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

Emergency Multi-Sector Rohingya Crisis Response Project (EMCRP)

Environmental Screening Report

Under the package no. EMCRP/W1

Improvement of Thainkhali Bazar & Maintenance of Moricha Bazar, Sonarpara Bazar, Rumkha Bazar, Palong Khali Bazar & Ukhiya Daroga Bazar in Ukhiya Upazila under Cox's Bazar District.

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Contents

ACRONYMS

BOQ	Bill of Quantities
BMC	Bazar Management Committee
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
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 Bond
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
PIA	Project Influence Area
PIU	Project Implementation 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

Executive Summary

The Emergency Multi-Sector Rohingya Crisis Response Project (EMCRP) has been designed in order to reduce the vulnerability of both Forcibly Displaced Myanmar National (FDMN) and people from the host communities in Cox's Bazar District, to different hazards and improve the basic service delivery system through resilient infrastructure development and prohibiting Gender-Based violence to both the communities. 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, and financed by the World Bank.

LGED itself along with the World Bank is keen to facilitate and boost up the local trading system and meeting the needs for consumption of daily necessities, primarily of host communities living in different areas under Cox's Bazar district, Emergency Multi-Sector Rohingya Crisis Response Project (EMCRP) has taken initiative to improve six hat Bazars in different unions under Ukhiya Upazila. People from local communities having access to these facilities will increase their socio-economic condition. This sub-project will thus surely aid in the betterment of the target location-based facilities and initiate the growth potential of the area.

In assessing the impacts of construction/implementation of these local hat-bazars, it was found that the proposed sites are not located within any environmentally sensitive area and will not cause any significant negative effects to the environmental settings of the areas, neither to any important environmental features. As all the markets/hats are positioned in designated parts of the same existing areas of the current trading places which are in general free from any important or sensitive social or environmental features and even the construction works will not harm any socio-cultural, economic or environmental features significantly. Contractor will not face any significant burden in implementing the package. The extent of interventions will be very simple and less mechanical, so further degradation of environment is not anticipated. However, occupational health and safety, special care to the contractor's personnel and labor forces, small scale preventive and enhancement works to the environment are the key concerns to be deployed or ensured by the contractor(s). Physical works to be carried out during the trading/ hat day or time may cause hindrance, though not significantly, to the shoppers as well as to the workers. Among six sites, only one location will need tree uprooting (Rumkha Bazar, where 3-4 matured wooden trees (1 nos. Chatim, 2 nos. Koroi and 1 no. Neem trees) and shrubs may need to be uprooted, and plantation of same species during the post-construction period has been included therefore.

All the nearest features might get affected during the construction period with the generated debris and dust, though for the time being and of very negligible scale esp. during the dry season. Strict construction site management system- including best practice debris management procedure, restrictive work schedule during the daytime and non-hat hours only, water-sprinkling twice a day on and around the site, safe storage of materials, etc. will be practiced throughout the construction period. Labor shed will be equipped with necessary facilities including water supply, sanitation and first aid management, though it is more likely that local labors will be deployed in the package works. Good housekeeping practices along with providing adequate facilities, e.g., toilets, WASH facilities, drinking water supply, etc. is a must to adopt in every labor camps. The site with the

nearest canal will have temporary fencing (during construction period) on the sides to avoid runoffs from site and waste deposition. All sites will face demolition of small scale except, Thainkhali Hat Bazar. The debris management plan to handle types of waste will be formulated by the contractor as per given in the ESMP.

In order to avoid any accidents from chemical/hazardous materials spillage, all the chemicals and hazardous materials should be stored in a designated place, far from flammable items and waterbodies, and provided with adequate secondary containment or bundh. In case of any spillage, using of oil/chemical absorbent kits and reuse of spilled chemicals and oils are administered.

Contractor's staffs and workers will be given training on good practice construction works, health safety, and efficient camp management, and relevant awareness building sessions will also be conducted, and records of all those training and awareness building sessions will be kept on-site as part of effective management and monitoring of safeguard works. Stakeholders staying in nearby places shall be consulted regularly regarding any potential issues that may create nuisance to them, and their suggestions/concerns will be taken into account in on-site decision making and relevant working procedure.

Operation and regular maintenance of hat-bazar is certainly a key challenge for Bazar Management Committee or whoever will be in charge after the construction. Congregation of a huge number of people in a typical hat/bazar day will make the water & sanitation, hygiene, general environment, and traffic condition too hard and complex to manage efficiently. Therefore, deploying a number of people for managing the entire system in regular basis is a must to follow.

With all the required efforts, once the overall effects for this proposed construction works are minimized to its least level and controlled efficiently, it will turn into a welcoming and beneficial project for the communities. Once the construction work is over, the Hat-Bazar will be handed over to the LGED/BMC (Bazar Management Committee). During that post-construction period, all regular maintenance works of the Hat-Bazar and its parts, repairing of non-functional tools and instruments, and other small rehabilitation works are the responsibilities of BMC.

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 to reduce the vulnerability of Forcibly Displaced Myanmar National (FDMN) in Teknaf and Ukhiya Upazila along with people from the host communities in Cox's Bazar District and improve the social service delivery systems to both the communities. This project will follow a sustainable development pathway that is resilient to disaster and climate change effects, and promote developed communication mechanisms.

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, e.g., construction of drainage facilities, 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, as well as installing lightning protection systems, solar street lights, nano-grids, firefighting/search and rescue warehouses, etc. 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 facilitate the local trading and meeting the needs for consumption of daily necessities, primarily of host communities living in different areas under Cox's Bazar district, Emergency Multi-Sector Rohingya Crisis Response Project (EMCRP) has taken initiative to improve six hat Bazars in different unions under Ukhiya Upazila. People from local communities having access to these facilities will increase their socio-economic condition. This sub-project will thus surely aid in the betterment of the target location-based facilities and initiate the growth potential of the area.

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

The sub-project has the primary target to improve the trading facilities of the area and ensure the supply of daily necessities, in an organized and efficient manner. This intervention, without a doubt facilitates the following: it will,

- ✓ Support to rural development along with business or trading, agriculture, farming etc.
- ✓ Widen access to the government support for an organized and socio-environmentally acceptable trading system.
- ✓ Accelerate the earning potential of local government through revenue collection.
- ✓ Improve the local planning, coordination, and work execution capacity.
- ✓ Make a crucial contribution to economic development and growth and bring important socioeconomic benefits.

This document represents the Findings from Environmental Screening of the sub-project components under the package name '**Improvement of Thainkhali Bazar & Maintenance of Moricha Bazar, Sonarpara Bazar, Rumkha Bazar, Palong Khali Bazar & Ukhiya Daroga Bazar in Ukhiya Upazila under Cox's Bazar District.',** with the bid package no. **EMCRP/W1**.

1.3 Elementary information of Work Package Components:

It is imperative to recognize proposed components under Work Package-EMCRP/W1 in Ukhiya Upazila in order to assess and verify its interventions according to stipulated screening requisites from WB. Acknowledging this matter, such details are accounted for as given below in Table 1.4.1 along with visual presentation (General Upazila Map) given in Figure 1.4.1. Aerial maps for each sub-project is given in Appendix -7. Tentative Facilities in Each Hat Bazar has been tabulated in Table 2.3.2.

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

Table1.2.1: Basic Featured Information of components [Sources of data: Field survey, 2020: DDC & LGED]

Sl. No.	Component's name under W-1	GPS Coordinates	Distance from Upazila HQ	Union	Ward No.	Locations under Project Influence area	Pre-existing condition of Hat-Bazar	Owner of land	Estimated land size of Hat-Bazar (sq. meter)
1.	Thainkhali Bazar	21.16893^0 N 92.15468^0 E	13km	Palongkhali	5	Thainkhali, Ponditpara, Hakimpara, Jamtoli, Telkhola, Mocharkhola, Alimpara Rohomoterbill, Tajnimarkhola	Open Space with no other feature	Govt.	Available land 1011.62 Footprint area 604.70
2.	Ukhiya Bazar	21.24382^{0}N 92.13826^{0}E	900m	Rajapalong	6	Foliapara, Muolobipara, Patabari Dorgabill, Gorurbazar, Sikderbill, Shileshora, Maskaria	Pre-existing sheds on the west side of the Cox's Bazar-Teknaf highway	Govt.	4857
3.	Moricha Bazar	21.30923^{0}N 92.09685^{0}E	6km	Holdiapalong	1	Moricha, Patabari, Paglirbill, Modhuguna, Dhoniapalong, Jumkapalong	Pre-existing sheds on the west side of the Cox's Bazar-Teknaf highway	Govt.	2,023.24
4.	Sonarpara Bazar	21.28386^{0}N 92.05838^{0}E	10 km	Jaliapalong	3	Moulovirjhum, Sonaichori, Gunarmor, Gatgorpara, Dailpara, Inani, Nidhania, Mohammad Safir bill	Pre-existing sheds on the south side of the Sonarpara road	Govt.	4046
5.	Rumkha Bazar	21.27540^0 N 92.09804^{0}E	5.5km	Holdiapalong	9	South painnashia, Chowdhurypara, Jaliapalong, Jholarpara, Boruapara	Pre-existing sheds on the west side of the Cox's Bazar-Teknaf highway	Govt.	17,000
6.	Palongkhali Bazar	21.14354^{0}N 92.15968^{0}E	13km	Palongkhali	7	Bottoli, Pariribill,Gilatoli, Chakmarpul and Kerumtoli	Pre-existing sheds on the east side of the Cox's Bazar-Teknaf highway	Govt.	3254

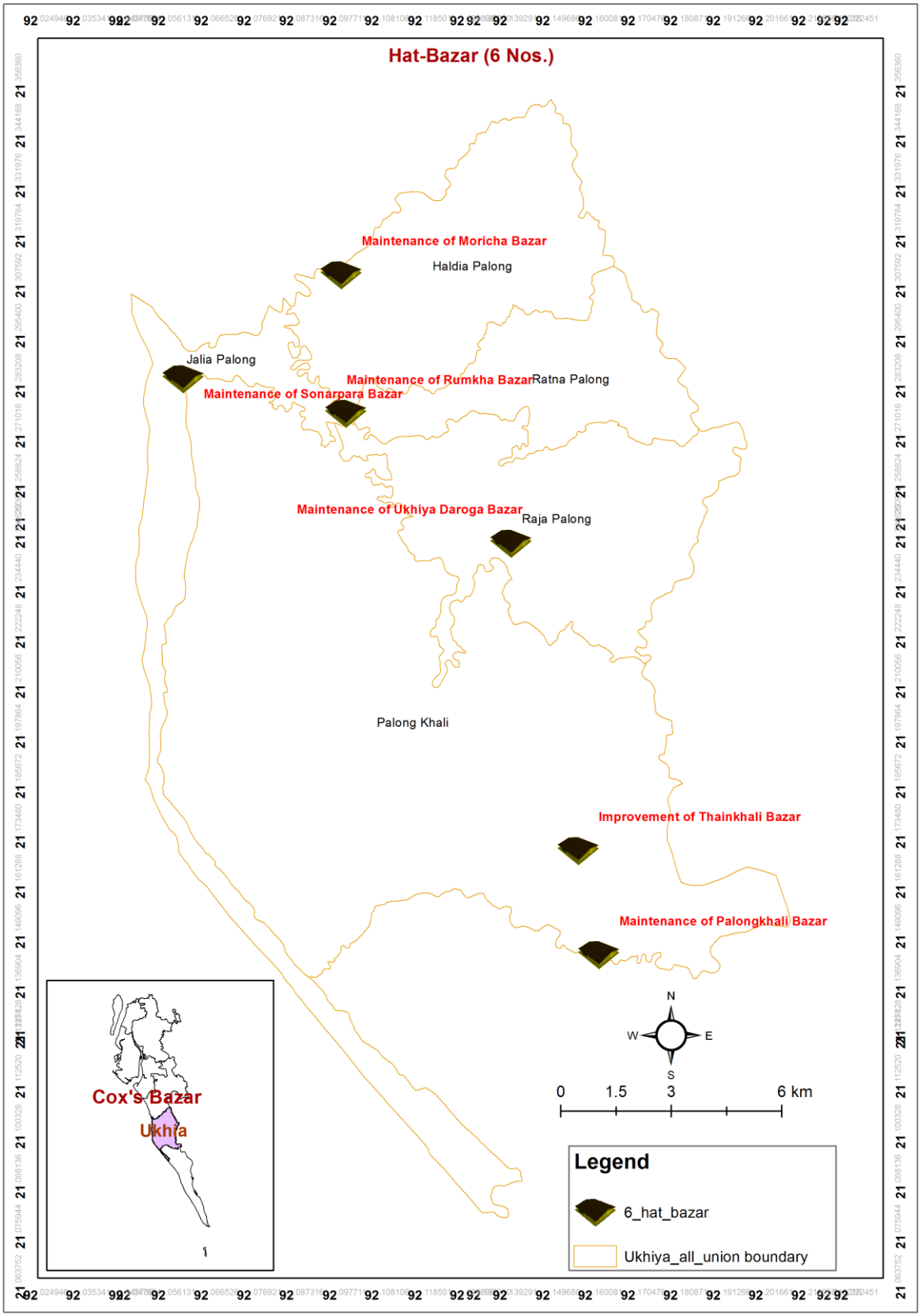


Figure 1.2.1: Map illustrating locations of Hat-Bazars in the Ukhiya Upazila under the Work Package W-1

2. PUBLIC CONSULTATION, PARTICIPATION AND SURVEY FINDINGS

2.1 Methodology

Public participation and community consultation have been taken up as an integral part of environmental assessment process of the project. As part of the impact assessment, participatory public consultation was conducted in areas of concern for the proposed Bazars by the field level staffs and consultants from PIU and D&SC. The consultation meeting was attended by bazar committee, locals, business personal of wet shops/fruit bazars/grocery shops, distributors, retailers, whole sellers, etc. The participants were also selected from different segments of stakeholders, and some of whom will have major active roles before, during and even after the construction works. Therefore, the meeting was organized in an informed, expressive, and unbiased manner, wherefrom different views and concerns came across which have been properly taken care of during the design phase, and contractor shall be aware and vigilant throughout the construction phase. To serve our screening process, discussion on project activities, methods and associated socioeconomic coupled with environmental considerations was carried out with the meeting participants and troubleshoot confusing or worrying matters regarding the proposed intervention under the package work. Impacts regarding environment and socio-economic matters during pre-construction, construction and post construction phases have been put forth. Possible mitigation measures and relevant needs have turned out during these sessions as well. Moreover, their comprehension as a stakeholder has been up lifted in light of project guidelines.

However, public consultation is a living process as the types of problems/ difficulties, involved parties or stakeholders and mode of settlement or resolution processes are more likely to differ with time. Thus, consultation with different parties or stakeholders will be continued throughout the sub-project implementation period and records of resolutions, whatsoever and wherever possible, will be kept in writing at the site and made available on any enquiries or requests by all parties concerned.

All components under the work package have been put through review for locating impediments or possible adversity affecting future environment and socio-economic conditions. In order to comprehend surrounding features and impacts which may stipulate with it, screening has acknowledged to have a Project Influence Area (PIA) of 1-kilometer radius. Extrapolation is not under any method of judgment; therefore, specific items has been dealt with and considered distinctively. Sensitive findings have been identified if any, and relevant mitigation or minimization/management measures were suggested to subdue such complication for over the project life span. Moreover, evaluation was inspired to enhance environmental features and include monitoring initiatives under ESMP budget to ensure exertion of environmental improvement propositions. Contractor's responsibility has been taken into account while identifying possible impacts through sets of intervention accounts. These steps have been initiated strictly following ESMF guidelines and requirements. Environmental screening procedure was motivated by ingredients highlighted in Appendix-4 of ESMF.

2.2 Important features/establishments around the PIA (Project Influence Area)

Primary theme here was to bring all key informants and representing members of the local community. Initial screening process is conducted through direct involvement of PIU and D&SC in the influence area of the proposed component, which allows to raise significant questions and ideas

towards participants. In combination of both field walk-through and inputs of audience, a register of existing features is formed. Allow the following table to describe such elements in all the work package components.

Table 2.2.1: Important features under Project Influence Area

Sl. No.	Component's name under W-1	Catchment Area	Direction	Important features/ establishment (approx. distance from the proposed site)
1.	Thainkhali Bazar	Thainkhali, Ponditpara, Hakimpara, Jamtoli, Telkhola, Mocharkhola, Alimpara Rohomoterbill, Tajnimarkhola	North	Graveyard (180m), Nurani Madrassa (200m), Mosque (200m).
			South	Mohila Hefzokhana (450m), Jamtoli Mosque(450m), Jamtoli Bazar (480m), APBN Police Station (500m).
			East	Thainkhali GPS (60m), Thainkhali Dakhil Madrassa(200m), Thainkhali High School(250m), Holy Child Academy(300m)
			West	Union Prishad (100m), Mosque(150m), Eptedai Madrassa(500m), Health Complex(120m), MSF Hospital(500m)
2.	Ukhiya Daroga Bazar	Foliapara, Moulobipara, Patabari Dorgabill, Gorurbazar, Sikderbill, Shileshora, Maskaria	North	Ukhiya Gov High School(200m), Ukhiya Bazar Mosque (220m NW), Ukhiya Police Station (190m NW), Ukhiya High School Playground(500m), Ukhiya Sadar GPS (300m)
			South	Mosque(500m), Ukhiya Market(300m)
			East	Upaliza Parishad (900m NE), Ukhiya Central Mosque(100m)
			West	Nurul Islam Chowdhury Guljar Begum High School (600m), Foliapara Jame Mosque(630m), Foliapara Alim uddin GPS (800m), Foliapara Community Center (850m)
3.	Moricha Bazar	Moricha, Patabari, Paglirbill, Modhuguna, Dhoniapalong, Jumkapalong	North	Moricha Central Mosque (10m), Al Mohad Madrassa (200m), Morichapalong GPS (250m), Union Parishad(250m)
			South	Sultania Azizul Ulum Madrassa(180m), Graveyard(100m), 4 nos. of Hindu Temple(1km)
			East	Morichapalong High School(350m), High School Mosque(350m)
			West	Ideal School(250m), West Moricha Mosque(500m)
4.	Sonarpara Bazar	Moulovirjhum, Sonaichori, Gunarmor, Gatgorpara, Dailpara, Inani, Nidhania, Mohammad Sabir bill	North	Al Harman Jame Mosque (180m), Jaliapalong Union Parishad (300m)
			South	Sonarpara Bazar Mosque(80m)
			East	Palong Medical Institute(750m), East Soanrpata Baitul Haramain Jame Mosque(700mSE), Sonaichori Central Mosque(900m), Sonaichori GPS(1km), Sonarpara Bazar Graveyard(60m), Sonarpara Bazar business cooperative office(25m)

Sl. No.	Component's name under W-1	Catchment Area	Direction	Important features/ establishment (approx. distance from the proposed site)
			West	Rohingya Children Safety Program Office(300mNW), Dakhil Madrassa(450m), Sonarpara High School (480m), Sonarpara GPS (500m), Land Office(500m)
5.	Rumkha Bazar	South painnashia, Chowdhurypara, Jaliapalong, Jholarpara, Boruapara	North	Court Bazar Hospital (600m), Horimdia Temple(80m), Rumkha Palong Islamia Alim Madrassa (350m NW) Households(60m)
			South	Rajapalong Forest Office (900m) Rajeurkul GPS (800m), Graveyard(100m), and households(50m).
			East	Palong Model High School and College (1km), Rumkha Bazar Mosque(60m), Rumkha GPS (450m), Households(50m)
			West	Mosque(40m), Rumkha Alim Madrassa(400m), households(50m)
6.	Palongkhali Bazar	Bottoli, Pariribill,Gilatoli, Chakmarpul and Kerumtoli	North	Paka market (10m), Nurani Madrassa and Mosque (150m)
			South	Eptadia Mosque and Madrassa (20m) Canal(50m)
			East	Canal(15m), Parir bill Alim Madrassa(250m), Palongkhali High School(300m), Nurani Madrassa(100m)
			West	Kachabazar of Palongkhali(10m), Yakub Mostafa Mosque and Madrassa(100m), Fruit Bazar(120m)

2.3 Issues and Recommendations raised by the Participants regarding component interventions.

After facilitating the consultation sessions with a warm and informed manner at different places in the package areas, the participants and stakeholders drifted delightfully with the sessions and pointed out many issues and suggestions which were considered for further inclusion in design, estimation and formulation of ESMP. This part of assessment procedure is tabulated below to recognize participants' inputs arranged in relevance with each individual components of the sub-project. Consultation meeting summary, attendance sheets and pictures of separate meetings with proposed location for each component can be found in Table 2.3.2 and Appendix-1 and Appendix-2 respectively.

Table 2.3.1: Issues and Recommendations raised by the Participants.

Component's name under W-1	Issues discussed	Consultation outcome from the participants
Basic Proceedings for 6 Hat Bazar community consultation		
i) Thainkhali Bazar ii) Ukhiya Daroga Bazar iii) Moricha Bazar iv) Sonarpara Bazar v) Rumkha Bazar vi) Palongkhali Bazar	Community social acceptance	• Participants and local representatives have linked their socio-economic growth with the improvement initiatives because this will increase their marker capacity and opportunities.
	Opportunities for local business and dealers	• Strong establishments will give security to the merchants who are using temporary structures also ensure investment security to any dealer.
	Improvements and requirements for the bazar	• All bazar locations should have good drainage plan so that water logging does not result in property damage and hinder business hours. Along with these, proper drainage can ensure healthy environment and challenges faced during rainy seasons can dissipate. • Public Toilet and tube well are necessary items for a well-maintained bazar facility. This will add to the practicality of a business area and ensure good health.
	Utility Services for work force during construction period	• Electricity and Water is available at all sites which can be used by the work force during the time of construction
	Labor shed and material storage	• Material storage can be ensured inside the bazar area and existing bazar committee will ensure storage area and safe keeping of the stored raw materials as well. Empty stores can be rented inside the existing bazar for labor shed where the material storage will be designated for safe keeping and surveillance.
	Demolition (partial/full) is required for new construction and improvement.	• For the betterment of the marketplace partial demolition of old structures is necessary and it may cause short time hindrance to daily activities. They are willing to adapt to the changing conditions and will have no issues running their business.
	Available pathways to usher materials and clean gateway	• Each bazar is adjacent to the main road (in all cases the Cox's Bazar Teknaf Highway) access

Component's name under W-1	Issues discussed	Consultation outcome from the participants
Basic Proceedings for 6 Hat Bazar community consultation		
	for workers and construction machineries	will not be an issue for the construction works to proceed. For the distance from the center of the bazar to the main road, overhead transfer will suffice since the distance is not more than 50m-70m in any of the bazar.
	Elephant movement corridor and environmentally sensitive features	•All the bazar locations are in dense locality where no elephant movement is present, and this intervention will not cause any trouble regarding this issue (IUCN maps also confirm). No environmentally or ecologically sensitive item is present surrounding or inside the target location. Locations are merely habituated with bazar and host community households.
	Degradation of vegetation or water bodies	•Trees and water bodies must not be harmed from this improvement works. •No significant vegetation cover or water body falls within the target location that may get hampered by the intervention.
	Safety during construction period and GRC	•During construction period, safety of children and all other personal is mandatory; no local is to involve themselves during construction period out of unnecessary conduct. In case of a complain of grievance they can notify the GRC or local Bazar committee then the contractor team in written form. They can follow-up on that with site engineer or the president of GRC.
Site Specific proceedings for community consultation		
Thainkhali Bazar	Labor shed and material storage	•Labor shed and material storage must be made, and local committee will aid in security. Contractor will have responsibility for the safe storage and execution.
	Demolition (partial/full) is required for new construction and improvement.	•No demolition is required for this hat bazar location since a new construction is proposed.
Rumkha Bazar	Degradation of vegetation or water bodies	•Few small trees and shrubs may need clearing which can be recouped by planting 5 times the numbers of small trees need cutting in the bazar area.
Palongkhali Bazar	Degradation of vegetation or water bodies	•A canal to the east should be taken into special consideration as it can be polluted from the construction works via waste runoffs and dust particles. Participants understood the issue and to overcome this, they will willingly check fencing from contractors and our management plan will stiffly ensure of this matter.

Table 2.3.2: Consultation Meetings Summary

Component Name	*Date DD-MM-YYYY*	*Venue*	*Main Participant Groups*	*No. of Participants*		*Discussed Tentative intervention items and impacts*
				Male	*Female*	
i) Thainkhali Bazar	25-08-2023	Thainkhali Bazar	Locals, businessmen, distributors, retailers, wholesalers	11	0	Improvement of bazar with facilities: 1 no. of Shed, 5 nos. of Toilet block, 2nos. of Office Block, Garbage disposal and a Prayer Space. Important impact mitigation approaches including management of labor shed and material storage areas, and significance of a GRC committee and its applicability.
ii) Ukhiya Daroga Bazar	27-08-2023	Ukhiya Bazar	Locals, businessmen, distributors, retailers, wholesalers	23	0	02 no. Shed, 01 no. External Shed, 4 nos. of Toilet, U-drain, Connecting Road, and 1 submersible pump. Important impact mitigation approaches and significance of a GRC committee and its applicability.
iii) Moricha Bazar	27-08-2023	Moricha Bazar	Locals, businessmen, distributors, retailers, wholesalers	31	0	01 no. Slaughter Shed, 4 nos. of Vegetable Shed, 01 no. New Shed, 01 no. Fish Shed, 01 no. Open Shed and existing shed maintenance; 02 nos. shed, 01 no. Shed, 4 nos. of shed. Connecting Road, U-Drain, 2 nos. of Dust Bins and 1 no. of Submersible pump. Important impact mitigation approaches and significance of a GRC committee and its applicability.
iv) Sonarpara Bazar	25-08-2023	Sonarpara Bazar	Locals, businessmen, distributors, retailers, wholesalers	27	0	U-drain, 1 no. Dust Bin, 4 nos. of Open Shed, RCC Road. Important impact mitigation approaches and significance of a GRC committee and its applicability.
v) Rumkha Bazar	25-08-2023	Rumkha Bazar	Locals, businessmen, distributors, retailers, wholesalers	19	1	04 nos. of Shed, U-drain and external U-drain, 4nos. of Toilet, RCC retaining wall, connecting road and 1no. of submersible pump. Important impact mitigation approaches and significance of a GRC committee and its applicability.
vi) Palongkhali Bazar	25-08-2023	Palongkhali Bazar	Locals, businessmen, distributors, retailers, wholesalers	16	0	2nos.of Shed, U-drain, 4nos. of Toilet, Connecting Road, RCC Retaining Wall and 1 no. submersible pump. Important impact mitigation approaches and significance of a GRC committee and its applicability.

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, socio-economic and environmental impacts of the proposed sub-project sites and the influence area in regard to the implementation measures, an extensive field visit was carried out in each proposed sub-project. Environmental Screening form, as adopted in **Appendix-3** of the Environmental and Social Management Framework of EMCRP, was administered for identifying the impacts and their extents. The screening data and information for each sub-project under this work package and details screening summary have been formulated and shown in **Appendix-3 under Section D.**

3.2 Major Findings

A complete view of current environmental conditions of individual sub-projects in relation to interested queries has been congregated in order to understand the degree of impacts corresponding to marked interventions. Interestingly, most sub-projects have correspondence with its surrounding features and uphold interchangeable impacts. However, the degree is not an interchangeable factor since scale is not parallel to each of these components where mitigation measure differentiation is implied. There are some cases where unique circumstances have been met with while environmental screening took place which is also accounted for and should be a matter of concern for other parts of the ESMF initiative.

In principle, all 6 hat-bazars are in such strategic places of the host community area, where all surrounding villages and inter union communities are harnessing the utmost benefits from. These places are already popular for shopping or selling the daily necessities and becoming centers for trading in those areas, though in semi-formal and unorganized manner in most cases. LGED's interventions to improve the sites in an organized and sustaining fashion and with optimum facilities both for the traders and consumers will be a dauntless effort to escalate the socio-economic benefits of all participating parties/stakeholders. As all the markets/hats will be positioned in a designated part of the same existing areas of the current trading places which are in general free from any important or sensitive social or environmental features and even the construction works will not harm any socio-cultural, economic or environmental features significantly. Contractor will not face any significant burden in implementing the package. The extent of interventions will be very simple and less mechanical, so further degradation of environment is not anticipated. However, occupational health and safety, special care to the contractor's personnel and labor forces, small scale preventive and enhancement works to the environment are the key concerns to be deployed or ensured by the contractor(s). Physical works to be carried out during the trading/ hat day or time may cause hindrance to the shoppers as well as to the workers. Among six sites, only one location will need tree uprooting (Rumkha Bazar, where 3-4 matured wooden trees (1 nos. Chatim, 2 nos.

Koroi and 1 no. Neem trees) and shrubs may need to be uprooted, and plantation of same species during the post-construction period has been included in the design and cost-estimation for all sites for betterment purpose. Labor shed will be equipped with necessary facilities including water supply, sanitation and first aid management, though it is more likely that local labors will be deployed in the package works.

Operation and regular maintenance of hat-bazar is certainly a key challenge for Bazar Management Committee or whoever will be in charge after the construction. Congregation of a huge number of people in a typical hat/bazar day will make the water & sanitation, hygiene, general environment, and traffic condition too hard and complex to manage efficiently. Therefore, deploying a number of people for managing the entire system in regular basis is a must to follow.

However, the significant issues observed in each sub-project are enlisted in following Table 3.2.1 with pertaining impacts. Moreover, impacts that are adventitious have also been embraced for promoting best practices.

Table 3.2.1: Environmental issues relating to each proposed components and respective influence areas.

Component's name under W-1	Findings regarding environmental concerns	Relevant Impacts
Thainkhali Bazar	•It is not located within any major environmentally sensitive area. •The location is found to have open space with no environmental feature that might be on the way of the intervention.	• No such negative impacts are expected.
	Construction period will induce air pollution from; •loading unloading of construction materials. •Dust generation from crushers, vehicles, and the transportation of all types of construction materials.	• Minor air pollution during construction period due to deposition of dust and airborne particles less than PM_{10}. • Dust pollution may slightly suffocate photosynthesis of the plants available on the south (30m) of the target area. However, this can be minimized through regular water sprinkling as suggested in ESMP.
	•No agriculture, fish farming and significant vegetation coverage is seen in the proposed location. •Only a canal called "Thainkhali khal" (60 meters from the site) is present on the east side of the target location.	•No degradation or loss of agriculture and horticulture is expected. •Dust and Liquid waste runoffs such as left-over oils or chemicals and dust residues mixed with water may pollute the existing canal during construction period. ESMP includes measures for this site.
	•Elephant Movement is not present in the vicinity of the subproject location.	•No impact is expected.
	•No heavy earth excavation work will be involved.	•No heavy alteration of top soil is expected.
	•Construction related activities and setting up of labor camps along with associated facilities and their management.	•Noise pollution from construction activities, air pollution caused by dust or gaseous emissions from vehicle movement, odors and soil pollution from leaking of latrines and fecal sludge, will have potential to take place. •Solid and human wastes shall be generated from the labor camp, which need to be cleaned regularly, stored in a designated place and sorted out, and dumped eventually in a waste pit (organic waste) or dumped into a designated sites in the vicinity (construction debris, etc.). •Enough space is available for setting up labor shed and material storage; no major issue will come about.
	•Chemical spills or improper disposal of construction waste materials due to lack of worker training and misconduct of contractor's safety initiatives.	• 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).

	•Vibration effects generated from mixing, pilling, drilling or other construction works.	• Any vibration would result in nuisance effects to nearby locals, but will be temporary and of very minimal and unlikely to result in structural damages to any structure of the adjacent private properties.
Ukhiya Daroga Bazar	• It is not located within any major environmentally sensitive area. • This location is found to be an existing (operational) bazar with sheds of shops and wet market. Here, no sensitive items are present within the bazar periphery.	• No such negative impacts are expected on any sensitive items, nor will it cause any number of vegetation or waterbody to fall victim of the interventions.
	Construction period will induce air pollution from; •Loading- unloading of construction materials. •Construction works or clearing of residues and debris.	• Deposition of dust and airborne particles less than PM_{10} will set upon surrounding features including food items in the wet market area on the southeast side and within a 30 meters buffer zone. ESMP will indicate necessary mitigation measures.
	•No agriculture, fish farming and significant vegetation coverage is seen in the proposed location.	• No impact is expected.
	•Construction works will involve chemical usage and preparation of on-site add-ons to the proposed sheds, toilets, and a connecting road in this bazar. •Demolition work will induce liquid waste runoffs mixed with dirt, plastics, and concrete debris particles.	•Generated scraps or residues from construction and demolition works and runoffs from curing works as liquid waste can block the existing saturated drainage system to the south running towards southwest. •Noise pollution and gaseous emissions from the works, vehicle movement, running of motorized equipment
	•Elephant Movement is not present in the vicinity of the subproject location.	•No impact is expected here
	•No heavy earth excavation work will be involved.	•No associated impact is expected.
	•Labor camps or material storage facilities can be rented inside or outside of the bazar area. Skilled and non-skilled workers will work from their place of residing only material storage and security guard may need placing near the work site.	• No impact is expected from the labor camp or material storage erection, but maintenance of rented units may induce wastes as latrines, fecal sludge or debris as plastics, wires and remnants of construction material. • Solid and human wastes shall be generated from the labor camp, which need to be cleaned regularly, stored in a designated place and sorted out, and dumped eventually in a waste pit (organic waste) or dumped into a designated sites in the vicinity (construction debris, etc.).
	•Chemical spills or improper disposal of construction and demolition	•During the construction period, surrounding soil may get contaminated from

	waste materials due to lack of worker training and misconduct of contractor's safety initiatives.	activities such as handling of hazardous construction materials (such as fuel, lubricants, paints, and solid waste).
	•Vibration effects generated from mixing, drilling or other construction works	•Any vibration would result in nuisance effects to nearby locals and will be temporary but unlikely to result in any structural damages.
Moricha Bazar	• It is not located within any major environmentally sensitive area. • This location is found to be an existing (operational) bazar with sheds of shops and wet market. Here, no sensitive items are present within the bazar periphery.	• No such negative impacts are expected on any sensitive items, nor will it cause any number of vegetation or waterbody to fall victim of the interventions.
	Construction period will induce air pollution from; •loading unloading of construction materials. •Construction works and demolition work or clearing of residues and debris.	•Deposition of dust and airborne particles less than PM_{10} will set upon surrounding features including food items in the wet market area on the east side and within a 20 meters buffer zone. ESMP will indicate necessary mitigation measures
	•No agriculture, fish farming and significant vegetation coverage is seen in the proposed location.	• No impact is expected.
	• Noise emission from construction machineries and equipment can cause nuisance to residents and customers.	• The ambient noise level might have potential to increase temporarily and intermittently in the close vicinity of active construction fronts.
	• Construction works will involve chemical usage and preparation of on-site add-ons to the proposed sheds, and a connecting road in this bazar. • Demolition work will induce liquid waste runoffs mixed with dirt, plastics, and concrete debris particles.	•Generated scraps and residues as construction waste and runoffs from curing works as liquid waste can coagulate on the southwest side of the location. This portion of the bazar area is already used as a dumping ground. It may cause smell and plug the natural flow of water. • Noise pollution and gaseous emissions from the works, vehicle movement, running of motorized equipment.
	• Elephant Movement is not present in the vicinity of the subproject location.	• No impact is expected here
	• No heavy earth excavation work will be involved.	• No impact is expected here
	•Chemical spills or improper disposal of construction and demolition waste materials due to lack of worker training and misconduct of contractor's safety initiatives.	•During the construction period, surrounding soil may get contaminated from activities such as handling of hazardous construction materials (such as fuel, lubricants, paints, and solid waste).
	•Vibration effects generated from mixing, drilling or other construction works	•Any vibration would result in nuisance effects to nearby locals and will be temporary but unlikely to result in any structural damages.

Sonarpara Bazar	• It is not located within any major environmentally sensitive area. This location is found to be an existing (operational) bazar with sheds of shops. Here, no sensitive items are present within the bazar periphery.	• No such negative impacts are expected on any sensitive items, nor will it cause any number of vegetation or waterbody to fall victim of the interventions.
	Construction period will induce air pollution from; •loading unloading of construction materials.	• Deposition of dust and airborne particles less than PM_{10} will set upon the Sonarpara road to the north and suspended particles may reach around within a 10-15 meters buffer zone. ESMP will indicate necessary mitigation measures
	•No agriculture, fish farming and significant vegetation coverage is seen in the proposed location.	•No impact is expected.
	• Noise emission from construction machineries and equipment can cause nuisance to pedestrians on the road in most degree and in little degree to the bazar itself.	• The ambient noise level might have potential to increase temporarily and intermittently in the close vicinity of active construction fronts.
	• Construction works will involve chemical usage and preparation of on-site add-ons to the proposed sheds, and a connecting road in this bazar.	•Generated scraps and residues as construction waste and runoffs from curing works as liquid waste can cause problem on the road side of the location. •Noise pollution and gaseous emissions from the works, vehicle movement, running of motorized equipment.
	• Elephant Movement is not present in the vicinity of the subproject location.	• No impact is expected here
	• Minor earth excavation work will be involved.	• Small scale mud and concrete debris runoff will pollute the surround within a 10m distance maximum.
	• Labor camps or material storage facilities can be rented inside or outside of the bazar area. Skilled and non-skilled workers will work from their place of residing only material storage and security guard may need placing near the work site.	• No impact is expected from the labor camp or material storage erection, but maintenance of rented units may induce wastes as latrines, fecal sludge or debris as plastics, wires and remnants of construction material. • Solid and human wastes shall be generated from the labor camp, which need to be cleaned regularly, stored in a designated place and sorted out, and dumped eventually in a waste pit (organic waste) or dumped into a designated sites in the vicinity (construction debris, etc.).

	•Chemical spills or improper disposal of construction and demolition waste materials due to lack of worker training and misconduct of contractor's safety initiatives.	•During the construction period, surrounding soil may get contaminated from activities such as handling of hazardous construction materials (such as fuel, lubricants, paints, and solid waste).
	•Vibration effects generated from mixing, drilling or other construction works	•Any vibration would result in nuisance effects to nearby locals and will be temporary but unlikely to result in any structural damages.
Rumkha Bazar	• It is not located within any major environmentally sensitive area. This location is found to be an existing (weekly operational) bazar with sheds. Here, few trees are present within the bazar periphery and a canal on the west of the target area.	• No such negative impacts are expected on any sensitive items, nor will it cause any harm to the waterbody(named Rejur khal) on the west (60m away) by the interventions other than 4 counts of trees which fall on the path of a new proposed shed on the southwest corner of the target area.
	Construction period will induce air and soil pollution from; •Loading-unloading of construction materials. •Stacking of construction materials and construction/demolition debris. •Curing works will running over to the open soils. •Operating construction machineries and equipment	•Deposition of dust and airborne particles less than PM_{10} will set upon surrounding features as trees and households found surrounding the area. •The bare soil may receive dust particles settling from air and wastewater runoffs.
	•No agriculture, fish farming and significant vegetation coverage is seen in the proposed location.	•No impact is expected.
	•Noise emission from construction machineries and equipment can cause nuisance to pedestrians on the road in most degree and in little degree to the bazar itself.	•The ambient noise level might have potential to increase temporarily and intermittently in the close vicinity of active construction fronts.
	• Construction works will involve chemical usage and preparation of on-site add-ons to the proposed sheds, Toilet, U-drain, and a connecting road in this bazar.	•Generated scraps and residues as construction waste and runoffs from curing works as liquid waste can pollute open soil of the location and cause waste coagulation. •Noise pollution and gaseous emissions from the works, vehicle movement, running of motorized equipment.
	•Elephant Movement is not present in the vicinity of the subproject location.	•No impact is expected here
	•Minor earth excavation work will be involved.	•Small scale mud and concrete debris runoff may pollute the surrounding within a 15m distance maximum but will not cause water pollution.
	•Improper disposal of construction and demolition waste materials due to lack of worker training and misconduct of contractor's safety	•During the construction period, surrounding soil may get contaminated from mishandling of debris construction/demolition works

	initiatives.	
	•Vibration effects generated from mixing, drilling or other construction works	•Any vibration would result in nuisance effects to nearby locals and will be temporary but unlikely to result in any structural damages.
Palongkhali Bazar	• It is not located within any major environmentally sensitive area. • This location is found to be an existing (daily operational) bazar with sheds and wet and dry markets. Here, a canal called 'Nayanjhuri khal' is present on the east side of the bazar periphery which is in close proximity of the targeted intervention within 20m.	• No such negative impacts are expected on any sensitive items, • The waterbody (named Nayanjhuri khal) on the east will receive runoffs from construction work and plastic or concrete wastes may be received by the waterbody.
	Construction period will induce air from; •Loading unloading of construction materials. •Stacking of construction materials and construction/demolition debris producing good amounts of left over waste. •Operating construction machineries and equipment	•Deposition of dust and airborne particles less than PM_{10} will set upon surrounding features as trees and adjacent wet and dry market.
	No agriculture, fish farming and significant vegetation coverage is seen in the proposed location.	No impact is expected.
	Noise emission from construction machineries and equipment can cause nuisance to pedestrians on the road in most degree and in little degree to the bazar itself.	The ambient noise level might have potential to increase temporarily and intermittently in the close vicinity of active construction fronts.
	Construction works will involve chemical usage and preparation of on-site add-ons to the proposed sheds, Toilet, RCC Retaining wall, U-drain, and a connecting road in this bazar.	•Generated scraps and residues as construction waste and runoffs from curing works as liquid waste can pollute the canal and cause waste coagulation. •Noise and gaseous emissions from the works, vehicle movement, running of motorized equipment.
	Elephant Movement is not present in the vicinity of the subproject location.	•No impact is expected here
	No earth excavation work will be involved.	•No impact is expected here
	Construction related activities and setting up of labor camps along with associated facilities and their management.	•Construction activities for the labor and material shed will cause short periods of noise and air pollution from vehicle movement, land clearing, preparation works. •Also, waste may be generated from leaking of latrines and fecal sludge.

		•Space can be rented inside the bazar area for the labor shed and material storage. Available empty shops can be rented for this case. •Solid and human wastes shall be generated from the labor camp, which need to be cleaned regularly, stored in a designated place and sorted out, and dumped eventually in a waste pit (organic waste) or dumped to a designated sites in the vicinity (construction debris, etc.).
	Improper disposal of construction and demolition waste materials due to lack of worker training and misconduct of contractor's safety initiatives.	During the construction period, surrounding may get contaminated from mishandling of debris construction/demolition works
	Vibration effects generated from mixing, drilling or other construction works	Any vibration would result in nuisance effects to nearby locals and will be temporary but unlikely to result in any structural damages.

From above-mentioned points of concern, there are no chances of human-elephant conflict in all the proposed areas, though a map of elephant movement is given in Appendix-6 for further reference.

To offset the loss or attenuating the environmental degradation, a set of mitigation measures will be adopted, on top of general practice of standard construction procedure or following the relevant codes of practices.

3.3 Climate Change Impact Screening

3.3.1 General Overview of the area

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

The hilly region of the country, especially the part in Cox's Bazar is characteristically of muddy soil structure, not of any rocky formation and the stability comes from the roots of the trees. Also, rainfall, proximity to the sea, elevation, and land cover are very important factors for analyzing the risk of cyclone. Denudation of trees from hilltops for the huge settlement of Rohingya people has already increased the vulnerability to the[4] risk of hill collapse by destabilizing the terrain. Also, deforestation at a rapid speed uncovers the land and raise the risk of occurrence of cyclones, as forests protect land from high wind and storm surges where demolishing the trees would make the area vulnerable.

Together with the above-mentioned hazardous situation, again due to sudden extraction of huge amount of groundwater, 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.

In this case, it is possible that a stationary position of the freshwater-saltwater transition zone can be established via proper management of pumping in the confined aquifer. The groundwater resource is seen to suffer more from the climate change impact. The impacts on groundwater due to climate change impact include:

- Sea-level rise could result in a transgression of the sea and a loss of land area. This could also lead to the secondary effect of population migration in the new coastal band due to migration of the coastal population from the encroaching sea, thereby increasing domestic water needs in the new coastal area.

[3] https://openknowledge.worldbank.org/bitstream/handle/10986/28723/9781464811555.pdf
[4] "Implications of Climate Change for Fresh Groundwater Resources in Coastal Aquifers in Bangladesh", World Bank report.2010

- A higher sea-surface elevation would change the base level for all groundwater gradients in the basin. In many aquifers, this would lead to shifts in local hydraulic gradients, inland hydraulic heads, and the rate of groundwater flow.

- A higher sea level will result in an increase in pressure in the subsea aquifer, resulting in inland movement of saltwater (aquifer seawater intrusion).

- Transgression of the coast implies that saline storm surges of 1 or more meters depth would penetrate beyond the new coast to new land areas. Storm surges transport saline water far inland of the coast and much of this floodwater may infiltrate the ground in areas where the aquifer is not fully saturated. Even where the aquifer is saturated, denser saline water may sink into the aquifer during the flood and later from pools of saltwater that remain following the flood.

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, rainwater harvesting from every disaster shelter, construction of drainage facilities along the road length and installing thunder arrester across the areas, have been suggested and will be implemented.

3.3.2 Site Specific Screening and outcome

Climate Change impact on a particular subproject is tough to deduce as the highest resolution of climate model simulation done over Bangladesh is 50km. Depending on the simulation ensemble of Cox's Bazar district, the temperature and precipitation are likely to increase with time.

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, and associated mitigation or offsetting measures are really hard to plot on the impact areas, though an overall set of measures are often considered in practical aspect. Fig: 3.3.2.1 shows the inundation risk map of the subprojects under W-1, none of the sites are in vicinity of the severe river flood inundation area. So, the risk of flooding is low around the sub-project area. Even though, it is to be ensured that all bazars are constructed above the highest flood level and adequate drainage facilities are embedded in the design for avoiding water logging, etc.

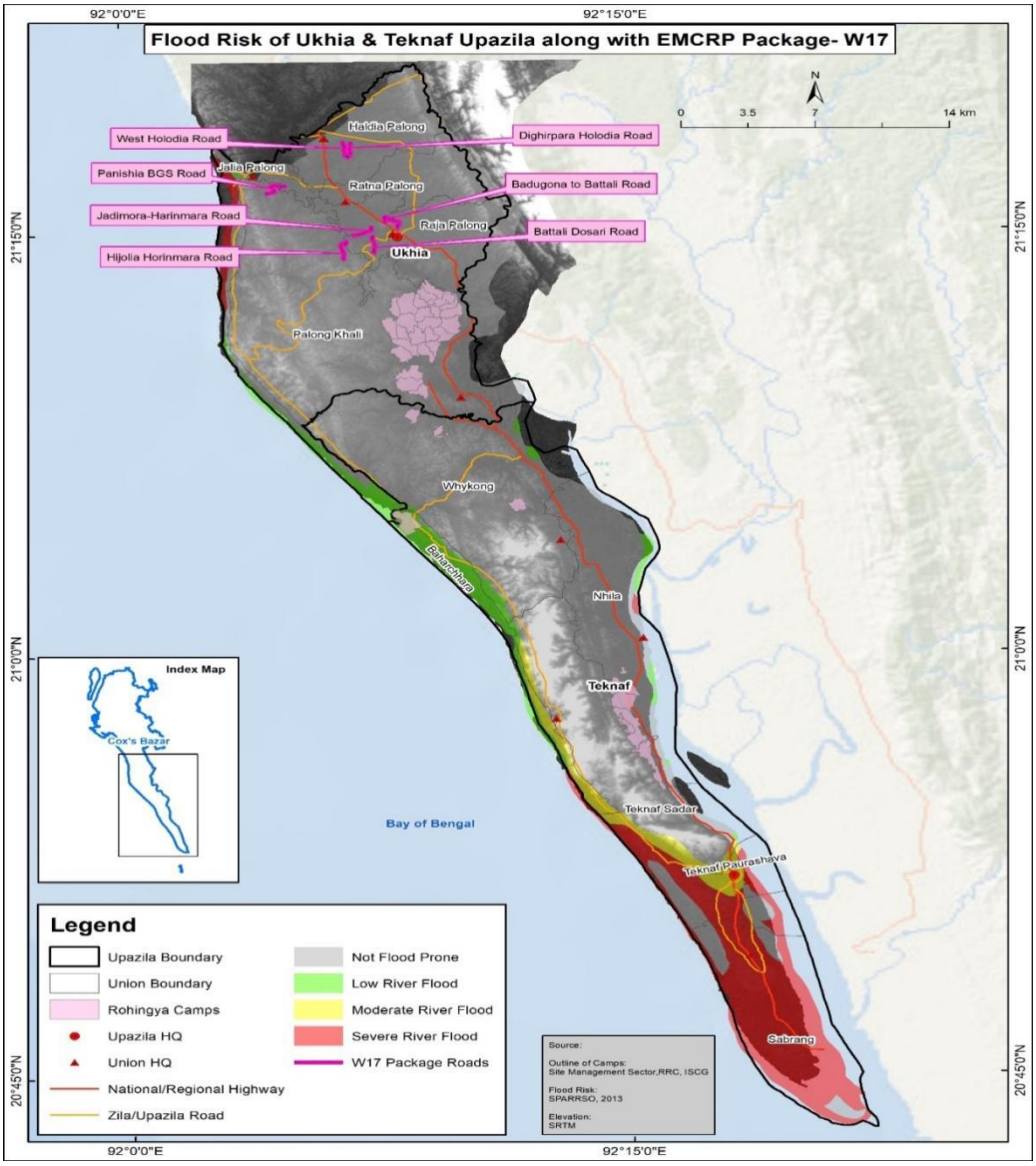


Figure 3.3.2.1: Flood inundation risk map near the subprojects (Road)

Also, in order to avoid the devastation caused by the thunderstorm, state-of the-art thunder arrester (lightning protection system) has been suggested to install having a coverage area of 25,434 sq.m for a single arrester. In addition, tree planation within the premises of hat-bazars is also 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.

Table 4.1.1 Component Specific Impact and Mitigation Plan under package W01

Sl.	Component's name under W-17	Nearest Features to Receive Potential Impacts	Mitigation plan
1)	Thainkhali Bazar	At the north; Graveyard(180m), Nurani Madrassa(200m), Mosque(200m). At the east; Thainkhali GPS (80m), Thainkhali Dakhil Madrassa(200m) Thainkhali High School(250m). At the west; Union Parishad (100m), Mosque(150m), Eptedai Madrassa(500m), Health Complex(120m).	All these nearest features might get affected during the construction period with the generated debris and dust, though for the time being and of very negligible scale esp. during the dry season. Moreover, strict construction site management system- including best practice debris management procedure, restrictive work schedule during the daytime and non-hat hours only, water-sprinkling twice a day on and around the site, safe storage of materials, etc. will be practiced throughout the construction period. Further, stakeholders staying in nearby places shall be consulted regularly regarding any potential issues that may create nuisance to them, and their suggestions/concerns will be taken into account in on-site decision making and relevant working procedure. The site with the nearest canal will have temporary fencing (during construction period) on the sides to avoid runoffs from site and waste deposition. All sites will face demolition of several scale except, Thainkhali Hat Bazar. The debris management plan to handle types of waste will be formulated as per ESMP.
2)	Ukhiya Dargoa Bazar	At the north; Ukhiya Gov High School(200m), Ukhiya Bazar Mosque (220m NW), Ukhiya Police Station (190m NW). At the east;Ukhiya Central Mosque(100m).	
3)	Moricha Bazar	At the north; Moricha Central Mosque (10m), Al Mohad Madrassa (200m), Morichapalong GPS (250m), Union Parishad(250m). At the south; Sultania Azizul Ulum Madrassa(180m), Graveyard(100m). At the west; Ideal School(250m).	
4)	Sonarpara Bazar	At the north; Al Harman Jame Mosque (180m). At the east; Sonarpara Bazar Graveyard(60m), Sonarpara Bazar business cooperative office(25m).	
5)	Rumkha Bazar	At the north; Horimdia Temple(80m), Households(50m), At the south; Rumkha Bazar Mosque(60m). At the west; Mosque(40m), Households(50m).	
6)	Palongkhali Bazar	At the north; Paka market (10m), Nurani Madrassa and Mosque (150m). At the south; Eptadia Mosque and Madrassa (20m), Canal(50m). At the east; Canal(15m), Parir bill Alim Madrassa(250m), Nurani Madrassa(100m). At the west; Kachabazar of Palongkhali(10m), Yakub Mostafa Mosque and Madrassa(100m), Fruit Bazar(120m).	

There are some impacts which would be realized or apprehended during the operational period of the markets/bazars. Setting toilets to an inappropriate place or condition may pose serious

disturbances to the users as well as the people living nearby. Similarly, the outlet of internal drainage system should be emptied preferably to a collection sewer (main sewer) or any depression (collection lagoon) sufficiently away from a settlement area. Both these issues are to be carefully considered during the pre-construction or design phase. However, degree and extent of impacts, whether social or environmental, during the operational phase are wider than the construction period which will largely be managed by the Bazar Management Committee.

Specific Environmental and Social Management Plan (ESMP) has been prepared to eliminate, reduce or regulate the adverse impacts for this subproject. The purpose of this plan is to formulate measures which will mitigate the adverse impacts on various environmental components and protect environmental resources and enhance the value of environmental and social components where possible. Additional social management measures beyond the scope of environmental and social measures delineated in this document are perceived and suggested by the Social Safeguards team in their Social Screening Reports.

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. Contractor's staffs and workers will be given training on good practice construction works, health safety, and efficient camp management, and relevant awareness building sessions will also be conducted, and records of all those training and awareness building sessions will be kept on-site as part of effective management and monitoring of safeguard works. With all the required efforts, once the overall effects for this proposed construction works are minimized to its least level and controlled efficiently, it will turn into a welcoming and beneficial project for the communities. Once the construction work is over, the Hat-Bazar will be handed over to the LGED/BMC (Bazar Management Committee). During that post-construction period, all regular maintenance works of the Hat-Bazar and its parts, repairing of non-functional tools and instruments, and other small rehabilitation works are the responsibilities of BMC. Bigger maintenance or rehabilitation works will be carried out by the LGED (under any relevant project/Program) – whichever organization government wants to engage for that particular works. The subproject specific environmental and social management plan has been outlined in Appendix-4. The mitigation measures as well as monitoring program of ESMP have also been incorporated in the management plan.

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, few additional measures should be taken and practiced throughout the daily cycle by each labor, staff, and any involved parties, since we are not completely in the clear with the pandemic coronavirus situation. A guideline, that will be an integral part of the ESMP measures considering every sub-project site, will keep it concise and specific, and the contractor is required to keep the copy of that guideline at every site office.

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 to ensure hygiene and guide workers to avoid ailment as much as possible and look-out for COVID.

b. All workers, supervising and supporting engineers and staffs, consultants, service providers and other concerned parties must adhere to basic personal health and hygiene rules and social distancing if required, and follow necessary training and awareness campaign when necessary. Monitoring of such issues will be taken up by the D&SC to ensure compliance.
c. General practice of cleaning and housekeeping in all sites, supplying necessary PPEs and cleaning materials along with proper use of those is to be ensured.
d. Necessary protocols must 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.
e. Budgeting for suggested protective measures, along with necessary supervision and monitoring for the required interventions must be ensured.

Following the additional health and safety measures to be followed during this new-normal situation, BOQ items have been inserted for all six of the sites to supplement the budget considering the country-specific situation, capacities, and scope of interventions. The cost to Health and Safety Measures under COVID 19 situation is shown in **Appendix-5.**

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, a supplementary budget for ensuring Environmental and Social Management works under the Work Package-W1 has been added in the BOQ. A set of items are included for all the components dictated by the type of interventions. The total costing and estimation have included several enhancements works such as Grass turfing, Tree plantation initiatives, Dust Suppression mechanisms, etc. On the other hand, to ensure health safety and sanitary measures of workers PPE, First Aid Box, Labor shed construction (where required), drinking water facility with water tests, and temporary latrine preparation (where required) for workers as well as waste disposal systems have been accounted for. Ensuring sustainable labor performance regarding environmental and social considerations motivational training has been considered. An overview of the estimation is given below and the detailed estimated cost to implement the ESMP is shown in **Appendix-5**.

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. 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 because 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 Engineers' office in Ukhiya and Teknaf 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.

All concerned parties will scale up their monitoring frequency and activities in line with the prescribed guidelines to be followed in the field, and project offices. Frequent and abrupt visit to the working sites and labor camps is quite necessary and is strongly suggested.

6. CONCLUSION 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 regard 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 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 conclusions of the Screening study can be summarized as follows:

- The communities will receive large benefits through improved Hat-Bazars.

- 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 Hat-Bazar area, with large-growing trees at the periphery of the site will give the places a more natural and aesthetic 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 having better access to consumable goods and services, developing 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, and with great care and efficiency, and strengthen the capacity of Bazar Management Committee to run the establishment successfully in future.

Appendix-1: Attendance of consultation meetings for sub-projects

Improvement of Thainkhali Bazar

Package Number : EMCRP/W1

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: ২:৪৫ অপরাহ্ন তারিখ: ২৫/০৮/২০২৩

উপ-প্রকল্প/কম্পোনেন্ট এর নাম: থাইংখালী বাজার

মত বিনিময় স্থান: থাইংখালী বাজার প্রাঙ্গণ।

ইউনিয়ন: পালংখালী ওয়ার্ড নং: ৫ ডাকঘর: পালংখালী-৪৭৫০ উপজেলা: উখিয়া জেলা: কক্সবাজার

সাব প্যাকেজ নং: EMCRP/W-1

অংশগ্রহণকারীদের হাজিরা (পরিচয় ও স্বাক্ষর)

ক্রঃ নং	নাম	বয়স	পুরুষ/নারী	গ্রাম	স্বাক্ষর / টিপসই
০১	দিদার মোহাম্মদ	৬৮	পুরুষ	হাকিমপাড়া	[signature]
০২	সাবের আলী	৫৬	"	থাইংখালী	সাবের আলী
০৩	মোঃ আব্দুল জব্বার	৬০	"	"	[signature]
০৪	জুনি দাস	৬২	"	"	[signature]
০৫	মাহবুব আলম	৬৬	"	"	[signature]
০৬	নুর মোহাম্মদ	১৮	"	উখিয়া	নুর মোহাম্মদ
০৭	সাইফুল ইসলাম	৬২	"	থাইংখালী	[signature]
০৮	রমজান আলি	৬৬	"	"	রমজান আলী
০৯	মোঃ রাসেল	২৫	"	"	রাসেল
১০	মোঃ রাকিব	22	"	"	রাকিব
১১	সুলতান আহমদ	৫৭	"	"	সুলতান

Figure: Attendance of consultation meeting for Thainkhali Hat Bazar

Maintenance of Ukhiya Daroga Bazar

Package Number : EMCRP/W1

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: ১২:৩০ ঘটিকা | তারিখ: 29/06/2023

উপ-প্রকল্প/কম্পোনেন্ট এর নাম: উখিয়া দারগা বাজার

মত বিনিময় স্থান: উখিয়া দারগা বাজার প্রাঙ্গণ,

ইউনিয়ন: রাজাপালং ওয়ার্ড নং: 06 ডাকঘর: উখিয়া ৪৭৫০ উপজেলা: উখিয়া জেলা: কক্সবাজার

সাব প্যাকেজ নং: EMCRP/W1

অংশগ্রহণকারীদের হাজিরা (পরিচয় ও স্বাক্ষর)

ক্রঃ নং	নাম	বয়স	পুরুষ/নারী	গ্রাম	স্বাক্ষর / টিপসই
০১	ওসমান গনী প্রঃ সিকদার	৪৫	পুরুষ	উখিয়া	[signature]
02	মোহাম্মদ কামাল	৬2	"	উখিয়া	মো: কামাল
০৩	[illegible]	৪৮	"	"	[signature]
০৪	জসিম উদ্দিন	৬৯	"	"	Jasim UDDIN
০৫	মোঃ শোয়াইব আক্তার	৬৬	"	"	[signature]
০৬	মোঃ রফিক উদ্দিন	22	"	"	রফিক উদ্দিন
০৭	মোঃ ফয়সাল	২১	"	"	F/SAL
০৮	মোঃ আবছার	২৬	"	"	[signature]
০৯	ওসমান আলি	২১	"	"	[signature]
১০	মোঃ আনোয়ার	৬২	"	"	[signature]
১১	মোঃ ইসমাইল	৪৩	"	"	[signature]
১২	মোঃ নুর	২৫	"	"	মো: নুর
১৩	মাহমুদুল হক	৬৫	"	"	[signature]
১৪	ইসমাইল	৪2	"	"	ইসমাইল
১৫	কবির আহমদ	৪০	"	"	কবির
১৬	ইমরান	২০	"	"	[signature]
১৭	ফজল আহমদ	২১	"	"	ফজল
১৮	[illegible]	22	"	"	[signature]

Maintenance of Ukhiya Daroga Bazar

Package Number : EMCRP/W1

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 : ২২:৩০ ঘটিকা তারিখ: 29/08/2026

উপ-প্রকল্প/কমপোনেন্ট এর নাম : উখিয়া দারগা বাজার

মত বিনিময় স্থান : উখিয়া দারগা বাজার- গ্রাম্পণ।

ইউনিয়ন : রাজাপালং ওয়ার্ড নং : ০৬ জেলা : উখিয়া উপজেলা : উখিয়া জেলা : কক্সবাজার
৪৭০০

সাব প্যাকেজ নং: EMCRP/W1

অংশগ্রহণকারীদের হাজিরা (পরিচয় ও স্বাক্ষর)

ক্রম নং	নাম	বয়স	পুরুষ/নারী	গ্রাম	স্বাক্ষর / টিপসই
১৯	মো: শাহজাহান	৪০	পুরুষ	উখিয়া	শাহজাহান
২০	মোঃ আবু বক্কর	৪২	ঐ	ঐ	[illegible]
২১	মোহাম্মদ কফিল আহমদ	২৪	ঐ	ঐ	[illegible]
২২	আব্দুস সালাম	২৯	ঐ	"	Salam
২৩	রফিক সরদার	৩৯	ঐ	ঐ	[illegible]

Figure: Attendance of consultation meeting for Ukhiya Daroga Bazar

Maintenance of Moricha Bazar

Package Number : EMCRP/W1

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 ঘটিকা । তারিখ: ২৭/০৮/২০২৩

উপ-প্রকল্প/কম্পোনেন্ট এর নাম : মরিচা বাজার

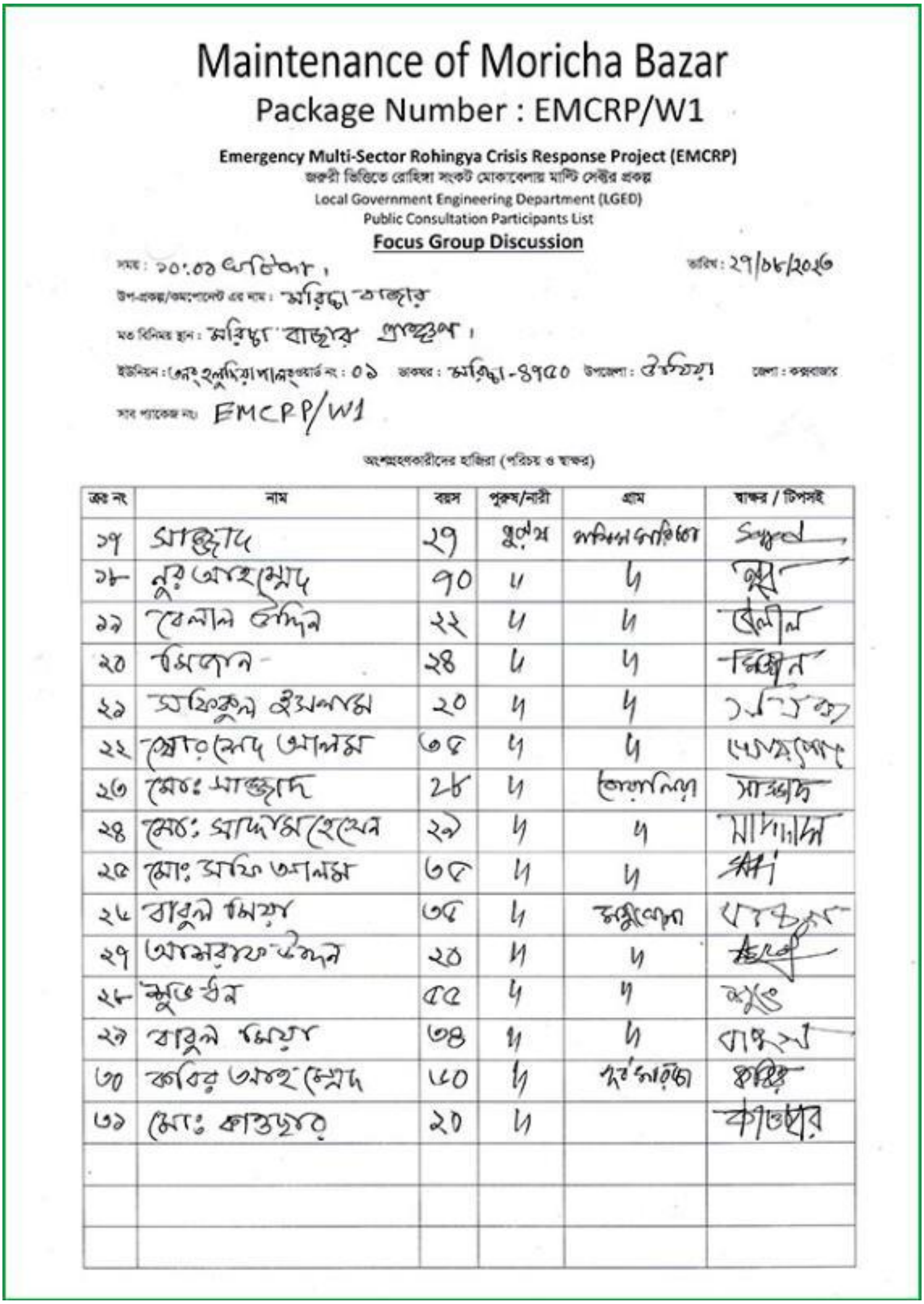
মত বিনিময় স্থান : মরিচা বাজার প্রাঙ্গণ ।

ইউনিয়ন : উখিয়া পৌরসভা নং : ০১ ডাকঘর : মরিচা-৪৭৫০ উপজেলা : উখিয়া জেলা : কক্সবাজার

সাব প্যাকেজ নং: EMCRP/W1

অংশগ্রহণকারীদের হাজিরা (পরিচয় ও স্বাক্ষর)

ক্রম নং	নাম	বয়স	পুরুষ/নারী	গ্রাম	স্বাক্ষর / টিপসই
১	সুধাও বড়ুয়া চামু.	৪৩	পুরুষ	পশ্চিম মরিচা	
২	মো: আলমগীর	৪৮	"	ঐ	
৩	মোঃ আয়ুব আলী	৩২	ঐ	"	
৪	জয়নাল আবেদিন	৩৫	ঐ	পূর্ব মরিচা	
৫	মোঃ কামরুজ্জামান	৩৫	ঐ	ঐ	
৬	সুনিল	৪৭	ঐ	ঐ	
৭	আমির হোসেন	৩০	ঐ	লোয়ালিয়া	
৮	রমিজুল হাসেম	৫৬	ঐ	পোড়ার ডিপ	
৯	রুমিক সওদাগর	৪০	ঐ	ঐ	
১০	নুরুল আলিম	২২	ঐ	ঐ	
১১	সুকুর	৫৮	ঐ	সবুজপাড়া	
১২	জামাল উদ্দিন	৪৫	ঐ	ঐ	
১৩	আব্দুস সালাম	৪২	ঐ	ঐ	
১৪	মোঃ কবির	২৫	ঐ	পশ্চিম মরিচা	
১৫	হাসান আলী	৩২	পুরুষ	ঐ	
১৬	ইবনে সেকান	৬৬	ঐ	ঐ	



Maintenance of Moricha Bazar

Package Number : EMCRP/W1

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: ১০:০৩ ঘটিকা। তারিখ: ২৭/০৮/২০২৩

উপ-প্রকল্প/কম্পোনেন্ট এর নাম: মরিচ্যা বাজার

মত বিনিময় স্থান: মরিচ্যা বাজার প্রাঙ্গণ।

ইউনিয়ন: ৬নং হলদিয়া পালং ওয়ার্ড নং: ০১ ডাকঘর: মরিচ্যা-৪৭৫০ উপজেলা: উখিয়া জেলা: কক্সবাজার

সাব প্যাকেজ নং: EMCRP/W1

অংশগ্রহণকারীদের হাজিরা (পরিচয় ও স্বাক্ষর)

ক্রঃ নং	নাম	বয়স	পুরুষ/নারী	গ্রাম	স্বাক্ষর / টিপসই
১৭	সাজ্জাদ	২৭	পুরুষ	মরিচ্যা পালংখালী	Sayed
১৮	নুর আহম্মদ	৭০	〃	〃	[illegible]
১৯	বেলাল উদ্দিন	২২	〃	〃	বেলাল
২০	মিজান	২৪	〃	〃	মিজান
২১	সফিকুল ইসলাম	২০	〃	〃	[illegible]
২২	মো: সেদু আলম	৩৫	〃	〃	[illegible]
২৩	মো: সাজ্জাদ	২৮	〃	তেলখোলা	সাজ্জাদ
২৪	মো: সাদেক হোসেন	২৯	〃	〃	[illegible]
২৫	মো: সফি আলম	৩৫	〃	〃	[illegible]
২৬	বাবুল মিয়া	৩৫	〃	[illegible]	[illegible]
২৭	আমজাদ হোসেন	২০	〃	〃	[illegible]
২৮	নুর উদ্দিন	৫৫	〃	〃	[illegible]
২৯	বাবুল মিয়া	৩৪	〃	〃	বাবুল
৩০	কবির আহমদ	৬০	〃	[illegible]	কবির
৩১	মো: কাউছার	২০	〃		কাউছার

Figure: Attendance of consultation meeting for Moricha Bazar

Maintenance of Sonarpara Bazar

Package Number : EMCRP/W1

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: বেলা ৪:৩৫ ঘটিকা তারিখ: ২৫/০৬/২০২৩
উপ-প্রকল্প/কম্পোনেন্ট এর নাম: সোনারপাড়া বাজার
মত বিনিময় স্থান: সোনার পাড়া বাজার প্রাঙ্গণ
ইউনিয়ন: জালিয়াপালং ওয়ার্ড নং: ০৬ ডাকঘর: ইনানী ৪৭৫০ উপজেলা: উখিয়া জেলা: কক্সবাজার
সাব প্যাকেজ নং: EMCRP/W1

অংশগ্রহণকারীদের হাজিরা (পরিচয় ও স্বাক্ষর)

ক্রম নং	নাম	বয়স	পুরুষ/নারী	গ্রাম	স্বাক্ষর / টিপসই
০১	মোঃ শাহ আলম	৪৫	পুরুষ	সোনাপাড়া	[signature]
02	মোঃ আবুল কাশেম	৪৭	"	[illegible]	[signature]
০৩.	মোঃ [illegible]	৩১	পুরুষ	সোনারপাড়া	[signature]
০৪	রাশেদ উদ্দিন	৫০	পুরুষ	উঃ সোনারপাড়া	[signature]
০৫	মোঃ হোসেন	৪৫	"	সোনার পাড়া	[signature]
০৬	মোঃ রশিদ উদ্দিন	৩৪	"	"	[signature]
07	জামাল আহমদ	৩০	"	"	[signature]
০৮	আবু বক্কর	৩৪	"	"	[signature]
০৯	মোঃ আইয়ুব	৩৮	"	"	[signature]
১০	মোঃ মনির উদ্দিন	৩৫	"	দঃ সোনার পাড়া	[signature]
১১	মোঃ মাসুদ	৪২	"	"	[signature]
১২	আমজাদ হোসেন	৫৫	"	"	[signature]
১৩	নুরুল আমিন	৩৫	"	"	[signature]
১৪	মোঃ ইসমাইল	৪৬	"	"	[signature]
১৫	মোঃ কাদের	৩৬	"	"	[signature]
১৬	মাহফুজুর রহমান	৩৮	"	"	[signature]
১৭	মোঃ কাশেম	৩০	"	"	[signature]
১৮	মিজান [illegible]	৪২	"	"	[signature]

Maintenance of Sonarpara Bazar

Package Number : EMCRP/W1

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: বেলা - ৪:৩৫ মিনিট তারিখ: ২৫/০৮/২০২৬
উপ-প্রকল্প/কমপোনেন্ট এর নাম: সোনার পাড়া বাজার
মত বিনিময় স্থান: সোনার পাড়া বাজার প্রাঙ্গণ
ইউনিয়ন: হলদিয়া পালং ওয়ার্ড নং: ০৬ ডাকঘর: ইসলাম ৪৭৫০ উপজেলা: উখিয়া জেলা: কক্সবাজার
সাব প্যাকেজ নং: EMCRP/W1

অংশগ্রহণকারীদের হাজিরা (পরিচয় ও স্বাক্ষর)

ক্রম নং	নাম	বয়স	পুরুষ/নারী	গ্রাম	স্বাক্ষর / টিপসই
১৯	বাবর আলী	৩৮	পুরুষ	সোনার পাড়া	Babi
২০	মোবারক	৩৮	ঐ	ঐ	মোবারক
২১	ইমরান	৪২	ঐ	ঐ	ইমরান
২২	মোঃ ফরহাদ	৩০	ঐ	ঐ	Farhad
২৩	তাহমিদ মোস্তফা	২৫	ঐ	ঐ	Ashto
২৪	সমীর বড়ুয়া	২৯	ঐ	ঐ	সমীর
২৫	হাসিব হুমায়ন	২৫	ঐ	ঐ	হাসিব
২৬	আবাবাত	৩৮	ঐ	ঐ	আবাবাত
২৭	আলম শীর	৩৯	ঐ	ঐ	আলম

Figure: Attendance of consultation meeting for Sonarpara Bazar

Maintenance of Rumkha Bazar

Package Number : EMCRP/W1

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: ০৫:২০ মিনিট তারিখ: ২৫/০৬/২০২৩

উপ-প্রকল্প/কম্পোনেন্ট এর নাম: রুমখা বাজার

মত বিনিময় স্থান: রুমখা বাজারের প্রাঙ্গনে

ইউনিয়ন: হলুদিয়া পালং ওয়ার্ড নং: ০৯ ডাকঘর: [illegible] ৪৭৫০ উপজেলা: উখিয়া জেলা: কক্সবাজার

সাব প্যাকেজ নং: EMCRP/W-1

অংশগ্রহণকারীদের হাজিরা (পরিচয় ও স্বাক্ষর)

ক্রঃ নং	নাম	বয়স	পুরুষ/নারী	গ্রাম	স্বাক্ষর / টিপসই
০১	নেপাল চন্দ্র বিশ্বাস	৭৫	পুরুষ	রুমখা বাজার	নেপাল
০২	[illegible]	৩৫	"	"	[illegible]
০৩	[illegible]	৩৮	"	"	[illegible]
০৪	মহি উল আলম	৩২	"	"	[illegible]
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০৭	আব্দুল সবুর	৩৮	"	"	সবুর
০৮	জিয়াউল হক	৪৫	"	"	জিয়াউল
০৯	আরাফাত	৩৮	"	"	আরাফাত
১০	মোঃ [illegible]	৬২	"	"	[illegible]
১১	হুমায়ুন কবির	৬৫	"	"	H[illegible]
১২	অভিজিৎ বড়ুয়া	২৮	"	"	অভিজিৎ বড়ুয়া
১৩	কমলা [illegible]	৫৬	"	"	
১৪	[illegible] পাল	৫২	"	"	
১৫	সুমি দাশ	৩৫	মহিলা	"	Soni
১৬	জাকির হোসেন	২৮	পুরুষ	"	জাকির
১৭	অর্জুন কান্তি দাশ	৭০	পুরুষ	[illegible]	[illegible]
১৮	প্রকাশ পাল	৫৩	"	"	প্রকাশ

Maintenance of Rumkha Bazar

Package Number : EMCRP/W1

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: ০৫:২০ ঘটিকা   তারিখ: ২৫/০৬/২০২৬

উপ-প্রকল্প/কমপোনেন্ট এর নাম: রুমখা বাজার

মত বিনিময় স্থান: রুমখা বাজার প্রাঙ্গণ

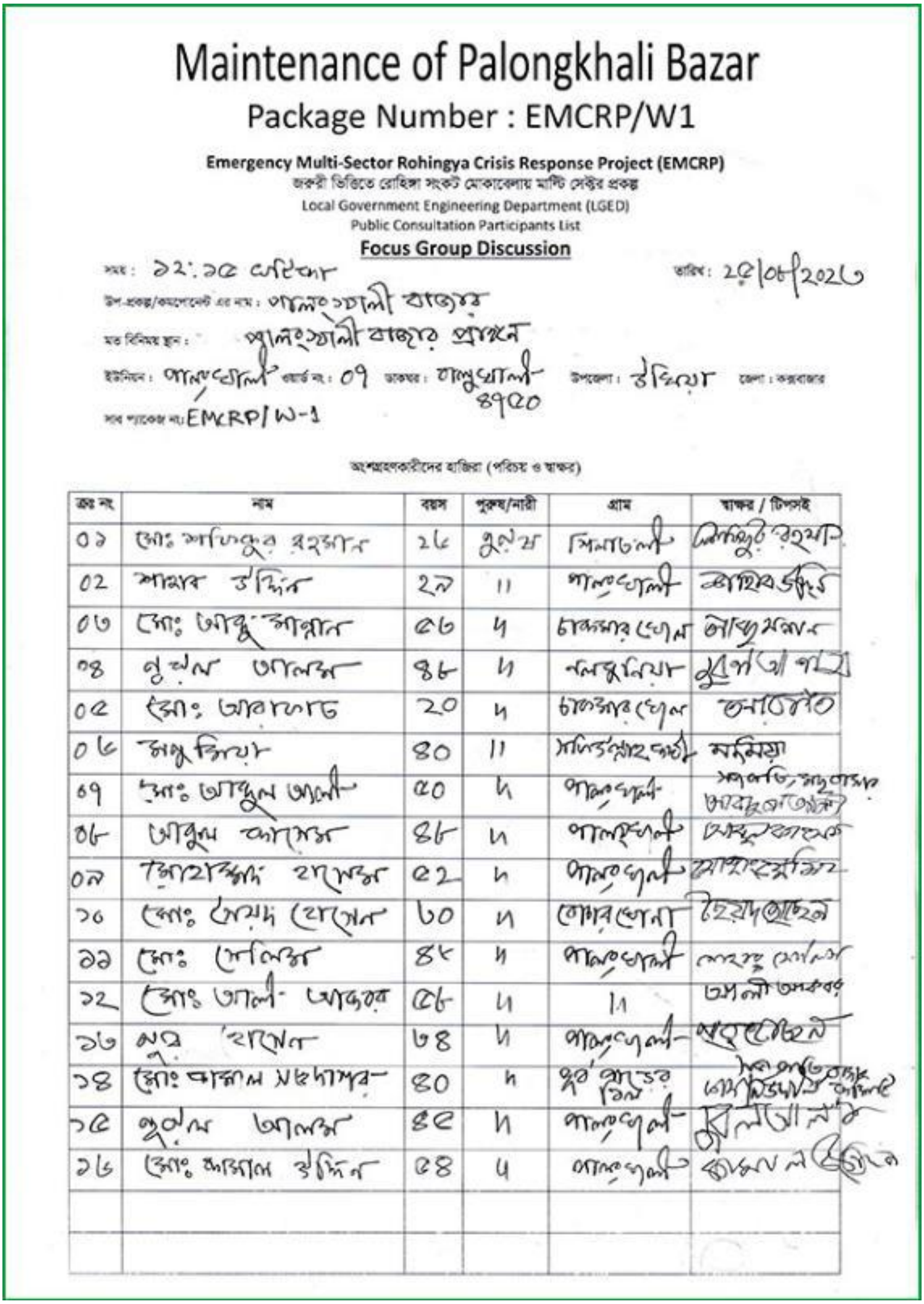
ইউনিয়ন: রত্নাপালং   ওয়ার্ড নং: ০৯   ডাকঘর: রত্না ৪৭৫০   উপজেলা: উখিয়া   জেলা: কক্সবাজার

সাব প্যাকেজ নং: EMCRP/W1

অংশগ্রহণকারীদের হাজিরা (পরিচয় ও স্বাক্ষর)

ক্রঃ নং	নাম	বয়স	পুরুষ/নারী	গ্রাম	স্বাক্ষর / টিপসই
১৯	নিখিল বৈদ্য	৫৫	পুরুষ	রুমখা বাজার	নিখিল বৈদ্য
20	মোঃ ইসমাইল	৫৪	"	"	ইসমাইল

Figure: Attendance of consultation meeting for Rumkha Bazar



Maintenance of Palongkhali Bazar

Package Number : EMCRP/W1

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: ১২:১৫ ঘটিকা

তারিখ: 25/05/2023

উপ-প্রকল্প/কম্পোনেন্ট এর নাম: পালংখালী বাজার

মত বিনিময় স্থান: পালংখালী বাজার প্রাঙ্গন

ইউনিয়ন: পালংখালী ওয়ার্ড নং: 07 ডাকঘর: পালংখালী 4750 উপজেলা: উখিয়া জেলা: কক্সবাজার

সাব প্যাকেজ নং: EMCRP/W-1

অংশগ্রহণকারীদের হাজিরা (পরিচয় ও স্বাক্ষর)

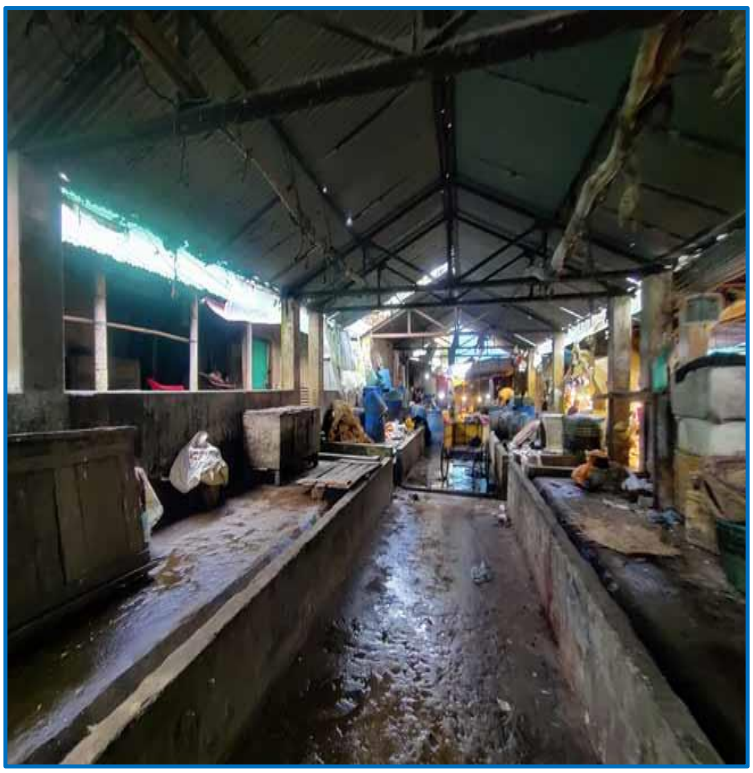
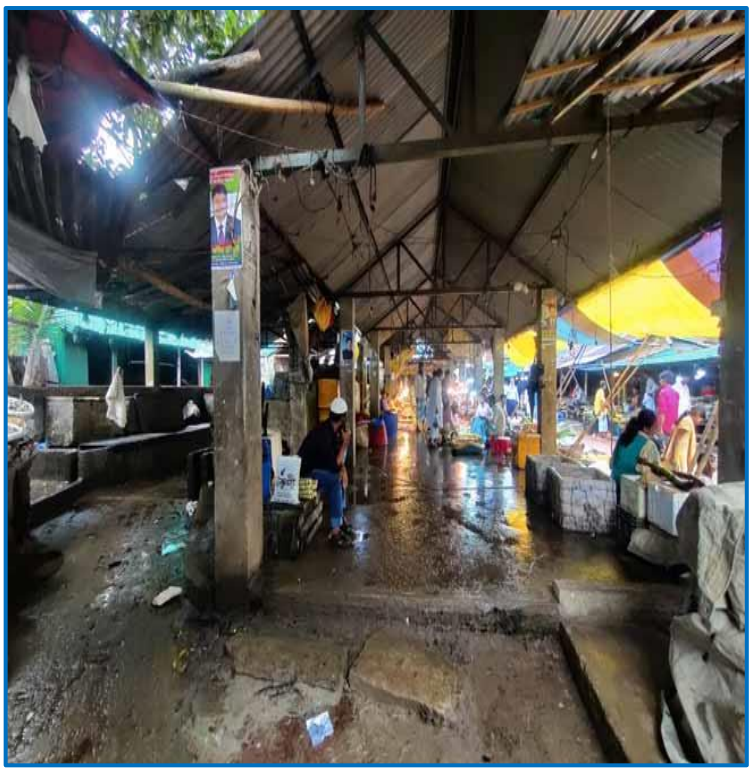
ক্রঃ নং	নাম	বয়স	পুরুষ/নারী	গ্রাম	স্বাক্ষর / টিপসই
01	মোঃ শফিকুর রহমান	26	পুরুষ	[illegible]	[signature]
02	সাব্বির উদ্দিন	29	"	পালংখালী	[signature]
03	মোঃ আবু সাদাত	56	"	[illegible]	[signature]
04	নুরুল আলম	46	"	[illegible]	[signature]
05	মোঃ আবছার	20	"	[illegible]	[signature]
06	মনু মিয়া	40	"	[illegible]	মনুমিয়া
07	মোঃ আব্দুল আলী	50	"	পালংখালী	[signature]
08	আব্দুল কাদের	46	"	পালংখালী	[signature]
09	[illegible]	52	"	পালংখালী	[signature]
10	মোঃ সৈয়দ হোসেন	60	"	[illegible]	[signature]
11	মোঃ সেলিম	45	"	পালংখালী	[signature]
12	মোঃ আলী আকবর	56	"	"	[signature]
13	[illegible]	64	"	পালংখালী	[signature]
14	মোঃ কামাল [illegible]	40	"	[illegible]	[signature]
15	নুরুল আলম	45	"	পালংখালী	[signature]
16	মোঃ কামাল উদ্দিন	54	"	পালংখালী	[signature]

Figure: Attendance of consultation meeting for Palongkhali Bazar

Appendix-2: Photographs of sub-project location and surrounding features with public consultation




Figures: Present condition of Thainkhali Bazar (W1-1) & Public Consultation meeting with local community

Figures: Present condition of Ukhiya Daroga Bazar (W1-2) & Public Consultation meeting with local community




Figures: Present condition of Moricha Bazar (W1-3) & Public Consultation meeting with local community

Figures: Present condition of Sonarpara t Bazar (W1-4) & Public Consultation meeting with local community

Figures: Present condition of Rumkha Bazar (W1-5) & Public Consultation meeting with local community




Figures: Present condition of Palongkhali Bazar (W1-6) & Public Consultation meeting with local community

Appendix-3: Environmental Screening Form for proposed sub-project components.

Environmental Screening Form for Sub-project W1-1

Sub-Project Description Form:

EMCRP/W1- Improvement of Thainkhali bazar & Maintenance of Moricha Bazar, Sonarpara Bazar, Rumkha Bazar, Palong Khali Bazar & Ukhiya Daroga Bazar in Ukhiya Upazila under Cox's Bazar District.

Name of Sub-Project: Improvement of Thainkhali Bazar

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

Estimated total cost of the work package (in Taka): 6,31,00,981.00 Tk.

Estimated construction period duration: 1 year

Construction Period : 2023-2024

Estimated total cost of the component (in Taka): 10963907.18 Tk.

Estimated Operation and Maintenance period (life of sub-project): Project design life more than 15 (Fifteen) years.

District: Cox's Bazar **Sub-District**: Ukhiya **Union**: Palongkhali **Ward:** 05

Name of Community/Local Area: Thainkhali Bazar

Description of proposed sub-project activities (incl. type of activities, footprint area, natural resources required, etc.):

The Sub-Project is categorized as a host community-based bazar area where consumers are all locals. The proposed hat-bazar construction work will be within a confined area of the existing bazar falling into Govt. periphery with some identified interventions.

The proposed interventions are 1 no. of Shed (Dimension:24.83mX17.88m), 5 nos. of Toilet block(8.52mX5.00m), 2nos. of Office Block (Dimension:7.33mX4.99m), Garbage disposal (Dimension: 7.33X4.01m), Prayer Space (Dimension: 7.23mX3.94m). Apart from these items are Road safety work and Environmental Mitigation and Enhancement works are also included in the project activity.

Estimated footprint / land area for this sub-project is 604.70 sq. meter.

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

Proposed Thainkhali Hat-Bazar is situated within the catchment area Thainkhali, Ponditpara, Hakimpara, Jamtoli, Telkhola, Mocharkhola, Alimpara Rohomoterbill, Tajnimarkhola under Palongkhali union, Ward-05 of Ukhiya Upazila. This targeted Hat-Bazar location is inside host area and Cox's Bazar-Teknaf Highway passes on the north side the proposed location. The surrounding area can be identified as bazar and its pick hours are in morning from 9 am to 11 am and at afternoon from 2:30pm to 4:30 pm, this place remains very busy with locals, businessmen, delivery vehicles and regular customers. Some major features such as a mosques and madrassas are prevalent in these areas. No Important environmental features are found within the sub-project. The target location will be improved with new sheds of different categories along with toilet, drains and submersible pump will be installed.

Overall Comments

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. The local community attended in the participatory public consultation meeting. Their community representatives such as Sellers, consumers, host communities, different representatives, farmers and elders have no objection to the improvement of this infrastructure in the proposed site; the community also appreciated the initiative of LGED to ensure safe and better portability. The public consultation meeting results confirmed that improvement of this hat-bazar would increase socio-economic interest in the communities and make lives comforts for both locals and businessmen.

The proposed Hat-Bazar location is not located within any identified environmentally sensitive area, and therefore, does not seem to cause any significant adverse impact on the important environmental features. No significant impact is expected on the ecosystem and biodiversity, no agricultural land/ activities or fish farming will be disturbed, due to the construction of the sub projects. No drainage congestion/water loggings have been observed in this area. As the improvement work is restricted to within a confined boundary, no outside disturbing activity will be involved. Moreover, mitigation measures will be taken according to the ESMP for minimizing the air, dust and noise pollution.

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 leftover of bricks, cements, wood, copper wires, cement-concrete, iron, plastic etc. Negligible amount of paper, plastic, human wastes including kitchen wastes might be generated in labor camps.

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. Sensitive environmental, cultural, archaeological, religious sites within 1 kilometer of site includes:

At the north; Graveyard(180m), Nurani Madrassa(200m), Mosque(200m). **At the south**; Mohila Hefzokhana(450m), Jamtoli Mosque(450m), Jamtoli Bazar(480m), APBN Police Station (500m) **At the east;** Thainkhali GPS(80m), Thainkhali Dakhil Madrassa(200m) Thainkhali High School(250m), Holy Child Academy(300m). **At the west;** Union Parishad (100m), Mosque(150m), Eptedai Madrassa(500m), Health Complex(120m), MSF Hospital (500m) are present. Apart from these structures no other sensitive environmental, cultural, archaeological, religious sites exists.

In this sub-project area, no elephant migration routes exist (ref. IUCN). No disturbance is anticipated due to construction activities to those social and environmental components.

Completed environmental and social screening forms are given below.

Section A: Sub-Project Overview

Description of sub-project/component interventions:

The proposed hat-bazar will be improved within a confined area on Govt. periphery with some identified interventions. The proposed interventions are 1 no. of Shed (Dimension:24.83mX17.88m), 5 nos. of Toilet block(8.52mX5.00m), 2nos. of Office Block (Dimension:7.33mX4.99m), Garbage disposal (Dimension: 7.33X4.01m), Prayer Space (Dimension: 7.23mX3.94m). Apart from these items are Road safety work and Environmental Mitigation and Enhancement works are also included in the project activity.

Sub-project Location:

Important Features	
Place	Thainkhali
District	Cox's Bazar
Upazila	Ukhiya
Union	Palongkhali
WARD	05
Sub-project Type	Maintenance/Improvement
Proposed Intervention Type	Hat Bazar
Location of Hat Bazar	Latitude Value: 21.16893^0N Longitude Value: 92.15468^0E
Distance from Upazila HQ	13km
Nearby Major Road	Cox's Bazar-Teknaf Highway

Land ownership

The land is owned by 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 location is just on the south side of the main road with an open space having surrounded by households and homestead gardens and a canal to the east where the targeted open space covers around 604.70 sq meters of land which is verified as government land.

i) No historical sites were identified, but several temples, crematories, mosques, graveyards, and educational institutes were present in the catchment area. They are mentioned.
ii) Not required to relocate local community.
iii) No chance of losing agricultural land.
iv) Environmental Sensitivity: There are no component on the proposed area that may be on harm's way by the proposed interventions. There is little vegetation found surrounding the area which will not come in contact of the minor construction initiatives.
v) No elephant corridor was identified in this area. (Checked with local IUCN representative).

Section B: Environmental Screening

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

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

At the north; Graveyard (180m), Nurani Madrassa (200m), Mosque(200m). **At the south**; Mohila Hefzokhana (450m), Jamtoli Mosque(450m), Jamtoli Bazar (480m), APBN Police Station (500m). **At the east;** Thainkhali GPS (60m), Thainkhali Dakhil Madrassa(200m), Thainkhali High School(250m), Holy Child Academy(300m). **At the west;** Union Prishad(100m), Mosque(150m), Eptedai Madrassa(500m), Health Complex(120m), MSF Hospital(500m) are present. There are no other sensitive environmental, cultural, archaeological sites within the catchment area of this sub-project.

A sketch of the project surrounding area with several features at relatively distant places and locations of sensitive institutions in the project surrounding areas (within 30m buffer zone) are shown in figure B.1.1

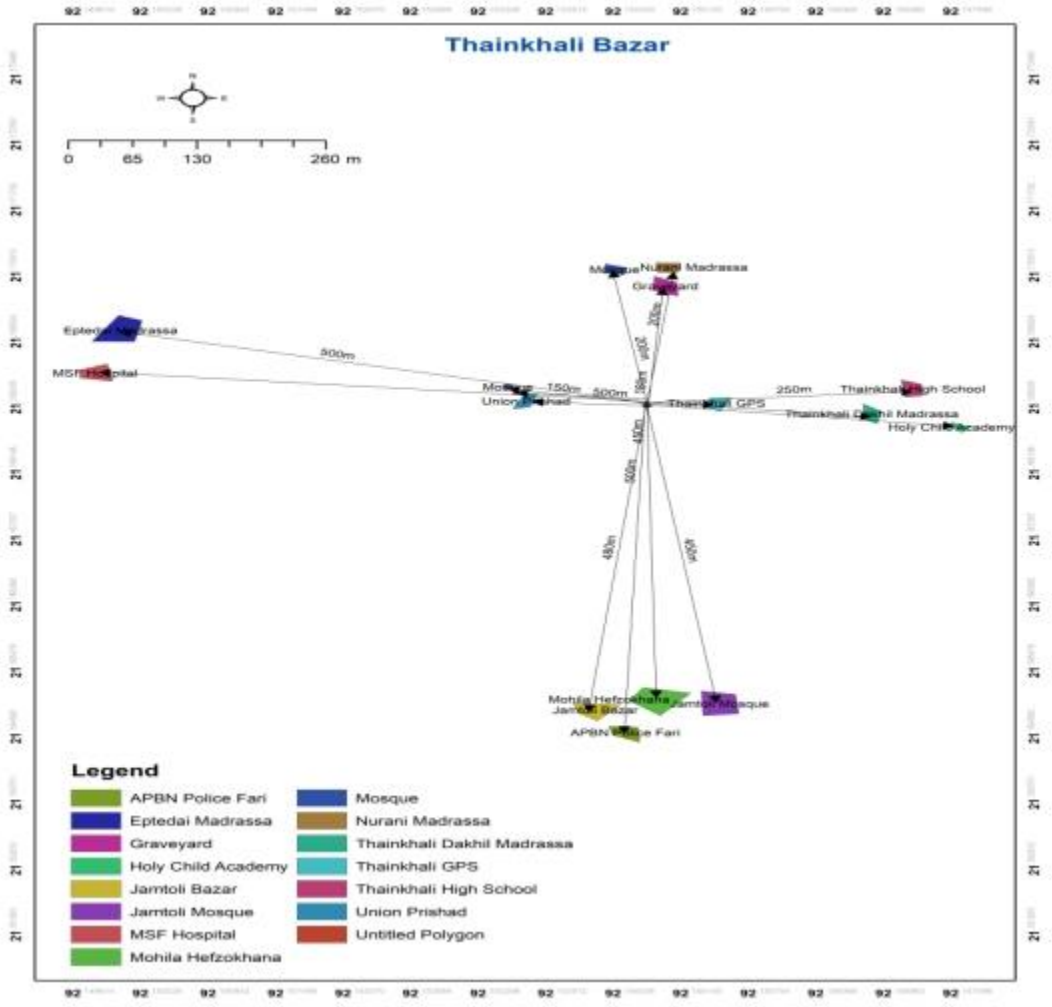


Figure B.1.1: A sketch of the project intervention area

Location of environmentally important and sensitive areas:

There are no environmentally important or sensitive features found in the footprint area, except matured vegetation on the periphery of the existing Hat-Bazar which are homestead gardens or social forest. Several mosques, shops, and local settlement were found during the survey. It will not be affected by the construction works, as the activities will be carried out within the existing subproject boundary 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 have 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).

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

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

(3) Other issues: N/A

*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 predevelopment 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 Truck, dumper, motor cycle, tempo, auto rickshaw, tractor, trailer, etc. move on the road surface adjacent to sub-project throughout the day and night generate noise but not related to project activities, and within the 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 adjustable 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 60 feet to 70 feet and deep tube well depth is 700 to 800 feet. In the sub-project area, deep

groundwater is fresh and potable and arsenic free. Water from the shallower aquifers contains medium concentration of iron. Deep groundwater table (drinkable) varies from 600-800ft (Field survey, 2019). Local people usually use deep tube-well water for drinking and other domestic purposes. There should have been deep tube well which pump water from the confined aquifer.

Groundwater quality: pH-5.17 to 7.51, DO-2.26 to 8.14mg/l, TDS-23.40 to 320 mg/l, EC -25.7 to 681µs/cm, Fe-0.08 to 4.6 mg/l, Cl--8.0 to 475mg/l, Salinity- 0.07 to 1.28mg/l and As-Nil

*Data source: DPHE Test Report, 2023 (Water samples collected and tested at DPHE laboratory)
The results of the parameters tested in the laboratories for the provided sub-projects are mostly within the national standards for potable water.

Status of wildlife movement:
N/A (None of the information was found about the wildlife movement in or across the area)

State of forestation:
Trees are present in the area scarcely, but not within the area of intervention.

Summary of water balance analysis (For water supply scheme only):
N/A

B.2: Preconstruction Phase

Information on Ancillary Facilities (e.g., status of access road or any other facility required for sub-project to be viable):
Cox's Bazar Teknaf Highway Road is available for access. It is possible to carry the construction materials on the road to the improvement site.

Requirement of accommodation or service amenities (toilet, water supply, electricity) to support the workforce during construction:
An open space is required to set up a labor camp with associated facilities (toilet for male and female workers, kitchen for cooking, tube-well for water supply facility, and electricity connection) to support the workforce during construction. The space should have enough land area to accommodate a stack yard along with a site office, if possible. Open space should be selected in such a way that workers do not need to travel/walk through a longer distance to reach the site and the place can be secured with proper fencing with a guard be posted at the entrance. The space or land area can be used on rental basis or under a mutual agreement between the owner and the contractor. The contract/consent document must be kept at the site office, whatsoever the mode of the contract is.

Possible location of labor camps:
Labor camp can be established along the sub-project location since there are available open Govt. lands. However, this will have to be done with the consent of local Committee 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) aggregates v) metals vi) water vii) concretes vii) Bamboo & wood from mobilized materials viii) clay are the most common type of building material used in construction.

Identification of access road for transportation (Yes/No):
Yes. Cox's Bazar-Teknaf highway road is available for access.

Location identification for raw material storage: Adjacent to labor camp or different location is available. However, this will need placement on open fields and should be consulted with local committee. Material storage area must be well fenced, and materials will be covered with tarpaulins.
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. 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 30 kg during the pre-construction phase
Type and quantity of waste generated (e.g. Solids wastes, liquid wastes, etc.): During the pre-construction period wastes will be generated from some preparatory activities, such as construction of labor camp, site office, material storage/stack yard and associated facilities, etc. All these activities also will be carried out by numbers of local labors. So, around 35 kilograms of construction related wastes, such as bricks, aggregates, leftover cements, sands, etc. will be generated, which are typical solid wastes and a negligible quantity (nearly 5 kg) of bio and non-biodegradable wastes will be generated from the daily necessities of workers and construction staffs, such as food wastes, polythene, papers, plastics, etc. Some chemical waste, like paints, oils, etc. and small amount of solid and liquid wastes from the immediate use of constructed latrines by the workers may also be generated, such as feces and urines.
Type and quantity of raw materials used (wood, bricks, cement, water, etc.): **Raw materials:** i) Bricks ii) Sand iii) cement iv) Gravel v) water vi) Aggregates. **Quantity:** It is difficult to provide exact figures of raw materials on a typical pre-construction site at this level.
Approx. area (in square meters) of vegetation and soil in the right-of-way, borrow pits, waste dumps, and equipment yards: Vegetation is very scarce in the sub-project area and will not be affected by any work during the pre- construction stage. No borrow pits were found in the area and the current condition shows that there is no aggregated soil in the peripheral surroundings.
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 Low, for stagnant water bodies in borrow pits/quarries for inviting mosquito breeding ground.
Disturbance or modification of existing drainage channels (rivers, canals) or surface water bodies (wetlands, marshes): (High/Medium/Low with description) Low, there is canal (Khal) in the area, but sufficiently distant from the proposed site, and will not receive any disturbance or modification.
Destruction or damage of terrestrial or aquatic ecosystems or endangered species directly or by induced development: (High/Medium/Low with description) Low. There is very little scope of damaging terrestrial ecosystems.
Activities that can lead to landslides, slumps, slips and other mass movements in road cuts: No physical works will be carried out in this phase which has scope to trigger landslides.

Erosion of lands below the roadbed receiving concentrated outflow carried by covered or open drains: (High/Medium/Low with description) The scale of erosion of lands is very unlikely at this stage.
Describe possible traffic movement impacts on (unwanted) light, noise and air pollution: Air pollution from generating of dust while carrying and unloading the construction materials to the site or stackyard may create public nuisance and little health effects for the people in the area. But noise and light pollution may not be at such a significant level.

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

Type and quantity of waste generated (e.g. Solids wastes, liquid wastes, etc.): ***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 35 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 3 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) wood are the most common type of raw materials to be used in construction period. **Quantity**: Anticipating the quantity of raw materials to be used needs detail calculation as per design, which is beyond the scope of this report, but presented in engineering design/estimates of the sub-project.
Approx. area (in square meters) of vegetation and soil in the right-of-way, borrow pits, waste dumps, and equipment yards: Vegetation is very scarce in the sub-project area and will not be affected by the construction work. The open area beside the proposed location is clearly enough to accommodate stack/equipment yards, temporary waste dumping sites, as well as the target construction plots.
Possibility of stagnant water bodies in borrow pits, quarries, etc., encouraging for mosquito breeding and other disease vectors: (High/Medium/Low with explanation) There are no existing borrow-pits or quarries in close vicinity of the proposed site which may turn to a stagnant water body, and not too much water will be required during the construction period that may cause temporary water stagnation. Moreover, 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) There is a waterbody on the east that maybe disturbed during the construction works (also considering the scale) through runoffs of liquid waste and dust.
Destruction or damage of terrestrial or aquatic ecosystems or endangered species directly or by induced development: (High/Medium/Low with description) Low. The improvement works will be limited within a small area and not any considerable terrestrial or aquatic ecosystem is present in close vicinity, which could be affected significantly by the construction activities. 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: The soil in the proposed site is already compacted and developed and the area is largely flat, so there is almost no chance to trigger the landslide or any type of mass movement of soil for the said construction works.
Erosion of lands below the roadbed receiving concentrated outflow carried by covered or open drains: (High/Medium/Low with description) Not applicable.
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: Dust produced in the proposed site for daily business activities will be minimal compared to the vehicle produced nuisance, and the effects can easily be managed by sprinkling water during the business days by the local committee. Therefore, it's very unlikely that any significant health hazards or interference of plant growth will take place.
Chance of long-term or semi-permanent destruction of soils: (High/Medium/Low with description) Soil cover in the market area will be destroyed during the operational period due to the congregation of a large number of people at any market/hat day and removal of grass cover, therefore.
Possibility of odor and water, soil quality impacts from SWM and FSM disposal system (High/Medium/Low with description) Putrescible wastes and mismanagement relating to proper cleaning and maintenance of toilets and market sheds may cause odor and degradation of water and soil quality in or around the places, which could be avoided by active and efficient management by the BMC (Bazar Management Committee).
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: Apart from the financial engagement of labors, suppliers and other stakeholders during the construction period, a Hat-Bazar offers numerous multi-faceted benefits to the host communities. Communities will have easy access to all necessary and daily products on a single platform, producers and sellers can sell their products without any difficulties, and female shoppers and sellers will also receive advantageous and safe spaces for sopping and trading. Many other stakeholders involving in backend supply chain of the trading facilities will also be hugely benefited. Participating

in the trading activities of all sorts thus will improve the economic conditions of every involved party and help them develop as well as gaining access to other support services for achieving a better living condition. Furthermore, the revenue to be generated, if any, from the hat-bazar will eventually contribute to the development of the respective areas.
Extent of disturbance or modification of existing drainage channels (rivers, canals) or surface water bodies (wetlands, marshes): (High/Medium/Low with description) The waterbody found on the east side close to the vicinity of the intervention area may anticipate daily wastes as small plastics bags and wastewater runoff.
Extent of destruction or damage of terrestrial or aquatic ecosystems or endangered species directly or by induced development: (High/Medium/Low with description) Low. There are no protected areas in or around project sites, and no known areas of ecological interest.
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 impact is anticipated.
Erosion of lands below the roadbed receiving concentrated outflow carried by covered or open drains: (High/Medium/Low with explanation) Not applicable.
Describe possible traffic movement impacts on (unwanted) light, noise and air pollution: Improved hat-bazar will definitely increase the public gathering which causes the increasing of vehicular movement. This movement may increase the air and noise pollution, but light pollution effect will not be increased. The Bazar Management Committee should remain concerned about this nuisance and take necessary actions by spraying water to reduce the pollution generated from dust.

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)

Environmental Screening Form for Sub-project W1-2

Sub-Project Description Form:

EMCRP/W1- Improvement of Thainkhali bazar & Maintenance of Moricha Bazar, Sonarpara Bazar, Rumkha Bazar, Palong Khali Bazar & Ukhiya Daroga Bazar in Ukhiya Upazila under Cox's Bazar District.

Name of Sub-Project: Maintenance of Ukhiya Daroga Bazar

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

Estimated total cost of the work package (in Taka): 6,31,00,981.00 Tk.

Estimated construction period duration: 1 year

Construction Period: 2023-2024

Estimated total cost of the component (in Taka): 73,65,136.31 Tk.

Estimated Operation and Maintenance period (life of sub-project): Project design life more than 15 (Fifteen) years but Government policies on how long projects can operate in the camps.

District: Cox's Bazar **Sub-District**: Ukhiya **Union**: Rajapalong **Ward:** 06

Name of Community/Local Area: Ukhiya Daroga Bazar

Description of proposed sub-project activities (incl. type of activities, footprint area, natural resources required, etc.):

The Sub-Project is categorized as a host community-based hat-bazar where consumers are all locals. The proposed hat-bazar improvement work will be improved within a confined area of the existing bazar falling into Govt. periphery with some identified interventions.

The proposed interventions are 01 no. Shed (Dimension: 24.5m x 4.3m), 01 no. External Shed (Dimension:21.4m x 6.3m), 1no. shed (Dimension: 10mx4m), 4 nos. of Toilet (Dimension: 1.2mX1.2m). U-drain (Dimension: 270mX.75m), Connecting Road (Dimension: 80mX4.2m) and 1 submersible pump. Apart from these, Environmental Mitigation and Enhancement works are also included in the project activity.

Estimated footprint / land area for this sub-project is 4857 sq. meter.

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

Proposed Ukhiya Daroga Hat-Bazar is situated within the catchment area Foliapara, Moulobipara, Patabari Dorgabill, Gorurbazar, Sikderbill, Shileshora, Maskaria under Rajapalong union, Ward-06 of Ukhiya Upazila. This targeted Hat-Bazar is inside host area and Cox's Bazar-Teknaf Highway passes on the east side the proposed location. During the pick hour (in morning from 9 am to 11 am and at afternoon from 2:30pm to 4:30 pm), this place remains very busy with locals, businessmen, delivery vehicles and regular customers. Some major features such as a mosques and markets are prevalent in the area. No Important environmental features are found within the sub-project. Existing sheds in the bazar will be improved and new sheds of different categories and toilet, drains and submersible pump will be constructed.

Overall Comments

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. The local community attended in the participatory public consultation meeting. Their community representatives as Sellers, consumers, host communities, Bazar Management Committee (BMC), different representatives, elites, farmers and elders have no objection to the improvement this infrastructure in the proposed site; the community also appreciated the initiative of LGED to ensure safe and better portability. The public consultation meeting results confirmed that improvement of this hat-bazar will increase socio-economic interest in the communities and make lives comforts for both locals and businessmen.

The proposed Hat-Bazar is not located within any identified environmentally sensitive area, and therefore, does not seem to cause any significant adverse impact on the important environmental features. No significant impact is expected on the ecosystem and biodiversity, no agricultural land/ activities or fish farming will be disturbed, due to the construction of the sub projects. No drainage congestion/water loggings have been observed in this area. As the improvement work is restricted to within the confined boundary, no outside disturbing activity will be involved. Moreover, mitigation measures will be taken according to the ESMP for minimizing the air, dust and noise pollution.

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 leftover of construction materials, wood, copper wires, concrete, iron, plastic etc. Negligible amount of paper, plastic, human wastes including kitchen wastes might be generated in labor camps.

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. Sensitive environmental, cultural, archaeological, religious sites within 1 kilometer of site includes: **At the north;** Ukhiya Gov High School(200m), Ukhiya Bazar Mosque (220m NW), Ukhiya Police Station (190m NW), Ukhiya High School Playground(500m), Ukhiya Sadar GPS (300m). **At the south**; Mosque(500m), Ukhiya Market(300m). **At the east;** Upaliza Parishad (900m NE), Ukhiya Central Mosque(100m) **At the west;** Nurul Islam Chowdhury Guljar Begum High School (600m), Foliapara Jame Mosque(630m), Foliapara Alim uddin GPS (800m), Foliapara Community Center (850m) are present. Apart from these structures no other sensitive environmental, cultural, archaeological, religious sites exists.

In this sub-project area, no elephant migration routes exist (ref. IUCN). No disturbance is anticipated due to construction activities to those social and environmental components.

Completed environmental and social screening forms are given below.

Section A: Sub-Project Overview

Description of sub-project/component interventions:

The proposed hat-bazar will be improved within a confined area on Govt. periphery with some identified interventions. The proposed interventions are 01 no. Shed (Dimension: 24.5m x 4.3m), 01 no. External Shed (Dimension:21.4m x 6.3m), 1no. shed (Dimension: 10mx4m), 4 nos. of Toilet (Dimension: 1.2mX1.2m). U-drain (Dimension: 270mX.75m), Connecting Road (Dimension: 80mX4.2m) and 1 no. of submersible pump. Safety works and Environmental Mitigation and Enhancement works are also included in the project activity.

Sub-project Location:

Important Features	
Place	Ukhiya
District	Cox's Bazar
Upazila	Ukhiya
Union	Rajapalong
WARD	06
Sub-project Type	Maintenance/Improvement
Proposed Intervention Type	Hat Bazar
Location of Hat Bazar	Latitude Value: 21.24382^0N Longitude Value: 92.13826^0E
Distance from Upazila HQ	900m
Nearby Major Road	Cox's Bazar-Teknaf Highway

Land ownership

The land is owned by 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 location is just on the west side of the main road starting with some grocery stores and wet market is further inside from this access point further west covering around 4,857 sq meters of land space which is verified as government land.

i) No historical sites were identified, but several temples, crematories, mosques, graveyards, and educational institutes were present in the catchment area. They are mentioned.
ii) Not required to relocate local community.
iii) No water body found on the target location.
iv) No chance of losing agricultural land.
v) Environmental Sensitivity: There are no component on the proposed area that may be on harm's way by the proposed interventions. There are few vegetations found surrounding the area which will not come in contact of the minor construction initiatives.
vi) No elephant corridor was identified in this area. (Checked with local IUCN representative).

Section B: Environmental Screening

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

Description of cultural properties (if applicable, including distance from site):
Sensitive environmental, cultural, archaeological, religious sites near (within the catchment area) of site including elephant migration routes and remaining forests:
At the north; Ukhiya Gov High School(200m), Ukhiya Bazar Mosque(220m NW), Ukhiya Police Station (190m NW), Ukhiya High School Playground(500m), Ukhiya Sadar GPS(300m). **At the south**; Mosque(500m), Ukhiya Market(300m). **At the east;** Upaliza Parishad (900m NE), Ukhiya Central Mosque(100m) **At the west;** Nurul Islam Chowdhury Guljar Begum High School (600m), Foliapara Jame Mosque(630m), Foliapara Alim uddin GPS (800m), Foliapara Community Center (850m) are present. There are no other sensitive environmental, cultural, archaeological sites within the catchment area of this sub-project.

A sketch of the project surrounding area with several features at relatively distant places and locations of sensitive institutions in the project surrounding areas (within 30m buffer zone) are shown in figure B.1.1

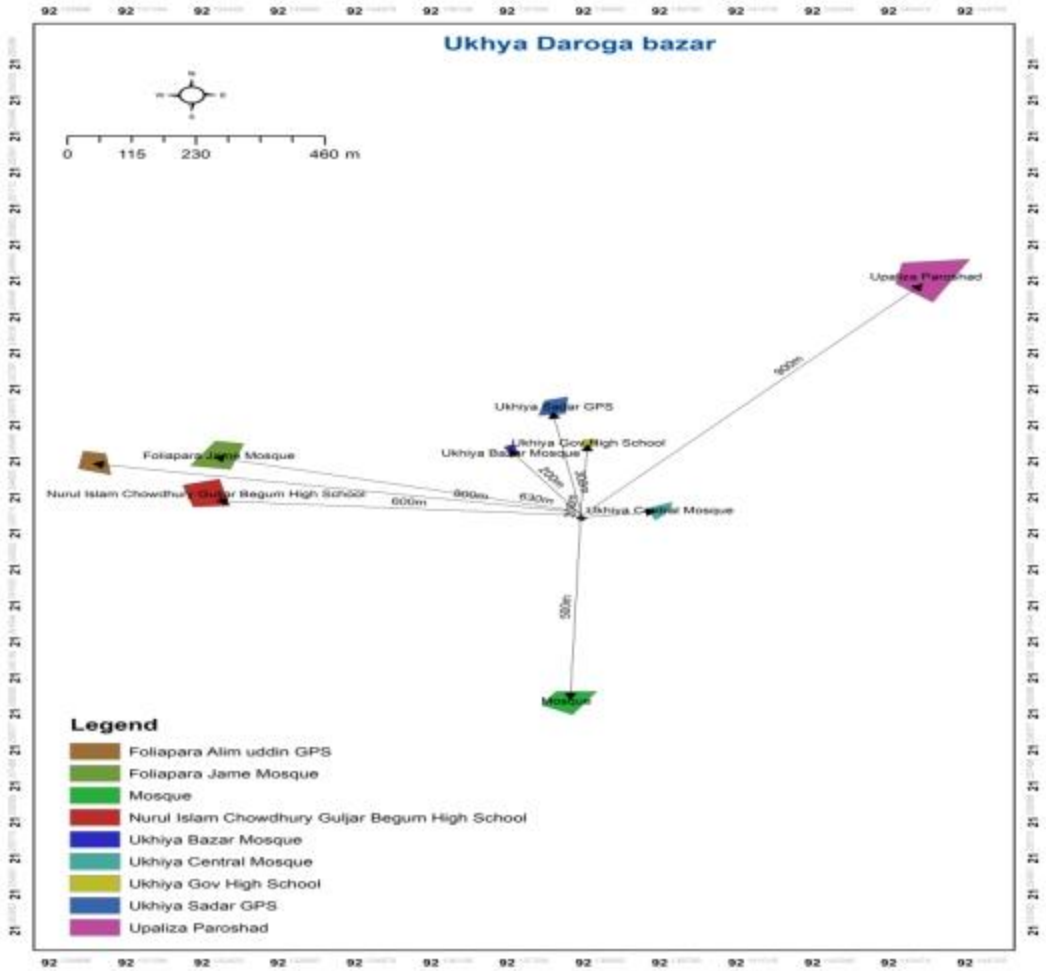


Figure B.1.1: A sketch of the project intervention area

Location of environmentally important and sensitive areas:

There are no environmentally important or sensitive features found in the footprint area, except matured vegetation on the periphery of the existing Hat-Bazar which are homestead gardens or social forest. Several mosques, shops, and local settlement were found during the survey. It will not be affected by the construction works, as the activities will be carried out within the existing subproject boundary 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 have 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).

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

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

(3) Other issues: N/A

*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 predevelopment 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 Truck, dumper, motor cycle, tempo, auto rickshaw, tractor, trailer, etc. move on the road surface adjacent to sub-project throughout the day and night generate noise but not related to project activities and within the 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 adjustable 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 60 feet to 70 feet and deep tube well depth is 700 to 800 feet. In the sub-project area, deep

groundwater is fresh and potable, and arsenic free. Water from the shallower aquifers contains medium concentration of iron. Deep groundwater table (drinkable) varies from 600-800ft (Field survey, 2019). Local people usually use deep tube-well water for drinking and other domestic purposes. There should have been deep tube well which pump water from the confined aquifer.

Groundwater quality: pH-5.17 to 7.51, DO-2.26 to 8.14mg/l, TDS-23.40 to 320 mg/l, EC -25.7 to 681µs/cm, Fe-0.08 to 4.6 mg/l, Cl--8.0 to 475mg/l, Salinity- 0.07 to 1.28mg/l and As-Nil

*Data source: DPHE Test Report, 2023 (Water samples collected and tested at DPHE laboratory)
The results of the parameters tested in the laboratories for the provided sub-projects are mostly within the national standards for potable water.

Status of wildlife movement:
N/A (None of the information was found about the wildlife movement in or across the area)

State of forestation:
Trees are present in the area scarcely, but not within the area of intervention.

Summary of water balance analysis (For water supply scheme only):
N/A

B.2: Preconstruction Phase

Information on Ancillary Facilities (e.g., status of access road or any other facility required for sub-project to be viable):
Cox's Bazar Teknaf Highway Road is available for access. It is possible to carry the construction materials on the road to the improvement site.

Requirement of accommodation or service amenities (toilet, water supply, electricity) to support the workforce during construction:
An open space is required to set up a labor camp with associated facilities (toilet for male and female workers, kitchen for cooking, tube-well for water supply facility, and electricity connection) to support the workforce during construction. The space should have enough land area to accommodate a stack yard along with a site office, if possible. Open space should be selected in such a way that workers do not need to travel/walk through a longer distance to reach the site and the place can be secured with proper fencing with a guard be posted at the entrance. The space or land area can be used on rental basis or under a mutual agreement between the owner and the contractor. The contract/consent document must be kept at the site office, whatsoever the mode of the contract is.

Possible location of labor camps:
Labor camp can be established along the sub-project location since there are available Govt. lands. However, this will have to be done with the consent of Bazar Management Committee 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) aggregates v) metals vi) water vii) concretes vii) Bamboo & wood from mobilized materials viii) clay are the most common type of building material used in construction.

Identification of access road for transportation (Yes/No):
Yes. Cox's Bazar-Teknaf highway road is available for access.

Location identification for raw material storage:

Adjacent to labor camp or different location is available. However, this will need placement on open fields and should be consulted with Bazar Management Committee. Material storage area must be well fenced, and materials will be covered with tarpaulins.
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. From the demolition works 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 similar accounts can be found. 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 50 kg during the pre-construction phase
Type and quantity of waste generated (e.g., Solids wastes, liquid wastes, etc.): During the pre-construction period wastes will be generated from some preparatory activities, such as construction of labor camp, site office, material storage/stack yard and associated facilities, etc. and removal of road pavement. All these activities also will be carried out by numbers of local labors. So, around 50 kilograms of construction related wastes, such as bricks, aggregates, leftover cements, sands, etc. will be generated, which are typical solid wastes and a negligible quantity (nearly 5 kg) of bio and non-biodegradable wastes will be generated from the daily necessities of workers and construction staffs, such as food wastes, polythene, papers, plastics, etc. Some chemical waste, like paints, oils, etc. and small amount of solid and liquid wastes from the immediate use of constructed latrines by the workers may also be generated, such as feces and urines.
Type and quantity of raw materials used (wood, bricks, cement, water, etc.): **Raw materials:** i) Bricks ii) Sand iii) cement iv) Gravel v) water vi) Aggregates. **Quantity:** It is difficult to provide exact figures of raw materials on a typical pre-construction site at this level.
Approx. area (in square meters) of vegetation and soil in the right-of-way, borrow pits, waste dumps, and equipment yards: Vegetation is very scarce in the sub-project area and will not be affected by any work during the pre- construction stage. No borrow pits were found in the area and the current condition shows that there is no aggregated soil in the peripheral surroundings.
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 Low, for stagnant water bodies in borrow pits/quarries for inviting mosquito breeding ground.
Disturbance or modification of existing drainage channels (rivers, canals) or surface water bodies (wetlands, marshes): (High/Medium/Low with description) Low, there is canal (Khal) in the area, but sufficiently distant from the proposed site, and will not receive any disturbance or modification.
Destruction or damage of terrestrial or aquatic ecosystems or endangered species directly or by induced development: (High/Medium/Low with description) Low. There is very little scope of damaging terrestrial ecosystems.
Activities that can lead to landslides, slumps, slips and other mass movements in road cuts:

No physical works will be carried out in this phase which has scope to trigger landslides.
Erosion of lands below the roadbed receiving concentrated outflow carried by covered or open drains: (High/Medium/Low with description) The scale of erosion of lands is very unlikely at this stage.
Describe possible traffic movement impacts on (unwanted) light, noise and air pollution: Air pollution from generating of dust while carrying and unloading the construction materials to the site or stackyard may create public nuisance and little health effects for the people in the area. But noise and light pollution may not be at such a significant level.

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

Type and quantity of waste generated (e.g. Solids wastes, liquid wastes, etc.): ***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 35 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 3 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) wood are the most common type of raw materials to be used in construction period. **Quantity**: Anticipating the quantity of raw materials to be used needs detail calculation as per design, which is beyond the scope of this report, but presented in engineering design/estimates of the sub-project.
Approx. area (in square meters) of vegetation and soil in the right-of-way, borrow pits, waste dumps, and equipment yards: Vegetation is very scarce in the sub-project area and will not be affected by the construction work. The open area beside the proposed location is clearly enough to accommodate stack/equipment yards, temporary waste dumping sites, as well as the target construction plots.
Possibility of stagnant water bodies in borrow pits, quarries, etc., encouraging for mosquito breeding and other disease vectors: (High/Medium/Low with explanation) There are no existing borrow-pits or quarries in close vicinity of the proposed site which may turn to a stagnant water body, and not too much water will be required during the construction period that may cause temporary water stagnation. Moreover, 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) There is no waterbody that maybe disturbed or modified during the construction works (also considering the scale) that will take place.
Destruction or damage of terrestrial or aquatic ecosystems or endangered species directly or by induced development: (High/Medium/Low with description)

Low. The improvement works will be limited within a small area and not any considerable terrestrial or aquatic ecosystem is present in close vicinity, which could be affected significantly by the construction activities. 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: The soil in the proposed site is already compacted and developed and the area is largely flat, so there is almost no chance to trigger the landslide or any type of mass movement of soil for the said construction works.
Erosion of lands below the roadbed receiving concentrated outflow carried by covered or open drains: (High/Medium/Low with description) Not applicable.
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: Dust produced in the proposed site for daily business activities will be minimal compared to the vehicle produced nuisance, and the effects can easily be managed by sprinkling water during the business days by the market management committee. Therefore, it's very unlikely that any significant health hazards or interference of plant growth will take place.
Chance of long-term or semi-permanent destruction of soils: (High/Medium/Low with description) Soil cover in the market area will be destroyed during the operational period due to the congregation of a large number of people at any market/hat day and removal of grass cover, therefore.
Possibility of odor and water, soil quality impacts from SWM and FSM disposal system (High/Medium/Low with description) Putrescible wastes and mismanagement relating to proper cleaning and maintenance of toilets and market sheds may cause odor and degradation of water and soil quality in or around the places, which could be avoided by active and efficient management by the BMC (Bazar Management Committee).
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: Apart from the financial engagement of labors, suppliers and other stakeholders during the construction period, a Hat-Bazar offers numerous multi-faceted benefits to the host communities. Communities will have easy access to all necessary and daily products on a single platform, producers and sellers can sell their products without any difficulties, and female shoppers and sellers

will also receive advantageous and safe spaces for sopping and trading. Many other stakeholders involving in backend supply chain of the trading facilities will also be hugely benefited. Participating in the trading activities of all sorts thus will improve the economic conditions of every involved party and help them develop as well as gaining access to other support services for achieving a better living condition. Furthermore, the revenue to be generated, if any, from the hat-bazar will eventually contribute to the development of the respective areas.
Extent of disturbance or modification of existing drainage channels (rivers, canals) or surface water bodies (wetlands, marshes): (High/Medium/Low with description) No existing drainage channels or surface water bodies found in the close vicinity of the intervention area; therefore, no such effect can be anticipated.
Extent of destruction or damage of terrestrial or aquatic ecosystems or endangered species directly or by induced development: (High/Medium/Low with description) Low. There are no protected areas in or around project sites, and no known areas of ecological interest.
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 impact is anticipated.
Erosion of lands below the roadbed receiving concentrated outflow carried by covered or open drains: (High/Medium/Low with explanation) Not applicable.
Describe possible traffic movement impacts on (unwanted) light, noise and air pollution: Improved hat-bazar will definitely increase the public gathering which causes the increasing of vehicular movement. This movement may increase the air and noise pollution, but light pollution effect will not be increased. The Bazar Management Committee should remain concerned about this nuisance and take necessary actions by spraying water to reduce the pollution generated from dust.

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)

Environmental Screening Form for Sub-project W1-3

Sub-Project Description Form:

EMCRP/W1- Improvement of Thainkhali bazar & Maintenance of Moricha Bazar, Sonarpara Bazar, Rumkha Bazar, Palong Khali Bazar & Ukhiya Daroga Bazar in Ukhiya Upazila under Cox's Bazar District.

Name of Sub-Project: Maintenance of Moricha Bazar

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

Estimated total cost of the work package (in Taka): 6,31,00,981.00 Tk.

Estimated construction period duration: 1 year

Construction Period: 2023-2024

Estimated total cost of the component (in Taka): 1,11,92,984.39 Tk.

Estimated Operation and Maintenance period (life of sub-project): Project design life more than 15 (Fifteen) years but Government policies on how long projects can operate in the camps.

District: Cox's Bazar **Sub-District**: Ukhiya **Union**: 3 no. Holdiapalong **Ward:** 01

Name of Community/Local Area: Moricha

Description of proposed sub-project activities (incl. type of activities, footprint area, natural resources required, etc.):

The Sub-Project is categorized as a host community-based hat-bazar where consumers are all locals. The proposed hat-bazar maintenance work will be improved within a confined area of the existing bazar falling into Govt. periphery with some identified interventions.

The proposed interventions are 01 no. Slaughter Shed (Dimension: 16mX6.3m), 4 nos. of Vegetable Shed (Dimension: 12mx4m), 01 no. New Shed (Dimension: 24mx12m), 01 no. Fish Shed (Dimension: 28mx 4m), 01 no. Open Shed (Dimension: 16m x 8m), and existing shed maintenance; 02 nos. shed (Dimension: 12mx 6.3m), 01 no. Shed (Dimension: 8.3mX6.3m), 4 nos. of shed(Dimension:12.3mX4.3m). Connecting Road (200mX3m). U-Drain (120mX0.75m). 2 nos. of Dust Bin(2.94mX2.33m) and 1 no. of Submersible pump. Environmental Mitigation and Enhancement works are also included in the project activity.

Estimated footprint / land area for this sub-project is 2,023.24 sq. meter.

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

Proposed Moricha Hat-Bazar is situated within the catchment area Moricha, Patabari, Paglirbill, Modhuguna, Dhoniapalong, Jumkapalong, under 3no. Holdiapalong union, Ward-1 of Ukhiya Upazila. This targeted Hat-Bazar is inside host area and 25 feet existing BC road (Cox's Bazar-Teknaf Highway) passes on the east side the proposed location. During the pick hour (in morning from 9 am to 11 am and at afternoon from 2:30pm to 4:30 pm), this place remains very busy with locals, businessmen, delivery vehicles and regular customers. Some major features such as a mosque

named Moricha Central Mosque is located at 150m to the north side as well the Union Parishad located 250m in the same direction. No Important environmental features are found within the sub-project. Existing sheds in the bazar will be improved and new sheds of different categories, toilet and submersible pump will be constructed.

Overall Comments

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. The local community attended in the participatory public consultation meeting. Their community representatives as Sellers, consumers, host communities, Bazar Management Committee (BMC), different representatives, elites, farmers and elders have no objection to the improvement this infrastructure in the proposed site; the community also appreciated the initiative of LGED to ensure safe and better portability. The public consultation meeting results confirmed that improvement of this hat-bazar will increase socio-economic interest in the communities and make lives comforts for both locals and businessmen.

The proposed Hat-Bazar is not located within any identified environmentally sensitive area, and therefore, does not seem to cause any significant adverse impact on the important environmental features. No significant impact is expected on the ecosystem and biodiversity, no agricultural land/ activities or fish farming will be disturbed, due to the construction of the sub projects. No drainage congestion/water loggings have been observed in this area. As the improvement work is restricted to within the confined boundary, no outside disturbing activity will be involved. Moreover, mitigation measures will be taken according to the ESMP for minimizing the air, dust and noise pollution.

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 leftover of construction materials, wood, copper wires, concrete, iron, plastic etc. Negligible amount of paper, plastic, human wastes including kitchen wastes might be generated in labor camps.

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. Sensitive environmental, cultural, archaeological, religious sites within 1 kilometer of site includes:

At the north; Moricha Central Mosque (10m), Al Mohad Madrassa (200m), Morichapalong GPS (250m), Union Parishad(250m). **At the south**; Sultania Azizul Ulum Madrassa(180m), Graveyard(100m), 4 nos. of Hindu Temple(1km). **At the east;** Morichapalong High School(350m), High School Mosque(350m). **At the west;** Ideal School(250m), West Moricha Mosque(500m) are present. Apart from these structures no other sensitive environmental, cultural, archaeological, religious sites exists.

In this sub-project area, no elephant migration routes exist (ref. IUCN). No disturbance is anticipated due to construction activities to those social and environmental components.

Completed environmental and social screening forms are given below.

Section A: Sub-Project Overview

Description of sub-project/component interventions:

The proposed hat-bazar will be improved within a confined area on Govt. periphery with some identified interventions. The proposed interventions are 01 no. Slaughter Shed (Dimension: 16mX6.3m), 4 nos. of Vegetable Shed (Dimension: 12mx4m), 01 no. New Shed (Dimension: 24mx12m), 01 no. Fish Shed (Dimension: 28mx 4m), 01 no. Open Shed (Dimension: 16m x 8m), and existing shed maintenance; 02 nos. shed (Dimension: 12mx 6.3m), 01 no. Shed (Dimension: 8.3mX6.3m), 4 nos. of shed(Dimension:12.3mX4.3m). Connecting Road (200mX3m). U-Drain (120mX0.75m). 2 nos. of Dust Bin(2.94mX2.33m) and 1 no. of Submersible pump. Safety works with Environmental Mitigation and Enhancement works are also included in the project activity.

Sub-project Location:

Important Features	
Place	Moricha
District	Cox's Bazar
Upazila	Ukhiya
Union	3 no. Holdiapalong
WARD	01
Sub-project Type	Maintenance/Improvement
Proposed Intervention Type	Hat Bazar
Location of Hat Bazar	Latitude Value: 21.30923^0N Longitude Value: 92.096850E
Distance from Upazila HQ	6km
Nearby Major Road	Cox's Bazar-Teknaf Highway

Land ownership

The land is owned by 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 location is just on the west side of the main road starting with some grocery stores and wet market is further inside from this access point further west covering around 2023 sq meters of land space which is verified as government land.

i) No historical sites were identified, but several temples, crematories, mosques, graveyards, and educational institutes were present in the catchment area. They are mentioned.
ii) Not required to relocate local community.
iii) No waterbody found on the target location.
iv) No chance of losing agricultural land.
v) Environmental Sensitivity: There are no component on the proposed area that may be on harm's way by the proposed interventions. There are few vegetations found surrounding the area which will not come in contact of the minor construction initiatives.
vi) No elephant corridor was identified in this area. (Checked with local IUCN representative).

Section B: Environmental Screening

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

Description of cultural properties (if applicable, including distance from site):
Sensitive environmental, cultural, archaeological, religious sites near (within the catchment area) of site including elephant migration routes and remaining forests:
At the north; Moricha Central Mosque (10m), Al Mohad Madrassa (200m), Morichapalong GPS (250m), Union Parishad(250m). **At the south**; Sultania Azizul Ulum Madrassa(180m), Graveyard(100m), 4 nos. of Hindu Temple(1km). **At the east;** Morichapalong High School(350m), High School Mosque(350m). **At the west;** Ideal School(250m), West Moricha Mosque(500m) are present. There are no other sensitive environmental, cultural, archaeological sites within the catchment area of this sub-project.

A sketch of the project surrounding area with several features at relatively distant places and locations of sensitive institutions in the project surrounding areas (within 30m buffer zone) are shown in figure B.1.1

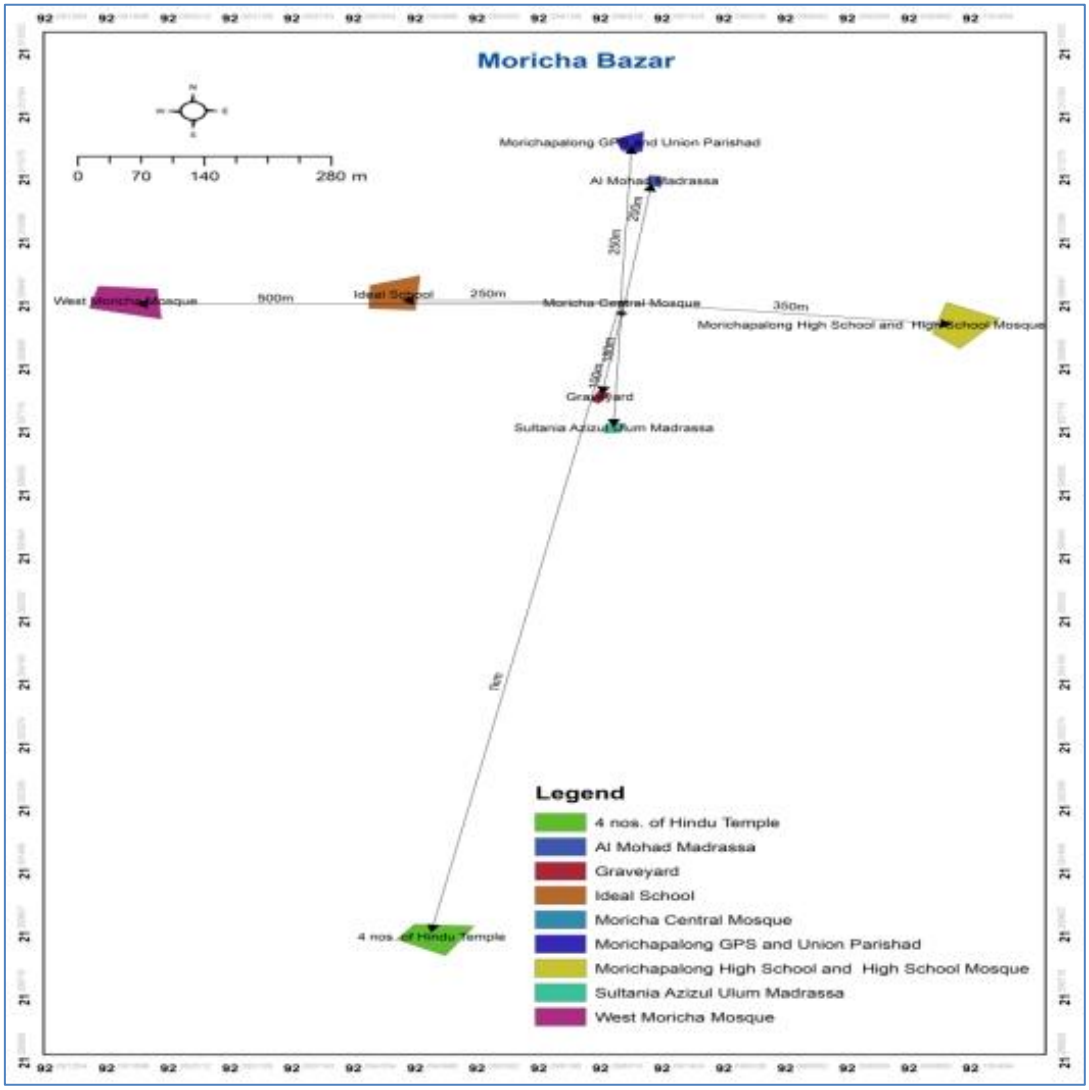


Figure B.1.1: A sketch of the project intervention area

Location of environmentally important and sensitive areas:

There are no environmentally important or sensitive features found in the footprint area, except matured vegetation on the periphery of the existing Hat-Bazar which are homestead gardens or social forest. Several mosques, shops, and local settlement were found during the survey. It will not be affected by the construction works, as the activities will be carried out within the existing subproject boundary 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 have 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).

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

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

(3) Other issues: N/A

*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 predevelopment 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 Truck, dumper, motor cycle, tempo, auto rickshaw, tractor, trailer, etc. move on the road surface adjacent to sub-project throughout the day and night generate noise but not related to project activities, and within the 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 adjustable 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 60 feet to 70 feet and deep tube well depth is 700 to 800 feet. In the sub-project area, deep groundwater is fresh and potable, and arsenic free. Water from the shallower aquifers contains medium concentration of iron. Deep groundwater table (drinkable) varies from 600-800ft (Field survey, 2019). Local people usually use deep tube-well water for drinking and other domestic purposes. There should have been deep tube well which pump water from the confined aquifer.

Groundwater quality: pH-5.17 to 7.51, DO-2.26 to 8.14mg/l, TDS-23.40 to 320 mg/l, EC -25.7 to 681µs/cm, Fe-0.08 to 4.6 mg/l, Cl--8.0 to 475mg/l, Salinity- 0.07 to 1.28mg/l and As-Nil

*Data source: DPHE Test Report, 2023 (Water samples collected and tested at DPHE laboratory)

The results of the parameters tested in the laboratories for the provided sub-projects are mostly within the national standards for potable water.

Status of wildlife movement:

N/A (None of the information was found about the wildlife movement in or across the area)

State of forestation:

Trees are present in the area scarcely, but not within the area of intervention.

Summary of water balance analysis (For water supply scheme only):

N/A

B.2: Preconstruction Phase

Information on Ancillary Facilities (e.g., status of access road or any other facility required for sub-project to be viable): Cox's Bazar-Teknaf Highway is available for access. It is possible to carry the construction materials on the road to the improvement site.
Requirement of accommodation or service amenities (toilet, water supply, electricity) to support the workforce during construction: An open space is required to set up a labor camp with associated facilities (toilet for male and female workers, kitchen for cooking, tube-well for water supply facility, and electricity connection) to support the workforce during construction. The space should have enough land area to accommodate a stack yard along with a site office, if possible. Open space should be selected in such a way that workers do not need to travel/walk through a longer distance to reach the site and the place can be secured with proper fencing with a guard be posted at the entrance. The space or land area can be used on rental basis or under a mutual agreement between the owner and the contractor. The contract/consent document must be kept at the site office, whatsoever the mode of the contract is.
Possible location of labor camps: Labor camp can be established along the sub-project location since there are available open Govt. lands. However, this will have to be done with the consent of landowner 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) aggregates v) metals vi) water vii) concretes vii) Bamboo & wood from mobilized materials viii) clay are the most common type of building material used in construction.
Identification of access road for transportation (Yes/No): Yes. Cox's Bazar-Teknaf highway are available for access.
Location identification for raw material storage: Adjacent to labor camp or different location is available. However, this will need placement on open fields and should be consulted with local committee. Material storage area must be well fenced, and materials will be covered with tarpaulins.
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. From the demolition works 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 similar accounts can be found. 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 50 kg during the pre-construction phase
Type and quantity of waste generated (e.g., Solids wastes, liquid wastes, etc.): During the pre-construction period wastes will be generated from some preparatory activities, such as construction of labor camp, site office, material storage/stack yard and associated facilities, etc. and removal of road pavement. All these activities also will be carried out by numbers of local

labors. So, around 50 kilograms of construction related wastes, such as bricks, aggregates, leftover cements, sands, etc. will be generated, which are typical solid wastes and a negligible quantity (nearly 5 kg) of bio and non-biodegradable wastes will be generated from the daily necessities of workers and construction staffs, such as food wastes, polythene, papers, plastics, etc. Some chemical waste, like paints, oils, etc. and small amount of solid and liquid wastes from the immediate use of constructed latrines by the workers may also be generated, such as feces and urines.
Type and quantity of raw materials used (wood, bricks, cement, water, etc.): **Raw materials:** i) Bricks ii) Sand iii) cement iv) Gravel v) water vi) Aggregates. **Quantity:** It is difficult to provide exact figures of raw materials on a typical pre-construction site at this level.
Approx. area (in square meters) of vegetation and soil in the right-of-way, borrow pits, waste dumps, and equipment yards: Vegetation is very scarce in the sub-project area and will not be affected by any work during the pre- construction stage. No borrow pits were found in the area and the current condition shows that there is no aggregated soil in the peripheral surroundings.
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 Low, for stagnant water bodies in borrow pits/quarries for inviting mosquito breeding ground.
Disturbance or modification of existing drainage channels (rivers, canals) or surface water bodies (wetlands, marshes): (High/Medium/Low with description) Low, there is canal (Khal) in the area, but sufficiently distant from the proposed site, and will not receive any disturbance or modification.
Destruction or damage of terrestrial or aquatic ecosystems or endangered species directly or by induced development: (High/Medium/Low with description) Low. There is very little scope of damaging terrestrial ecosystems.
Activities that can lead to landslides, slumps, slips and other mass movements in road cuts: No physical works will be carried out in this phase which has scope to trigger landslides.
Erosion of lands below the roadbed receiving concentrated outflow carried by covered or open drains: (High/Medium/Low with description) The scale of erosion of lands is very unlikely at this stage.
Describe possible traffic movement impacts on (unwanted) light, noise and air pollution: Air pollution from generating of dust while carrying and unloading the construction materials to the site or stackyard may create public nuisance and little health effects for the people in the area. But noise and light pollution may not be at such a significant level.

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

Type and quantity of waste generated (e.g. Solids wastes, liquid wastes, etc.): ***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 35 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 3 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) wood are the most common type of raw materials to be used in construction period. **Quantity**: Anticipating the quantity of raw materials to be used needs detail calculation as per design, which is beyond the scope of this report, but presented in engineering design/estimates of the sub-project.
Approx. area (in square meters) of vegetation and soil in the right-of-way, borrow pits, waste dumps, and equipment yards: Vegetation is very scarce in the sub-project area and will not be affected by the construction work. The open area beside the proposed location is clearly enough to accommodate stack/equipment yards, temporary waste dumping sites, as well as the target construction plots.
Possibility of stagnant water bodies in borrow pits, quarries, etc., encouraging for mosquito breeding and other disease vectors: (High/Medium/Low with explanation) There are no existing borrow-pits or quarries in close vicinity of the proposed site which may turn to a stagnant water body, and not too much water will be required during the construction period that may cause temporary water stagnation. Moreover, 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) There is no waterbody that maybe disturbed or modified during the construction works (also considering the scale) that will take place.
Destruction or damage of terrestrial or aquatic ecosystems or endangered species directly or by induced development: (High/Medium/Low with description) Low. The improvement works will be limited within a small area and not any considerable terrestrial or aquatic ecosystem is present in close vicinity, which could be affected significantly by the construction activities. 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: The soil in the proposed site is already compacted and developed and the area is largely flat, so there is almost no chance to trigger the landslide or any type of mass movement of soil for the said construction works.
Erosion of lands below the roadbed receiving concentrated outflow carried by covered or open drains: (High/Medium/Low with description) Not applicable.
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: Dust produced in the proposed site for daily business activities will be minimal compared to the vehicle produced nuisance, and the effects can easily be managed by sprinkling water during the business days by the market management committee. Therefore, it's very unlikely that any significant health hazards or interference of plant growth will take place.
Chance of long-term or semi-permanent destruction of soils: (High/Medium/Low with description) Soil cover in the market area will be destroyed during the operational period due to the congregation of a large number of people at any market/hat day and removal of grass cover, therefore.
Possibility of odor and water, soil quality impacts from SWM and FSM disposal system (High/Medium/Low with description) Putrescible wastes and mismanagement relating to proper cleaning and maintenance of toilets and market sheds may cause odor and degradation of water and soil quality in or around the places, which could be avoided by active and efficient management by the BMC (Bazar Management Committee).
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: Apart from the financial engagement of labors, suppliers and other stakeholders during the construction period, a Hat-Bazar offers numerous multi-faceted benefits to the host communities. Communities will have easy access to all necessary and daily products on a single platform, producers and sellers can sell their products without any difficulties, and female shoppers and sellers will also receive advantageous and safe spaces for sopping and trading. Many other stakeholders involving in backend supply chain of the trading facilities will also be hugely benefited. Participating in the trading activities of all sorts thus will improve the economic conditions of every involved party and help them develop as well as gaining access to other support services for achieving a better living condition. Furthermore, the revenue to be generated, if any, from the hat-bazar will eventually contribute to the development of the respective areas.
Extent of disturbance or modification of existing drainage channels (rivers, canals) or surface water bodies (wetlands, marshes): (High/Medium/Low with description) No existing drainage channels or surface water bodies found in the close vicinity of the intervention area, therefore, no such effect can be anticipated.
Extent of destruction or damage of terrestrial or aquatic ecosystems or endangered species directly or by induced development: (High/Medium/Low with description) Low. There are no protected areas in or around project sites, and no known areas of ecological

interest.
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 impact is anticipated.
Erosion of lands below the roadbed receiving concentrated outflow carried by covered or open drains: (High/Medium/Low with explanation) Not applicable.
Describe possible traffic movement impacts on (unwanted) light, noise and air pollution: Improved hat-bazar will definitely increase the public gathering which causes the increasing of vehicular movement. This movement may increase the air and noise pollution, but light pollution effect will not be increased. The Bazar Management Committee should remain concerned about this nuisance and take necessary actions by spraying water to reduce the pollution generated from dust.

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)

Environmental Screening Form for Sub-project W1-4

Sub-Project Description Form:

EMCRP/W1- Improvement of Thainkhali bazar & Maintenance of Moricha Bazar, Sonarpara Bazar, Rumkha Bazar, Palong Khali Bazar & Ukhiya Daroga Bazar in Ukhiya Upazila under Cox's Bazar District.

Name of Sub-Project: Maintenance of Sonarpara Bazar

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

Estimated total cost of the work package (in Taka): 6,31,00,981.00 Tk.

Estimated construction period duration: 1 year

Construction Period: 2023-2024

Estimated total cost of the component (in Taka): 1,11,92,984.39 Tk.

Estimated Operation and Maintenance period (life of sub-project): Project design life more than 15 (Fifteen) years but Government policies on how long projects can operate in the camps.

District: Cox's Bazar **Sub-District**: Ukhiya **Union**: Jaliapalong **Ward:** 03

Name of Community/Local Area: Sonarpara

Description of proposed sub-project activities (incl. type of activities, footprint area, natural resources required, etc.):

The Sub-Project is categorized as a host community-based hat-bazar where consumers are all locals. The proposed hat-bazar improvement work will be improved within a confined area of the existing bazar falling into Govt. periphery with some identified interventions.

The proposed interventions are U-drain (30mX0.75m), 1 no. Dust Bin(2.94mX2.33m), 4 nos. of Open Shed with variable dimensions as (13mX7.3m, 8mX8m, 16mX11m, 20mX5m), RCC Road (Dimension:26mX5.7m with CC and 320mX1.10m with RCC). Apart from these facilities, Road safety work and Environmental Mitigation and Enhancement works are also included in the project activity.

Estimated footprint / land area for this sub-project is 4046 sq. meter.

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

Proposed Sonarpara Hat-Bazar is situated within the catchment area Moulovirjhum, Sonaichori, Gunarmor, Gatgorpara, Dailpara, Inani, Nidhania, Mohammad Sabir bill under Jaliapalong union, Ward-03 of Ukhiya Upazila. This targeted Hat-Bazar is inside host area and the 15 feet Sonarpara road and sonarpara to marine drive road passes on the north and west side respectively from the proposed location. During the pick hour (in morning from 9 am to 11 am and at afternoon from 2:30pm to 4:30 pm), this place remains very busy with locals, businessmen, delivery vehicles and regular customers. Some major features such as a mosques and schools are in the surrounding area. No Important environmental features are found within the sub-project. Existing sheds in the bazar will be improved and drainage will be constructed.

Overall Comments

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. The local community attended in the participatory public consultation meeting. Their community representatives as Sellers, consumers, host communities, Bazar Management Committee (BMC), different representatives, farmers and elders have no objection to the improvement this infrastructure in the proposed site; the community also appreciated the initiative of LGED to ensure safe and better portability. The public consultation meeting results confirmed that improvement of this hat-bazar will increase socio-economic interest in the communities and make lives comforts for both locals and businessmen.

The proposed Hat-Bazar is not located within any identified environmentally sensitive area, and therefore, does not seem to cause any significant adverse impact on the important environmental features. No significant impact is expected on the ecosystem and biodiversity, no agricultural land/ activities or fish farming will be disturbed, due to the construction of the sub projects. No drainage congestion/water loggings have been observed in this area. As the improvement work is restricted to within the confined boundary, no outside disturbing activity will be involved. Moreover, mitigation measures will be taken according to the ESMP for minimizing the air, dust and noise pollution.

Types of waste to be generated during construction and operation phase:

During construction period solid waste will be generated due to construction activities. The types of wastes are gravel, stones, rock, wood, copper wires, concrete, iron, plastic etc. Negligible amount of paper, plastic, human wastes including kitchen wastes might be generated in labor camps.

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. Sensitive environmental, cultural, archaeological, religious sites within 1 kilometer of site includes:

At the north; Al Harman Jame Mosque (180m), Jaliapalong Union Parishad (300m). **At the south**; Sonarpara Bazar Mosque(80m). **At the east;** Palong Medical Institute(750m), East Soanrpata Baitul Haramain Jame Mosque(700mSE), Sonaichori Central Mosque(900m), Sonaichori GPS(1km), Sonarpara Bazar Graveyard(60m), Sonarpara Bazar business cooperative office(25m). **At the west;** Rohingya Children Safety Program Office(300mNW), Dakhil Madrassa(450m)**,** Sonarpara High School (480m), Sonarpara GPS(500m), Land Office(500m) are present. Apart from these structures no other sensitive environmental, cultural, archaeological, religious sites exists.

In this sub-project area, no elephant migration routes exist (ref. IUCN). No disturbance is anticipated due to construction activities to those social and environmental components.

Completed environmental and social screening forms are given below.

Section A: Sub-Project Overview

Description of sub-project/component interventions:

The proposed hat-bazar will be improved within a confined area on Govt. periphery with some identified interventions. The proposed interventions are U-drain (30mX0.75m), 1 no. Dust Bin(2.94mX2.33m), 4 nos. of Open Shed with variable dimensions as (13mX7.3m, 8mX8m, 16mX11m, 20mX5m), RCC Road (Dimension:26mX5.7m with CC and 320mX1.10m with RCC). Apart from these facilities, Road safety work and Environmental Mitigation and Enhancement works are also included in the project activity.

Sub-project Location:

Important Features	
Place	Sonarpara
District	Cox's Bazar
Upazila	Ukhiya
Union	Jaliapalong
WARD	03
Sub-project Type	Maintenance/Improvement
Proposed Intervention Type	Hat Bazar
Location of Hat Bazar	Latitude Value: 21.28386^0N Longitude Value: 92.05838^0E
Distance from Upazila HQ	10 km
Nearby Major Road	Cox's Bazar-Teknaf Highway

Land ownership

The land is owned by 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 location is just on the south side of the sonarpara road starting with grocery stores on three sides north, south and west side and wet markets situated further west covering around 4046 sq meters of land space which is verified as government land.

i) No historical sites were identified, but several temples, crematories, mosques, graveyards, and educational institutes were present in the catchment area. They are mentioned.
ii) Not required to relocate local community.
iii) No waterbody found on the target location.
iv) No chance of losing agricultural land.
v) Environmental Sensitivity: There are no component on the proposed area that may be on harm's way by the proposed interventions. There are few vegetations found surrounding the area which will not come in contact of the minor construction initiatives.
vi) No elephant corridor was identified in this area. (Checked with local IUCN representative).

Section B: Environmental Screening

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

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

At the north; Al Harman Jame Mosque (180m), Jaliapalong Union Parishad (300m). **At the south**; Sonarpara Bazar Mosque(80m). **At the east;** Palong Medical Institute(750m), East Soanrpata Baitul Haramain Jame Mosque(700mSE), Sonaichori Central Mosque(900m), Sonaichori GPS(1km), Sonarpara Bazar Graveyard(60m), Sonarpara Bazar business cooperative office(25m). **At the west;** Rohingya Children Safety Program Office(300mNW), Dakhil Madrassa(450m)**,** Sonarpara High School (480m), Sonarpara GPS(500m), Land Office(500m) are present. There are no other sensitive environmental, cultural, archaeological sites within the catchment area of this sub-project.

A sketch of the project surrounding area with several features at relatively distant places and locations of sensitive institutions in the project surrounding areas (within 30m buffer zone) are shown in figure B.1.1

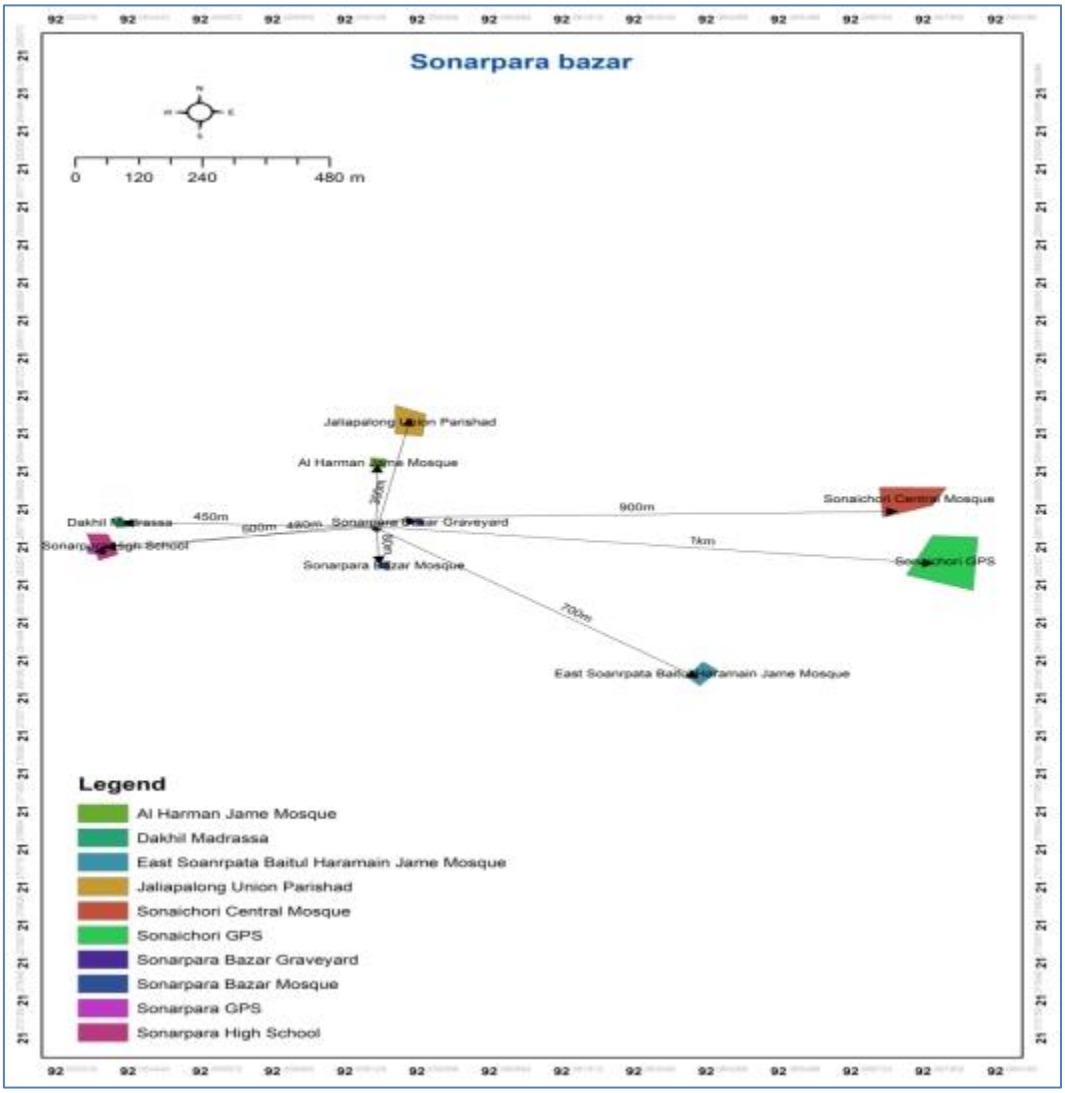


Figure B.1.1: A sketch of the project intervention area

Location of environmentally important and sensitive areas:

There are no environmentally important or sensitive features found in the footprint area, except matured vegetation on the periphery of the existing Hat-Bazar which are homestead gardens or social forest. Several mosques, shops, and local settlement were found during the survey. It will not be affected by the construction works, as the activities will be carried out within the existing subproject boundary 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 have 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).

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

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

(3) Other issues: N/A

*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 predevelopment 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 Truck, dumper, motor cycle, tempo, auto rickshaw, tractor, trailer, etc. move on the road surface adjacent to sub-project throughout the day and night generate noise but not related to project activities, and within the 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 adjustable 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 60 feet to 70 feet and deep tube well depth is 700 to 800 feet. In the sub-project area, deep groundwater is fresh and potable, and arsenic free. Water from the shallower aquifers contains medium concentration of iron. Deep groundwater table (drinkable) varies from 600-800ft (Field survey, 2019). Local people usually use deep tube-well water for drinking and other domestic purposes. There should have been deep tube well which pump water from the confined aquifer.

Groundwater quality: pH-5.17 to 7.51, DO-2.26 to 8.14mg/l, TDS-23.40 to 320 mg/l, EC -25.7 to 681µs/cm, Fe-0.08 to 4.6 mg/l, Cl--8.0 to 475mg/l, Salinity- 0.07 to 1.28mg/l and As-Nil

*Data source: DPHE Test Report, 2023 (Water samples collected and tested at DPHE laboratory)
The results of the parameters tested in the laboratories for the provided sub-projects are mostly within the national standards for potable water.

Status of wildlife movement:

N/A (None of the information was found about the wildlife movement in or across the area)

State of forestation:

Trees are present in the area scarcely, but not within the area of intervention.

Summary of water balance analysis (For water supply scheme only): N/A

B.2: Preconstruction Phase

Information on Ancillary Facilities (e.g., status of access road or any other facility required for sub-project to be viable): Cox's Bazar Teknaf Highway is available for access. It is possible to carry the construction materials on the road to the improvement site.
Requirement of accommodation or service amenities (toilet, water supply, electricity) to support the workforce during construction: An open space is required to set up a labor camp with associated facilities (toilet for male and female workers, kitchen for cooking, tube-well for water supply facility, and electricity connection) to support the workforce during construction. The space should have enough land area to accommodate a stack yard along with a site office, if possible. Open space should be selected in such a way that workers do not need to travel/walk through a longer distance to reach the site and the place can be secured with proper fencing with a guard be posted at the entrance. The space or land area can be used on rental basis or under a mutual agreement between the owner and the contractor. The contract/consent document must be kept at the site office, whatsoever the mode of the contract is.
Possible location of labor camps: Labor camp can be established along the sub-project location since there are available open Govt. lands. However, this will have to be done with the consent of Bazar Management Committee 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) aggregates v) metals vi) water vii) concretes vii) Bamboo & wood from mobilized materials viii) clay are the most common type of building material used in construction.
Identification of access road for transportation (Yes/No): Yes. Cox's Bazar-Teknaf highway and Sonarpara road are available for access.
Location identification for raw material storage: Adjacent to labor camp or different location is available. However, this will need placement on open fields and should be consulted with Bazar Management Committee. Material storage area must be well fenced, and materials will be covered with tarpaulins.
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. From the demolition works 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 similar accounts can be found. 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 50 kg during the pre-construction phase
Type and quantity of waste generated (e.g., Solids wastes, liquid wastes, etc.): During the pre-construction period wastes will be generated from some preparatory activities,

such as construction of labor camp, site office, material storage/stack yard and associated facilities, etc. and removal of road pavement. All these activities also will be carried out by numbers of local labors. So, around 50 kilograms of construction related wastes, such as bricks, aggregates, leftover cements, sands, etc. will be generated, which are typical solid wastes and a negligible quantity (nearly 5 kg) of bio and non-biodegradable wastes will be generated from the daily necessities of workers and construction staffs, such as food wastes, polythene, papers, plastics, etc. Some chemical waste, like paints, oils, etc. and small amount of solid and liquid wastes from the immediate use of constructed latrines by the workers may also be generated, such as feces and urines.
Type and quantity of raw materials used (wood, bricks, cement, water, etc.): **Raw materials:** i) Bricks ii) Sand iii) cement iv) Gravel v) water vi) Aggregates. **Quantity:** It is difficult to provide exact figures of raw materials on a typical pre-construction site at this level.
Approx. area (in square meters) of vegetation and soil in the right-of-way, borrow pits, waste dumps, and equipment yards: Vegetation is very scarce in the sub-project area and will not be affected by any work during the pre- construction stage. No borrow pits were found in the area and the current condition shows that there is no aggregated soil in the peripheral surroundings.
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 Low, for stagnant water bodies in borrow pits/quarries for inviting mosquito breeding ground.
Disturbance or modification of existing drainage channels (rivers, canals) or surface water bodies (wetlands, marshes): (High/Medium/Low with description) Low, there is canal (Khal) in the area, but sufficiently distant from the proposed site, and will not receive any disturbance or modification.
Destruction or damage of terrestrial or aquatic ecosystems or endangered species directly or by induced development: (High/Medium/Low with description) Low. There is very little scope of damaging terrestrial ecosystems.
Activities that can lead to landslides, slumps, slips and other mass movements in road cuts: No physical works will be carried out in this phase which has scope to trigger landslides.
Erosion of lands below the roadbed receiving concentrated outflow carried by covered or open drains: (High/Medium/Low with description) The scale of erosion of lands is very unlikely at this stage.
Describe possible traffic movement impacts on (unwanted) light, noise and air pollution: Air pollution from generating of dust while carrying and unloading the construction materials to the site or stackyard may create public nuisance and little health effects for the people in the area. But noise and light pollution may not be at such a significant level.

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

Type and quantity of waste generated (e.g., Solids wastes, liquid wastes, etc.): ***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 35 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 3 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) wood are the most common type of raw materials to be used in construction period. **Quantity**: Anticipating the quantity of raw materials to be used needs detail calculation as per design, which is beyond the scope of this report, but presented in engineering design/estimates of the sub-project.
Approx. area (in square meters) of vegetation and soil in the right-of-way, borrow pits, waste dumps, and equipment yards: Vegetation is very scarce in the sub-project area and will not be affected by the construction work. The open area beside the proposed location is clearly enough to accommodate stack/equipment yards, temporary waste dumping sites, as well as the target construction plots.
Possibility of stagnant water bodies in borrow pits, quarries, etc., encouraging for mosquito breeding and other disease vectors: (High/Medium/Low with explanation) There are no existing borrow-pits or quarries in close vicinity of the proposed site which may turn to a stagnant water body, and not too much water will be required during the construction period that may cause temporary water stagnation. Moreover, 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) There is no waterbody that maybe disturbed or modified during the construction works (also considering the scale) that will take place.
Destruction or damage of terrestrial or aquatic ecosystems or endangered species directly or by induced development: (High/Medium/Low with description) Low. The improvement works will be limited within a small area and not any considerable terrestrial or aquatic ecosystem is present in close vicinity, which could be affected significantly by the construction activities. 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: The soil in the proposed site is already compacted and developed and the area is largely flat, so there is almost no chance to trigger the landslide or any type of mass movement of soil for the said construction works.
Erosion of lands below the roadbed receiving concentrated outflow carried by covered or open drains: (High/Medium/Low with description) Not applicable.
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: Dust produced in the proposed site for daily business activities will be minimal compared to the vehicle produced nuisance, and the effects can easily be managed by sprinkling water during the business days by the market management committee. Therefore, it's very unlikely that any significant health hazards or interference of plant growth will take place.
Chance of long-term or semi-permanent destruction of soils: (High/Medium/Low with description) Soil cover in the market area will be destroyed during the operational period due to the congregation of many people at any market/hat day and removal of grass cover, therefore.
Possibility of odor and water, soil quality impacts from SWM and FSM disposal system (High/Medium/Low with description) Putrescible wastes and mismanagement relating to proper cleaning and maintenance of toilets and market sheds may cause odor and degradation of water and soil quality in or around the places, which could be avoided by active and efficient management by the BMC (Bazar Management Committee).
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: Apart from the financial engagement of labors, suppliers and other stakeholders during the construction period, a Hat-Bazar offers numerous multi-faceted benefits to the host communities. Communities will have easy access to all necessary and daily products on a single platform, producers and sellers can sell their products without any difficulties, and female shoppers and sellers will also receive advantageous and safe spaces for sopping and trading. Many other stakeholders involving in backend supply chain of the trading facilities will also be hugely benefited. Participating in the trading activities of all sorts thus will improve the economic conditions of every involved party and help them develop as well as gaining access to other support services for achieving a better living condition. Furthermore, the revenue to be generated, if any, from the hat-bazar will eventually contribute to the development of the respective areas.
Extent of disturbance or modification of existing drainage channels (rivers, canals) or surface water bodies (wetlands, marshes): (High/Medium/Low with description) No existing drainage channels or surface water bodies found in the close vicinity of the intervention area; therefore, no such effect can be anticipated.
Extent of destruction or damage of terrestrial or aquatic ecosystems or endangered species directly or by induced development: (High/Medium/Low with description) Low. There are no protected areas in or around project sites, and no known areas of ecological interest.
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 impact is anticipated.
Erosion of lands below the roadbed receiving concentrated outflow carried by covered or open drains: (High/Medium/Low with explanation) Not applicable.
Describe possible traffic movement impacts on (unwanted) light, noise and air pollution: Improved hat-bazar will definitely increase the public gathering which causes the increasing of vehicular movement. This movement may increase the air and noise pollution, but light pollution effect will not be increased. The Bazar Management Committee should remain concerned about this nuisance and take necessary actions by spraying water to reduce the pollution generated from dust.

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)

Environmental Screening Form for Sub-project W1-5

Sub-Project Description Form:

EMCRP/W1- Improvement of Thainkhali bazar & Maintenance of Moricha Bazar, Sonarpara Bazar, Rumkha Bazar, Palong Khali Bazar & Ukhiya Daroga Bazar in Ukhiya Upazila under Cox's Bazar District.

Name of Sub-Project: Maintenance of Rumkha Bazar

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

Estimated total cost of the work package (in Taka): 6,31,00,981.00 Tk.

Estimated construction period duration: 1 year

Construction Period: 2023-2024

Estimated total cost of the component (in Taka): 1,11,92,984.39 Tk.

Estimated Operation and Maintenance period (life of sub-project): Project design life more than 15 (Fifteen) years but Government policies on how long projects can operate in the camps.

District: Cox's Bazar **Sub-District**: Ukhiya **Union**: Holdiapalong **Ward:** 09

Name of Community/Local Area: Rumkha Bazar

Description of proposed sub-project activities (incl. type of activities, footprint area, natural resources required, etc.):

The Sub-Project is categorized as a host community-based hat-bazar where consumers are all locals. The proposed hat-bazar improvement work will be improved within a confined area of the existing bazar falling into Govt. periphery with some identified interventions. There are few existing shed out of which few are going to be rebuilt as well new sheds are proposed to improve this bazar.

The proposed interventions are 04 nos. of Shed (Dimension:16.30mX6.3m), U-drain (Dimension: 100mX0.75m) and External U-drain (Dimension:25mX0.5m), 4nos. of Toilet (Dimension:1.735mX1.735m), RCC retaining wall (with 60m length), connecting road (Dimension: 200mX4.2m) 1no. Of submersible pump. Apart these facilities, safety works, and Environmental Mitigation and Enhancement works are also included in the project activity.

Estimated footprint / land area for this sub-project is 17,000 sq. meter.

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

Proposed Rumkha Hat-Bazar is situated within the catchment area south painnashia, Chowdhurypara, Jaliapalong, Jholarpara, Boruapara under Holdiapalong union, Ward-09 of Ukhiya Upazila. This targeted Hat-Bazar is inside host area and Cox's Bazar-Teknaf Highway passes on the east side the proposed location. There is also another road abutting the bazar area is called Rumkha Bazar road coming from the highway and running towards the north. This is a weekly rather than a daily bazar event and during a week, the pick hours (entire day seen on Saturdays, Mondays and Wednesdays) this place remains very busy with locals, businessmen, delivery vehicles and regular customers. Some major features such as mosques are seen in all directions. No Important

environmental features are found within the sub-project other than few trees in the area. Existing sheds in the bazar will be improved and new sheds of different categories, toilet and submersible pump will be constructed.

Overall Comments

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. The local community attended in the participatory public consultation meeting. Their community representatives as Sellers, consumers, host communities, Bazar Management Committee (BMC), different representatives, elites, farmers and elders have no objection to the improvement this infrastructure in the proposed site; the community also appreciated the initiative of LGED to ensure safe and better portability. The public consultation meeting results confirmed that improvement of this hat-bazar will increase socio-economic interest in the communities and make lives comforts for both locals and businessmen.

The proposed Hat-Bazar is not located within any identified environmentally sensitive area, and therefore, does not seem to cause any significant adverse impact on the important environmental features. No significant impact is expected on the ecosystem and biodiversity, no agricultural land/ activities or fish farming will be disturbed, due to the construction of the sub projects. No drainage congestion/water loggings have been observed in this area. As the improvement work is restricted to within the confined boundary, no outside disturbing activity will be involved. Moreover, mitigation measures will be taken according to the ESMP for minimizing the air, dust and noise pollution.

Types of waste to be generated during construction and operation phase:

During construction period solid waste will be generated due to construction activities. The types of wastes are gravel, stones, rock, wood, copper wires, concrete, iron, plastic etc. Negligible amount of paper, plastic, human wastes including kitchen wastes might be generated in labor camps.

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. Sensitive environmental, cultural, archaeological, religious sites within 1 kilometer of site includes:

At the north; Court Bazar Hospital (600m)**,** Horimdia Temple(80m), Rumkha Palong Islamia Alim Madrassa (350m NW) Households(60m). **At the south**; Rajapalong Forest Office (900m) Rajeurkul GPS (800m), Graveyard(100m), and households(50m). **At the east;** Palong Model High School and College (1km), Rumkha Bazar Mosque(60m), Rumkha GPS (450m), Households(50m). **At the west;** Mosque(40m), Rumkha Alim Madrassa(400m), households(50m) are present. Apart from these structures no other sensitive environmental, cultural, archaeological, religious sites exists.

In this sub-project area, no elephant migration routes exist (ref. IUCN). No disturbance is anticipated due to construction activities to those social and environmental components.

Completed environmental and social screening forms are given below.

Section A: Sub-Project Overview

Description of sub-project/component interventions:
The proposed hat-bazar will be improved within a confined area on Govt. periphery with some identified interventions. The proposed interventions are 04 nos. of Shed (Dimension:16.30mX6.3m), U-drain (Dimension: 100mX0.75m) and External U-drain (Dimension:25mX0.5m), 4nos. of Toilet (Dimension:1.735mX1.735m), RCC retaining wall (with 60m length), connecting road (Dimension: 200mX4.2m). Apart these facilities, safety works, and Environmental Mitigation and Enhancement works are also included in the project activity.

Sub-project Location:

Important Features	
Place	Rumkha
District	Cox's Bazar
Upazila	Ukhiya
Union	Holdiapalong
WARD	09
Sub-project Type	Maintenance/Improvement
Proposed Intervention Type	Hat Bazar
Location of Hat Bazar	Latitude Value: 21.27540^0N Longitude Value: 92.09804^0E
Distance from Upazila HQ	5.5km
Nearby Major Road	Cox's Bazar-Teknaf Highway

Land ownership
The land is owned by 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 location is just on the west side of the main road starting with 4 sheds and other small temporary shops covering around 17000 sq meters of land space which is verified as government land.

i) No historical sites were identified, but several temples, crematories, mosques, graveyards, and educational institutes were present in the catchment area. They are mentioned.
ii) Not required to relocate local community.
iii) No waterbody found on the target location.
iv) No chance of losing agricultural land.
v) Environmental Sensitivity: There are no component on the proposed area that may be on harm's way by the proposed interventions. There are few vegetation found on the proposed area few of which will come in contact of the minor construction initiatives.
vi) No elephant corridor was identified in this area. (Checked with local IUCN representative).

Section B: Environmental Screening

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

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

At the north; Court Bazar Hospital (600m)**,** Horimdia Temple(80m), Rumkha Palong Islamia Alim Madrassa (350m NW) Households(60m). **At the south**; Rajapalong Forest Office (900m) Rajeurkul GPS (800m), Graveyard(100m), and households(50m). **At the east;** Palong Model High School and College (1km), Rumkha Bazar Mosque(60m), Rumkha GPS (450m), Households(50m). **At the west;** Mosque(40m), Rumkha Alim Madrassa(400m), households(50m) are present. There are no other sensitive environmental, cultural, archaeological sites within the catchment area of this sub-project.

A sketch of the project surrounding area with several features at relatively distant places and locations of sensitive institutions in the project surrounding areas (within 30m buffer zone) are shown in figure B.1.1

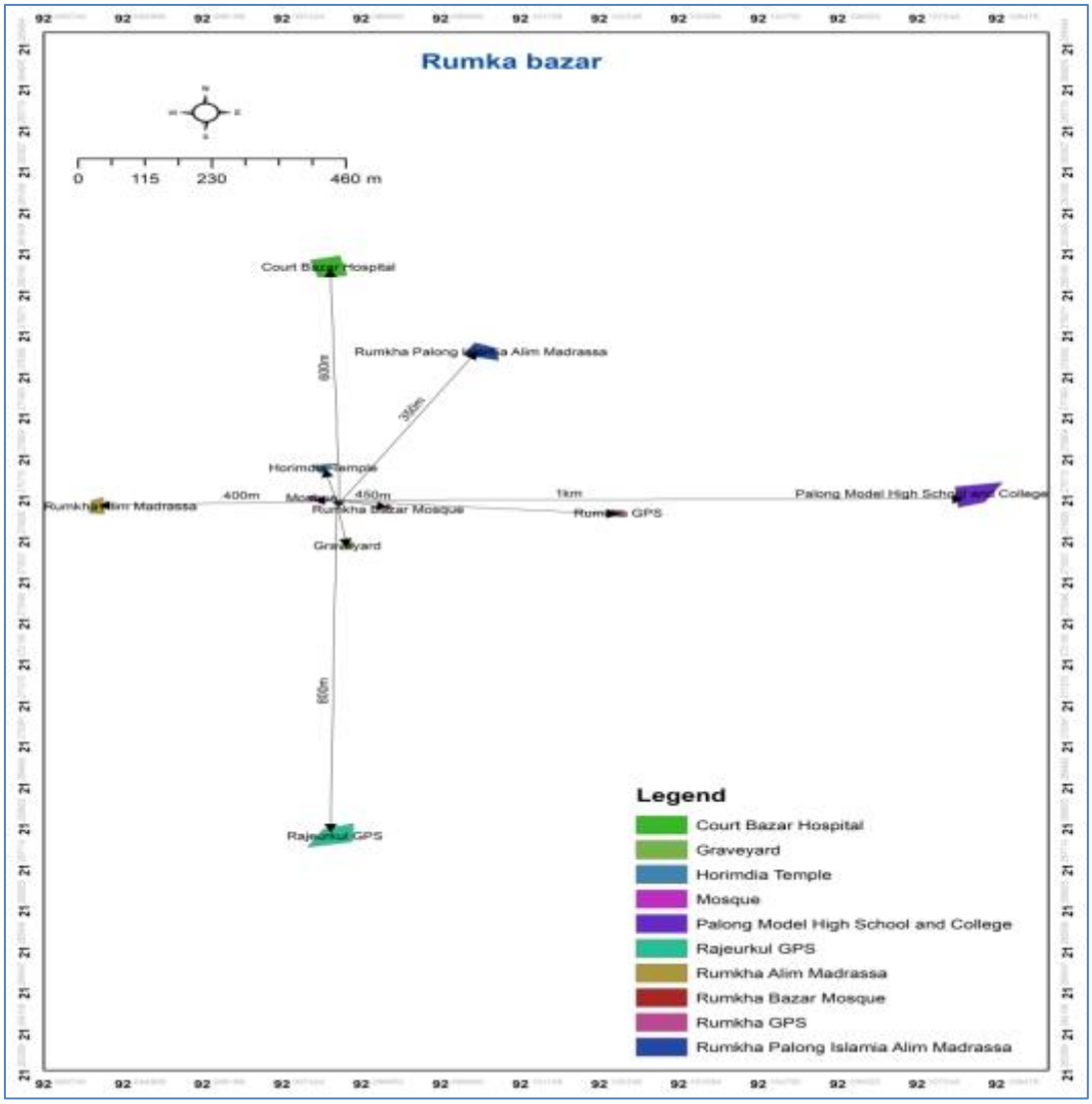


Figure B.1.1: A sketch of the project intervention area

Location of environmentally important and sensitive areas:

There are no environmentally important or sensitive features found in the footprint area, except matured vegetation on the periphery of the existing Hat-Bazar which are homestead gardens and few trees present on the target area. Several mosques, shops, and local settlement were found during the survey. It will not be affected by the construction works, as the activities will be carried out within the existing subproject boundary 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 have 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).

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

3-4 matured wooden trees (1 nos. Chatim, 2 nos. Koroi and 1 no. Neem trees) and shrubs may need to be uprooted.

(3) Other issues: N/A

*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 predevelopment 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 Truck, dumper, motor cycle, tempo, auto rickshaw, tractor, trailer, etc. move on the road surface adjacent to sub-project throughout the day and night generate noise but not related to project activities, and within the 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 adjustable 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 60 feet to 70 feet and deep tube well depth is 700 to 800 feet. In the sub-project area, deep

groundwater is fresh and potable, and arsenic free. Water from the shallower aquifers contains medium concentration of iron. Deep groundwater table (drinkable) varies from 600-800ft (Field survey, 2019). Local people usually use deep tube-well water for drinking and other domestic purposes. There should have been deep tube well which pump water from the confined aquifer. Groundwater quality: pH-5.17 to 7.51, DO-2.26 to 8.14mg/l, TDS-23.40 to 320 mg/l, EC -25.7 to 681µs/cm, Fe-0.08 to 4.6 mg/l, Cl--8.0 to 475mg/l, Salinity- 0.07 to 1.28mg/l and As-Nil. *Data source: DPHE Test Report, 2023 (Water samples collected and tested at DPHE laboratory) The results of the parameters tested in the laboratories for the provided sub-projects are mostly within the national standards for potable water.
Status of wildlife movement: N/A (None of the information was found about the wildlife movement in or across the area)
State of forestation: Trees are present surrounding the area and few within the area of intervention.
Summary of water balance analysis (For water supply scheme only): N/A

B.2: Preconstruction Phase

Information on Ancillary Facilities (e.g., status of access road or any other facility required for sub-project to be viable): Cox's Bazar Teknaf Highway is available for access. It is possible to carry the construction materials on the road to the improvement site.
Requirement of accommodation or service amenities (toilet, water supply, electricity) to support the workforce during construction: An open space is required to set up a labor camp with associated facilities (toilet for male and female workers, kitchen for cooking, tube-well for water supply facility, and electricity connection) to support the workforce during construction. The space should have enough land area to accommodate a stack yard along with a site office, if possible. Open space should be selected in such a way that workers do not need to travel/walk through a longer distance to reach the site and the place can be secured with proper fencing with a guard be posted at the entrance. The space or land area can be used on rental basis or under a mutual agreement between the owner and the contractor. The contract/consent document must be kept at the site office, whatsoever the mode of the contract is made.
Possible location of labor camps: Labor camp can be established along the sub-project location since there are available open Govt. lands. However, this will have to be done with the consent of locals 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) aggregates v) metals vi) water vii) concretes vii) Bamboo & wood from mobilized materials viii) clay are the most common type of building material used in construction.
Identification of access road for transportation (Yes/No): Yes. Cox's Bazar-Teknaf highway road are available for access.
Location identification for raw material storage: Adjacent to labor camp or different location is available. However, this will need placement on open fields and should be consulted with local committee. Material storage area must be well fenced, and

materials will be covered with tarpaulins.
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. From the demolition works 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 similar accounts can be found. 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 50 kg during the pre-construction phase
Type and quantity of waste generated (e.g. Solids wastes, liquid wastes, etc.): During the pre-construction period wastes will be generated from some preparatory activities, such as construction of labor camp, site office, material storage/stack yard and associated facilities, etc. and removal of road pavement. All these activities also will be carried out by numbers of local labors. So, around 50 kilograms of construction related wastes, such as bricks, aggregates, leftover cements, sands, etc. will be generated, which are typical solid wastes and a negligible quantity (nearly 5 kg) of bio and non-biodegradable wastes will be generated from the daily necessities of workers and construction staffs, such as food wastes, polythene, papers, plastics, etc. Some chemical waste, like paints, oils, etc. and small amount of solid and liquid wastes from the immediate use of constructed latrines by the workers may also be generated, such as feces and urines.
Type and quantity of raw materials used (wood, bricks, cement, water, etc.): **Raw materials:** i) Bricks ii) Sand iii) cement iv) Gravel v) water vi) Aggregates. **Quantity:** It is difficult to provide exact figures of raw materials on a typical pre-construction site at this level.
Approx. area (in square meters) of vegetation and soil in the right-of-way, borrow pits, waste dumps, and equipment yards: Vegetation is very scarce in the sub-project area and 3-4 matured wooden trees (1 nos. Chatim, 2 nos. Koroi and 1 no. Neem trees) and shrubs may need to be uprooted during the pre- construction stage. No borrow pits were found in the area and the current condition shows that there is no aggregated soil in the peripheral surroundings.
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 Low, for stagnant water bodies in borrow pits/quarries for inviting mosquito breeding ground.
Disturbance or modification of existing drainage channels (rivers, canals) or surface water bodies (wetlands, marshes): (High/Medium/Low with description) Low, there is canal (Khal) in the area, but sufficiently distant from the proposed site, and will not receive any disturbance or modification.
Destruction or damage of terrestrial or aquatic ecosystems or endangered species directly or by induced development: (High/Medium/Low with description) Low. There is very little scope of damaging terrestrial ecosystems.
Activities that can lead to landslides, slumps, slips and other mass movements in road cuts: No physical works will be carried out in this phase which has scope to trigger landslides.

Erosion of lands below the roadbed receiving concentrated outflow carried by covered or open drains: (High/Medium/Low with description) The scale of erosion of lands is very unlikely at this stage.
Describe possible traffic movement impacts on (unwanted) light, noise and air pollution: Air pollution from generating of dust while carrying and unloading the construction materials to the site or stackyard may create public nuisance and little health effects for the people in the area. But noise and light pollution may not be at such a significant level.

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

Type and quantity of waste generated (e.g. Solids wastes, liquid wastes, etc.): ***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 35 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 3 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) wood are the most common type of raw materials to be used in construction period. **Quantity**: Anticipating the quantity of raw materials to be used needs detail calculation as per design, which is beyond the scope of this report, but presented in engineering design/estimates of the sub-project.
Approx. area (in square meters) of vegetation and soil in the right-of-way, borrow pits, waste dumps, and equipment yards: Vegetation is very scarce in the sub-project area and will not be affected by the construction work. The open area beside the proposed location is clearly enough to accommodate stack/equipment yards, temporary waste dumping sites, as well as the target construction plots.
Possibility of stagnant water bodies in borrow pits, quarries, etc., encouraging for mosquito breeding and other disease vectors: (High/Medium/Low with explanation) There are no existing borrow-pits or quarries in close vicinity of the proposed site which may turn to a stagnant water body, and not too much water will be required during the construction period that may cause temporary water stagnation. Moreover, 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) There is no waterbody that maybe disturbed or modified during the construction works (also considering the scale) that will take place.
Destruction or damage of terrestrial or aquatic ecosystems or endangered species directly or by induced development: (High/Medium/Low with description) Low. The improvement works will be limited within a small area and not any considerable terrestrial

or aquatic ecosystem is present in close vicinity, which could be affected significantly by the construction activities. 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: The soil in the proposed site is already compacted and developed and the area is largely flat, so there is almost no chance to trigger the landslide or any type of mass movement of soil for the said construction works.
Erosion of lands below the roadbed receiving concentrated outflow carried by covered or open drains: (High/Medium/Low with description) Not applicable.
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: Dust produced in the proposed site for daily business activities will be minimal compared to the vehicle produced nuisance, and the effects can easily be managed by sprinkling water during the business days by the market management committee. Therefore, it's very unlikely that any significant health hazards or interference of plant growth will take place.
Chance of long-term or semi-permanent destruction of soils: (High/Medium/Low with description) Soil cover in the market area will be destroyed during the operational period due to the congregation of a large number of people at any market/hat day and removal of grass cover, therefore.
Possibility of odor and water, soil quality impacts from SWM and FSM disposal system (High/Medium/Low with description) Putrescible wastes and mismanagement relating to proper cleaning and maintenance of toilets and market sheds may cause odor and degradation of water and soil quality in or around the places, which could be avoided by active and efficient management by the BMC (Bazar Management Committee).
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: Apart from the financial engagement of labors, suppliers and other stakeholders during the construction period, a Hat-Bazar offers numerous multi-faceted benefits to the host communities. Communities will have easy access to all necessary and daily products on a single platform, producers and sellers can sell their products without any difficulties, and female shoppers and sellers

will also receive advantageous and safe spaces for sopping and trading. Many other stakeholders involving in backend supply chain of the trading facilities will also be hugely benefited. Participating in the trading activities of all sorts thus will improve the economic conditions of every involved party and help them develop as well as gaining access to other support services for achieving a better living condition. Furthermore, the revenue to be generated, if any, from the hat-bazar will eventually contribute to the development of the respective areas.
Extent of disturbance or modification of existing drainage channels (rivers, canals) or surface water bodies (wetlands, marshes): (High/Medium/Low with description) No existing drainage channels or surface water bodies found in the close vicinity of the intervention area; therefore, no such effect can be anticipated.
Extent of destruction or damage of terrestrial or aquatic ecosystems or endangered species directly or by induced development: (High/Medium/Low with description) Low. There are no protected areas in or around project sites, and no known areas of ecological interest.
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 impact is anticipated.
Erosion of lands below the roadbed receiving concentrated outflow carried by covered or open drains: (High/Medium/Low with explanation) Not applicable.
Describe possible traffic movement impacts on (unwanted) light, noise and air pollution: Improved hat-bazar will definitely increase the public gathering which causes the increasing of vehicular movement. This movement may increase the air and noise pollution, but light pollution effect will not be increased. The Bazar Management Committee should remain concerned about this nuisance and take necessary actions by spraying water to reduce the pollution generated from dust.

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)

Environmental Screening Form for Sub-project W1-6

Sub-Project Description Form:

EMCRP/W1- Improvement of Thainkhali bazar & Maintenance of Moricha Bazar, Sonarpara Bazar, Rumkha Bazar, Palong Khali Bazar & Ukhiya Daroga Bazar in Ukhiya Upazila under Cox's Bazar District.

Name of Sub-Project: Maintenance of Palongkhali Bazar

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

Estimated total cost of the work package (in Taka): 6,31,00,981.00 Tk.

Estimated construction period duration: 1 year

Construction Period: 2023-2024

Estimated total cost of the component (in Taka): 1,11,92,984.39 Tk.

Estimated Operation and Maintenance period (life of sub-project): Project design life more than 15 (Fifteen) years but Government policies on how long projects can operate in the camps.

District: Cox's Bazar **Sub-District**: Ukhiya **Union**: Palongkhali **Ward:** 07

Name of Community/Local Area: Palongkhali Bazar

Description of proposed sub-project activities (incl. type of activities, footprint area, natural resources required, etc.):

The Sub-Project is categorized as a host community-based hat-bazar where consumers are all locals. The proposed hat-bazar improvement work will be improved within a confined area of the existing bazar (estimating total of 3254 square meters) falling into Govt. periphery with some identified interventions. East side of the bazar is focused upon specifically the fish shed and the adjacent wet shops area.

The proposed interventions are 2nos.of Shed (Dimension: 27mX4.3m and 12.25mX4.3m), U-drain (Dimension:75mX0.75m), 4nos. of Toilet(1.2mX1.2m), Connecting Road(252mX1.83m), RCC Retaining Wall (with a length of 60m) and 3m width) and 1 no. submersible pump. Apart from these facilities, safety works, and Environmental Mitigation and Enhancement works are also included in the project activity.

Estimated footprint / land area for this sub-project is 3254 sq. meter.

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

Proposed Palongkhali Hat-Bazar is situated within the catchment area Bottoli, Pariribill, Gilatoli, Chakmarpul and Kerumtoli under Palongkhali union, Ward-7 of Ukhiya Upazila. This targeted Hat-Bazar is inside host area and Cox's Bazar-Teknaf Highway passes on the west side the proposed location. During the pick hour (in morning from 9 am to 11 am and at afternoon from 2:30pm to 4:30 pm), this place remains very busy with locals, businessmen, delivery vehicles and regular customers. Some major features such as a School named Palongkhali High School is located at 300m to the east

side as well several mosques are located at different distances around the site. No Important environmental features are found within the sub-project. Existing sheds in the bazar will be improved and new sheds of different categories, toilet, and submersible pump will be constructed.

Overall Comments

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. The local community attended in the participatory public consultation meeting. Their community representatives as Sellers, consumers, host communities, Bazar Management Committee (BMC), different representatives, elites, farmers and elders have no objection to the improvement this infrastructure in the proposed site; the community also appreciated the initiative of LGED to ensure safe and better portability. The public consultation meeting results confirmed that improvement of this hat-bazar will increase socio-economic interest in the communities and make lives comforts for both locals and businessmen.

The proposed Hat-Bazar is not located within any identified environmentally sensitive area, and therefore, does not seem to cause any significant adverse impact on the important environmental features. No significant impact is expected on the ecosystem and biodiversity, no agricultural land/ activities or fish farming will be disturbed, due to the construction of the sub projects. No drainage congestion/water loggings have been observed in this area. As the improvement work is restricted to within the confined boundary, no outside disturbing activity will be involved. Moreover, mitigation measures will be taken according to the ESMP for minimizing the air, dust and noise pollution.

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 construction debris, wood, copper wires, concrete, iron, plastic etc. Negligible amount of paper, plastic, human wastes including kitchen wastes might be generated in labor camps.

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. Sensitive environmental, cultural, archaeological, religious sites within 1 kilometer of site includes:

At the north; Paka market (10m), Nurani Madrassa and Mosque (150m). **At the south**; Eptadia Mosque and Madrassa (20m), Canal(50m). **At the east;** Canal(15m), Parir bill Alim Madrassa(250m), Palongkhali High School(300m), Nurani Madrassa(100m). **At the west;** Kachabazar of Palongkhali(10m), Yakub Mostafa Mosque and Madrassa(100m), Fruit Bazar(120m) are present. Apart from these structures no other sensitive environmental, cultural, archaeological, religious sites exists.

In this sub-project area, no elephant migration routes exist (ref. IUCN). No disturbance is anticipated due to construction activities to those social and environmental components.

Completed environmental and social screening forms are given below.

Section A: Sub-Project Overview

Description of sub-project/component interventions:

The proposed hat-bazar will be improved within a confined area on Govt. periphery with some identified interventions. The proposed interventions are 2nos.of Shed (Dimension: 27mX4.3m and 12.25mX4.3m), U-drain (Dimension:75mX0.75m), 4nos. of Toilet(1.2mX1.2m), Connecting Road(252mX1.83m), RCC Retaining Wall (with a length of 60m) and 3m width) and 1 no. submersible pump. Apart these facilities, safety works and Environmental Mitigation and Enhancement works are also included in the project activity.

Sub-project Location:

Important Features	
Place	Palongkhali
District	Cox's Bazar
Upazila	Ukhiya
Union	Palongkhali
WARD	07
Sub-project Type	Maintenance/Improvement
Proposed Intervention Type	Hat Bazar
Location of Hat Bazar	Latitude Value: 21.14354^0N Longitude Value: 92.15968^0E
Distance from Upazila HQ	13km
Nearby Major Road	Cox's Bazar-Teknaf Highway

Land ownership

The land is owned by 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 location is just on the east side of the main road starting with some grocery stores and wet market is further inside from this access point further east covering around 3254 sq meters of land space which is verified as government land.

i) No historical sites were identified, but several temples, crematories, mosques, graveyards, and educational institutes were present in the catchment area. They are mentioned.
ii) Not required to relocate local community.
iii) No waterbody found on the target location.
iv) No chance of losing agricultural land.
v) Environmental Sensitivity: There are no component on the proposed area that may be on harm's way by the proposed interventions. There are few vegetation found surrounding the area which will not come in contact of the minor construction initiatives.
vi) No elephant corridor was identified in this area. (Checked with local IUCN representative).

Section B: Environmental Screening

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

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

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

At the north; Paka market (10m), Nurani Madrassa and Mosque (150m). **At the south**; Eptadia Mosque and Madrassa (20m) Canal(50m). **At the east;** Canal(15m), Parir bill Alim Madrassa(250m), Palongkhali High School(300m), Nurani Madrassa(100m). **At the west;** Kachabazar of Palongkhali(10m), Yakub Mostafa Mosque and Madrassa(100m), Fruit Bazar(120m) are present. There are no other sensitive environmental, cultural, archaeological sites within the catchment area of this sub-project.

A sketch of the project surrounding area with several features at relatively distant places and locations of sensitive institutions in the project surrounding areas (within 30m buffer zone) are shown in figure B.1.1

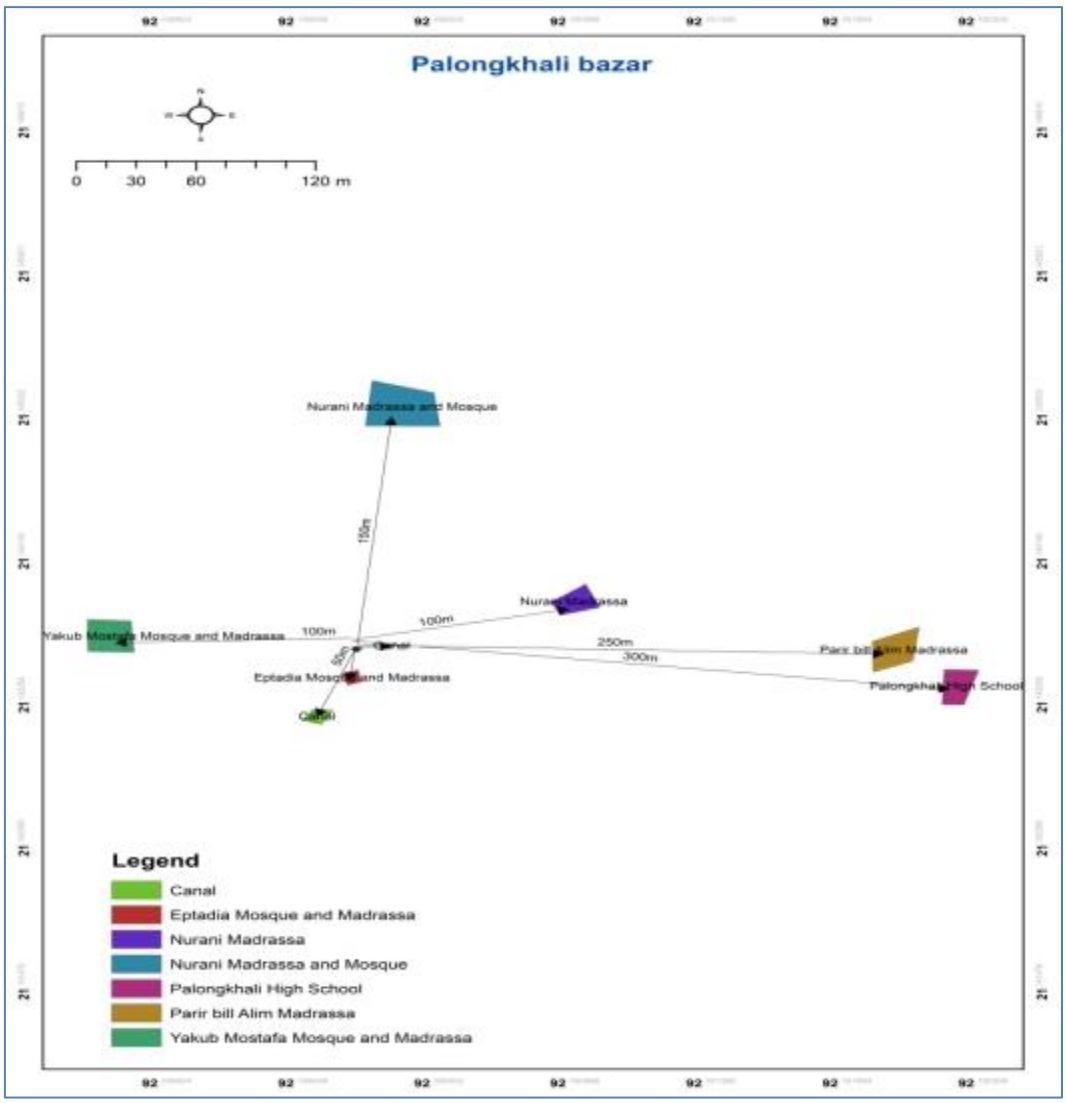


Figure B.1.1: A sketch of the project intervention area

Location of environmentally important and sensitive areas:

There are no environmentally important or sensitive features found in the footprint area, except matured vegetation on the periphery of the existing Hat-Bazar which are homestead gardens or social forest. Several mosques, shops, and local settlement were found during the survey. It will not be affected by the construction works, as the activities will be carried out within the existing subproject boundary 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 have 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).

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

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

(3) Other issues: N/A

*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 predevelopment 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 Truck, dumper, motor cycle, tempo, auto rickshaw, tractor, trailer, etc. move on the road surface adjacent to sub-project throughout the day and night generate noise but not related to project activities, and within the 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 adjustable 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 60 feet to 70 feet and deep tube well depth is 700 to 800 feet. In the sub-project area, deep groundwater is fresh and potable, and arsenic free. Water from the shallower aquifers contains medium concentration of iron. Deep groundwater table (drinkable) varies from 600-800ft (Field

survey, 2019). Local people usually use deep tube-well water for drinking and other domestic purposes. There should have been deep tube well which pump water from the confined aquifer.

Groundwater quality: pH-5.17 to 7.51, DO-2.26 to 8.14mg/l, TDS-23.40 to 320 mg/l, EC -25.7 to 681µs/cm, Fe-0.08 to 4.6 mg/l, Cl--8.0 to 475mg/l, Salinity- 0.07 to 1.28mg/l and As-Nil.

*Data source: DPHE Test Report, 2023 (Water samples collected and tested at DPHE laboratory)
The results of the parameters tested in the laboratories for the provided sub-projects are mostly within the national standards for potable water.

Status of wildlife movement:
N/A (None of the information was found about the wildlife movement in or across the area)

State of forestation:
Trees are present surrounding the site, but not within the area of intervention.

Summary of water balance analysis (For water supply scheme only):
N/A

B.2: Preconstruction Phase

Information on Ancillary Facilities (e.g., status of access road or any other facility required for sub-project to be viable):
Cox's Bazar Teknaf Highway is available for access. It is possible to carry the construction materials on the road to the improvement site.

Requirement of accommodation or service amenities (toilet, water supply, electricity) to support the workforce during construction:
An open space is required to set up a labor camp with associated facilities (toilet for male and female workers, kitchen for cooking, tube-well for water supply facility, and electricity connection) to support the workforce during construction. The space should have enough land area to accommodate a stack yard along with a site office, if possible. Open space should be selected in such a way that workers do not need to travel/walk through a longer distance to reach the site and the place can be secured with proper fencing with a guard be posted at the entrance. The space or land area can be used on rental basis or under a mutual agreement between the owner and the contractor. The contract/consent document must be kept at the site office, whatsoever the mode of the contract is made.

Possible location of labor camps:
Labor camp can be established along the sub-project location since there are available open Govt. lands. However, this will have to be done with the consent of locals 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) aggregates v) metals vi) water vii) concretes vii) Bamboo & wood from mobilized materials viii) clay are the most common type of building material used in construction.

Identification of access road for transportation (Yes/No):
Yes. Cox's Bazar-Teknaf highway is available for access.

Location identification for raw material storage:
Adjacent to labor camp or different location is available. However, this will need placement on open fields and should be consulted with local committee. Material storage area must be well fenced, and

materials will be covered with tarpaulins.
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. From the demolition works 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 similar accounts can be found. 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 50 kg during the pre-construction phase
Type and quantity of waste generated (e.g. Solids wastes, liquid wastes, etc.): During the pre-construction period wastes will be generated from some preparatory activities, such as construction of labor camp, site office, material storage/stack yard and associated facilities, etc. and removal of road pavement. All these activities also will be carried out by numbers of local labors. So, around 50 kilograms of construction related wastes, such as bricks, aggregates, leftover cements, sands, etc. will be generated, which are typical solid wastes and a negligible quantity (nearly 5 kg) of bio and non-biodegradable wastes will be generated from the daily necessities of workers and construction staffs, such as food wastes, polythene, papers, plastics, etc. Some chemical waste, like paints, oils, etc. and small amount of solid and liquid wastes from the immediate use of constructed latrines by the workers may also be generated, such as feces and urines.
Type and quantity of raw materials used (wood, bricks, cement, water, etc.): **Raw materials:** i) Bricks ii) Sand iii) cement iv) Gravel v) water vi) Aggregates. **Quantity:** It is difficult to provide exact figures of raw materials on a typical pre-construction site at this level.
Approx. area (in square meters) of vegetation and soil in the right-of-way, borrow pits, waste dumps, and equipment yards: Vegetation is very scarce in the sub-project area and will not be affected by any work during the pre-construction stage. No borrow pits were found in the area and the current condition shows that there is no aggregated soil in the peripheral surroundings.
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 Low, for stagnant water bodies in borrow pits/quarries for inviting mosquito breeding ground.
Disturbance or modification of existing drainage channels (rivers, canals) or surface water bodies (wetlands, marshes): (High/Medium/Low with description) Low, there is canal (Khal) in the area, but sufficiently distant from the proposed site, and will not receive any disturbance or modification.
Destruction or damage of terrestrial or aquatic ecosystems or endangered species directly or by induced development: (High/Medium/Low with description) Low. There is very little scope of damaging terrestrial ecosystems.
Activities that can lead to landslides, slumps, slips and other mass movements in road cuts: No physical works will be carried out in this phase which has scope to trigger landslides.
Erosion of lands below the roadbed receiving concentrated outflow carried by covered or open drains: (High/Medium/Low with description)

The scale of erosion of lands is very unlikely at this stage.
Describe possible traffic movement impacts on (unwanted) light, noise and air pollution: Air pollution from generating of dust while carrying and unloading the construction materials to the site or stackyard may create public nuisance and little health effects for the people in the area. But noise and light pollution may not be at such a significant level.

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

Type and quantity of waste generated (e.g., Solids wastes, liquid wastes, etc.): ***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 35 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 3 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) wood are the most common type of raw materials to be used in construction period. **Quantity**: Anticipating the quantity of raw materials to be used needs detail calculation as per design, which is beyond the scope of this report, but presented in engineering design/estimates of the sub-project.
Approx. area (in square meters) of vegetation and soil in the right-of-way, borrow pits, waste dumps, and equipment yards: Vegetation is very scarce in the sub-project area and will not be affected by the construction work. The open area beside the proposed location is clearly enough to accommodate stack/equipment yards, temporary waste dumping sites, as well as the target construction plots.
Possibility of stagnant water bodies in borrow pits, quarries, etc., encouraging for mosquito breeding and other disease vectors: (High/Medium/Low with explanation) There are no existing borrow-pits or quarries in close vicinity of the proposed site which may turn to a stagnant water body, and not too much water will be required during the construction period that may cause temporary water stagnation. Moreover, 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) There is a canal on the east that maybe disturbed during the construction works that will take place such waste runoffs from the construction.
Destruction or damage of terrestrial or aquatic ecosystems or endangered species directly or by induced development: (High/Medium/Low with description) Low. The improvement works will be limited within a small area and not any considerable terrestrial or aquatic ecosystem is present in close vicinity, which could be affected significantly by the

construction activities. 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: The soil in the proposed site is already compacted and developed and the area is largely flat, so there is almost no chance to trigger the landslide or any type of mass movement of soil for the said construction works.
Erosion of lands below the roadbed receiving concentrated outflow carried by covered or open drains: (High/Medium/Low with description) Not applicable.
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: Dust produced in the proposed site for daily business activities will be minimal compared to the vehicle produced nuisance, and the effects can easily be managed by sprinkling water during the business days by the market management committee. Therefore, it's very unlikely that any significant health hazards or interference of plant growth will take place.
Chance of long-term or semi-permanent destruction of soils: (High/Medium/Low with description) Soil cover in the market area will be destroyed during the operational period due to the congregation of a large number of people at any market/hat day and removal of grass cover, therefore.
Possibility of odor and water, soil quality impacts from SWM and FSM disposal system (High/Medium/Low with description) Putrescible wastes and mismanagement relating to proper cleaning and maintenance of toilets and market sheds may cause odor and degradation of water and soil quality in or around the places, which could be avoided by active and efficient management by the BMC (Bazar Management Committee).
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: Apart from the financial engagement of labors, suppliers and other stakeholders during the construction period, a Hat-Bazar offers numerous multi-faceted benefits to the host communities. Communities will have easy access to all necessary and daily products on a single platform, producers and sellers can sell their products without any difficulties, and female shoppers and sellers will also receive advantageous and safe spaces for sopping and trading. Many other stakeholders involving in backend supply chain of the trading facilities will also be hugely benefited. Participating

in the trading activities of all sorts thus will improve the economic conditions of every involved party and help them develop as well as gaining access to other support services for achieving a better living condition. Furthermore, the revenue to be generated, if any, from the hat-bazar will eventually contribute to the development of the respective areas.
Extent of disturbance or modification of existing drainage channels (rivers, canals) or surface water bodies (wetlands, marshes): (High/Medium/Low with description) No existing drainage channels or surface water bodies found in the close vicinity of the intervention area; therefore, no such effect can be anticipated.
Extent of destruction or damage of terrestrial or aquatic ecosystems or endangered species directly or by induced development: (High/Medium/Low with description) Low. There are no protected areas in or around project sites, and no known areas of ecological interest.
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 impact is anticipated.
Erosion of lands below the roadbed receiving concentrated outflow carried by covered or open drains: (High/Medium/Low with explanation) Not applicable.
Describe possible traffic movement impacts on (unwanted) light, noise and air pollution: Improved hat-bazar will increase the public gathering which causes the increasing of vehicular movement. This movement may increase the air and noise pollution, but light pollution effect will not be increased. The Bazar Management Committee should remain concerned about this nuisance and take necessary actions by spraying water to reduce the pollution generated from dust.

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

Section D: Environmental Screening Summary of the Work Package-W1

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	
					Indicators	Frequency
1.Sub-Project Interventions	**Improvement of Thainkhali bazar & Maintenance of Moricha Bazar, Sonarpara Bazar, Rumkha Bazar, Palong Khali Bazar & Ukhiya Daroga Bazar in Ukhiya Upazila under Cox's Bazar District.** (Degradation of air, water and soil quality, and local hydrology)	Under the sub-project intervention, the overall score is low.	• Limiting earthworks. • Watering of dry exposed surfaces and stockpiles of aggregates at least twice daily, or as necessary. • 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. Loose materials shall be bagged and covered. • Channels, earth bunds, netting, tarpaulin and or sandbag barriers shall be used on site to manage surface water runoff and minimize erosion. • The overall slope of the work areas and stack yards shall be kept to a minimum to reduce the	Contractor, environmental specialist of PIU and D&SC	Visual monitoring result of air quality condition, Results of water test parameters, blockage of water flow with soil, debris or stack materials at site.	Throughout the time during the construction period.

Section	Main Environmental Impacts	Impact Significance*	Suggested Mitigation Measures	Person/ Institution Responsible	Monitoring Suggestions	
					Indicators	Frequency
			erosive potential of surface water flows elsewhere. • Store chemicals/oil/fuel properly in designated and separate place and far from flammable items. • 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 plan.			
2. Pre-construction Phase	**Site planning** (i.e. Labor camp, construction material storage area etc.)	Under the sub-project intervention, the overall score is low.	• The construction area is on plain land. The entire construction area within the identified targeted location needs to be well fenced on the feature fronts so that host, service providers and others could be protected from any accidental events/injuries. • Construction camp or labor shed, and material storage area should be located at the site & approved by the Environmental Specialist of D&SC. • Households of locals, connecting roads, mosques, etc. are located nearby the proposed location so labor camp needs to be set up in such a location that any types of interventions	Contractor, environmental specialist of PIU and D&SC	Location of stockpiles and labor shed	Prior to the start of Construction works.

Section	Main Environmental Impacts	Impact Significance*	Suggested Mitigation Measures	Person/ Institution Responsible	Monitoring Suggestions	
					Indicators	Frequency
			are not disturbed in any way. Labor shed and material storage can be rented on the target area and only Thainkhali site will need full erection of a labor shed.			
	Material storage area for construction (Creating dust/ air pollution, Spillage of liquid/ hazardous substances i.e. oil, paint, chemicals, etc., Risk of crime, Access of DRP, children, animals, etc.)	Under the sub-project intervention, the overall score is low.	• The contractor shall submit a method statement and plans for the storage of hazardous materials (fuels, oils, and chemicals) and emergency procedures. • Proper procedure for stockpiling/ storage of construction materials at the site will be proposed by the contractor & approved by the Environmental Specialist of D&SC. • Proper covering of dust producing materials with polythene sheet. • Proper fencing around the storage area to secure and to minimize the risk of crime and to be safe from access by children, service providers, animals, etc. • In order to avoid any accidents from chemical/hazardous materials spillage, all the chemicals and hazardous materials should be stored in a designated place, far from flammable items and waterbodies, and provided with adequate secondary	Contractor, environmental specialist of PIU and D&SC	List of selected sites; Identified sources and storage place of materials.	During Design Stage

Section	Main Environmental Impacts	Impact Significance*	Suggested Mitigation Measures	Person/ Institution Responsible	Monitoring Suggestions	
					Indicators	Frequency
			containment or bundh. • In case of any spillage, using of oil/chemical absorbent kits and reuse of spilled chemicals and oils are administered. • Spills/ hazardous substances should be disposed off at the site proposed by the contractor & approved by the Environmental Specialist of D&SC to avoid soil/ water contamination.			
	Setting up of labor camp (Generation of sewage waste; solid Waste; Water, soil, air & dust pollution/ environmental pollution; health hazard of workers due to poor quality drinking water)	Under all the sub-project intervention, the overall score is low.	Full setup is required only for Thainkhali Hat Bazar, and rest of the sites will be attended by local workers coming in from own place of dwelling. What ever the case is, the following measures must be considered. • Construction camp should be located at a site favorable for the workers and proposed by the contractor & approved by the Environmental Specialist of D&SC. • Good housekeeping practices along with providing adequate facilities, e.g., toilets, WASH facilities, drinking water supply, etc. is a must to adopt in every labor camps. • No trees, shrubs will be removed, or vegetation stripped without the prior permission of the	Contractor, environmental specialist of PIU and D&SC	Complaints from community; Regular inspection of waste management activity; Waste disposal record.	Prior to the start of Construction works

Section	Main Environmental Impacts	Impact Significance*	Suggested Mitigation Measures	Person/ Institution Responsible	Monitoring Suggestions	
					Indicators	Frequency
			Environmental Specialist. • Under no circumstances may open areas or the surrounding bushes be used as a toilet facility. • Construction of sanitary latrine with septic tank for both male and female workers and staffs. • Construction of the first tube well for drinking water and providing water filters for further ensuring access to the safe drinking water. • Provision of waste bins/ cans, where appropriate. • Litter is to be collected daily. • Bins and/ or skips should be emptied regularly, and waste/ debris should be disposed off at waste disposal areas and/ or at the site pre-approved by Environmental Specialist of D&SC. • Camp and working areas are to be always kept clean and tidy.			
	Accidents	Under the sub-project intervention, the overall score is	• Provision of standard safety protocol. • Providing training on Environmental health and safety to the labors and associated field staffs is the responsibility of Upazila Engineer & Contractors. • Inception training should be scheduled before starting the construction & informal training	Contractor, environmental specialist of PIU and D&SC	Complaints from community; Regular inspection of materials transport	Before and during construction phase

Section	Main Environmental Impacts	Impact Significance*	Suggested Mitigation Measures	Person/ Institution Responsible	Monitoring Suggestions	
					Indicators	Frequency
		low.	should be followed monthly as directed and required. • Safety & protection gears, first aid box etc. should be available in the site during construction period.		vehicles.	
	Demolition works (Clearing of abandoned sheds, clearing out parts of old structures, will generate debris as left-over solid wastes, small splinters, reusable and non-usable wood or steel parts.		• Demolition works will be needed in all sites, and it must be ensured that during such actions was announced prior so that locals or bazar community (dealers/businessmen/shop keepers) can take themselves and their products to safety. • Wastes from the wreckage should be cleared as soon as possible after it has been sorted for proper disposing.			
3. Construction Phase	**Noise Impacts**	Under the sub-project intervention, the overall score is low.	• Avoid high noise making activities during active pick hours. One very effective method is to discuss with the local authority and settle for a time for heavy machinery usage. • Involve the community in planning the work program so that any particularly noisy or otherwise invasive activities can be scheduled to avoid sensitive times. • Avoid using of construction equipment producing excessive noise at pick time & at	Contractor, environmental specialist of PIU and D&SC	Number of complaints from stakeholders, Use of silencers in noise producing equipment and sound	Weekly

Section	Main Environmental Impacts	Impact Significance*	Suggested Mitigation Measures	Person/ Institution Responsible	Monitoring Suggestions	
					Indicators	Frequency
			night. • Ear protection devices for the workers & site staffs should be available in site during construction period.		barriers, Noise Level following decibel meter (dB), if required.	
	Air Quality Conducting works at dry season and moving large quantity of materials may create dusts and increase in concentration of vehicle related pollutants which will affect people who live and work near the sites. The impacts are negative but short-term, site-specific within a relatively small area and reversible by mitigation measures.	Under the sub-project intervention, the overall score is low.	• Damp down exposed soil and any sand stockpiled on site by spraying with water during dry weather. • Use tarpaulins to cover soils, sand and other loose material when transported by trucks. • Unpaved surfaces used for haulage of materials within settlements shall be maintained dust-free. • Arrangements to control dust through provision of water sprinklers and dust extraction systems shall be provided at all stone crushers (if these establishments are being setup exclusively for the subproject). • Limiting speed of construction vehicles in work sites to maximum of 20 km/h. • Regular monitoring of air quality, primarily by sight observation.	Contractor, environmental specialist of PIU and D&SC	Location of stockpiles, Covering of trucks, Records of air quality inspection, Numbers of complaints from sensitive receptors, Heavy equipment and pollution control devices, Maintain records.	Monthly

Section	Main Environmental Impacts	Impact Significance*	Suggested Mitigation Measures	Person/ Institution Responsible	Monitoring Suggestions	
					Indicators	Frequency
	Biodiversity (There are no protected areas in or around subproject sites, and no known areas of ecological interest.)	Under the sub-project intervention, the overall score is low.	• Prohibit employees from cutting of trees for firewood. • If during detailed design cutting of trees is required, compensatory plantation for trees lost at a rate of 5 trees for every tree cut. • Prevent workers or any other person from removing and damaging any flora (plant/vegetation) and fauna.	Contractor, environmental specialist of PIU and D&SC	If tree cutting required, to be determined during Design stage, Numbers of complaints from sensitive receptors	Monthly
	Worker's health and safety	Under the sub-project intervention, the overall score is low.	• Prevent excessive noise; • Construction staff are to make use of the facilities provided for them (e.g., fires for cooking); • No fires permitted on site except if needed for the construction works. • Staff must be trained up for operating equipment, • Availability and access to first-aid equipment and medical supplies. • Ensure the presence and use of safety gear at site: Ear protection devices, Goggles, Illuminating jackets, Masks, Gloves, Helmets, Uniforms etc.,	Contractor, environmental specialist of PIU and D&SC	Numbers of complaints from sensitive receptors; Number of walkways signage, and metal sheets placed at Project location.	Monthly

Section	Main Environmental Impacts	Impact Significance*	Suggested Mitigation Measures	Person/ Institution Responsible	Monitoring Suggestions	
					Indicators	Frequency
			• Ensure adequate supply of drinking water. • Sanitation facilities for male & female workers separately.			
4. Post-Construction Phase	**Construction clean-up** (Damage due to debris, spoils, excess construction materials)	Under the sub-project intervention, the overall score is low.	• Remove all spoils wreckage, rubbish, or temporary structures (such as workers latrines or communal items) which are no longer required. • All affected structures rehabilitated/compensated. • The area that previously housed the construction camp is to be checked for spills of substances such as oil, paint, etc. and these shall be cleaned up. • All imported materials are to be removed and the area shall be re-vegetated as per specification that forms part of this document. • The contractor must arrange the cancellation of all temporary services;	Contractor	Worksite is restored to original conditions; worksite cleanup must be satisfactory; camp has been restored to pre project conditions.	After the completion of Works

Section	Main Environmental Impacts	Impact Significance*	Suggested Mitigation Measures	Person/ Institution Responsible	Monitoring Suggestions	
					Indicators	Frequency
	Odor & waste disposal	Under the issue the overall score is low.	Use bin covers and/or tarpaulins during transport of wastes.	Contractor, Monitored by Consultant and PIU	Complaints from communities	Site inspection daily / weekly basis.
	Vegetation	Under the issue the overall score is low.	After construction work, all structures need to be removed and the area shall be top soiled and re-grassed using the guidelines set out in the re-vegetation specification that forms part of the bidding document.	Contractor, Monitored by Consultant and PIU	Worksite is restored to original conditions	Over the completion of Works

* Overall Impact Score: High = Likely to cause long-term E&S impacts; Medium = Likely to cause temporary impacts; Low = Likely to cause little, short-term impacts

**Post-construction phase denotes the time period contractor use to clear and clean up the sites after the construction work is ended, perform tree plantation, grass turfing, and minor rectification till the official handing over the site to LGED, or owner of the site.

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

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

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

Appendix-4: Environmental and Social Management Plan (ESMP)

ESMP for Improvement of Hat Bazar under Cox's Bazar District. (LGED/EMCRP-W1): Improvement of Thainkhali bazar & Maintenance of Moricha Bazar, Sonarpara Bazar, Rumkha Bazar, Palong Khali Bazar & Ukhiya Daroga Bazar in Ukhiya Upazila under Cox's Bazar District.

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. • Preferred land is government/Khash land So, there are not 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 on livelihoods of the people of catchment area.	PIU & Contractor	Social Development Specialist and Gender Specialist of PIU, PSC
Pre-Construction Stage	Stakeholders Engagement	• All of the project stakeholders should be consulted. • Separate community level consultation meeting with the potential affected HHs • Consultation meeting with locals and business personals about the project objectives and scope of works • All the safeguard documents will be disclosed to all the relevant stakeholders	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, Design & implementing interventions	• Selection of sub-project sites and all implementing interventions must take place outside of the elephant corridor/influence area. • All bazars will be constructed above the highest flood level and adequate drainage facilities will be embedded in the design for avoiding water logging, etc.	PIU	Environmental Consultant of PIU, PSC
Pre-Construction Stage	Site Preparation: Soil Erosion; Alteration of	• Selected site will be far away from any water bodies or natural flow path to avoid the flash flood or any kind or surface runoff.	PIU & Contractor	Environmental Consultant of PIU, PSC

Project Stage	*Potential Environmental & Social Impacts/ Issues*	*Proposed Mitigation Measures*	*Institutional Responsibilities*	*Supervision Responsibility*
	natural drainage	• Tube well location within the construction site will not near any kinds of latrine and soaks well which could be contaminated by those. • The natural drainage pattern on the site should not be significantly altered. • The contractor shall ensure that site preparation activities do not lead to disruption of activities of the local residents. • Sub project intervention must avoid natural disturbance to natural drainage. • The contractor must ensure sound environment for the local residents near the sub project site.		
Construction Activity	Noise from construction works	• Construction activities will be finished at daytime within 05 PM. Proper measures will be taken to avoid any disturbances. • All Personal Protective Equipment (PPE) such as, helmets, boots and gloves will be available in site before starting any kind of construction works.	Contractor	Environmental Consultant of PIU, PSC
Construction Activity	Dust	• Construction machinery shall be properly maintained to minimize exhaust emissions of CO, particulate matter (SPM, PM2.5, PM 10) and Hydrocarbons. • Provision of using water sprinklers to dust control. • Construction materials should be covered properly while carrying in vehicles to the site. • Vehicle movement will be controlled on haul roads/access roads for limiting dust generation.	Contractor	Environmental Consultant of PIU, PSC
Construction	Safety Issues	• Unauthorized entry is completely prohibited in our site and take	Contractor	Environmental

Project Stage	*Potential Environmental & Social Impacts/ Issues*	*Proposed Mitigation Measures*	*Institutional Responsibilities*	*Supervision Responsibility*
Activity		necessary measures for preventing this problem. • It will be ensured that proper training and guidance are provided on general and occupational health and safety to Contractors' personnel and labors forces, and records of training sessions are to be kept on site. • All kinds of Child labor will be completely prohibited.		Consultant of PIU, PSC
Construction Activity	Traffic Management	• Contractors will discuss with traffic management authorities and take site specific traffic management measures to avoid traffic jam and any unwanted incidents or accidents. • Adequate safety signs to be planted on access roads to limit vehicular speeds.	Contractor	Environmental Consultant of PIU, PSC
Construction Activity	Conflicts with existing users due to the scarcity of resource base.	• A detailed assessment of the available resources and consent of the local representative for withdrawal of water from existing water supply sources shall be taken. • If ground water is withdrawn, adequate approvals from the appropriate department need to be undertaken before setting up bore wells. • Any type of consent letter or agreement for withdrawing water from either surface or underground sources will be kept on site. • Local community must be consulted before any construction work 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 on traffic management and awareness.	Contractor	Environmental Consultant of PIU, PSC

Project Stage	*Potential Environmental & Social Impacts/ Issues*	*Proposed Mitigation Measures*	*Institutional Responsibilities*	*Supervision Responsibility*
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 purpose. • Adequate accommodation arrangements for labor forces where required. • Labor code of conduct is to be disclosed through consultation.	Contractor	Social Development Specialist and Gender Specialist of PIU, PSC
Construction Activity	Waste Management: Improper management and handling of hazardous and non-hazardous waste during construction.	Preparation of a waste management plan by the Contractor covering the following aspects: • Ring slab septic tank will be installed where required (specially Thainkhali site) before starting construction works in order to provide a better sanitation facility to the workers and staffs. • Working areas are kept clean and tidy at all times. • Construction site is to be checked for spills of substances i.e. chemical, oil, paint, etc. • Bins and/ or skips should be emptied regularly, and waste/ debris should be disposed off at waste disposal areas and/ or at the site. • The scrap material generated from the erection of structures and related construction activities will be collected and stored	Contractor	Environmental Consultant of PIU, PSC

Project Stage	*Potential Environmental & Social Impacts/ Issues*	*Proposed Mitigation Measures*	*Institutional Responsibilities*	*Supervision Responsibility*
		separately in a stack yard and sold to local recyclers. • Hazardous waste viz. waste oil etc will be collected and stored in the paved and bounded area and subsequently sold to authorized recyclers.		
Construction Activity	Health & Safety Risks: • The potential for exposure to safety events such as tripping, working at height activities, fire from hot works, smoking, failure in electrical installation, mobile plant and vehicles, and electrical shocks. • Exposure to health events during construction activities such as manual handling and	• All construction equipment will be properly inspected timely. • The risk assessment will be prepared time to time for all types of work activities on site. • Proper walkways will be prepared that are clearly designated as a walkway; all walkways shall be provided with good conditions underfoot; signposted and with adequate lighting. • Proper Signpost at any slippery areas will be ensured in construction site. • Proper measure will be maintained for carrying out fire risk assessment for the construction areas, identify sources of fuel and ignition and establish general fire precautions including, means of escape, warning, and fighting fire. • Fire extinguishers will be located at identified fire points around the construction site. The extinguishers must be appropriate to the nature of the potential fire. • This sub-project has Proper communicated 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 trainings for personnel and drills to test the plan.	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*
	musculoskeletal disorders, hand-arm vibration, temporary or permanent hearing loss, heat stress, and dermatitis.	• 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. • 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. • Awareness training will be given to all personnel involved during the construction phase to highlight/make aware of the heat related illnesses of working in hot conditions such as heat cramps, heat exhaustion, heat stroke, and dehydration. • 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 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	Pollution of water bodies	• Contractor will ensure monitoring of nearby surface and underground water bodies for signs of contamination. Parameters include pH, TDS, TSS, As and Coliforms. Test results are to be compared with Bangladesh Environmental Quality Standards of DoE.	Contractor	Environmental Consultant of PIU/D&SC, PSC

Project Stage	*Potential Environmental & Social Impacts/ Issues*	*Proposed Mitigation Measures*	*Institutional Responsibilities*	*Supervision Responsibility*
Decommissioning during the project implementation period (including site clearance after the construction)	The impacts are like those listed in construction stage: • Pollution from waste materials • Health & Safety risks to workers and local community/DRPs	• Provision to proper measure of mitigation and monitoring to minimize or reduce the environmental and social impacts during decommissioning are anticipated to be like those identified for the construction phase. • Third party monitoring of air quality as well as on receiving land and water bodies, may be undertaken, if the condition of those compartments seems to be significantly worse.	Contractor	Environmental Consultant of PIU/D&SC, XEN, Cox's Bazar, PSC.
Operation & Maintenance	Odors and pollution caused by leaking latrines and faecal sludge impacting surrounding water bodies, flora, and fauna	• Preventative maintenance schedule should be prepared by the Bazar Management Committee and followed accordingly.	BMC	UNO, Upazila Chairman of Upazila Parishad
Operation & Maintenance	Maintenance of assets, properties, and equipment	• Periodic maintenance of market sheds, platforms, plumbing, and electric equipment must be carried out. • Toilets must be cleaned regularly and necessary maintenance including prevention of spillage of water/wastes is to be ensured.	BMC	UNO, Upazila Chairman of Upazila Parishad

Waste Management Plan:

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 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.

For wastes and demolition debris:

- 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.
- 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.
- Hazardous waste viz. waste oil etc. will be collected and stored in a paved and bounded area and subsequently sold to authorized recyclers.
- The scrap material generated from the erection of structures and related construction activities will be collected and stored separately in the stack yard and sold to local recyclers. Parts of construction debris (Brick, concrete and masonry) can be recycled as filling materials on the ground or be sold for using 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 disposal site, so as to cause less environmental impact.
- Other leftover non-hazardous wastes, including construction debris shall be transported to an approved disposal site by pick up tracks or back loaded vehicles with proper care.
- Organic wastes produced in the camp site 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 the construction site shall be prohibited completely.

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Appendix-5: Cost of Environmental Mitigation and Enhancement Works in BOQ for each sub-project under work package W1

In consideration to the above-mentioned environmental impacts and their mitigation measures for all sub-project, a cumulative BOQ has been prepared for all sites. Following table will illustrate such items of enhancement and impact mitigation works as well as considering the COVID-19, following budget/cost has been estimated for the protection of workers and staffs working or engaged in construction sites.

Cost of Environmental Enhancement Works for EMCRP/W1-Hat Bazar

Sl no.	Description of item	Quantity	Unit price	Total amount (BDT)
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	Each 6 sites	Lump sum @ 2500 BDT	15,000
2.	**Water Supply and Sanitation** Providing and maintaining adequate portable water supply, sanitation, and cleanliness facilities at labor 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 nos. in each 6 sites	@12,266.66 per 2 nos. toilet	73,600
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.	1 no. in each 6 sites	LS @2500 Tk. Per box	15,000
4.	**Water filter** Supplying of best quality **Water Filter** (32 liters) including and extra set of faucets ceramic and at least 2 sets of ceramic filters as per direction of E.I.C	2 nos. in each 6 sites	@ Tk. 6,666 tk for each filter X 2 =13,333.33 per site	80,000

Sl no.	Description of item	Quantity	Unit price	Total amount (BDT)
5.	**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 for each 6 sites	@ Tk 15,000	90,000
6.	**Tree plantation** Tree plantation to compensate the felled down trees and enhance the ecological condition in the subproject area- preferably local fruits, flowers, medicinal and ornamental trees- Mango, Jackfruit, Jam, Kathbadam, Arjun, Amloki, Horitoki, Bohera, Sishu etc. (including protection, fencing and conservation during project defect liability period): Preferably inside the bazar area where space is available (fencing as per LGED rate schedule 5.26.14) (Contractors will also be instructed by the consultant and PIU prior to the tree plantation work) at an interval of 10 feet.	80 nos. in all 6 sites	@ Tk. 500	40,000
7.	**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.	1no. in all 6 sites	LS @ Tk. 5,000	30,000
8.	**Site Cleaning and preparation** Site Cleaning and preparation including providing necessary protective fencing and safety measures with **Project sign board** and removal and disposal at a safe distance etc. all complete as per direction of E.I.C.	Each 6 sites	Lump sum @ Tk. 14,000	84,000
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	30,000

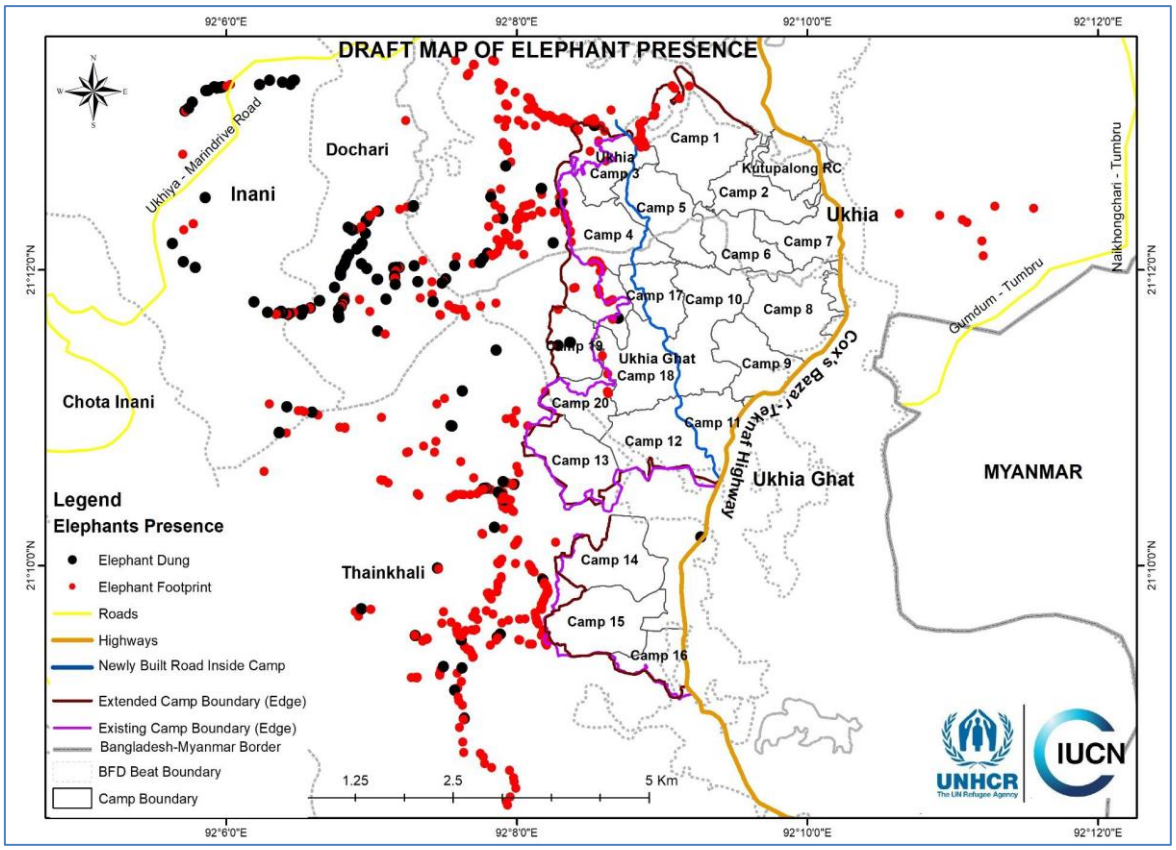
Sl no.	Description of item	Quantity	Unit price	Total amount (BDT)
10.	**Water Test (Drinking Water samples)** Water samples are to be collected periodically (half yearly) from the tube well at labor shed area for laboratory analysis of different parameters such as pH, arsenic, iron, chloride, hardness, 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.	LS in all 6 sites	@ Tk. 5,000	30,000
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.	1 no.	LS @ Tk. 30,000	30,000
	Subtotal Bill: Environmental facilities			**5,17,600.00**

Cost of H&S Measures under COVID 19 Situations for W1

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 counting 20 workers for 270 active working days (9 months in a year) in a contract period for all six sites under the package (EMCRP/W-1).

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.	Trash bin (covered)/Paddle Bin	N/A	N/A	01 nos. in each 6 sites	550.00	6	3,300.00	
2.	Bar Soaps (150 gm each)	54		68	50.00	122 for all 6 sites	6,100.00	To be placed in a case/holder on the basin, for washing hands for max. 25 people a day and showering of 20 workers in each labor camp.
3.	Cloth mask for Workers	N/A	60 nos. in each 6 sites		35.00	360	12,600.00	A worker will use a mask for 15 days with everyday washing
4.	Miscellaneous cost	N/A	N/A	N/A	4,000.00	1 for each 6 sites	24,000.00	Contingency cost for medical emergency and compensation for workers, subject to proper documentation
	Grand Total						**46,000.00**	

Appendix-6: Elephant Migration Routes Map



Elephant presence map (latest information published on 24 May 2018)