian movements, and place cautionary notices on both sides, delineators & barricades around the working area, and engage flagmen to control traffic. For ensuring community safety in terms of road safety at operational period, contractor must adjust sufficient spaces and slopes at bending (as per design), place proper road signing and signaling, necessary bumping and speed breakers at strategic places, and other relevant measures. 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 and Social Management Plan has been outlined in Appendix-2. The mitigation measures as well as monitoring program of ESMP have also been incorporated in the management plan.

Environmental quality enhancement: Under the additional financing to the EMCRP project, Forest Department of the Government of Bangladesh will afforest along 200 km of road length area, in different parts of the Cox's Bazar district in order to balance the environmental and ecological devastation that had been occurred due to the evolution of Rohingya Crisis, to an achievable level. Though Moheshkhali Upazila is not hosting any cluster of displaced Rohingya people, this particular road is more likely to receive a significant numbers of trees to be planted along the road length, under that afforestation program as part of offsetting measures across the district. Local Government Engineering Department (LGED) will allocate and channelize the finance to the Forest Department under the said additional financing component and oversee the progress of works with due diligence. However, this enhancement work will improve the environmental quality of the area and reinstate some parts of the ecosystem services to those areas, though primarily.

4.2 Health and Safety Measures under COVID situation

Apart from the established Occupational Health and Safety (OHS) measures being followed in construction sites, offices, and labor camps, a set of additional measures has to be taken and practiced throughout the daily cycle by each labor, staff and any involved parties, due to the ongoing pandemic coronavirus situation. Staffs and consultants at PIU and D&S, along with the pool of consultants under different firms/agencies for different services, and all the representatives or staffs of construction contractors and suppliers have to play much sensitive, (pro-) active and responsible roles in abiding by the rules and measures by themselves and getting the involved workers and different stakeholders adhered to the same. A detailed guideline containing a set of measures with shared responsibilities has been sketched out in order to fight the exposure and further spread of this potentially fatal situation. This plan or guideline shall constitute an integral part of ESMP measures for every sub-project, though is not included in this report to keep it concise and specific, and the contractor is required to keep the copy of that guideline at every site offices.

However, among many other relevant issues, the guidelines emphasize on following line of directives:

a. Contractor must designate one of his employees as H&S/Safeguards supervisor to lead, coordinate and interface in order to fight the COVID 19 situation under the direct guidance of COVID focal at PIU of EMCRP project.
b. All workers, supervising and supporting engineers and staffs, consultants, service providers and other concerned parties must adhere to the personal health and hygiene rules, social distancing, and other protective measures in full in order to protect themselves and contain the infections any further. Necessary training and awareness campaign will be aligned with the specific sub-project scenario and prevailing conditions.
c. General practice of cleaning and hygiene has to be maintained in all project/site offices and camp sites, and supply of necessary PPEs and cleaning /disinfecting materials along with proper use of those is to be ensured.
d. Public consultation and stakeholder engagement is to be carried out considering the prevailing risks of virus transmission in the target areas, scope of interventions and level of ICT penetrations among the target stakeholders, and so on.
e. Necessary protocols has to be established and maintained in case of handling a sick employee or worker, and appropriate compensation to a sick disengaged labor is required to be given with due documentation.
f. Budgeting for suggested protective measures, along with necessary supervision and monitoring for the required interventions has to be ensured.

Following the additional health and safety measures presented in that guideline, sub-project specific BOQ items have been inserted to supplement the budget considering the country-specific situation, capacities, and scope of interventions. The additional cost to Health and Safety Measures under COVID 19 situation is shown in Appendix-3.

4.3 Cost of Environmental Enhancement Works in BOQ

In consideration to the above-mentioned environmental impacts and their mitigation measures for this sub-project component, a set of items are included in the BOQ of this sub-project. Social Safeguard Personnel for Environmental and Social Management for Work Package EMCRP/AF/W18 have also been added in the whole BOQ in order to take supervision and leadership to organize Environmental Management under Environmental Enhancement Works. The total costing and estimation have included enhancements such as Grass turfing plans, Tree plantation initiatives, Dust Suppression mechanisms. On the other hand, in order to ensure health safety and sanitary measures of workers PPE, First Aid Box, Labor shed, Environmental management, drinking water facility with water tests, Temporary latrine for male and female as well as waste disposal systems has been accounted for. Ensuring sustainable labor performance in regards to environmental and social considerations motivational training has been taken into account. An overview of the estimation is given in Appendix-3.

5 MONITORING MECHANISM FOR ESMP IMPLEMENTATION

Monitoring, as such, is required to ensure that the mitigation and enhancement measures are being properly implemented and at the same time, to determine whether the benefits of these measures are being realized over time. A comprehensive monitoring framework is suggested in Project ESMF and the responsibilities lie on all the responsible parties or institutions directly involved with or oversee the construction works.

There will be several tiers in monitoring framework to ensure the proper implementation of ESMP. Contractors, throughout the construction or implementation period, must ensure that environmental and social risks and impacts are minimized effectively while working at sites and adequate health and safety measures are put in place not only for their workers but also for the surrounding communities and DRPs. Contractors' employed site managers and safeguard supervisors (or persons with similar responsibilities) shall take all reasonable steps to protect the environment on and off the Site and to avoid damage or nuisance to persons or to the properties belong to public and private individuals/entities or to different features and establishments, from pollution, noise or other detrimental causes arising as a consequence of different methods of operation and activities. The said employees shall instruct as well as supervise the day-to-day progress of ESMP implementation activities on contractors' behalf. Apart from the ESMP implementation, some specific management plans, e.g., drainage management, traffic management, emergency preparedness and response, etc., whichever required, need to be prepared by the Contractor and strong supervision for the implementation of those plans is also a part of the said employees' responsibilities.

Design and supervision consultants shall stand at the first tier of the monitoring mechanism. When the contractors are mobilized in the field, safeguards consultants from D&SC firm and the Resident Engineer will ensure that contractors are adherent with every suggestive measure delineated in ESMP, on top of the best engineering practices at sites including Occupational Health and Safety (OHS). D&SC firm will prepare regular monitoring reports based on the findings of stringent supervision and monitoring on its part.

PIU will have safeguards specialists stationed in Cox's Bazar and will conduct field visits very frequently. Moreover, Executive Engineer's office in Cox's Bazar and Upazila Engineer's office in Moheshkhali will play a vital role in upholding the proper monitoring and supervision of civil works and associated project activities, including social and environmental safeguards in and around the sub-project sites. Safeguards specialists of PIU will monitor that all staffs of the contractors and other counterparts who are involved in project implementation receive both initial and ongoing environmental and social safeguard awareness and training sufficient to ensure the best practices in the field. Local Engineers from LGED and PIU safeguards specialists shall ascertain that contractors cleaning and reclamation works after the decommissioning of sites/ end of construction works are perfectly done and will also suggest for punitive measures against the contractors if any negligence or indifference is found in following the ESMP to the fullest effectiveness.

The highest tier in the monitoring system is bestowed upon the respective Ministerial Project Steering Committee (PSC) chaired by the Sr. Secretary/Secretary, LGD, MoLGRD&C. The PIU, in collaboration with the PSC, will also ensure that Environmental and social safeguards training are provided to all Project personnel.

Widespread COVID 19 situations prevailing across the country has put further intense necessity for all concerned parties to scale up their monitoring frequency and activities in line with the prescribed guidelines to be followed in the field, camp site, and project offices. Frequent and abrupt visit to the working sites and labor camps is quite necessary in this crisis period and is strongly suggested.

6 LIMITATIONS OF THIS STUDY

With the countrywide spread of coronavirus and its huge detrimental including fatal effects on people and livelihood had made the government of Bangladesh to impose a nationwide lockdown from March 26, 2020 onward coupled with banning on passenger traveling across the districts. This development was accompanied by all office works to be suspended or postponed. However, in the backdrop of continued fragile economic and human plight being observed across the country which has primarily been caused by this COVID situation, Government of Bangladesh has had no other option but to reopen all the economic and official activities by early June, with strong guidance on limiting movement to the least. This new-normal situation is still limiting the movement of consultants and supervising staffs to the proposed working sites for undertaking the screening survey along with conducting effective consultation meetings, which is in turn affecting the overall progress of the project and there might have a likely chance to remain the gaps in overall screening process and outcomes.

7 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 in regards to the selection of location, design, construction, and/or operation procedure of the proposed Sub-project. There will in fact be tremendous benefits from recommended mitigation and enhancement measures and major improvements in quality of life, opportunities in business, trading and jobs and ensuring social safety and security will be achieved once the scheme is in operation.
The conclusions of the Screening study can be summarized as follows:

- The communities will receive large benefits through improved infrastructural facilities, transportation & communication etc.
- 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.
- The project will create employment for those who live in the vicinity of the construction site and will provide them a short-term economic gain.
- The green belt development, if necessary for the road site, with large-growing trees at the periphery of the site will give the places a more natural and pleasing appearance.
- A comprehensive Environmental and Social Management Plan (ESMP) has been prepared to mitigate and reduce the adverse impacts that will come out from the Subproject activities.

Implementation of this Sub-project will have large positive impacts to the communities in terms of improved infrastructural transportation & communication facilities, which would eventually develop the socio-economic condition of the catchment areas. So, strong recommendation should be put in place to implement the sub-project within shortest possible period of time, and with great care and efficiency.

Appendix-1: Filled in Environmental Screening Form

Environmental Screening Form

Sub-Project Description Form:

Name of Sub-Project: (**Strengthening and widening of Gorakghata-Shaplapur Janata Bazar Road under Cox's Bazar Districts.:** EMCRP/AF/W18).

Name of the component: Gorakghata-Shaplapur Janata Bazar Road (ID: 422492001).

Implementing Agency/Agencies: Local Government Engineering Department (LGED)

Estimated total cost of the component (in Taka): **452,111,988.21 Tk.**

Estimated construction period duration: 1 year

Estimated Operation and Maintenance period (life of sub-project): Project design life is more than 15 (Fifteen) years but Government policies will determine the period for sub-projects to operate in the areas.

District: Cox's Bazar **Sub-District**: Moheshkhali **Union**: Moheshkhali Municipality, Choto Moheshkhali, Shaplapur & Kalarmar Chorra

Name of Community/Local Area: Thakurtola, Delpara, South Norbila, Lambaghona, Choto Moheshkhali, Boshirakhola, Borokhola, Kalmadia at Choto Moheshkhali union; Kutubdia para, Jumpara, Dineshpur, Itkholapara, Thelapara, Sahrafociar para, Moulavi para, Keyabunia para, Kaydabad, Bariapara, Muronghona, Sadeker kata, Khushiar para, Bodarpar, Gonarpara, Doliapara, Borokhola para, Monipur hindupara, Satghor para, Khushuripara, Jahidaghona, Shaplapur, Moulavi kata, West Gonarpara, Mithachori, jammer chori, Baria chori, Jamghat noyapara, Jamghat dalarpara, Katmara at Shaplapur union; Chaliatoli, Fulerjhiri, Shikortoli & Gudampara at Kalarmar chora union.

Description of proposed sub-project activities (incl. type of activities, footprint area, natural resources required, etc.): The Sub-Project is categorized as a upazila road with a proposed design of BC from Ch.00 to Ch. 25,100m. Proposed safety and service providing structures include 6 Nos. RCC Box culvert (Dimension: 1vent x 1.50m x 1.50m) at Ch. 4834m, Ch. 10542m, Ch. 21585m, Ch. 21691m, Ch. 21825m & Ch. 21926m, 1 no. RCC Box Culvert (Dimension: 1.00 X1.00 m) at Ch. 23044m, 4 nos. RCC Box Culvert (Dimension: 2.00 X2.00 m) at Ch. 6521m, Ch.14682m, Ch.15233 & Ch.22560m, 4 nos. RCC Box Culvert (Dimension: 2- vent 2.50 X2.50 m) at Ch.7675m, Ch.13150 m, Ch 15767m & Ch. 24272m, 2 nos. RCC Box Culvert (Dimension: 1 vent 3.50 X3.50 m) at Ch. 15618m & Ch. 21468m and 2 nos. RCC Box Culvert (Dimension: 1 vent 4.50 X4.50 m) at Ch 9166m & Ch 1750m, construction of L- Drain & U- Drain at different chainages as well as some additional construction of Protective work by Palisading and Brick Toe wall at different chainages which are included in the design and estimation. As part of road safety works include barricades, speed bumps, warning signs/lights, guide signs, flagmen etc. and Environmental Mitigation and Enhancement works are included in the estimation.

Estimated footprint / land area for this sub-project is 138,050 sq m.

Brief description of sub-project site: (e.g. present land use, Important Environmental Features (IEFs) near site, etc.:

This proposed Gorakghata-Shaplapur Janata Bazar Road belongs to Moheshkhali Municipality, Choto Moheshkhali, Shaplapur and Kalarmar chorra unions under Moheshkhali Upazila. This road has started from Dakbanglow more point of Gorakghata on R&H road at south side of Moheshkhali Municipality stretching 25,100m to Janata bazar at north side of Kalarmar chorra union. This road under Moheshkhali Upazila is divided into the following intersection (In lengths):

Name of Road	Municipality/Union	Length (Meter)
Gorakghata-Shaplapur Janata Bazar Road	Moheshkhali Municipality	238
	Soto Moheshkhali Union	9100
	Shaplapur Union	14000
	Kalarmarchara Union	1762
	Total Length of Road =	**25100**

Several connecting roads fall within the road chainage. This targeted sub-project passes through numerous moderate/small hills, boundary fences, electric poles, solar lamp post, Chorra, ponds, culverts, guide posts, ditches, patches of vegetation and agricultural fields, bushes, homestead gardens, mosques, graveyards, schools, religious institutes, shops, bazars, open field etc. No significant environmental or socioeconomic features are found near the road component.

However, detail Environmental features within 100m of the both sides of the road from the center line were collected @300m longitudinal intervals during the survey and the findings are given in the table below:

Chainage (m)	Left	Right	Features
000-300	L		Electric poles, mosque, diverse shops (grocery, pharmacy, furniture shop, wood shop etc.), auto gas filling station, rain trees, rice mill, bridge on Barunaghat canal, workshops
		R	Diverse shops (grocery, pharmacy, wood shop etc.), forest office road, brick boundary wall, crematorium, Muktijoddha complex, electric poles, big rain trees, workshops
300-600	L		Electric poles, tea stall, wood mill, trees, bamboo fences, solar lamp post, tin shed fences, shops, connecting road
		R	Furniture shops, garage, auto rice mill, bamboo fences, hotel, shops, connecting roads
600-900	L		Open space, paddy land, rain trees, brick boundary walls, connecting road, tin shed fences
		R	Open space, building, tin shed household, paddy land, electric poles, solar lamp post, culvert, tin shed fences, pharmacy, earthen household, household connecting road
900-1200	L		Tin shed fences, furniture shop, brick boundary walls, mosque, shops, tin shed fences, net fences, eucalyptus garden, culvert
		R	Tin shed fences, electric poles, household connecting road, shops, bamboo fences
1200-1500	L		Connecting road, shops, open field, trees, brick boundary walls,

Chainage (m)	Left	Right	Features
			mosque, household connecting road, tin shed fences, bamboo fences, eucalyptus garden
		R	Building, tin shed fences, shops, culvert, paddy land
1500-1800	L		Eucalyptus gardens, solar lamp post, bamboo fences, shop, tin shed fences
		R	Tin shed fences, culvert, open space, eucalyptus garden on upland
1800-2100	L		Household connecting roads, building, solar lamp post, paddy lands, electric pole, culvert
		R	Graveyard on upland, bamboo bushes on upland, eucalyptus garden, bamboo bushes
2100-2400	L		Open land, High school gate, shops, betel nut trees, Lambaghona bazar
		R	Tin shed fences, eucalyptus garden, culvert, solar lamp post, mobile tower, betel nut trees, Lambaghona bazar
2400-2700	L		Lambaghona bazar, tin shed fences, solar lamp post, bamboo fences, eucalyptus garden, paddy land
		R	Lambaghona bazar, shops, electric poles, Ext. U-drain, tin shed earthen household, Akashi garden, brick boundary walls, solar lamp post
2700-3000	L		Household connecting roads, bridge on Daschori canal, open spaces, connecting road, shop, tin shed fences, brick boundary wall
		R	Tin shed fences, tamarisk(jhaw tree), mosque/madrasha, connecting road, shops, ext. x-drain, open space, bamboo fences, electric pole
3000-3300	L		Brick boundary walls, mosque, household connecting road, tin shed fences, building, rice mill, shops, connecting road, pond, mosque
		R	RCC pole with wire fences, pond, Akashi garden, household connecting road, shops, electric pole, tin shed fences, brick boundary wall
3300-3600	L		Building under construction, shops, tin shed fences, brick boundary wall, open space, household connecting road, Akashi trees, ditches
		R	Tin shed fences, pond, household connecting road, Akashi trees, bridge on Amtoli canal, connecting road
3600-3900	L		Tin shed fences, household connecting roads, A Jabbar market, ext. x-drain, shops, mosque, fish farm, cuvert, bamboo fences
		R	Shops, tin shed fences, Choto Moheshkhali Bazar, ext. v-drain, bamboo bushes, pond
3900-4200	L		Bamboo fences, mosque, culvert, tin shed fences, pond, Akashi garden
		R	Tin shed fences, tin shed household, trees, Akashi garden, paddy land

Chainage (m)	Left	Right	Features
4200-4500	L		Bamboo fences, paddy land, connecting road, solar lamp post, tin shed fences, net fences, shop, electric pole
		R	Paddy land, solar lamp post, Akashi garden
4500-4800	L		Akashi garden, bridge on Bashira chorra canal, solar lamp post, bamboo bushes, tin shed fences
		R	Paddy land, household connecting road, solar lamp post, electric pole, shop, tin shed fences, mosque
4800-5100	L		Tin shed fences, bamboo fences, ext. v-drain, electric poles, paddy land, km post, solar post, paddy land
		R	Tin shed fences, shop, ext. v-drain, upland, earthen house on upland, Akashi trees on upland
5100-5400	L		Paddy land, electric poles, culvert, open land, ext. v-drain, low land
		R	Ext. v-drains, open land, culvert, Akashi trees on hill
5400-5700	L		Rain trees, ext. v-drains, forest bit office, tin shed earthen household, tin shed fences, bushes
		R	Low land, culvert, open land, ext. L-drain, solar lamp post, rain trees orchard on hill
5700-6000	L		Bushes, open lands, bamboo bushes, ext. v-drain, electric pole, mosque
		R	Ext. L-drains, tin shed fences, solar lamp post
6000-6300	L		Paddy land, electric poles, solar lamp posts, bamboo fences, open land, ext. v-drain
		R	Vegetables yard, ext. L-drain, Segun trees on hill, ext. v-drain
6300-6600	L		Ext. v-drain, open low land, culvert, ext. L-drain
		R	Ext. v-drain, culvert, Akashi trees, Segun garden
6600-6900	L		Ext. L-drains, local chorra, solar lamp post, open land, betel leaf yard, paddy land
		R	Betel leaf yard, culvert, Akashi garden, paddy land, local chorra
6900-7200	L		Ext. L-drain, solar lamp post, culvert, betel leaf yard, solar lamp post, open low land, hill
		R	Local chorra, bridge, betel leaf yard, paddy land
7200-7500	L		betel leaf yard on hill, open land, paddy land, solar lamp post
		R	Paddy lands, culvert
7500-7800	L		Paddy land, solar lamp post, ext. L-drain
		R	Open land, Akashi trees on hill, culvert, paddy land
7800-8100	L		Ext. L-drains, ext. v-drains, culvert, trees, km post
		R	Solar lamp posts, paddy land, rain trees, betel leaf yard

Chainage (m)	Left	Right	Features
8100-8400	L		Culverts, guide posts, bushes, solar lamp post, bamboo bushes, upland, guide wall
		R	Big trees, ext. v-drains, guide posts, bamboo bushes, low ground, upland
8400-8700	L		Bamboo bushes, low ground, culvert, guide posts, ext. L-drain
		R	Solar lamp posts, guide posts, culvert, trees
8700-9000	L		Ext. L-drains, guide posts, culvert
		R	Ext. L-drains, big trees, betel leaf yard, guide posts, culvert
9000-9300	L		Ext. L-drains, forest on hill, culvert
		R	Solar lamp post, trees, guide posts
9300-9600	L		Forest, bridge, guide posts, chorra, solar lamp post, Akashi garden on hill, ext. L-drain, tin shed earthen household on hill, bamboo bushes on hill
		R	Bushes, betel leaf yard, trees, solar lamp post, guide wall, Mehogoni yard, brick boundary wall, tin shed earthen household, ext. x-drain, household connecting road
9600-9900	L		Tin shed earthen household on hill, bamboo bushes on hill, electric pole, bamboo fences, ext. v-drain, tin shed fences, tin shed house, eucalyptus garden, bamboo fences, paddy lands, big rain trees, shop
		R	Tin shed fences, shop, trees, household connecting road, bushes, ext. V-drain, culvert, bamboo bushes, low ground, net fencing, paddy land, culvert
9900-10200	L		Paddy lands, shop, ext. L-drains, vegetables yard, household connecting roads, electric pole, betel leaf yard
		R	Open land, Dineshpur Ashrayan, shop, guide wall, paddy land, culvert, local drain, vegetables yard
10200-10500	L		Paddy lands, culvert, household connecting road, electric poles, brick boundary wall, Dineshpur GPS, mosque, shop, tin shed fences, bamboo fences, RCC pole with wire fencing
		R	Local drain, vegetables yard, RCC pole with wire fencing, brick boundary wall, ext. U-drain, tin shed fences, shops, bamboo bushes
10500-10800	L		Open lands, pipe culvert, household connecting roads, graveyard, paddy land, bamboo bushes, guide wall, tin shed earthen household, ext. v-drain, tin shed fences, electric pole
		R	Local drain, trees, paddy land, culvert, chorra, brick boundary wall, mosque, pond, tin shed fences, eucalyptus garden, shop
10800-11100	L		Tin shed fences, shops, connecting road, open land, local drain, household connecting roads, paddy land, vegetables yard, culvert, betel leaf yard

Chainage (m)	Left	Right	Features
		R	Tin shed fences, shops, RCC pole with wire fencing, bamboo bushes, ext.-v-drain, household connecting road, tin shed earthen household, vegetables yard, paddy land, km post, mango garden
11100-11400	L		Paddy land, brick boundary walls, Segun garden on hill, tin shed fences, bamboo fences, shops, culvert, pond
		R	Paddy lands, household connecting road, culvert, betel leaf yard, brick boundary wall, bamboo bushes
11400-11700	L		Culvert, big rain trees, brick boundary wall, electric pole, shop, tin fence fences, Kaydabad bazar
		R	Bamboo bushes, eucalyptus trees, paddy lands, household connecting road, pond, betel nut garden, bamboo fences, tin shed fences, Kaydabad bazar
11700-12000	L		Kaydabad bazar, mosque, community clinic, shops, Mazar gate, building under construction, tin shed fences, culvert, household connecting road, Akashi garden, bamboo fences, ext. u-drain
		R	Kaydabad bazar, electric pole, Kaydabad GPS, shop, ext. u-drain, eucalyptus garden, open land, electric pole, Akashi garden, RCC pole with wire fencing
12000-12300	L		Mosque, connecting roads, furniture shops, connecting road, ext. v-drain, bamboo fences, tin shed fences, shops, open land, electric pole
		R	Ext. u-drain, wire fences, km post, ext. v-drain, tin shed fences on hill, shops, bamboo fences, culvert, open land, household connecting road
12300-12600	L		Ext. v-drain, electric pole, tin shed household, ext. L-drain, wire fencing, guide wall, chorra, guide post, bridge on Bariapara chorra, paddy land, rain trees
		R	Bamboo fences, tin shed earthen household, electric pole, tin shed fences, ext. v-drain, RCC pole with wire fencing, open land, vegetables yard, eucalyptus garden, guide post, rain trees
12600-12900	L		Rain trees, paddy lands, betel leaf yard, household connecting road
		R	Rain trees, paddy lands, betel leaf yard, culvert
12900-13200	L		Rain trees, paddy land, ditches, km post
		R	Rain trees, paddy land
13200-13500	L		Rain trees, paddy land, ditches, culvert, connecting road, RCC pole with wire fencing, girls madrasah, mosque, Akashi garden
		R	Rain trees, paddy lands, shop, brick boundary wall, convention hall, ditches, guide wall, pond, household connecting road, shop
13500-13800	L		Rain trees, bamboo bushes, paddy lands, betel leaf yards, vegetables yard, household connecting road, eucalyptus garden, mosque, madrasah

Chainage (m)	Left	Right	Features
		R	Eucalyptus trees, ext. v-drains, tin shed earthen households, bamboo fences, electric pole, bamboo bushes, shop, tin shed fences
13800-14100	L		Open land, shop, ext. v-drain, electric pole, tin shed earthen household, Shadeker kata bazar, mosque
		R	Tin shed fencing, household connecting road, ext. L-drain, bamboo fences, Shadeker kata bazar, km post
14100-14400	L		Paddy land, brick boundary wall, mosque, shops, wire fencing, bamboo fences, shops, GPS, madrasah road, electric pole, guide wall, culvert
		R	Bamboo fences, household connecting roads, solar lamp post, open land, pond, eucalyptus garden, shops, RCC pole with wire fencing, tin shed fences, connecting road, bamboo bushes, wire fencing
14400-14700	L		Wire fencing, tin shed fences, household connecting road, paddy land, local drain, graveyard, paddy land, mosque, tin shed household
		R	Ext. v-drain, tin shed fences, paddy lands, eucalyptus garden, local drain, graveyard on hill, ext. palisading wall, pond, bamboo fences
14700-15000	L		Culvert, electric pole, betel leaf yard, tin shed households, bamboo fences, ext. v-drain, culvert on Mukbeki chorra, connecting road
		R	Household connecting road, bamboo bushes, bamboo fences, shops, pond, Budharpara bazar, open land, tin shed fences, electric pole, earthen households, mosque, open land
15000-15300	L		Tin shed fences, betel nut garden, tin shed fences, ponds, mosque, paddy land, bamboo fences
		R	Ext. palisading wall, pond, tin shed fences, bamboo fences, ditches, shop, pond, paddy land, ext. v-drain
15300-15600	L		Culvert, paddy land, bamboo fences, shops
		R	Betel leaf yard, paddy land, tin shed household, brick boundary wall, Shaplapur UP office
15600-15900	L		Shops, bamboo fences, tin shed fences, household connecting road, tin shed household, Shaplapur bazar, connecting road
		R	Ditches, Shaplapur bazar, culvert, electric pole
15900-16200	L		Connecting roads, solar lamp post, paddy lands, shops, health center, trees, tin shed fences, charity box, bamboo fences
		R	Tin shed fences, shops, agricultural land, tin shed household, bridge on Hurhurir chorra, betel leaf yard
16200-16500	L		Paddy lands, raintrees, tin shed household, connecting road, guide posts, culvert
		R	Paddy lands, rain trees, brick boundary wall, charity box, mosque/madrasah, shop, guide posts

Chainage (m)	Left	Right	Features
16500-16800	L		Electric poles, paddy lands, tin shed fences, shops
		R	Paddy lands, eucalyptus garden, bamboo fences, culvert, mosque, charity box, bamboo shaft household
16800-17100	L		Shops, connecting road, charity box, paddy lands, tin shed fences, household connecting roads, culvert, eucalyptus trees
		R	Eucalyptus gardens, open space, household connecting road, electric pole, paddy lands, culvert, open land, km post
17100-17400	L		Eucalyptus trees, tin shed fences, bamboo fences, RCC pole with wire fencing, mosque, charity box, shops, connecting road, paddy lands, culvert, bamboo bushes
		R	Paddy lands, culvert, open land, trees, shops, household connecting road, Eucalyptus trees, vegetables yard, ditches, betel leaf yard
17400-17700	L		Bamboo fences, paddy land, tin shed fences, household connecting road, culvert, electric pole, wire fencing, connecting road, brick boundary wall, mosque, pond, madrasah/mosque
		R	Paddy lands, electric pole, household connecting roads, charity box, shops, Mithachori bazar
17700-18000	L		Shops, connecting road, RCC pole with wire fencing, household connecting road, electric pole, bamboo bushes, brick boundary wall, ditches, ext. v-drain, culvert
		R	Shops, open space, tin shed household, culvert, tin shed fences, electric pole, brick boundary wall, culvert, bamboo fences, open land
18000-18300	L		Paddy lands, tin shed earthen household, household connecting roads, electric pole, betel leaf yard, pond, ext. L-drain, culvert, shop
		R	Betel leaf yards, culverts, bamboo bushes, paddy lands, ext. L-drain, electric pole, eucalyptus trees, shop
18300-18600	L		Rain trees, culverts, paddy lands, household connecting roads
		R	Rain trees, paddy lands, trees, culvert
18600-18900	L		Paddy lands, culvert, household connecting road, ext. L-drain, tin shed earthen household on hill, open land, rain trees, ext. v-drain
		R	Paddy lands, betel leaf yard, open land, mosque on hill, betel nut trees, tin shed earthen household on hill, ext. v-drain, Polli bidyut office
18900-19200	L		Ext. v-drain, tin shed fences, shops, connecting road, tubewell, culvert, guide wall, Zamirchori bazar
		R	Pond, tin shed fences, shops, culvert, paddy lands, solar lamp post, RCC pole with wire fencing, bamboo bushes
19200-19500	L		Mosque/hefzakhana, workshop, bamboo fences, tin shed fences, electric pole, culvert, pond, guide wall, trees
		R	Bamboo fences, trees, shops, tin shed fences, ext. L-drain, tin shed

Chainage (m)	Left	Right	Features
			earthen household on hill, electric pole, betel leaf yard, paddy lands
19500-19800	L		Trees, guide wall, shops, pond, tin shed fences, electric pole, tubewell, ext. v-drain, guide post, culvert
		R	Tin shed fences, bamboo fences, shops, bamboo bushes, vegetables yard, charity box
19800-20100	L		Ext. v-drains, culvert, shops, bamboo fences, electric poles, local trees, toilet
		R	Shop, local drain, electric pole, guide wall, trees, culvert, tin shed fences, low land, betel leaf yard
20100-20400	L		Bamboo bushes, tin shed household on hill, bamboo bushes, trees, tin shed earthen household, shop, graveyard, bushes, JM ghat bazar
		R	Tin shed earthen household, tin shed fences, shops, electric pole, hill, GPS, connecting road, JM ghat bazar
20400-20700	L		Connecting road, JM ghat bazar, ext. v-drain, tin shed household, shop, Akashi garden
		R	JM ghat bazar, bamboo bushes, tin shed fences, shop, tin shed earthen household, electric pole, culvert, bamboo fences
20700-21000	L		Tin shed earthen household, bamboo fences, shop, local drain, mosque, toilet, vegetables yard
		R	Electric poles, bamboo fences, tin shed fences, shops
21000-21300	L		Local drains, shop, km post, guide wall, Ext. L-drain, culvert, bamboo fences
		R	Tin shed fences, shop, electric pole, vegetable yard, bamboo fences, culvert, bamboo bushes, guide wall, mosque, paddy land
21300-21600	L		Hill, local drain, culverts, shops, bamboo fences, brick boundary wall, mosque/madrasah
		R	Low land, bamboo bushes on hill, open land, vegetables yard, bamboo fences, eucalyptus trees, paddy land, tin shed fences
21600-21900	L		Tin shed fences, ponds, guide post, culverts, paddy lands, household connecting roads, shops, tin shed household
		R	Paddy lands, betel leaf yards, tin shed fences, bamboo fences, local drain
21900-22200	L		Paddy lands, mango trees, household connecting road, bamboo fences, pond, shops, open space, tin shed fences, guide wall
		R	Paddy lands, culvert, km post, betel leaf yard, vegetables yard, shop
22200-22500	L		Culvert, guide wall, ext. palisading wall, tin shed fences, mosque, household connecting road, ponds, shops, bamboo fences, ditches
		R	Bamboo fences, shops, culverts, betel leaf yards, paddy land
22500-22800	L		Tin shed fences, shops, mango trees, Shaitmara bazar, big trees, RCC palisading wall, bamboo fences, brick boundary wall, electric

Chainage (m)	Left	Right	Features
			pole
		R	Bamboo fences, bamboo bushes, shops, RCC pole with wire fencing, Shaitmara GPS, culvert, tin shed fences
22800-23100	L		Tin shed fences, RCC pole with wire fencing, electric poles, solar lamp post, shop, guide wall, graveyard, pond, bamboo fences
		R	Tin shed fences, pond, tin shed household, shop, brick boundary wall, mosque/graveyard, paddy land
23100-23400	L		Bamboo fences, pond, household connecting road, culvert, guide wall, trees, electric poles, shop, tin shed fences
		R	Tin shed fences, betel nut trees, bamboo bushes, guide wall, electric pole, bamboo fences, pond, tubewell, shop, wire fencing
23400-23700	L		Tin shed fences, electric poles, shop, trees, solar lamp post, local drain, orphanage
		R	Wire fencing, tin shed household, palm trees, tin shed fences, mango trees, betel nut trees, shop, brick boundary wall, mosque/madrasah, bamboo fences, pond, betel leaf yard
23700-24000	L		Trees, shops, bamboo fences, big trees, household connecting road, ext. L-drains, brick boundary wall
		R	Open land, electric pole, pond, tin shed fences, solar lamp post, shop, big rain tree, guide wall, brick boundary wall, RCC pole with wire fencing
24000-24300	L		Ext. L-drain, shop, connecting road, RCC pole with wire fencing, charity box, mosque, local drain, paddy land
		R	RCC pole with wire fencing, tin shed fences, bamboo fences, electric poles, brick boundary wall, solar ;amp post, paddy land
24300-24600	L		Local drain, paddy land, guide walls, trees, electric pole, culvert, ext. L-drain
		R	Mehegoni trees, paddy lands, culvert, guide wall, betel leaf yard, bamboo fences, open land
24600-24900	L		Open lands, shops, eucalyptus trees, guide walls, pond, tin shed fences, brick boundary wall, electric pole, ext. x-drain, paddy land
		R	Low land, betel leaf yards, paddy lands, shops, RCC pole with wire fencing, culvert
24900-25100	L		Paddy land, household connecting road, open space, shops, sanitary shop, Akashi garden, Janata bazar
		R	Paddy lands, culvert, shops, brick boundary wall, mosque, shops, electric pole, Janata bazar.

Figure: Starting point of Gorakghata-Shaplapur Janata Bazar Road

Overall Comments

The proposed component of the sub-project (Road strengthening & widening) is not located within any remarkable environmentally sensitive or reserved area of any kind and will not cause any severe affect to the environmental settings of the area, thus not going to create intimidation to important environmental features. No drainage congestion/water logging has been observed in the road area, though local people pointed out about the problem with waterlogging at some sections along the road length during the rainy season. Since the road has already defined Right Of Way (ROW), very few numbers (not more than twenty) of trees may need to clear out during the construction period, with appropriate offsetting measures to be taken. Provision for additional numbers of trees to be planted along the road length are kept in planning and budgeting as part of enhancement works.
No agricultural productive soil will be used for this improvement works. In order to minimize the risk of potential sliding or slipping of soil mass, earth will be compacted for stabilization and necessary cut and fill operation along the hill slope is to be ensured. All these inputs will be mainly at construction phase and limited within project boundary. Further mitigation measures will be taken according to the ESMP for minimizing the air, dust and noise pollution.

It has been revealed during the consultation session with local stakeholders that this project's scope of works does not intend to overtake any area of physical lodgment and funding entity has no intention to do so. Some other issues have also been brought to their attention including construction of drainage and protective structures at different chainages on the road.

Local people of the subproject area are very much optimistic about the success of the project and are also eager to participate in the project activities. They truly appreciated the initiative as they will have very good access to all the services and facilities provided by the government and different organizations, and they would be able to harness the full socio-economic benefits as well as will have an interrupted passage during an emergency situation. 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 project component.

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 brick pit, unused sand, steel, wood, gravels etc. Negligible amount of plastic, fuel etc. will be generated in equipment/stack yards. Human wastes will be generated in labor camps. Dust and noise are among the nuisance that may generate during the operation phase.

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. There are some community properties, environmental-religious-and-sociocultural components located within 1km from the sub project, which are quoted here. This list is not exhaustive, but includes prime features and distances given in parenthesis are from the centerline of the road at different chainages. A**t north side** Salt field (30m), Fish project (500m), Matamuhuri river (800m); **at south side** Upazila pond (350m), Shikdarpara GPS (400m), Gorakghata bazar (250m), Gorakghata Bazar Mosque (300m), Post office (300m), Upazila land office (300m), Polli bidyut office (100m), BRDP office (300m), Upazila fisheries office (310m), Sub-registrar office (320m), Sonali Bank ltd. (400m); **at east side** Dak Banglow (50m), Family planning office (60m), Gorakghata Buddhist temple (150m), Bakkhali river (700m), Burmiz GPS (170m), Food warehouse (180m), Gorakghata forest bit (100m), Gorakghata Buddhist crematory (100m), Icemill (120m), Upazila Muktijoddha complex (100m), Adinath temple (900m), Buddhist temple (910m), Buddhist crematory (920m), Hazrat Sahjalal (Ra) Hafezia orphanage & graveyard (5m), Choto Moheshkhali UP (10m), Chamchori khal (5m), Mudirchorra hill (800m), Maispara Adarshagram project (150m), Sohi-us-Sunnah Mosque & Koumi Madrasah (5m), Amtoli khal (5m), Omorbin A. Aziz (Ra) Madrasah cum Hefzakhana & orphanage (800m), Boshirapara mosque (5m), Moheshkhali channel (500m), Dineshpur Kutubdia para Hazrat Osman Jin Nurain (Ra),mosque & Nurani Madrasah (20m), Dineshpur Ashrayan (10m), River embankment (100m), Dineshpur CCDB Bhaban (5m), Dineshpur Baytul Aman old mosque (5m), Kaydabad bazar (5m), Kaydabad Ashrayan (450m), Kaydabad GPS (5m), Muronghona bil community center (5m), Budarpara graveyard (10m), Sadeker kata bazar (5m), Budarpara Cluster village (460m), Budarpara Girls School (10m), Shaplapur High School (20m), Shaplapur Alim Madrasah (10m), Shaplapur land office (10m), Shaplapur UP office (10m), Moulavikata mosque (5m), Baria chorri Mosque & graveyard (10m), Noyapar-Jamghat Koumi madrasah (15m0, Jamghat CCDB bhaban (300m), Jamghat GPS (300m), Jamghat high School (305m), Mobile Tower (300m), Shaplapur Girls Junior High School (13m), Shaplapur GPS (10m), Shaplapur bazar (5m), Ghonarpara mosque (5m), Moulavi kata Anar Ali Shah Orphanage cum Hefzakhana & Mazar (5om), Mithachorri bazar (5m), Jamer chori bazar (5m), Jamer chori Polli Bidyut Sub-Station (15m), Jamghat river port (200m), Shaitmara GPS (10m), Shaitmara Dakhil madrasah & mosque (10m), Shaitmara Chaina market (5m), Shaitmara Nokia market (5m), 12 No. Hill (10m), Shaplapur crematory (10m), Shaplapur Launch ghat (900m),

Mithachori Purbopara Mondir (80m), Shaitmara Residential Model School (50m), Madrasah Ehyayee Ulumiddin (10m), Caliatoli Central mosque (5m), Caliatoli GPS (50m), Bodorkhali bridge (800m); and **at west side** Moheshkhali Model GPS (200m), Adarsha High School (210m), High School Mosque (220m), Govt. Girls School (300m), Animal Husbandry Hospital (100m), Barunaghat khal (10m), Upazila central mosque & graveyard (350m), Moheshkhali Thana (400m), Upazila forest office (380m), Upazila Health Complex (450m), Moheshkhali Degree College (600m), Judicial Court (150m), Baytul Falah mosque (5m), Delpara Baytul Mamur mosque (500m), Gorakghata boro graveyard (350m), Telipara mosque (400m), Ahmadia Tayabia Sunniya Madrasah (350m), Adinath GPS (10m), Delpara mosque (5m), South Nurbila purbapara Baytul Ijjot mosque (5m), Yousuf Nur GPS (500m), South Nolbila purbapara mosque (5m), Kalamia Bolipara mosque (30m), Choto Moheshkhali Adarsha High School (30m), Dokhin kul Baytul Mamur mosque (5m), Choto Moheshkhali Dokhin kul Majherpara mosque (10m), Choto Moheshkhali GPS (30m), Uttar kul Choto Moheshkhali mosque (50m), Uttar kul graveyard (5m), Baytul Ezzot mosque & Hefzakhana (5m), Shikdarpara mosque (5m), Mudir chorra Forest bit office (10m), Jannatul Ferdous mosque (5m), Dineshpur GPS (5m), Dineshpur Baytur Aman mosque (10m), Dineshpur graveyard (5m), Moulavipara Baytur Rahman mosque & Nurani madrasah (10m), Dineshpur forest bit office (10m), Kaydabad bazar mosque (5m), Kaydabad community clinic (5m), Mobile Tower (10m), Kaydabad Islamia Dakhil madrasah & graveyard (100m), Bariapara New mosque (10m), Bariapara old mosque (30m), Muronghona mosque (40m), Sadeker kata Ebtadia mosque & madrasah (10m), Sadeker kata bazar (5m), Sadeker kata mosque (10m), Mukbeki GPS (10m), Budarpara mosque & graveyard (15m), Satghor para mosque (7m), Shaplapur Family planning office (10m), Shaplapur forest office (50m), Gunarpara GPS (800m), Fokira kata mosque cum hefzakhana & orphanage (300m), Sadeker kata Satantro Ebtedayee madrasha (5m), Mosque-E-Jubaida (10m), Mukbeki Notunpara mosque (250m), Mukbeki Kushiyar para mosque (95m), Mukbeki Nurani Hafezia madrasah & Orphanage (150m), Mukbeki-Budharpara mosque (10m), Jaidaghona mosque (10m), Jaidaghona uttorpara mosque (5m), Shaitmara Hamidia Orphanage & Hefzakhana (15m), Shaplapur Napitpara Durga Mondir (20m), Monipur Hori Mondir (1 km), Monipur Loknath Mondir (1 km), Mitha chori mondir (20m), Mitha chori graveyard (5m), Abdullah Baper mosque & graveyard (300m), Satghorpara mosque cum Hafezkhana & graveyard (200m), Shaitmara graveyard (30m), Kalamia Saudagor mosque & graveyard (400m), Mohammad Nagar Islamia Azizul Alom mosque & madrasah (400m), South Caliatoli Notunpara mosque (10m), Mobile Tower (15m), North Nolbila High School (150m), North Nolbila GPS (500m), Shikortoli mosque (800m), Fuler jhiri mosque (500m), Gudampara mosque (10m), Caliatoli big graveyard (200m), Kuhelia river (1Km) are located. The project road crosses through several communities, agricultural lands and community level forests. No scope of or very least disturbance to these components is anticipated by the sub-project activities. In this sub-project area, no elephant migration routes exist (ref. IUCN).

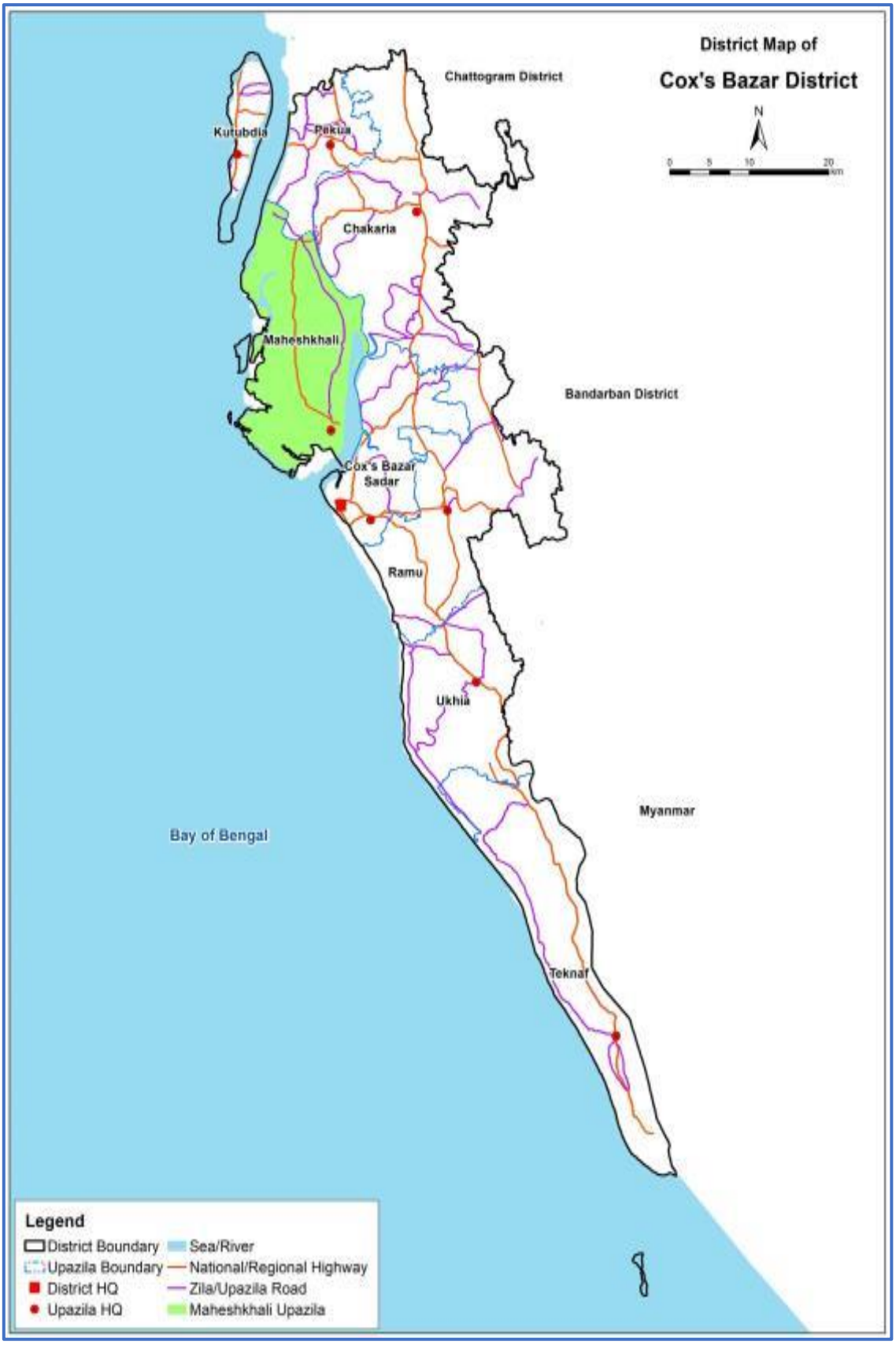


Figure 3: District Map with project location

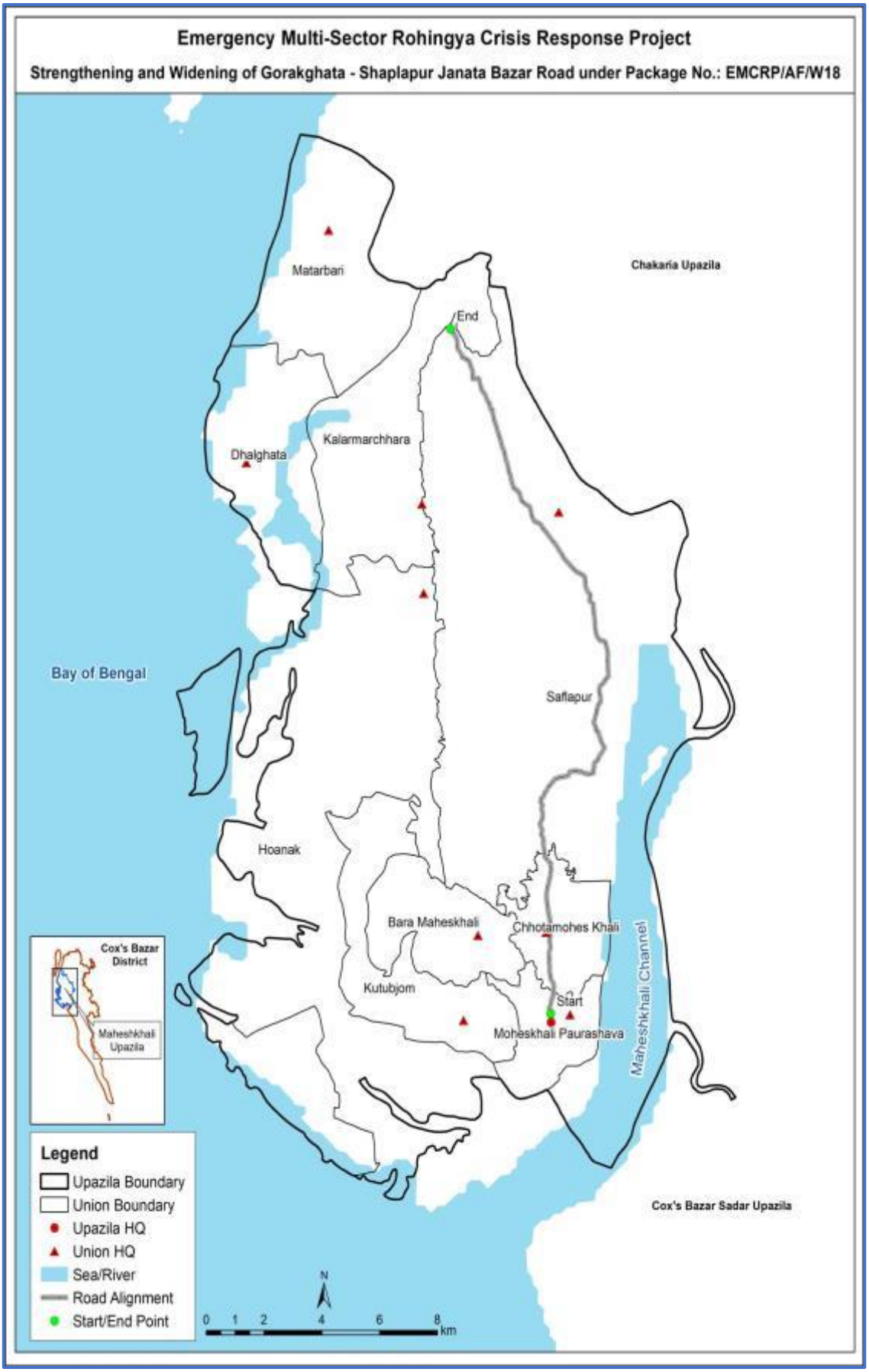


Figure 4: Upazila Map with Sub-project location

Section A: Sub-Project Overview

Description of sub-project/component interventions:

The Sub-Project is categorized as a Upazila road with a proposed design of BC from Ch.00 to Ch. 25100m. Proposed safety and service providing structures include 6 Nos. RCC Box culvert (Dimension: 1vent x 1.50m x 1.50m) at Ch. 4834m, Ch. 10542m, Ch. 21585m, Ch. 21691m, Ch. 21825m & Ch. 21926m, 1 no. RCC Box Culvert (Dimension: 1.00 X1.00 m) at Ch. 23044m, 4 nos. RCC Box Culvert (Dimension: 2.00 X2.00 m) at Ch. 6521m, Ch.14682m, Ch.15233 & Ch.22560m, 4 nos. RCC Box Culvert (Dimension: 2- vent 2.50 X2.50 m) at Ch.7675m, Ch.13150 m, Ch 15767m & Ch. 24272m, 2 nos. RCC Box Culvert (Dimension: 1 vent 3.50 X3.50 m) at Ch. 15618m & Ch. 21468m and 2 nos. RCC Box Culvert (Dimension: 1 vent 4.50 X4.50 m) at Ch 9166m & Ch 1750m, construction of L- Drain & U-Drain at different chainages as well as some additional construction of Protective work by Palisading and Brick Toe wall at different chainages that are included in the design and estimation, and as part of road safety works include barricades, speed bumps, warning signs/lights, guide signs, flagmen etc. and Environmental Mitigation and Enhancement works are included in the estimation.

Sub-project Location:

Important Features	
Road ID	422492001
District	Cox's Bazar
Upazila	Moheshkhali
Union	Moheshkhali Municipality, Choto Moheshkhali, Shaplapur & Kalarmar Chorra
WARD	3 No. of Moheshkhali Municipality; 4, 5, 6, 7, 8 & 9 No. of Choto Moheshkhali union, from 1 to 9 No. of Shaplapur union and 1 No. of Kalamar Chorra union
Proposed length	25,100m
Road Type	Upazila Road
Proposed Intervention Type	BC
Road Starting Point Coordinates	Latitude Value: 21.521304 N Longitude Value: 91.96586 E
Road Ending Point Coordinates	Latitude Value: 21.711555 N Longitude Value: 91.934692 E

Land ownership

Land area covering the road length is owned by the Government.

Expected construction period: 1 Year

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:

The Sub-Project is categorized as a village road with a proposed design of BC from Ch.00 to Ch. 25100m.

i) Some water bodies like rivers, ponds, chorra, ditches etc. were identified during visiting

time.

ii) No historical sites were identified, but several temples, crematories, mosques, graveyards, and educational institutes were present in the vicinity.

iii) Not required to relocate local community.

iv) Some small trees, bushes may be affected, large mature trees are very less likely to cut down for further widening of roads or slope works/strengthening.

v) No chance to lose of agricultural land.

vi) Some Household Boundary made of bamboo and tin may need adjustments.

vii) Environmental Sensitivity: Chamchori, Amtoli, and Barunaghat Khals (canals), and patches of vegetation coverage are located within very close proximity along the road length, which may contain rich bio/ecological niches that will be affected by road construction activities. Also there are several rivers and canals in the vicinity which are located sufficiently distant from the site and are more likely to be free from any direct risks and impacts from the development works. No elephant corridor was identified in the areas. Construction induced impacts may affect numbers of socio-economic and environmental features along the road length; therefore a well-planned ESMP has been prepared to follow in the field.

Section B: Environmental Screening

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

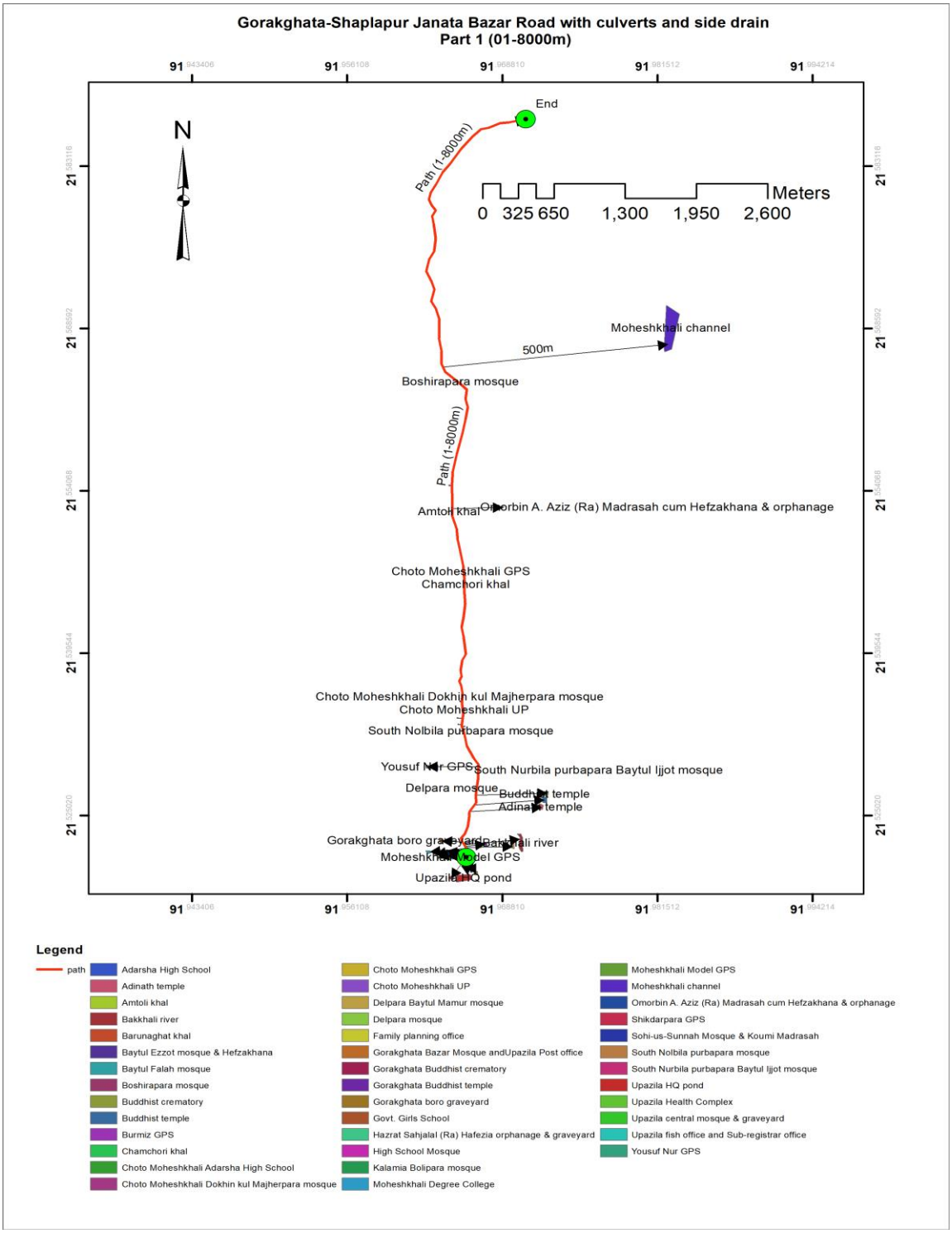
Description of cultural properties (if applicable, including distance from site):
Sensitive environmental, cultural, archaeological, religious sites near (within the catchment area) of site including elephant migration routes and remaining forests:

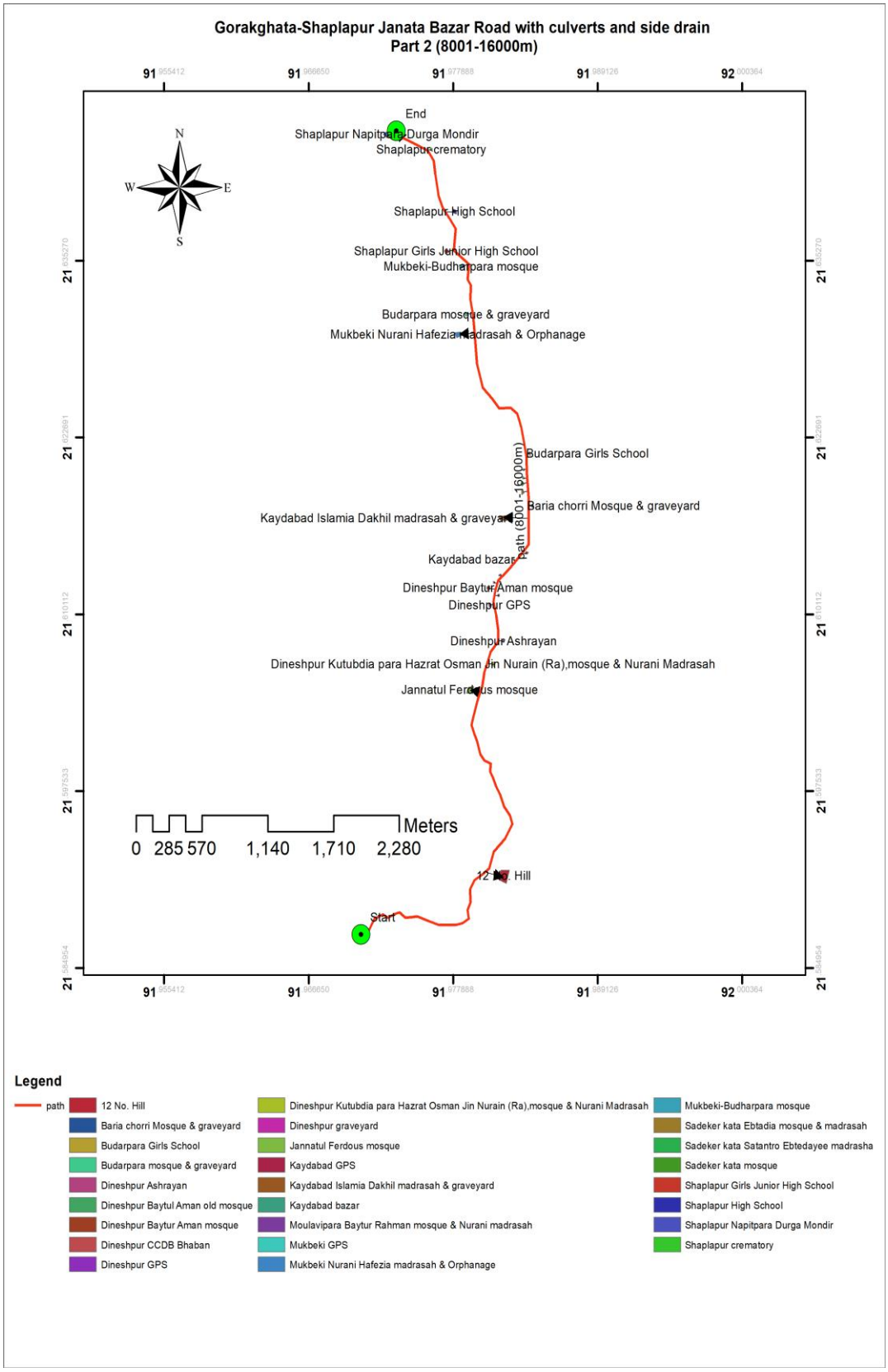
There are some community properties, environmental-religious-and-sociocultural components located within 1km from the sub project, such as **at north side** Salt field (30m), Fish project (500m), Matamuhuri river (800m); **at south side** Upazila pond (350m), Shikdarpara GPS (400m), Gorakghata bazar (250m), Gorakghata Bazar Mosque (300m), Post office (300m), Upazila land office (300m), Polli bidyut office (100m), BRDP office (300m), Upazila fisheries office (310m), Sub-registrar office (320m), Sonali Bank ltd. (400m); **at east side** Dak Banglow (50m), Family planning office (60m), Gorakghata Buddhist temple (150m), Bakkhali river (700m), Burmiz GPS (170m), Food warehouse (180m), Gorakghata forest bit (100m), Gorakghata Buddhist crematory (100m), Icemill (120m), Upazila Muktijoddha complex (100m), Adinath temple (900m), Buddhist temple (910m), Buddhist crematory (920m), Hazrat Sahjalal (Ra) Hafezia orphanage & graveyard (5m), Choto Moheshkhali UP (10m), Chamchori khal (5m), Mudirchorra hill (800m), Maispara Adarshagram project (150m), Sohi-us-Sunnah Mosque & Koumi Madrasah (5m), Amtoli khal (5m), Omorbin A. Aziz (Ra) Madrasah cum Hefzakhana & orphanage (800m), Boshirapara mosque (5m), Moheshkhali channel (500m), Dineshpur Kutubdia para Hazrat Osman Jin Nurain (Ra),mosque & Nurani Madrasah (20m), Dineshpur Ashrayan (10m), River embankment (100m), Dineshpur CCDB Bhaban (5m), Dineshpur Baytul Aman old mosque (5m), Kaydabad bazar (5m), Kaydabad Ashrayan (450m), Kaydabad GPS (5m), Muronghona bil community center (5m), Budarpara graveyard (10m), Sadeker kata bazar (5m), Budarpara Cluster village (460m), Budarpara Girls School (10m), Shaplapur High School (20m), Shaplapur Alim Madrasah (10m), Shaplapur land office (10m), Shaplapur UP office (10m), Moulavikata mosque (5m), Baria chorri Mosque & graveyard (10m), Noyapar-Jamghat Koumi madrasah (15m0, Jamghat CCDB bhaban (300m), Jamghat GPS (300m), Jamghat high School (305m),

Mobile Tower (300m), Shaplapur Girls Junior High School (13m), Shaplapur GPS (10m), Shaplapur bazar (5m), Ghonarpara mosque (5m), Moulavi kata Anar Ali Shah Orphanage cum Hefzakhana & Mazar (5om), Mithachorri bazar (5m), Jamer chori bazar (5m), Jamer chori Polli Bidyut Sub-Station (15m), Jamghat river port (200m), Shaitmara GPS (10m), Shaitmara Dakhil madrasah & mosque (10m), Shaitmara Chaina market (5m), Shaitmara Nokia market (5m), 12 No. Hill (10m), Shaplapur crematory (10m), Shaplapur Launch ghat (900m), Mithachori Purbopara Mondir (80m), Shaitmara Residential Model School (50m), Madrasah Ehyayee Ulumiddin (10m), Caliatoli Central mosque (5m), Caliatoli GPS (50m), Bodorkhali bridge (800m); and **at west side** Moheshkhali Model GPS (200m), Adarsha High School (210m), High School Mosque (220m), Govt. Girls School (300m), Animal Husbandry Hospital (100m), Barunaghat khal (10m), Upazila central mosque & graveyard (350m), Moheshkhali Thana (400m), Upazila forest office (380m), Upazila Health Complex (450m), Moheshkhali Degree College (600m), Judicial Court (150m), Baytul Falah mosque (5m), Delpara Baytul Mamur mosque (500m), Gorakghata boro graveyard (350m), Telipara mosque (400m), Ahmadia Tayabia Sunniya Madrasah (350m), Adinath GPS (10m), Delpara mosque (5m), South Nurbila purbapara Baytul Ijjot mosque (5m), Yousuf Nur GPS (500m), South Nolbila purbapara mosque (5m), Kalamia Bolipara mosque (30m), Choto Moheshkhali Adarsha High School (30m), Dokhin kul Baytul Mamur mosque (5m), Choto Moheshkhali Dokhin kul Majherpara mosque (10m), Choto Moheshkhali GPS (30m), Uttar kul Choto Moheshkhali mosque (50m), Uttar kul graveyard (5m), Baytul Ezzot mosque & Hefzakhana (5m), Shikdarpara mosque (5m), Mudir chorra Forest bit office (10m), Jannatul Ferdous mosque (5m), Dineshpur GPS (5m), Dineshpur Baytur Aman mosque (10m), Dineshpur graveyard (5m), Moulavipara Baytur Rahman mosque & Nurani madrasah (10m), Dineshpur forest bit office (10m), Kaydabad bazar mosque (5m), Kaydabad community clinic (5m), Mobile Tower (10m), Kaydabad Islamia Dakhil madrasah & graveyard (100m), Bariapara New mosque (10m), Bariapara old mosque (30m), Muronghona mosque (40m), Sadeker kata Ebtadia mosque & madrasah (10m), Sadeker kata bazar (5m), Sadeker kata mosque (10m), Mukbeki GPS (10m), Budarpara mosque & graveyard (15m), Satghor para mosque (7m), Shaplapur Family planning office (10m), Shaplapur forest office (50m), Gunarpara GPS (800m), Fokira kata mosque cum hefzakhana & orphanage (300m), Sadeker kata Satantro Ebtedayee madrasha (5m), Mosque-E-Jubaida (10m), Mukbeki Notunpara mosque (250m), Mukbeki Kushiyar para mosque (95m), Mukbeki Nurani Hafezia madrasah & Orphanage (150m), Mukbeki-Budharpara mosque (10m), Jaidaghona mosque (10m), Jaidaghona uttorpara mosque (5m), Shaitmara Hamidia Orphanage & Hefzakhana (15m), Shaplapur Napitpara Durga Mondir (20m), Monipur Hori Mondir (1 km), Monipur Loknath Mondir (1 km), Mitha chori mondir (20m), Mitha chori graveyard (5m), Abdullah Baper mosque & graveyard (300m), Satghorpara mosque cum Hafezkhana & graveyard (200m), Shaitmara graveyard (30m), Kalamia Saudagor mosque & graveyard (400m), Mohammad Nagar Islamia Azizul Alom mosque & madrasah (400m), South Caliatoli Notunpara mosque (10m), Mobile Tower (15m), North Nolbila High School (150m), North Nolbila GPS (500m), Shikortoli mosque (800m), Fuler jhiri mosque (500m), Gudampara mosque (10m), Caliatoli big graveyard (200m), Kuhelia river (1Km).

Besides these components, no other sensitive environmental, cultural, archaeological sites including elephant migration routes were identified. The area is adequately forested though not along the roadside; homestead gardening and backyard and social forestation also was found gaining popularity in the area.

A sketch of the project surrounding area with several features at relatively distant places and locations of sensitive institutions in the project surrounding areas are shown in figure B.1.1




Gorakghata-Shaplapur Janata Bazar Road with culverts and side drain
Part 2 (8001-16000m)
End
Shaplapur Napitpara Durga Mondir
Shaplapur crematory
Shaplapur High School
Shaplapur Girls Junior High School
Mukbeki-Budharpara mosque
Budarpara mosque & graveyard
Mukbeki Nurani Hafezia Madrasah & Orphanage
Budarpara Girls School
Baria chorri Mosque & graveyard
Kaydabad Islamia Dakhil madrasah & graveyard
Kaydabad bazar
Dineshpur Baytur Aman mosque
Dineshpur GPS
Dineshpur Ashrayan
Dineshpur Kutubdia para Hazrat Osman Jin Nurain (Ra),mosque & Nurani Madrasah
Jannatul Ferdous mosque
Path (8001-16000m)
12 No. Hill
Start
N
S
W
E
0 285 570 1,140 1,710 2,280
Meters
Legend
path
12 No. Hill
Baria chorri Mosque & graveyard
Budarpara Girls School
Budarpara mosque & graveyard
Dineshpur Ashrayan
Dineshpur Baytul Aman old mosque
Dineshpur Baytur Aman mosque
Dineshpur CCDB Bhaban
Dineshpur GPS
Dineshpur Kutubdia para Hazrat Osman Jin Nurain (Ra),mosque & Nurani Madrasah
Dineshpur graveyard
Jannatul Ferdous mosque
Kaydabad GPS
Kaydabad Islamia Dakhil madrasah & graveyard
Kaydabad bazar
Moulavipara Baytur Rahman mosque & Nurani madrasah
Mukbeki GPS
Mukbeki Nurani Hafezia madrasah & Orphanage
Mukbeki-Budharpara mosque
Sadeker kata Ebtadia mosque & madrasah
Sadeker kata Satantro Ebtedayee madrasha
Sadeker kata mosque
Shaplapur Girls Junior High School
Shaplapur High School
Shaplapur Napitpara Durga Mondir
Shaplapur crematory

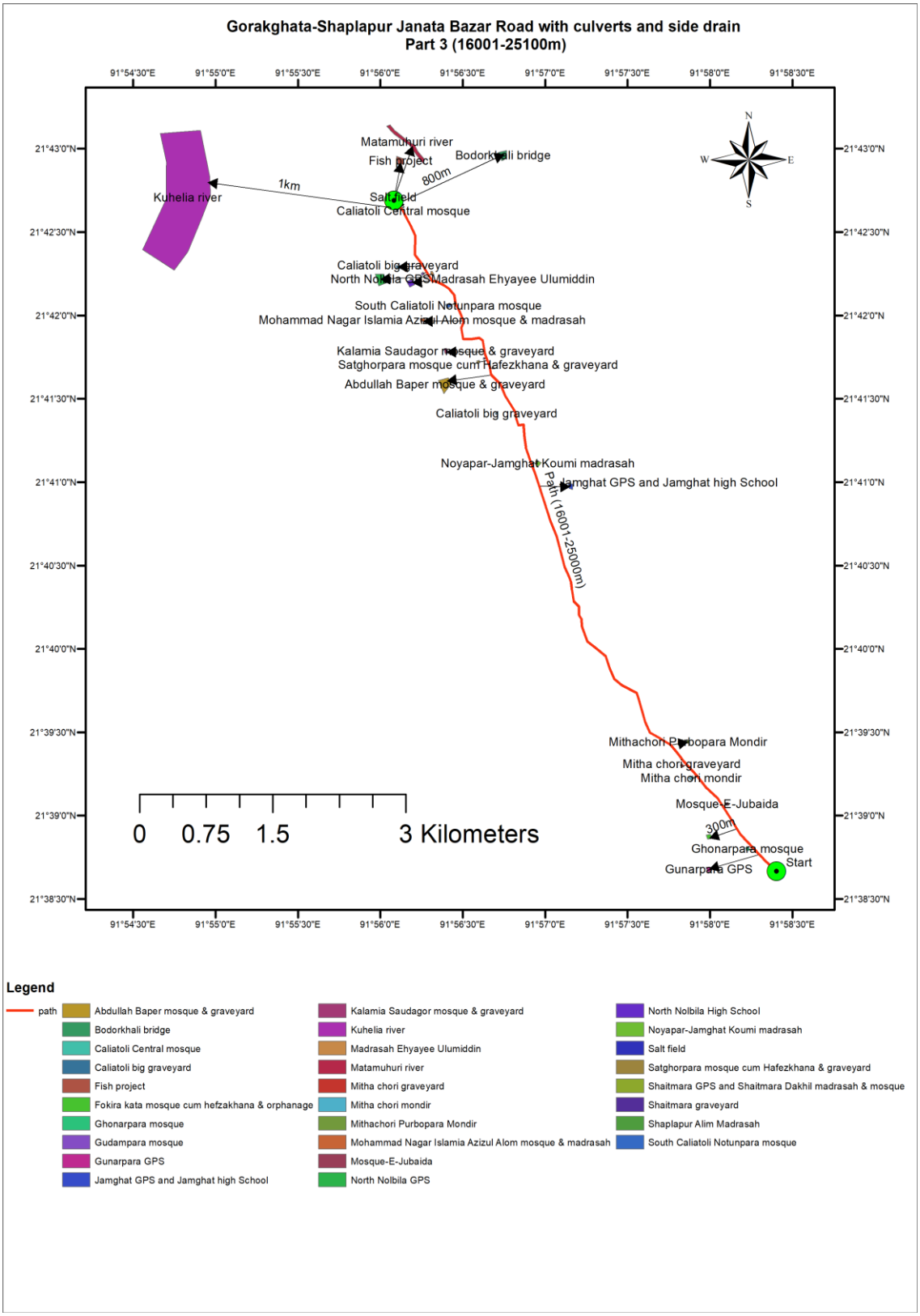


Figure B.1.1: A sketch of the project intervention area with major features along (in three above maps)

Location of environmentally important and sensitive areas:

There are no environmentally important or sensitive areas found in the areas, except some matured vegetation and some moderate hill of forest department around the site. Several mosques, madrasah, graveyards, school and human settlement were found during the survey. It will not be affected by the construction works, as the activities will be carried out throughout an existing alignment and be limited within a designated Right of Ways (ROW), and necessary preventive and mitigation measures will be followed during the entire construction period.

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

No. There is no existence of Elephant corridor/ route now, which has been checked on the basis of elephant migration route map, established by UNHCR/IUCN (latest updated maps as of 22 February 2018 and later June 05, 2018) and was further confirmed by the stakeholders presented in the consultation meeting.

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

N/A (This activity will be confined within an existing subproject boundary)

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

Baseline air quality and noise levels:

Ascertaining distinctively the baseline air and noise quality level in respect to any sites at different parts of Cox's Bazar district is nearly impossible because of the huge burden of physical developmental works including roads, bridges, culverts, building structures, markets, jetties, etc. being carried out simultaneously across the areas. Therefore, the apparent baseline of the pre-development period can only be anticipated and results of visual observation are worth to be presented here.

Dust:

Ambient air quality data was not readily available, but quality is apparently good due to the appearance of rural vegetative settings around. Dust is slightly generated through movement of pedestrians. Natural air action over the road surface is very prevailing in the area which causes dust circulation.

Noise:

Noise in the Sub-project area is not a major concern because noise level is within the tolerance limit. Vehicles such as tempo, auto rickshaw, tractor, trailer, etc. move on roads adjacent to sub-project throughout the day and night generate noise but within tolerable limit in most cases.

Baseline soil quality:

The Sub-project area is located mainly on red, alluvial, muddy and sandy soil. The soil 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):

Landslide potential is low. There is low possibility of soil erosion or landslide during construction period of targeted sub-project. The impacts are negative but very small scale, site-specific within a relatively small area and manageable by mitigation measures.

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

Groundwater is the main source of potable water in the Sub-project area. The shallow depth is

about 85-130 feet and deep tubewell depth is 600 feet in the area. But the shallow tube well is not working properly during the dry season. In the sub-project area, deep groundwater is fresh and potable, and arsenic free. Water from the shallower aquifers beneath the Sub-project area contains high concentration of iron. Deep groundwater table (drinkable) varies from 600-800ft (Field survey, 2021). Local people usually use deep tube-well water for drinking and other domestic purposes. There should have deep tube well which pump water from the confined aquifer. Groundwater quality: pH-5.00 to 8.50, DO-2.37 to 8.14mg/l, TDS-32.40 to 350 mg/l, EC -30.0 to 685µs/cm, Fe-0.9 to 7.0 mg/l and As-Nil. Many shallow tube wells (85ft. to 130 ft.) are fitted in local area and most of the water usage is sufficed from these sources. *Data source: IWM Study Report, 2021
Status of wildlife movement: Participants from the consultation informed that numerous types of wildlife are present across the hilly and forested areas, such as wild pigs, deer, jackals, monkeys, snakes, moorfowls, birds etc.
State of forestation: Patches of vegetation containing large and matured trees by the forest department along the road side and on the existing hills of the proposed sub-project area which are located within 200m radial distance in many places.
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): Adinath Temple connecting road, Barunaghat connecting road, Telipara connecting road, Pahartolipara connecting road, Shipahipara connecting road, Mudirchorra connecting road, Umboniapara connecting road, Keyabunia para connecting road, Itkolapara connecting road, Kaydabad connecting road, Fokirapara connecting road, Bariapara connecting road, Muronghona connecting road, Sadeker kata connecting road, Mukbeki connecting road, Duillachori connecting road, Satghorpara connecting road, Sachimar para connecting road, Monipur connecting road, Shaplapur connecting road, Gunarpara connecting road, JAM ghat connecting road, Jamirchori connecting road, West Shaitmara connecting road, Fulerjhiri connecting road, Shikortoli connecting road Gudampara connecting road and Kalarmar Chorra- Bodorkhali connecting road can be used as access road for transportation. It is possible to carry construction materials on these roads to the construction site in limited traffic flow to avoid congestion.
Requirement of accommodation or service amenities (toilet, water supply, electricity) to support the workforce during construction: Toilet and water supply facilities will be ensured by the contractor in the vicinity of the construction area for the sub-project, electric connection will be established with the accommodation facility due for the workforce.
Possible location of labor camps: Labor camp can be established along the road since there are available open private lands.

However, this will have to be done with the consent of land owner under a mutual agreement, with the supervision of the Engineer in charge.
Requirement and type of raw materials (e.g. sand, stone, wood, etc.): i) Bricks, ii) Sand, iii) cement, iv) Gravel, v) water, vi) Aggregates, and vii) wood are the most common type of materials used for the construction of labor shed and site office during the pre-construction stage.
Identification of access road for transportation (Yes/No): Yes. Adinath Temple connecting road, Barunaghat connecting road, Telipara connecting road, Pahartolipara connecting road, Shipahipara connecting road, Mudirchorra connecting road, Umboniapara connecting road, Keyabunia para connecting road, Itkolapara connecting road, Kaydabad connecting road, Fokirapara connecting road, Bariapara connecting road, Muronghona connecting road, Sadeker kata connecting road, Mukbeki connecting road, Duillachori connecting road, Satghorpara connecting road, Sachimar para connecting road, Monipur connecting road, Shaplapur connecting road, Gunarpara connecting road, JAM ghat connecting road, Jamirchori connecting road, West Shaitmara connecting road, Fulerjhiri connecting road, Shikortoli connecting road Gudampara connecting road and Kalarmar Chorra- Bodorkhali connecting road can be used as access road for transportation. Pickup, trucks, dumper trucks could be used as material transportation vehicles. Manual head load from unloading point to different locations can be done.
Location identification for raw material storage: Best option for raw material storage is any sufficiently available space next to the labor camp or the site office and away from steep slopes. However, this will need to arrange an open field and should be consulted with local communities.
Possible composition and quantities of wastes (Solids wastes, demolition materials, sludge from old latrines, etc.): Earth/ mud, plastics, brick chips, cement dusts, and dust from bricks can be found during pre-construction time which can be identified as solid wastes. Also, brick chips, cement, sand, bamboo stalks, remnants of tin and other leftover pre-construction materials can be found after the construction of labor camp, latrines and kitchen. Some salvage materials from road excavation may be generated at some places on the road. Negligible amount of bio and non-biodegradable Solid waste (incl. food waste, plastics, polythene, paper, etc.) may be produced from the use of working labors engaged in construction works of labor camp and associate facilities. Altogether amount of those produced wastes in a single day is nearly 80 kg during the pre-construction phase.

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.3: Construction Phase

Solid waste: Residual waste from the labor camps will be generated. Wastes from equipment maintenance/vehicles on-site and scrap material will be generated during construction work, which are mostly solid wastes. Waste from civil works includes brick chips, leftover sands, construction debris, etc. And the overall quantity will be tentatively 55 kg daily. ***Liquid wastes:*** Leftover oils or spills from machineries may have a high probability to generate liquid waste. And the quantity can be tentatively 6 kg daily.
Type and quantity of raw materials used (wood, bricks, cement, water, etc.): **Type:** i) Bricks, ii) Sand, iii) cement, iv) aggregates, v) water, vi) Bitumen are the most common type

of raw materials to be used in construction period. **Quantity**: It is difficult to give exact figures of construction waste produced 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: No such vegetation is present in the right of way. Specific soil amount is not needed for the project. The current condition explains that there is no aggregated soil on the right of way.
Possibility of stagnant water bodies in borrow pits, quarries, etc., encouraging for mosquito breeding and other disease vectors: (High/Medium/Low with explanation) The possibility is Medium, for stagnant water bodies to occur. Because water usage will be higher during the construction period. By default, this area has no water logging troubles due to the presence of standing natural channels such as Loilla chorra, Chiter chorra, Hannijhirir chorra, Dineshpur chorra, Hurhurir chorra, Boujar chorra, Huyangar chorra, Mithachori chorra, Jamerchori chorra, Baitmara chorra, Noyapara chorra etc. Moreover, no possibilities of stagnation of water in the long run is anticipated. So, local communities have stated that they do not have severe troubles with mosquitos or other disease vectors.
Disturbance or modification of existing drainage channels (rivers, canals) or surface water bodies (wetlands, marshes): (High/Medium/Low with description) Existing canals, chorras, local drains ponds and ditches can be disturbed by the construction works, especially from the dust, soil and oil spillage during this period. Proper mitigation and preventive measures must be put in place to reduce the impacts to the minimum level.
Destruction or damage of terrestrial or aquatic ecosystems or endangered species directly or by induced development: (High/Medium/Low with description) Medium. The improvement works will be limited within the Right of Way of this road component. Though there are some terrestrial or aquatic ecosystem present in that area in the form of forest land, canals, ponds, and ditches, majority of those features are located on sufficiently distant places from the road alignment, therefore negligible and short-periodical effects are anticipated. However, several canals are present very close-by, which might be affected and aquatic ecosystem may be disrupted severely. Therefore, strong vigilance and proper protective measures have to be ensured during the construction period. Also, the area is not known for containing any endangered or threatened species of any kind.
Activities that can lead to landslides, slumps, slips and other mass movements in road cuts: Construction activities such as cut-and-fill operations, slope stabilization or any mechanical operations that follow a faulty or incomplete operational procedure may lead to small scale landslides or mass movement in road cuts or adjoining land areas. The impacts are negative but short term, site specific within a relatively small area and manageable by mitigation measures.
Erosion of lands below the roadbed receiving concentrated outflow carried by covered or open drains: (High/Medium/Low with description) Low, Potential erosion may occur when moderate to high sloping terrains are disturbed for the improvement of sub-project. The impacts are negative but short term, site specific within a relatively small area and adjustable by mitigation measures.
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, and will be managed by preventive measures, like water sprinkling twice a day, covered transport of materials and so on.

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, number of vehicles and frequency will be increased, though not to a significant times (as the road is now being used randomly). This growth has moderate potential to generate dust and blow those in the air, and contribute to health hazards and interference of plant growth.
Chance of long-term or semi-permanent destruction of soils: (High/Medium/Low with description) Low. Over use of road and frequent movement of heavy/overloaded vehicles may cause further destruction of road-bed soils and in turn early deterioration of road pavement, which could be managed by imposing barriers at strategic locations to stop entry of such types of vehicles.
Possibility of odor and water, soil quality impacts from SWM and FSM disposal system: (High/Medium/Low with description) Not applicable.
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 new stagnant water bodies that can encourage mosquito breeding and other disease vectors, during the operation phase.
Likely direct and indirect impacts on economic development in the project areas by the sub-project: Construction or implementation of a road project substantially contributes to the development of the project areas. It surely improves the communication network, reduces the transport time, increases the trade and business in/around the areas, and ensures access to better living conditions with amenities, better educational and job opportunities and health facilities. Thus, the direct and indirect impacts on economic development in the project areas would be enormous by this sub-project.
Extent of disturbance or modification of existing drainage channels (rivers, canals) or surface water bodies (wetlands, marshes): (High/Medium/Low with description) Existing drainage channels may be affected, if dust generated from frequent vehicle movement deposits on the still water level and any type of slope/soil movement is triggered. These effects are very local and can mostly be avoided by regular periodic maintenance of the road and setting barriers at several strategic points to limit the vehicle speed.
Extent of destruction or damage of terrestrial or aquatic ecosystems or endangered species directly or by induced development: (High/Medium/Low with description) Low. Little effects on terrestrial ecosystem are anticipated due to the dust pollution/deposition and vehicular emission, though every ecosystem has some assimilative capacity on its own to lower the associated risks.
Activities leading to landslides, slumps, slips and other mass movements in road cuts: The entire sub-project component area is nearly flat; thus, no such type of impacts is anticipated. However, vibration effects generated from frequent and speedy movement of heavy vehicles may trigger localized landslides or mass movements, which can be avoided by placing barriers and speed

breakers at different strategic locations on the road.
Erosion of lands below the roadbed receiving concentrated outflow carried by covered or open drains: (High/Medium/Low with explanation) Low. Concentrated outflow will be carried by proposed drains and culvert.
Describe possible traffic movement impacts on (unwanted) light, noise and air pollution: Improved road communication will definitely increase the traffic/ vehicular movement, which must increase the light and noise pollution, but air pollution effect will not be increased significantly, as the proposed BC road will reduce the pollution generated from dust, especially during the dry season and if the vehicles are maintained in good conditions.

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

Section D: Environmental Screening Summary

The results of Environmental Screening are summarized in following table as per guidance given in the Project ESMF, Section 8.2:

Section	Main Environmental Impacts	Impact Significance*	Suggested Mitigation Measures	Person/Institution Responsible	Monitoring Suggestions	
					Indicator	Frequency
1: Sub-Project Interventions	**Air quality**	Under the subproject intervention the overall score is **low**.	• Limiting earthworks; • Watering of dry exposed surfaces and stockpiles of aggregates at least twice daily, as necessary; • Requiring trucks delivering aggregates or bricks and cement to have tarpaulin cover and Limiting speed of construction vehicles in access roads and work sites to maximum of 20 kph.	Construction Contractor monitored by Consultant and PIU	• Location of stockpiles; • Number of complaints from stakeholders; • Covering of trucks; • Records of air quality inspection	Visual monitoring of air quality and if requires, air quality test (CO, $PM_{2.5,10}$) once in construction period in winter season.
	Soil impacts	Under the sub-project intervention the overall score is **low.**	• Precautions might be taken when rainstorms are likely, when a rainstorm is imminent or forecast, and actions to be taken during or after rainstorms. • The earthwork sites where exposed land surface is vulnerable to runoff shall be consolidated and/or covered. • The material stockpile sites shall be far away from surface water bodies and areas prone to surface run-off.	Construction Contractor monitored by Consultant and PIU	• No visible degradation to nearby drainages, • *khals (canals)* or water bodies due to soil erosion. • Rain storms in construction phase.	Monitoring on weekly basis.

Section	Main Environmental Impacts	Impact Significance*	Suggested Mitigation Measures	Person/Institution Responsible	Monitoring Suggestions	
					Indicator	Frequency
			Loose materials shall be bagged and covered. • Channels, earth bunds, netting, tarpaulin and or sand bag barriers shall be used on site to manage surface water runoff and minimize erosion. • The overall slope of the work areas and construction yards shall be kept to a minimum to reduce the erosive potential of surface water flows elsewhere. • Cut-and-fill operations on the hill slope and slope stabilization shall be carried out step by step following proper operational procedures.			
	Hydrology (surface and groundwater)	Under the subproject intervention the overall score is **low**.	• All precautions to store chemicals/oil/fuel properly so that no chance of spill. • Workers must specify waste dump locations to avoid littering which in turn might negatively affect surface and ground water. • Monitor water quality according to the environmental management	Construction Contractor and monitored by Consultant and PIU	• Areas for stockpiles, storage of fuels and lubricants and waste materials; • Records of water quality inspection; Water	Water quality test (mainly GW) twice during the construction period in six months interval.

Section	Main Environmental Impacts	Impact Significance*	Suggested Mitigation Measures	Person/Institution Responsible	Monitoring Suggestions	
					Indicator	Frequency
			plan.		Quality Test • (National Drinking Water Quality Standard Parameters)if requires; • No visible degradation to nearby drainages, *khals (canals)* or water bodies due to construction activities. • Records should be kept and logged.	
2: Pre-construction Phase	**Sanitation, water supply**	Under the subproject intervention the overall score is **low**.	• Provide suitable housing, adequate supplies of potable water, and toilet and bathing facilities within labor camp area for the assigned laborer. • Provide means for disposing of wastewater from toilets, baths and food preparation areas either through a septic tank and soak away, or holding tank with removal by	Construction Contractor and monitored by Consultant and PIU	• Site-specific H&S Plan; • Records of supply of uncontaminated water; • Record of Health &Safety orientation	Visual inspection by PIU and supervision consultants on monthly basis

Section	Main Environmental Impacts	Impact Significance*	Suggested Mitigation Measures	Person/Institution Responsible	Monitoring Suggestions	
					Indicator	Frequency
			vacuum truck. • Records for any type of training or awareness building sessions must be kept at site.		trainings; • Condition of sanitation facilities for workers	
	Transportation	Under the subproject intervention the overall score is **low.**	• Contractor should verify vehicles for the suitability of carrying, loading and unloading of materials	Construction Contractor and monitored by Consultant and PIU	• Record of regular inspection. • Record of accidents/incidents.	Monthly monitoring.
	Storage of construction materials	Under the subproject intervention the overall score is **low**.	• Train concerned person and team assigned for the construction work to ensure items are stored properly and away from steep slopes.	Construction Contractor and monitored by Consultant and PIU	• List of materials and sources of materials	During implementation phase, as necessary through discussion with PIU, Consultant
3: Construction Phase	**Wastes**	Under the sub-project intervention the overall score is **low.**	• Prepare and implement on-site waste water runoff and labor camp waste management plan approved by PIU and consultants. • Wastes must be placed in the designated bins which must be	Construction Contractor and monitored by Consultant and PIU	• Complaints from community; • Regular inspection of waste management	weekly as work progresses

Section	Main Environmental Impacts	Impact Significance*	Suggested Mitigation Measures	Person/Institution Responsible	Monitoring Suggestions	
					Indicator	Frequency
			regularly emptied. These shall remain within demarcated areas and shall be designed to prevent wastes from being blown out by wind. • All waste must be removed from the site and transported to a disposal site.		activity; • Waste disposal record.	
	Cut and fill Activities (Cutting of hill slope and earth removal from borrow areas caused for soil erosion and landslides)	Under the sub-project intervention, the overall score is low.	• During construction cut and fill will be balanced as far as is possible. Designs shall ensure that as far as possible all cut and fill activities are balanced • Proper care will be taken during cutting and filling so that slope or toe of the road embankment remain within the right of way and does not disturb the crop.	Contractor, environmental specialist of D&S.	• Location of road alignment and slope.	Daily as work progresses
	Storage of materials	Protected and safety storage to be needed for construction materials storage. Not interrupt	With the assistance from local stakeholders and LGED officials, respective E-I-C will identify the storage site and other requirements, which will be approved by PIU and consultants. However, following sets of requirements shall be taken into	Construction Contractor and monitored by Consultant and PIU	• List of materials and sources of materials; • Storage areas for materials and equipment.	Monthly basis during implementation phase, as necessary through the discussion with PIU, Consultant

Section	Main Environmental Impacts	Impact Significance*	Suggested Mitigation Measures	Person/Institution Responsible	Monitoring Suggestions	
					Indicator	Frequency
		natural land contours, disturbance in natural drainage patterns and logging of water and the overall score is **low.**	consideration: • Storage area will be sufficiently spacious so that unloading works can be performed inside the area and materials must not be rest on road side, near the water bodies, or trees and bushes, and will not be located in any crowded place. • Storage area must be well fenced with guard posted at the entrance and at least 30 m distant from any water bodies. • Construction materials must not interrupt land contours, natural drainage pattern, and create water logging or depression. • Cement, sand, reinforced bars, stone chips, aggregates etc. must be covered with tarpaulins, and end of reinforced bars will be capped with plastic caps or covered with sacks/clothes to avoid any health injury. • Chemicals and hazardous materials including oil, grease,			

Section	Main Environmental Impacts	Impact Significance*	Suggested Mitigation Measures	Person/Institution Responsible	Monitoring Suggestions	
					Indicator	Frequency
			bitumen, etc. shall be kept in a Cement concrete bunded area or on wooden stage covered with polythene/tarpaulin.			
	Removal of Vegetation (May cause soil erosion and their deposition on nearby crop field, affecting soil quality and productivity)	Under the sub-project intervention, the overall score is **low.**	• 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&S.	• Complaints from community	Daily
	Noise pollution	Under the subproject intervention the overall score is **low.**	• Consultation with affected people; not to operate noisy equipment during working period; • No noisy work after 5.00 pm. • Sound suppression for equipment; • Ear protection for workers. • Conduct noise quality monitoring as per ESMP.	Construction Contractor and monitored by Consultant and PIU	• Number of complaints from stakeholders; • Use of silencers in noise-producing equipment and sound barriers; • Noise Level following decibel meter (dB), if required.	Inspection by PIU and supervision consultants on monthly basis;

Section	Main Environmental Impacts	Impact Significance*	Suggested Mitigation Measures	Person/Institution Responsible	Monitoring Suggestions	
					Indicator	Frequency
	Air pollution	Under the subproject intervention the overall score is **low.**	• Water spraying for dust control; construction materials with potential for significant dust generation shall be covered; no smoke emitting equipment; and limiting speed of construction vehicles in access roads and work sites to maximum of 20 kph.	Construction Contractor and monitored by Consultant and PIU	• Location of stockpiles; • Number of complaints from stakeholders; • Records of air quality inspection.	Visual observation and monitoring of air quality during construction period.
	Road Safety and Accidents	Under the subproject intervention the overall score is **medium.**	• Works will be undertaken in phase wise; in each working section half of the road pavement area will be properly cordoned for improvement works, and rest half will be open for traffic movement. • Erection of suitable signage at construction sites • Direct observation and discussion with local people • Restrict the transport of oversize loads. • Operate construction vehicles to non-peak periods (night) to minimize the traffic disruption. • Enforce on-site and access road speed limits.	Construction Contractor, environmental specialist of D&SC.	• Complaints from communities, pedestrians	Day basis during work time

Section	Main Environmental Impacts	Impact Significance*	Suggested Mitigation Measures	Person/Institution Responsible	Monitoring Suggestions	
					Indicator	Frequency
			• The contractor shall provide, erect and maintain informatory/safety signs written in local language, wherever required or as suggested by the Environmental Specialist of D&SC. • Local residents should be kept informed about planned Works.			
4. Post Construction	**Road Safety**	Under the issue the overall score is **low**.	• Install traffic signs for speed limit, speed breaker where needed, Mile post and create adequate **traffic** detours, and sufficient **signage** & **warning** signs, Post speed limits and suitable bending on the road. • Imposing barriers at several strategic places on the road to limit the movement of overloaded or heavy vehicles. • The contractor shall provide, erect and maintain informatory/safety signs written in local language, wherever required or as suggested by the Environmental Specialist of D&S.	Construction Contractor, environmental specialist of D&S.	• Road signage and safety instruments at suitable locations and chainage	Immediately after the construction work is over.

Section	Main Environmental Impacts	Impact Significance*	Suggested Mitigation Measures	Person/Institution Responsible	Monitoring Suggestions	
					Indicator	Frequency
	Tree plantation	Under the issue the overall score is **low**.	• Plantation of trees during monsoon period • Maintain of trees properly • Check survival of trees and replant the dead trees	Construction Contractor, environmental specialist of D&S.	• Number of complaints from stakeholders; • Records of trees number and tree plantation inspection.	Immediately after the construction work is over.
5. Operational Phase	**Maintenance of road and assets** (Road accidents may increase due to higher number of vehicles using the roads at increased speeds)	Under the issue the overall score is **low**.	• No advertisement/boardings shall be allowed within the Right of Way limits of the project road. • Regular maintenance and cleaning of assets such as sign boards, road safety sign etc. shall be undertaken. • Clear smooth speed breaker/rough surfaces should be clear in views. • Regular maintenance of road surface and shoulders.	LGED	• Number of complaints from stakeholders.	During Operation under LGED's regular maintenance program in each 3 years.

* 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

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)

ESMP for Access and evacuation Roads: Gorakghata-Shaplapur Janata Bazar Road (ID: 42292001)

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 within this sub-project activities So, there are no any 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 of adjacent livelihoods	PIU & Contractor	Social Development Specialist and Gender Specialist of PIU, PSC
Pre-Construction Stage	Stakeholders Engagement	• All of the project stakeholders should be consulted • Separate community level consultation meeting with the potential affected HHs • Consultation meeting with host communities about the project objectives and scope of works	PIU & Contractor	Social Development Specialist and Gender Specialist of PIU, PSC
Pre-Construction Stage	Loss of right to access	• Project to ensure thorough analysis of alternatives that access enjoyed by the community remains intact. • In case of unavoidable circumstances, alternative access will be provided.	PIU	Social Development Specialist and Gender Specialist of PIU, PSC
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

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
Pre-Construction Stage	Site Preparation: Soil Erosion; Alteration of natural drainage	• All Sites must avoid the low land near the water bodies or natural flow path to avoid the flash flood or any kind or surface runoff. • Tubewell location within the construction site is not near to any kinds of latrine and soaks well which could be contaminated by those. • After completing the development the site shall be restored as before. • This site is in the local community, so continuous need based discussion with the local community to avoid any conflicts will be taking place. • Sub project intervention must avoid natural disturbance to existing slop and natural drainage. • The contractor must ensure sound environment for the local residents near the sub project site.	PIU & Contractor	Environmental Consultant of PIU, PSC
Construction Activity	Noise from construction works	• Construction activities mostly will finish at day time within 05 PM, and must confirm proper measures for avoiding any disturbance. • All Personal Protective Equipment (PPEs) must be available at sites before starting any kinds of construction works.	Contractor	Environmental Consultant of PIU, PSC
Construction Activity	Dust	• Acceptable range of emission of CO, particulate matter [SPM (**Suspended particulate matter)**, PM2.5, 10] and Hydrocarbons must be maintained through good construction work practices. • Dust generation must be limited as a result of clearing,	Contractor	Environmental Consultant of PIU, PSC

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		leveling and site grading operations with using water florescent manually and through water pipes. • Dust generation due to vehicle movement on connecting road shall be controlled by watering the path at limited level		
Construction Activity	Safety Issues	• Unauthorized entry is completely prohibited in construction site and take necessary measures for preventing this problem • Before works start Contractor must provide proper training and guidance on health and safety issues to the labors and associated staffs. • Records of every training must be kept at site. • All kinds of Child labour are completely prohibited in every site. • Every construction materials storage site will be well fenced by Tin and safety caution tape.	Contractor	Environmental Consultant of PIU, PSC
Construction Activity	Traffic Management	• Because of the sensitivity of the proposed project site in relation to traffic management, contractor must produce a detail Traffic Management Plan (TMP), incorporating all forms of alternative routes, schedule, work plan, emergency arrangement, etc. in the TMP. • Contractors will maintain proper route for traffic management which is to be consulted with and confirmed by the Executive Engineer of Cox's Bazar. • Local traffic police department should be contacted, if traffic problem becomes more complex.	Contractor	Environmental Consultant of PIU, PSC

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
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 collected before setting up bore wells. • Any type of consent letter or agreement for withdrawing water from either surface or underground sources will be kept on site. • Local community must be consulted before any construction works starts.	PIU & Contractor	Social Development Specialist and Gender Specialist of PIU, PSC
Construction Activity	Increase in road accidents	• Maintain safety measures during the movement of heavy machinery and equipment. • Local community will be trained up on traffic management and awareness.	Contractor	Environmental Consultant of PIU, PSC
Construction Activity	Labor Base Camp: Conflicts with the local residents	• 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, poaching and tree felling. • Adequate facilities ensuring sanitation for labor camps will be put in place. • Treated water will be made available at site for drinking	Contractor	Social Development Specialist and Gender Specialist of PIU, PSC

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		purpose. • Adequate accommodation arrangements for labor forces. • Labor code of conduct is to be disclosed through consultation.		
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: • Residual waste from the temporary accommodation facilities Waste and from equipment maintenance/vehicles on-site • Wastes after completion of construction works. So, recycling process is not applicable. • Proper consents for hazardous waste management.	Contractor	Environmental Consultant of PIU, PSC
Construction Activity	Slipping of soil masses, dust deposition, draining or spillage of chemicals/contaminants, etc. to nearby water bodies	• Slope protection measures (proper compaction, palisading or protection walls, etc.) will be taken before starting work at any sensitive section of the road. • Dust suppression measures and material storage and handling procedure have to be undertaken with proper care and vigilance to avoid or minimize the impacts.	PIU & Contractor	Environmental and Social Development Consultant of PIU, PSC
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	• All construction equipment will be properly inspected timely. • The risk assessment will be prepared and communicated prior to the commencement of work for all types of work activities on site. • Preparation of proper walkways and clearly designation as a walkway has to be ensured; all walkways shall be	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
	plant and vehicles, and electrical shocks. • Exposure to health events during construction activities such as manual handling and musculoskeletal disorders, hand-arm vibration, temporary or permanent hearing loss, heat stress, and dermatitis.	provided with good conditions underfoot; signposted and with adequate lighting. • 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 will have 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 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.		

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		• Awareness training will be given 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 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.		
Construction activity	Odours and pollution caused by leaking latrines and faecal sludge, and solid wastes impacting surrounding water bodies, flora and fauna	• Preventative maintenance schedule should be followed. • Solid organic wastes should be stored in bins and/ or skips and emptied regularly at a designated waste disposal area away from the camp site. If no designated site is available within the reach, a dug-hole at a nearby place can be used with periodic filling with soil layer for preventing pollution and generating nutrient rich compost soil over time.	PIU	Environmental Consultant of PIU, PSC. Union Member
Construction Activity	Demobilization of structures, facilities and equipment used	• Contractor must prepare a waste management plan including relevant directives from “Waste Management	PIU / Contractor	Environmental Consultant of PIU,

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
	during the project implementation period (including site clearance and restoration after the construction). The impacts are similar to those listed in construction stage: ✓ Pollution from waste materials ✓ Health & Safety risks to workers and local community	Plan Principles" given hereunder.		and Executive Engineer of Cox's Bazar
Operation & Maintenance	Noise and vibration disturbances to fauna, and Traffic Safety.	• Provision to maintain noise and vibration from the operation and maintenance of machinery and equipment by proper monitoring and measures. • Provision to take necessary lighting, caution for the works and necessary maintenance should be done in day light.	UE (under the direct guidance of Executive Engineer, Cox's Bazar)	UNO, PSC

Waste Management Plan/Principles:

The contractor shall develop a waste management plan for various specific waste streams (e.g., reusable waste, flammable waste, construction debris, food, and organic waste, etc.) prior to commencing of construction and submit to LGED for approval. The plans must include the following principles or series of actions, which will be carried out/followed by the contractor and supervised by the Field level Environmental Specialist and Social Development Specialist.

- Preventing waste from throwing, leaching, or getting access to water bodies has to be maintained strictly by the contractor. Material storage site or the primary storage of waste materials shall not be closer to any water body (running or stagnant); the distance of the water body should be at least 10m from the edging part of storage.

- The quantity of waste materials shall be minimized by 3R (Reduce, Recycle and Reuse) approach and wastes shall be segregated accordingly, wherever practical; and stored in designated places/facilities in the site.
- Labor camp and construction site shall be maintained in a cleaner, tidy and safe condition, and appropriate facilities shall be provided and maintained as temporary storage of all wastes before transportation and final disposal. Waste, irrespective of types, shall not be stored/ piled up in the middle of the road or on such a place which may obstruct traffic movement or water runoff or might be a source of an accident or public nuisance.
- Hazardous waste viz. waste oil etc. will be collected and stored in a paved and bounded area and subsequently sold to authorized recyclers.
- Parts of construction debris (from demolishing of labor camp and toilets in the post-construction phase) can be recycled as filling materials on the ground or be sold for use as sub-base material or driveway bedding.
- All wastes generated during construction shall be disposed off in an environmentally acceptable manner. This will include consideration of the nature and location of the disposal site, so as to cause less environmental impact.
- Soil contaminated with bitumen or petroleum/engine oil shall be removed from the site and stored in a specific place, and later disposed off in a designated dumping area. Careful handling of these hazardous substances in the site shall be maintained and supervised by the contractor.
- Organic wastes produced in the campsite during the construction period shall be collected and transported in vehicles covered with tarps or nets to prevent spilling waste along the route to the designated disposal site; Burning of any type of wastes in a labor camp or construction site shall be prohibited completely.

Prepared by: Harogopal Kabiraj, Environmental Focal Person, +8801714980171
Tanvir Ahsan Haque, Environmental Specialist, +8801688117059
Sadia Azad, IC, Disaster Risk and Climate Change Consultant

Reviewed by: Md. Saiful Islam, Field Level Environmental Specialist, +8801913442006

Appendix-3: Cost of Environmental Enhancement Works in BOQ

In consideration of 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. Here should be noted that, parts of environmental management and enhancement works including construction and maintenance of alternative passage (and removal during post-construction period), drainage structures, slope protection measures, road safety measures, etc. are included in physical works and shown in the respective parts of BOQs, and therefore are not repeated here.

Sl no.	Description of item	Quantity	Unit price	Total amount
1.	**Dust suppression measures** Dust suppression measures like water sprinkling on aggregates/unpaved roads, in and around the work site and as per direction of E-I-C	25100.0m	@ 2.56 BDT	64,256.00
2.	**Water Supply and Sanitation** Providing and maintaining adequate portable water supply, sanitation, cleanliness facilities at camp site and work site to the entire satisfaction of Engineer-in-charge. Temporary Toilet: Construction of temporary toilets in work site/ rest area complete as per design and specifications and approved by the Engineer-in-Charge. There should be 1 camp in each site. In each camp, there should be 1 no of toilet for women and 1 no of toilet for men.	2 camp x 2 nos.= 4 nos.	@1000 per toilet	40,000.00
3.	**First Aid Box** 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.	2 no.	LS @5000 Tk. Per box	10,000.00

Sl no.	Description of item	Quantity	Unit price	Total amount
4.	**Drinking Water Facilities** 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.	2 no.	LS @ Tk. 25,000	50,000.00
5.	**Traffic Management** Maintaining traffic management at worksite from time of commencement of contractor's activities to time of completion activities, including ensuring that the road is safe for users, providing a safe working area for those involved in work on trafficked network and minimizing any disruption to smooth flow of traffic (this includes providing necessary barricades, warning signs/lights, guide signs, flagmen, maintaining diversion roads by cutting, filling, constructing, etc. or by any other means) in accordance with the full satisfaction of the Engineering-in-charge.	1 no.	LS @ Tk. 15,000	15,000.00
6.	**Personal Protection Equipment for Workers** Providing and maintaining appropriate (safe design, fit and comfort) personal protection equipment (PPE) to ensure the highest possible protection for employees in establishing and maintaining a safe and healthful working environment at workplace, including demonstrating, providing training on proper understanding and development of skill in the use of PPE, including supplying (i) best quality safety jacket, (ii) suitable hand protection gloves, (iii) appropriate foot protection shoes, (iv) best quality safety helmets, face shields, ear muffs etc. (v) suitable eye protection goggles	LS	LS @ Tk 50,000	50,000.00

Sl no.	Description of item	Quantity	Unit price	Total amount
7.	**Tree plantation** Tree plantation to compensate the felled down trees and enhance the ecological condition in the subproject area preferably at both sides of Road where space is available including protection, fencing and conservation, during project defects liability period as required by and as per direction of E-I-C. Tree like Dumur, Amla, Parul, Coconut, Jackfruit, Mango etc. to be planted. The payment is to be made only when trees are fully grown. N.B.: Including one year maintenance by the contractor and size of each tree will be minimum 3m. Trees will be planted only against felling trees due to the construction works.	180 nos.	@ Tk. 1000	180,000.00
8.	**Motivation training** Motivation training (twice: before and after construction start) of the Upazila Engineer 'sand Contractor's representatives on safety practice and as per direction of the E.I.C.	1 no.	LS @ Tk. 5,000	5,000.00
9.	**Waste disposal facility** 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.	LS	@ Tk. 5000	5,000.00
10.	**Water Test (Drinking Water samples)** Water samples are to be collected periodically (half yearly) from the tube well at labor shed area for laboratory analysis of different parameters such as pH, arsenic, iron, chloride, hardness, total dissolved solids, nitrate, nitrite, coliform, electrical conductivity etc. all complete as per direction of E.I.C. (including the cost of actual fees for testing from reputed laboratory and report) as desired by E.I.C. total 2 nos. of sets of tests need to be conducted during construction period for 2 camp sites.	2x2 nos.=4 times	@ Tk. 4000	16,000.00
11.	**Working labour shed:** Construction of Labor shed (Size: 30'x20') with C.I sheet Roofing, Tarza fencing and brick soling floor as per requirement and direction of the E-I-C.	2 no.	LS @ Tk. 30,000	60,000.00

Sl no.	Description of item	Quantity	Unit price	Total amount
12.	**Environmental management** Environmental management costs of the Environment & Social/ Safeguard Personnel for Environmental and Social Management and Monitoring during construction and operation phase for their salary & transport (Net payment excluding Tax &VAT) and as per direction of the E.I.C.	2 persons	Monthly basis @Tk. 35,000.00 for 12 Months, i.e.,35,000Tk.*12months*2. (Net payment excluding Tax &VAT).	840,000.00
	Subtotal Bill: Environmental facilities			**1,335,256.00**

Cost of H&S Measures under COVID 19 Situations

Considering the emerged situation, following budget/cost has been estimated for the protection of workers and staffs working or engaged in construction sites. The cost is estimated (100 workers involved in each day, in 2 sections at a time for each 3 km length, within 5 phases max.) for 270 active working days (9 months in a year) in a contract period for the site under this package (EMCRP/AF/W18).

Sl. No.	Description of Item	Number of items to be used/kept at			Unit Cost (BDT.)	No. of items	Total Cost/ Price (BDT.)	Remarks/ Justification
		Site Office	Working Site	Labor Camp				
1.	Non-Contact IR Digital Thermometer	01 nos. in each site	N/A	N/A	5,000.00	2	10,000.00	Each site office will have a thermometer for checking body temperature every morning at the entrance of the working site
2.	Wash Basin with Small Water Tank, Bucket and Mug (or piped water supply)	01 nos. in each site	N/A	01 nos. in each camp	10,000.00	2	20,000.00	Wash basin to be installed at favorable locations immediately after the entrance to the facility
3.	Trash bin (covered)/Paddle Bin	01 nos. in each site	N/A	02 nos. in each camp	550.00	5	2,750.00	
4.	Bar Soaps (150 gm each)	540		2700	80.00	3240	259,200.00	To be placed in a case/holder on the basin, for washing hands for max. 120 people a day and showering of 50 workers in each labor camp.
5.	Hand Sanitizer (2 nos. 250 ml bottle and 5 liter Can for	2 bottles and 1 Can for each	N/A	N/A	6,000.00	1	6,000.00	2 bottles and a 5 litre can for each Site office

Sl. No.	Description of Item	Number of items to be used/kept at			Unit Cost (BDT.)	No. of items	Total Cost/ Price (BDT.)	Remarks/ Justification
		Site Office	Working Site	Labor Camp				
	Refill)	site						
6.	Face Shield/ Protective Safety Goggles	100 nos. for each site		N/A	500.00	100	50,000.00	For labors who work in close contact, 25% in each site
7.	One time Mask (Disposable) for Contractors' Staffs	5 nos. each day in each site		N/A	10.00	2700	27,000.00	Reusing N95/KN95 mask will not be a manageable option in field scenario, one time disposable medical/surgery mask a good option instead.
8.	Cloth mask for Workers	N/A	1350 nos. for each labor camp		35.00	2700	94,500.00	A worker will use a mask for 10 days with everyday washing
9.	Floor Cleaner (1 litre Can)	12 Can	N/A	24 Can	300.00	36	10,800.00	
10.	Detergent Cleaner	N/A	5 kg in each camp/month		500.00	24	12,000.00	To be used for washing clothes, masks and tools & equipment, etc.
11.	Miscellaneous cost				150,000.00	1	150,000.00	Contingency cost for medical emergency and compensation for workers, subject to proper documentation
	Grand Total						**642,250.00**	

Appendix-4: List of Participants in the Consultation Meeting

Emergency Multi-Sector Rohingya Crisis Response Project (EMCRP)
জরুরী ভিত্তিতে রোহিঙ্গা সংকট মোকাবেলায় মাল্টি সেক্টর প্রকল্প
Local Government Engineering Department (LGED)
Public Consultation Participants List

Focus Group Discussion

সময়: 10:00 AM   তারিখ: 16/03/2021

উপ-প্রকল্প/কার্যক্রমের নাম: Strengthening and widening of Gorakghata - Shaplapur Janata Bazar Road

সভা অনুষ্ঠানের স্থান: Dagh Banglar Moar, Moheshkhali

ইউনিয়ন: Moheshkhali Municipality   ওয়ার্ড নং: 03   মৌজা: Gorakghat 4710   উপজেলা: Moheshkhali   জেলা: কক্সবাজার

প্যাকেজ নং: EMCRP/AF/W18

অংশগ্রহণকারীদের তালিকা (পরিচয় ও স্বাক্ষর)

ক্রম নং	নাম	বয়স	পুরুষ/নারী	গ্রাম	স্বাক্ষর / টিপসই
০১	মো: ইফতিয়ার	৬৮	পুরুষ	ছোট মহেশখালী	ইফতিয়ার
০২	হুজুল	৪৫	"	"	হুজুল
০৩	কালু মিয়া	২৬	"	উত্তর সিকদার পাড়া	কালু মিয়া
০৪	মো: সিরাজুল ইসলাম	২৯	"	গোরকঘাটা	সিরাজুল
০৫	ইকবাল	২২	"	"	ইকবাল
০৬	মো: রিটন	৬৬	"	"	Riton
০৭	বাবু	৬৮	"	আদিনাথ পুর	
০৮	মো: হোসেন	২৬	"	"	
০৯	নেসার উদ্দীন	২৮	"	"	নেসার উদ্দীন
১০	মোশাররফ	২৬	"	ছোট মহেশখালী	
১১	ওসমান গনি	২৯	"	"	
১২	মো: নবী আলম	৬২	"	গোরকঘাটা	Nabi
১৩	আমির আলী	৬৮	"	ছোট মহেশখালী	আমির আলী
১৪	আবদুস সবুর	৬০	"	"	আবদুস সবুর
১৫	সরাফত আলী	৬২	"	"	সরাফত
১৬	সাহদাত হোসেন	৪৫	"	গোরকঘাটা	Shaadat

Emergency Multi-Sector Rohingya Crisis Response Project (EMCRP)
জরুরী ভিত্তিতে রোহিঙ্গা সংকট মোকাবেলায় মাল্টি সেক্টর প্রকল্প
Local Government Engineering Department (LGED)
Public Consultation Participants List

Focus Group Discussion

সময়: 11:15 AM তারিখ: 16/03/2021
উপ-প্রকল্প/কম্পোনেন্ট এর নাম: Strengthening and Widening of Gorakghata - Shaplapur Janata Bazar Road
সভা অনুষ্ঠানের স্থান: ঠাকুরতলা ভৈরবনাথের মোড়, [illegible]
ইউনিয়ন: Soto Moheshkhali ওয়ার্ড নং: 09 ডাকঘর: Gorakghata 4710 উপজেলা: Moheshkhali জেলা: কক্সবাজার
সভা প্যাকেজ নং: EMCRP/AF/W18

অংশগ্রহণকারীদের তালিকা (পরিচয় ও স্বাক্ষর)

ক্রমিক নং	নাম	বয়স	পুরুষ/নারী	গ্রাম	স্বাক্ষর / টিপসই
০১	মোঃ নুর আলম	৫৮	পুরুষ	ঠাকুরতলা	নুর আলম
02	মোস্তাক আহমদ	৪৩	"	"	মোস্তাক আহমদ
০৩	ওমর ফারুক	৩০	"	কোনাপাড়া	ওমর ফারুক
০৪	জয়নাল আবেদিন	24	"	"	জয়নাল
০৫	নুরুল ইসলাম	৫7	"	"	
০৬	মোঃ কবির	৫০	"	কোনাপাড়া	
07	দিদারুল ইসলাম	27	"	"	দিদারুল
০৮	মাহমুদুল [illegible]	৬৬	"	"	মাহমুদ
০৯	মোঃ মোস্তাফিজুর রহমান	28	"	"	
১0	মিলন দত্ত	৪৯	"	ঠাকুরতলা	মিলন
১১	আনোয়ার হোসেন	22	"	কোনাপাড়া	[illegible]
১2	নজরুল হোসেন	৪৫	"	"	নজরুল

Emergency Multi-Sector Rohingya Crisis Response Project (EMCRP)

জরুরী ভিত্তিতে রোহিঙ্গা সংকট মোকাবেলায় মাল্টি সেক্টর প্রকল্প

Local Government Engineering Department (LGED)

Public Consultation Participants List

Focus Group Discussion

সময়: 2:30 PM   তারিখ: 16/03/2021

উপ-প্রকল্প/কর্মসূচি এর নাম: Strengthening and widening of Gorakghata-Shaplapur-Janata-Bazar Road

সভা অনুষ্ঠান স্থান: Soto Moheshkhali Union Parishad Complex

ইউনিয়ন: Soto Moheshkhali   ওয়ার্ড নং: 06   মৌজা: Gorakghata   উপজেলা: Moheshkhali   জেলা: কক্সবাজার

প্যাকেজ নং: EMCRP/AF/W18

অংশগ্রহণকারীদের তালিকা (পরিচয় ও স্বাক্ষর)

ক্রম নং	নাম	বয়স	পুরুষ/নারী	গ্রাম	স্বাক্ষর / টিপসই
০১	আনোয়ার সাদাত	৬০	পুরুষ	নতুনঘোনা	[illegible]
02	জসিম উদ্দিন	40	"	সিকদারপাড়া	[illegible]
০৩	[illegible] আনোয়ার	৫৫	"	দক্ষিণকুল	[illegible]
০৪	রমজান আলী	৫৮	"	নতুনঘোনা	[illegible]
০৫	আব্দুস সাত্তার	৫০	"	সিকদারপাড়া	আ: ছাত্তার
০৬	জাফর আলম	৫১	"	উত্তরকুল	জাফর আলম
০৭	নাজমুল হক	29	"	তেলীপাড়া	নাজমুল হক
০৮	আব্দুর রহমান	৫৫	"	দক্ষিণকুল	আব্দুর রহমান
০৯	মিনোয়ারা	৬৪	মহিলা	উত্তরকুল	মিনুয়ারা
১০	সাহেনা	৪২	"	তেলীপাড়া	সাহেনা
১১	রাশেদা আক্তার	৬০	"	সিকদারপাড়া	রাশেদা আক্তার
১২	আবু তাহের	৫০	পুরুষ	[illegible]	[illegible]
১৩	রাকিব	১৯	"	তেলীপাড়া	Rakib.
১৪	কামাল পাশা	৬2	"	সিকদারপাড়া	[illegible]

Emergency Multi-Sector Rohingya Crisis Response Project (EMCRP)

জরুরী ভিত্তিতে রোহিঙ্গা সঙ্কট মোকাবেলায় মাল্টি সেক্টর প্রকল্প

Local Government Engineering Department (LGED)

Public Consultation Participants List

FOCUS GROUP DISCUSSION

Upazila: Moheskhali District: Cox's Bazar

Sub-Project : Strengthening & widening of Gorokghata -Shaplapur -Janata Bazar Road (42249-2001)

Place of meeting : 17 March ,2021 (Office of Upazila Engineer, Moheskhali, Cox's Bazar

Sl. No	Name	Designation	Signature
01	Sabuj Kumar Dey	UE, Moheskhali	
02	Abu Noman Md. Abdullah	UEO(A@)	
03	Tafsir Dutta	UFPO	
04	HALIMUR RASHID	Contractor	
05	MD, KAMRUL HASAN	office ;	
06	MD; Ashrub Hossain	WA	
07	MONJUR MURSHED	UPAZILA SOCIAL SERVICES OFFICER	
08	MD. MORSHEDUL ALAM	N/A	
09	Jahangir Alam	N/A	
10.	MD. MAMUN AKTER	WA	
11	Abdu Rohim	MLSS	
12	Md. Parvej Mahmud	Surveyor	
18	depunkonday	LKSI	
14	Pronoy Dey	CA	

Emergency Multi-Sector Rohingya Crisis Response Project (EMCRP)

জরুরী ভিত্তিতে রোহিঙ্গা সংকট মোকাবেলায় বহুমুখী সেক্টর প্রকল্প

Local Government Engineering Department (LGED)

Public Consultation Participants List

Focus Group Discussion

সময়: 11:55 AM তারিখ: 17/03/2021

উপ-প্রকল্প/কার্যক্রমের নাম: Strengthening and widening of Gorakghata-Shaplapur-Janata Bazar Road

সভা অনুষ্ঠানের স্থান: Kaidubad Bazar, Shaplapur, Jamia SbRC

ইউনিয়ন: Shaplapur ওয়ার্ড নং: 09 ডাকঘর: Shaplapur 4710 উপজেলা: Moheshkhali জেলা: কক্সবাজার

সভা পরিচালনা নং: EMCRP/AF/W18

অংশগ্রহণকারীদের তালিকা (পরিচয় ও স্বাক্ষর)

ক্রম নং	নাম	বয়স	পুরুষ/নারী	গ্রাম	স্বাক্ষর / টিপসই
০১.	আমির হামজা	৬৮	পুরুষ	দিনেশপুর	[illegible]
০২.	মোহাম্মদ উল্লাহ	৬২	״	কায়দাবাদ	[illegible]
০৩	জাহাঙ্গীর আলম	৫০	״	দিনেশপুর	[illegible]
০৪.	মোঃ [illegible]	৫০	״	[illegible]	[illegible]
০৫	[illegible]	৩৪	״	[illegible]	[illegible]
০৬	কাসেম	৪০	״	কুতুবদিয়াপাড়া	[illegible]
০৭	নুরুল ইসলাম	৫০	״	[illegible]	[illegible]
০৮	শামসুল আলম	৩৮	״	[illegible]	[illegible]
০৯	আরিফ উল্লাহ	২৫	״	কায়দাবাদ	[illegible]
১০	[illegible]	২৯	״	[illegible]	[illegible]
১১	[illegible] উদ্দিন	৪০	״	কুতুবদিয়াপাড়া	[illegible]
১২	মিজানুর রহমান	৩০	״	কায়দাবাদ	[illegible]
১৩	মোঃ [illegible]	৪৮	״	״	[illegible]
১৪	[illegible]	৪২	״	[illegible]	[illegible]
১৫	[illegible]	৩৫	״	[illegible]	[illegible]

Emergency Multi-Sector Rohingya Crisis Response Project (EMCRP)
জরুরী ভিত্তিতে রোহিঙ্গা সংকট মোকাবেলায় মাল্টি সেক্টর প্রকল্প
Local Government Engineering Department (LGED)
Public Consultation Participants List

Focus Group Discussion

সময়: 12:30 PM   তারিখ: 17/03/2021

উপ-প্রকল্প/প্রকল্পের নাম: Strenghthening and Widening of Gorakghata-Shaplapur-Janata Bazar Road

সভা অনুষ্ঠানের স্থান: Kaidabad Bazar, In front of Tohid Store

ইউনিয়ন: Shaplapur   ওয়ার্ড নং: 09   মৌজা: Shaplapur 4710   উপজেলা: Moheshkhali   জেলা: কক্সবাজার

সভা সংকেত নং: EMCRP/AF/W18

অংশগ্রহণকারীদের তালিকা (পরিচয় ও স্বাক্ষর)

ক্রম নং	নাম	বয়স	পুরুষ/নারী	গ্রাম	স্বাক্ষর / টিপসই
০১	মোঃ রফিকুল আলম	৩৫	পুরুষ	[illegible]	[illegible]
০২	আতাউল্লাহ	৪৬	"	"	[illegible]
০৩	মোঃ সেলিম উল্লাহ	৪০	"	"	[illegible]
০৪	জাহাঙ্গীর আলম	৪৯	"	দিনেশপুর	মোঃ [illegible]
০৫	মোঃ সেলিম	২৯	"	"	সেলিম
০৬	আমির আহম	৪০	"	[illegible]	[illegible]
০৭	শেখ আকবর	৩৯	"	[illegible]	[illegible]
০৮	নুর হোসেন	৫৪	"	"	নুর হোসেন

Emergency Multi-Sector Rohingya Crisis Response Project (EMCRP)

জরুরী ভিত্তিতে রোহিঙ্গা সংকট মোকাবেলায় মাল্টি সেক্টর প্রকল্প

Local Government Engineering Department (LGED)

Public Consultation Participants List

Focus Group Discussion

সময়: ০২:৩০ PM তারিখ: ১৭/০৬/২০২১

উপ-প্রকল্প/কম্পোনেন্ট এর নাম: Strenghthening and Widening of Gorakghata - Shaplapur - Jaldia Bazar Road

সভা চিহ্নিত স্থান: সাদেকের পাড়া মসজিদের মাঠ, শাপলাপুর

ইউনিয়ন: শাপলাপুর ওয়ার্ড নং: ০৮ মৌজা: শাপলাপুর উপজেলা: মহেশখালী জেলা: কক্সবাজার

সভা শনাক্তকরণ নং: EMCRP/AF/W18

অংশগ্রহণকারীদের হাজিরা (পরিচয় ও স্বাক্ষর)

ক্রম নং	নাম	বয়স	পুরুষ/নারী	গ্রাম	স্বাক্ষর / টিপসই
০১	শফিকুল হক	৫৫	পুরুষ	সাদেকের পাড়া	শফিকুল হক
০২	জালাল আহমদ	৫৩	"	"	জালাল
০৩	সফি আলম	২৫	"	"	সফি
০৪	আয়েশা খাতুন	২৬	মহিলা	"	
০৫	হামিদা বেগম	৪০	মহিলা	"	হামিদা
০৬	ইসমত আরা	২৮	"	"	ইসমত আরা
০৬	মিজান	২২	পুরুষ	"	
০৭	আব্দুল কাদির	২৯	"	ছোট মহেশখালী	কাদির
০৮	আব্দুর রহমান	৭০	"	সাদেকের পাড়া	আহমদ
০৯	মোহাম্মদ	৫২	"	"	

Emergency Multi-Sector Rohingya Crisis Response Project (EMCRP)

জরুরী ভিত্তিতে রোহিঙ্গা সংকট মোকাবেলায় মাল্টি সেক্টর প্রকল্প

Local Government Engineering Department (LGED)

Public Consultation Participants List

Focus Group Discussion

সময়: ১০:৩০ AM তারিখ: ২৮/০৬/২০২৩

উপ-প্রকল্প/কম্পোনেন্ট এর নাম: Strengthening and Widening of Gorakghata-Shaplapur Janata Bazar Road

সভা অনুষ্ঠানের স্থান: শাপলাপুর ইউনিয়ন পরিষদ হলরুম

ইউনিয়ন: শাপলাপুর ওয়ার্ড নং: ০৬ গ্রাম/মৌজা: শাপলাপুর ৪৭০০ উপজেলা: মহেশখালী জেলা: কক্সবাজার

সাব প্রকল্প নং: EMCRP/AF/W18

অংশগ্রহণকারীদের হাজিরা (পরিচয় ও স্বাক্ষর)

ক্রম নং	নাম	বয়স	পুরুষ/নারী	গ্রাম	স্বাক্ষর / টিপসই
০১	এম.এম. আবুল কালাম চৌধুরী	৬০	পুরুষ	চেয়ারম্যান ৪নং শাপলাপুর ইউনিয়ন পরিষদ	[signature] 18.03.23 (stamp: আবুল কালাম চৌধুরী চেয়ারম্যান ... শাপলাপুর ইউনিয়ন পরিষদ মহেশখালী, কক্সবাজার)
০২	জুবাইর উদ্দিন	৪০	পুরুষ	মেম্বার, ৬নং ওয়ার্ড	[signature]
০৩	রশিদ আহমদ	৫৬	"	সাবেক মেম্বার ০৭নং ওয়ার্ড	[signature]
০৪	আবদুর রহমান	৪৮	"	ইউপি সচিব	[signature]
০৫	মহিউদ্দিন	৬৬	"	দরগাহর	[signature]
০৬	মোঃ রহমত উল্লাহ	৬৮	"	সুতারকাটা	[signature]
০৭	আব্দুল মালেক	৫৯	"	সওদাগর পাড়া	[signature]
০৮	মনজুর আহমদ	৫৬	"	সুতারকাটা	[signature]
০৯	তাহের আহমদ	৬৭	"	"	[signature]
১০	নিজাম উদ্দিন (০১)	৬০	"	সওদাগর পাড়া	নেজাম
১১	নিজাম উদ্দিন (০২)	৩৬	"	মুহুরী পাড়া	[signature]
১২	আব্দুল জব্বার	৬৭	"	সুতারকাটা	[signature]
১৩	মোঃ শাহজাহান	২৬	"	মুহুরী পাড়া	[signature]
১৪	নুরুল আবছার	৬৫	"	মধ্যমপাড়া	[signature]
১৫	আবুল কাসেম	৫৩	"	সওদাগর পাড়া	[signature]
১৬	আবুল কালাম	৫৪	"	"	[signature]

Emergency Multi-Sector Rohingya Crisis Response Project (EMCRP)

জরুরী ভিত্তিতে রোহিঙ্গা সংকট মোকাবেলায় বহু সেক্টর প্রকল্প

Local Government Engineering Department (LGED)

Public Consultation Participants List

Focus Group Discussion

সময়: ১০:৩০ AM   তারিখ: ২৮/০৬/২০২২

উপ-প্রকল্প/কম্পোনেন্ট এর নাম: Strengthening and Widening of Gorakghata-Shaplapur Inani Bazar Road

সভা স্থান: শাপলাপুর ইউনিয়ন পরিষদ কার্যালয়

ইউনিয়ন: শাপলাপুর ওয়ার্ড নং: ০৬ ডাকঘর: শাপলাপুর ৪৭০০ উপজেলা: মহেশখালী জেলা: কক্সবাজার

সভা সংকেত নং: EMCRP/AF/W/8

অংশগ্রহণকারীদের তালিকা (পরিচয় ও স্বাক্ষর)

ক্রম নং	নাম	বয়স	পুরুষ/নারী	গ্রাম	স্বাক্ষর / টিপসই
১৭	মনজুর আলম	৩৬	পুরুষ	ইউপি সদস্য ৭,৮,৯ ওয়ার্ড	[illegible]
১৮	নুরুল ইসলাম	৬০	"	হাজিরা ঘোনা	নুরুল ইসলাম
১৯	আফিয়া সুলতানা	৩৩	নারী	ইউপি সদস্য ৪,৫,৬	[illegible]
২০	মোঃ সাহাব উদ্দিন	২৪	পুরুষ	হাজিরা ঘোনা	সাহাব উদ্দিন
২১	আনোয়ার ইসলাম	৫১	"	[illegible] পাড়া	[illegible]
২২	সব্বির আহমদ	৭০	"	শাপলাপুর	সব্বির আহমদ
২৩	ফরিদা ইয়াসমিন	৩৩	নারী	[illegible]	[illegible]
২৪	ছবিরা খাতুন	৪০	নারী	[illegible] পাড়া	[illegible]
২৫	[illegible]	১৯	পুরুষ	[illegible]	[illegible]
২৬	মোঃ নুর উদ্দিন আলম	২৯	"	শাপলাপুর	[illegible]
২৭	সাজেদা বেগম	৩৭	নারী	হাজিরা ঘোনা	সাজেদা বেগম
২৮	[illegible] মিয়া	৪২	পুরুষ	সাতঘর পাড়া	[illegible]
২৯	আনোয়ার হোসেন	৩০	"	"	[illegible]
৩০	ফরিদুল আলম	৪৪	"	সদস্য [illegible] ওয়ার্ড	[illegible] ২৮/০৬/২২
৩১	[illegible] পারভীন	৩১	মহিলা	[illegible] U.D.C	[illegible] ২৮/০৬/২২

Emergency Multi-Sector Rohingya Crisis Response Project (EMCRP)
জরুরী ভিত্তিতে রোহিঙ্গা সংকট মোকাবেলায় বহুমুখী সেক্টর প্রকল্প
Local Government Engineering Department (LGED)
Public Consultation Participants List

Focus Group Discussion

সময়: 3:30 PM তারিখ: 19/03/2021

উপপ্রকল্প/অবকাঠামোর নাম: Strengthening and widening of Gorakghata - Shaplapur - Bazar Road

সভা অনুষ্ঠানের স্থান: Imran Store, Chalietoli, Kalarmarchara

ইউনিয়ন: Kalarmarchara ওয়ার্ড নং: 01 মৌজা: Kalarmarchara-4710 উপজেলা: Moheshkhali জেলা: কক্সবাজার

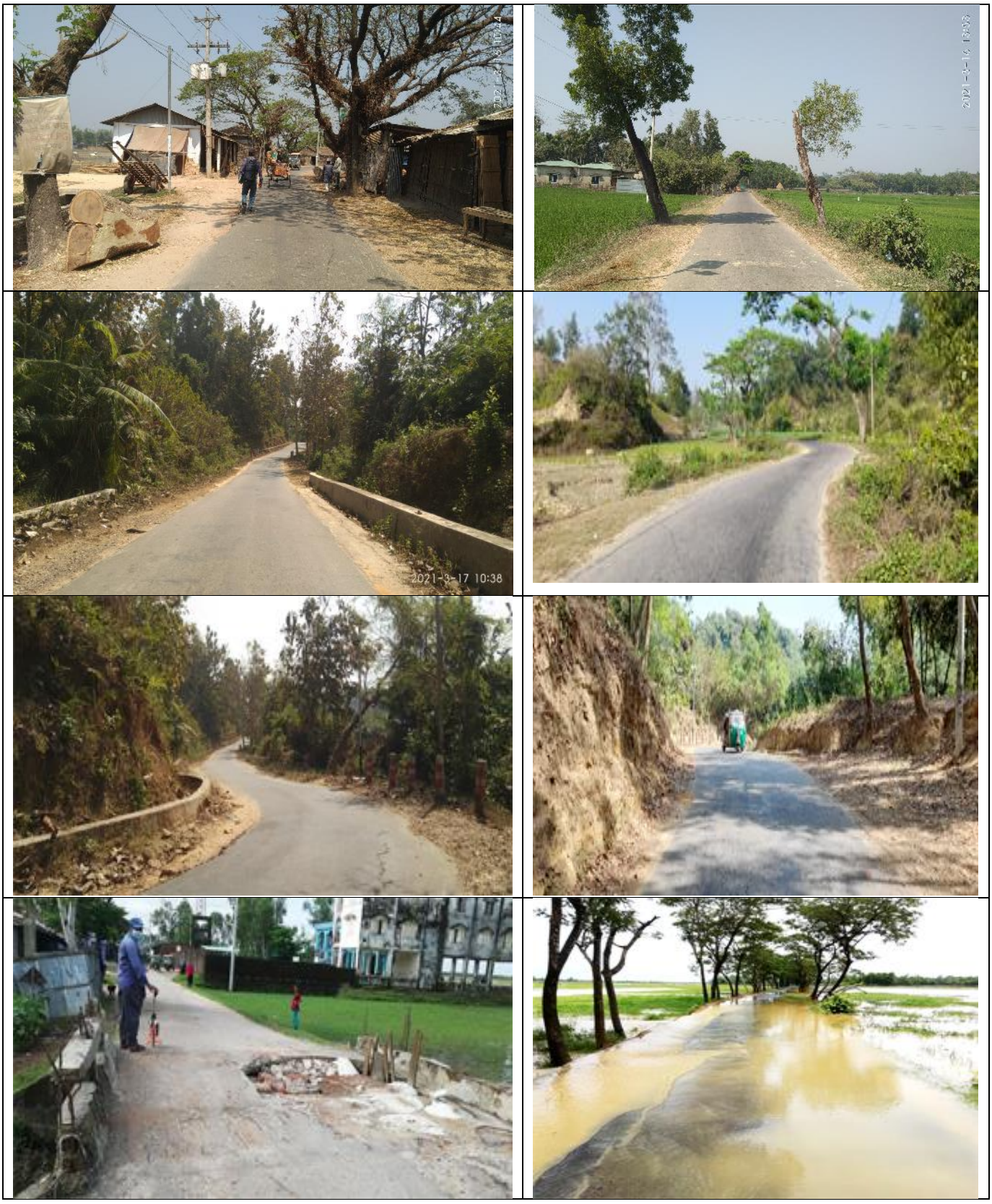
সাব প্রকল্প নং: EMCRP/AF/W18

অংশগ্রহণকারীদের তালিকা (পরিচয় ও স্বাক্ষর)

ক্রম নং	নাম	বয়স	পুরুষ/নারী	গ্রাম	স্বাক্ষর / টিপসই
০১	[illegible] হক	৬০	পুরুষ	উত্তর নলবিলা চালিয়াতলি	[illegible]
০২	মো: হোসাইন	৩২	"	"	মো: হোছাইন
০৩	মো: আজিজুল্লাহ	২০	"	"	[illegible]
০৪	[illegible]	২৬	"	"	[illegible]
০৫	মো: সাইফুল ইসলাম	৩৬	"	চালিয়াতলি	[illegible]
০৬	সাহাবুদ্দিন	৪৬	"	"	[illegible]
০৭	[illegible] আলম	৩৫	"	"	[illegible]
০৮	ফরিদুল আলম	৪৮	"	"	Farid
০৯	আবদুল হক	৩৬	"	"	আবদুল কাদের
১০	মো: ইব্রাহিম	৬৭	"	"	ইব্রাহিম
১১	সাহাবুদ্দিন	৪২	"	"	সাহাবুদ্দিন
১২	আবু বক্কর	৩৮	"	"	[illegible]
১৩	সাইফুল ইসলাম	৫২	"	উত্তর নলবিলা	[illegible]
১৪	হোসেন	৪৮	"	"	[illegible]
১৫	আনোয়ার আলম	৩২	"	"	[illegible]
১৬	[illegible] উদ্দিন	৫৬	"	"	[illegible]

Public Consultation Participants' List

Appendix-5: Pictorial View of the Sub-Project sites at different chainage










2021-3-18 13:03









Overview of surrounding features of the Sub-Project