

Semiannual Environmental Monitoring Report

**Loan No- G0582- BAN
December 2018**

Semi-annual Environmental Monitoring Report on Emergency Assistance Porject

This Semiannual Environmental Monitoring Report is a document of the borrower. The views expressed herein do not necessarily represent those of ADB's Board of Directors, Management, or staff, and may be preliminary in nature.

In preparing any country program or strategy, financing any project, or by making any designation of or reference to a particular territory or geographic area in this document, the Asian Development Bank does not intend to make any judgments as to the legal or other status of any territory or area.

Emergency Assistance Project

ADB Project 52174-001 | Grant 0582-BAN | TA 9546 BAN

Environmental Monitoring Report

First Semi-Annual Environmental Monitoring Report

Reporting Period

July to December 2018

Implementing Agency

Local Government Engineering Department (LGED)

Department of Public Health Engineering (DPHE)

Ministry of Local Government, Rural Development and Cooperatives (MLGRDC)

Roads and Highways Department (RHD)

Ministry of Road Transport and Bridges

Bangladesh Rural Electrification Board (BREB)

Ministry of Power, Energy and Mineral Resources

December 2018

BAN: EMERGENCY ASSISTANCE PROJECT

First Semi-annual Environmental Monitoring Report

July to December 2018

December 2018

The Semi-annual Environmental Monitoring report is a document of the borrower. The views expressed herein do not necessarily represent those of ADB's Board of Directors, Management, or staff, and may be preliminary in nature.

TABLE OF CONTENT

EXECUTIVE SUMMARY

1	INTRODUCTION	6
1.1	BACKGROUND	6
1.2	THE PROJECT	6
1.3	PURPOSE OF THE ENVIRONMENTAL SAFEGUARDS	7
2	ENVIRONMENTAL RESPONSIBILITIES AND INSTITUTIONAL SETUP	9
2.1	INSTITUTIONAL SETUP AND IMPLEMENTATION ARRANGEMENTS	9
2.2	RESPONSIBILITIES: ENVIRONMENTAL SAFEGUARDS	10
2.3	ENVIRONMENTAL CRITERIA FOR SUBPROJECT SELECTION	11
3	MONITORING FRAMEWORK AND ENVIRONMENTAL COMPLIANCE	12
3.1	MONITORING FRAMEWORK	12
3.2	COMPLIANCE WITH ENVIRONMENTAL RELATED PROJECT COVENANTS	14
3.2.1	NATIONAL COVENANT	14
3.2.2	ADB SAFEGUARDS POLICY STATEMENT	18
3.2.3	SPS (2009) COMPLIANCE STATUS	18
4	PROJECT STATUS OF ONGOING CONTRACT PACKAGES	20
4.1	PROJECT STATUS	20
5	ENVIRONMENTAL STATUS	30
5.1	ENVIRONMENTAL ISSUES OF THE CURRENT PROJECT	30
6	CONCLUDING OBSERVATIONS	37
7	ANNEX A	38

LIST OF TABLES

TABLE 1 ENVIRONMENTAL GUIDELINE FOR NEW SUBPROJECT.....	11
TABLE 2 SUMMARY OF ENVIRONMENTAL LEGISLATIONS APPLICABLE TO THE PROPOSED PROJECT	15
TABLE 3 ADB SAFEGUARDS POLICY STATUS	18
TABLE 4 PROJECT STATUS OF THE ONGOING SUBPROJECTS.....	21
TABLE 5 ENVIRONMENTAL STATUS OF THE SUBPROJECT, ISSUES AND RECOMMENDATION	31
TABLE 6 CIVIL WORKS AND OTHER NON-ENVIRONMENTAL ISSUES	34

LIST OF FIGURES

FIGURE 1 LOCATION MAP OF THE PROPOSED SUBPROJECT	8
FIGURE 2 PROJECT ORGANIZATION STRUCTURE	10
FIGURE 3 PALONGKHALI-CHAPOKKHALI ACCESS ROAD	38
FIGURE 4 NI CHOWDHURY ACCESS ROAD	38
FIGURE 5 LGED CYCLONE SHELTERS	39
FIGURE 6 NI CHOWDHURY ACCESS ROAD	39
FIGURE 7 LGED CYCLONE SHELTERS	39
FIGURE 8 PROPOSED WATER RESERVOIR AT ROHINGYA KATA	39
FIGURE 9 PROPOSED SITE FOR SOLID WASTE AND FAECAL SLUDGE MANAGEMENT	39

FIGURE 10 PROPOSED SITES FOR MINI PIPED WATER SUPPLY SYSTEM	39
FIGURE 11 ENVIRONMENTAL CONDITION OF THE RHD ROAD	39

ABBREVIATIONS

ADB	ASIAN DEVELOPMENT BANK
BCCSAP	BANGLADESH CLIMATE CHANGE STRATEGY AND ACTION PLAN
BREB	BANGLADESH RURAL ELECTRIFICATION BOARD
DPHE	DEPARTMENT OF PUBLIC HEALTH ENGINEERING
EAP	EMERGENCY ASSISTANCE PROJECT
EARF	ENVIRONMENTAL ASSESSMENT AND REVIEW FRAMEWORK
ECA	ENVIRONMENTAL CONSERVATION ACT
ECC	ENVIRONMENTAL CLEARANCE CERTIFICATE
ECR	ENVIRONMENTAL CONSERVATION RULES
EIA	ENVIRONMENTAL IMPACT ASSESSMENT
EIA	ENVIRONMENTAL IMPACT ASSESSMENT
EMP	ENVIRONMENTAL MANAGEMENT PLAN
ETP	EFFLUENT TREATMENT PLANT
GoB	GOVERNMENT OF BANGLADESH
H&S	HEALTH AND SAFETY
IEE	INITIAL ENVIRONMENTAL EXAMINATION
LGED	LOCAL GOVERNMENT ENGINEERING CERTIFICATE
MPEMR	MINISTRY OF POWER, ENERGY AND MINERAL RESOURCES
NFP	NATIONAL FOREST POLICY
NOC	NO OBJECTION CERTIFICATE
RHD	ROADS AND HIGHWAYS
RRRC	THE REFUGEE RELIEF AND REPATRIATION COMMISSION
SPS	SAFEGUARDS POLICY STATEMENT
SSC	SITE CLEARANCE CERTIFICATE
TOR	TERMS OF REFERENCE
UN	UNITED NATIONS
US EPA	UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WB	WORLD BANK

Executive Summary

1 This report is the First Semi-annual Environmental Monitoring Report (hereinafter refereed as EMR) of the ADB financed Emergency Assistance Project (ADB) in Bangladesh, which covers the period of July – December 2018. The report is produced to comply with the environmental scope stipulated in the sub-projects' Environmental Management Plans (EMPs) implemented by various Government Agencies/Departments under the project.

2 The Government of Bangladesh (GoB) requested Asian Development Bank (ADB) for grant support to provide basic infrastructure and essential services to displaced persons. Given the humanitarian need and heart-wrenching condition of the displaced persons, ADB is providing grant financing of \$100 million for the first phase of the project. ADB support will be focused, selective, and well-targeted in the areas of (i) road access to and within camps; (ii) water and sanitation; (iii) energy supply; and (iv) disaster risk mitigation. It will build on the support provided by GoB and complement support provided by the United Nations (UN) agencies, the World Bank (WB) and other agencies. With the principle of putting people first, the project will seek to ease the vulnerabilities and risk of hunger, disease, and disaster. The project is known as Emergency Assistance Project (Project No. 52174-001, Grant 0582-BAN).

3 ADB environmental safeguards objectives are: (i) to ensure the environmental soundness and sustainability of projects and (ii) to support the integration of environmental considerations into the project decision-making process. ADB environmental safeguards are triggered if a project is likely to have potential environmental risks and impacts.

4 The project has been categorized as B for environment under the ADB's Safeguards Policy Statement 2009 (SPS). Individual subprojects will be screened and classified, and based on the classification, and where required, environmental assessments will be undertaken and EMPs developed. Based on Schedule 1 of the ECR, subprojects are likely to require IEEs and EIAs.

5 Subprojects selected will not have significant environmental impacts. Environmental guidelines for subproject selection in Table 1 provide further guidance to avoid or minimize adverse impacts during the identification and finalization of subprojects.

Table 1 Environmental Guideline for new subproject

Component	Environmental Guidelines for Subproject Selection
Overall (Applicable to all Subprojects)	Comply with all applicable national and local laws, regulations, and standards.
	Comply with ADB's SPS.
	Avoid land acquisition and involuntary resettlement and have no impacts on indigenous peoples.
	Avoid protected areas and areas of historical/cultural value.
	Avoid building or setting-up construction camp sites along elephant migration routes
Transport Infrastructure	Do not build new* roads and avoid widening existing roads, as much as possible.
	Avoid hill cutting.
	Do not build new* bridges.
	Avoid cutting trees on the roadside and if any trees have to be removed, plant two new trees for every tree lost.
	Consult the relevant archaeological agency regarding archaeological potential subproject areas to ensure that these are located in areas where there is a low risk of chance finds.

6 The Department of Environment is responsible for environmental issues while forest issues are looked after Department of Forests. Over the years, the MoEF has adopted number of legal instrument in the form of Acts for the protection and conservation of the environment.

7 The important elements of ADB's resettlement policy statement (APS 2009) include the following:

- i. Compensation to replace lost assets, livelihood, and income;
- ii. Assistance for relocation, including provision of relocation sites with appropriate facilities and services; and
- iii. Assistance for rehabilitation to achieve at least the same level of well-being with the project as without it.

8 Refer to **Table 3** for the status of the respective component sub-projects with regard to compliance status to ADB's policy statement (APS 2009).

Table 3 ADB Safeguards Policy Status

ADB Safeguard Policy Statement	Contract Package Status				
	Cyclone Shelter Sub-project	Road Sub-project	Drainage/erosion Sub-project	Water Supply Sub-project	Others Sub-project
(i) Involuntary resettlement will be avoided whenever feasible.	complied	complied	complied	complied	complied
(ii) Where population displacement is unavoidable, it should be minimized.	No displacement	No displacement	No displacement	No displacement	No displacement
(iii) All lost assets acquired or affected will be compensated. Compensation is based on the principle of replacement cost.	NA	Matrix formulated	Matrix formulated	NA	NA
(iv) Each involuntary resettlement is conceived and executed as part of a development project or program. Affected persons need to be provided with sufficient resources to re-establish their livelihoods and homes with time-bound action in co-ordination with civil works.	NA	Provided in Compensation Matrix	Provided in Compensation Matrix	NA	NA
(v) Affected persons are to be fully informed and closely consulted.	complied	complied	complied	complied	complied
(vi) Affected persons are to be assisted to integrate economically and socially into host communities so that adverse impacts on the host communities are minimized and social harmony is promoted.	NA	NA	NA	NA	NA
(vii) The absence of a formal title to land is not a bar to ADB policy entitlements.	NA	NA	NA	NA	NA
(viii) Affected persons are to be identified and recorded as early as possible to establish their eligibility, through a census, which serves as a cut-off date, and prevents subsequent influx of encroachers.	NA	complied	complied	NA	NA
(ix) Particular attention will be paid to vulnerable groups including those without legal title to land or other assets; households headed by	NA	complied	complied	NA	NA

ADB Safeguard Policy Statement	Contract Package Status				
	Cyclone Shelter Sub-project	Road Sub-project	Drainage/erosion Sub-project	Water Supply Sub-project	Others Sub-project
women; the elderly or disabled; and indigenous groups. Assistance must be provided to help them improve their socio-economic status.					
(x) The full resettlement costs will be included in the presentation of project costs and benefits.	NA	NA	NA	NA	NA

9 To date 60 sub-projects have been identified. Of them BREB will implement 12 subprojects, DPHE will implement 23 subprojects, LGED will implement 22 subprojects and RHD will implement 3 subprojects. Of these subprojects 42 subprojects are identified as Category B according to ADB classification.

10 According to the ADB policy on environment, all the B category subprojects would require EMP and IEE reports before project implementation to ensure that the projects will be environmental viable and all the environmental laws, rules, restriction and policies of ADB and GoB are attained. The status of the subprojects are given in **Table 4**.

11 To date 19 EMPs and 7 IEEs have been completed out of 42 Category B projects. All the other EMPs and IEEs are expected to be completed by 2nd week of February.

12 Until date (December 2018) a few number of environmental issues have ben encountered or identified to be affecting project design. **Table 5** represents the environmental issues, recommendations and measures taken. **Table 6** later represents the civil works and other issues, recommendation and measures taken.

13 The concluding observations are as follows:

- The implementing agencies need to consult the Environmental Safeguards consultants and ADB's safeguard division while proposing the project, before going into design. In this way, if the Safeguards division and Environmental Consultants checks the environmental and other related issues, the implementing agencies can go for designing and can save time by avoiding redesign issues
- The implementing agencies need to better coordinate with the DoE and Forest Department. It appears the level of coordination is week.

1 Introduction

1.1 BACKGROUND

14 This report is the First Semi-annual Environmental Monitoring Report (hereinafter refereed as EMR) of the ADB financed Emergency Assistance Project (ADB) in Bangladesh, which covers the period of July – December 2018. The report is produced to comply with the environmental scope stipulated in the sub-projects' Environmental Management Plans (EMPs) implemented by various Government Agencies/Departments under the project.

15 This report is produced by the Environmental Specialists working for Bangladesh Residence Mission (BRM) of ADB to ensure preparation of Environmental Impact Assessment documents for various subprojects to comply with ADB and Bangladesh Government's environmental rules and regulations as well as implementation of Environmental Mitigation Measures during the construction phase. Environmental issues also are anticipated in this report to be identified in advance for avoidance and to ensure timely completion of the project.

1.2 THE PROJECT

16 The Government of Bangladesh (GoB) requested Asian Development Bank (ADB) for grant support to provide basic infrastructure and essential services to displaced persons. Given the humanitarian need and heart-wrenching condition of the displaced persons, ADB is providing grant financing of \$100 million for the first phase of the project. ADB support will be focused, selective, and well-targeted in the areas of (i) road access to and within camps; (ii) water and sanitation; (iii) energy supply; and (iv) disaster risk mitigation. It will build on the support provided by GoB and complement support provided by the United Nations (UN) agencies, the World Bank (WB) and other agencies. With the principle of putting people first, the project will seek to ease the vulnerabilities and risk of hunger, disease, and disaster. The project is known as Emergency Assistance Project (Project No. 52174-001, Grant 0582-BAN).

17 The project will support the Government of Bangladesh in addressing the immediate and urgent needs of the displaced persons from Myanmar in Coxsbazar District, as identified by the United Nations (UN) in its Joint Response Plan (JRP) (displaced persons). The project will mainly support the improvement of water supply and sanitation, disaster risk management, sustainable energy supply, and access roads.

18 The impact of the project will be: Social recovery of affected communities accelerated in the sub-districts of Ukhyia and Teknaf. The outcome will be: Living conditions and resilience of affected communities improved. Four (04) outputs are expected from this project. They are:

- Output 01: Water supply and sanitation improved.
- Output 02: Disaster risk management strengthened
- Output 03: Energy sources provided
- Output 04: Access roads improved.

19 **Output 1: Water supply and sanitation improved.** This consists of providing the camp areas with (i) mobile water carriers for the distribution of treated water; (ii) community bathing facilities for women; (iii) mini piped water supply systems with a production tube well, distribution pipe network, and standpipe water

distribution points; (iv) an integrated waste management facility with collection system; and (v) small surface water treatment plants.

20 **Output 2: Disaster risk management strengthened.** This includes constructing in and around the camp areas (i) multipurpose cyclone shelters with emergency access roads, (ii) food distribution centers, (iii) hill slope protection and/or toe walls to resist landslides, and (iv) storm water drainage networks. The project will also provide lightning arresters and support the preparation of gender-sensitive disaster risk management plans with community-based disaster risk reduction approach.

21 **Output 3: Energy sources provided.** This includes providing the camp areas with (i) retained heat cookers; (ii) stand-alone solar powered street lights with solar photovoltaic panels, battery boxes, and mini grid-connected street lights; and (iii) access to electricity by augmenting substations, distribution lines, and transformers.

22 **Output 4: Access roads improved.** This consists of rehabilitating (i) rural roads to connect to food storage and distribution centers, field hospitals, primary health care centers, and primary education centers; (ii) emergency access roads to the camp areas; and (iii) existing access roads to and within the camps and drainage systems. The project also supports resurfacing the road from Coxsbazar to Teknaf, which is the main supply line.

23 The project will be implemented over 2.5 years, and the grant will close by 30 June 2021. As a condition for being selected, each subproject must have an implementation period that can be completed prior to the project closing date.

1.3 PURPOSE OF THE ENVIRONMENTAL SAFEGUARDS

24 ADB environmental safeguards objectives are: (i) to ensure the environmental soundness and sustainability of projects and (ii) to support the integration of environmental considerations into the project decision-making process. ADB environmental safeguards are triggered if a project is likely to have potential environmental risks and impacts.

25 The purpose of the Environmental Safeguards for the project are defined as:

- Assist in determining adequacy of cost for EMP implementation;
- Assist in addressing any concern related to IEEs and EMPs;
- Assist in summarizing IEEs, translating to language understood by local people and disclosure in public locations;
- Oversee implementation of EMP including environmental monitoring of contractors;
- Assist in implementing corrective actions when necessary to ensure no environmental impacts;
- Review monthly reports by contractors, assist PMU to submit environmental monitoring reports on regular basis;
- Assist in establishing the grievance mechanism for safeguards and addressing any grievances brought about through the GRM in a timely manner as per IEEs;
- Submit semi-annually environmental safeguards monitoring report to ADB via PMU;
- Be responsible for training the PMU/contractor safeguards officers on environmental awareness and management in accordance with both ADB and government requirements and implement the capacity building program for PMU and all staff involved in project implementation on (a) ADB SPS, (b) Government of Bangladesh national and local environmental laws and regulations, (c) core labor standards, (d) occupational health and safety monitoring given in the Social Safeguards Monitoring Report and (e) EMP implementation especially spoil

- management, working in congested areas, public relations and ongoing consultations, grievance redress, etc.; and
- Provide induction course for the training of contractors preparing them on EMP implementation.

26

A location map of the proposed subproject is presented in **Figure 1**.



Figure 1 Location map of the proposed subproject

2 Environmental responsibilities and institutional setup

2.1 INSTITUTIONAL SETUP AND IMPLEMENTATION ARRANGEMENTS

27 The project has been categorized as B for environment under the ADB's Safeguards Policy Statement 2009 (SPS). Individual subprojects will be screened and classified, and based on the classification, and where required, environmental assessments will be undertaken and EMPs developed. Based on Schedule 1 of the ECR, subprojects are likely to require IEEs and EIAs.

28 The Refugee Relief and Repatriation Commission (RRRC) is proposed to act as the coordinator on behalf the government to execute all interventions. RRRC and ADB will conduct regular coordination meetings involving all IAs, relevant stakeholders including deputy commissioner (DC), Cox's Bazar, other development partners and agencies. ADB plans to establish extended mission office in Cox's Bazar for close coordination, facilitation of sub-projects development and implementation. A steering committee comprising higher officials from relevant ministries coordinated by ERD will be formed to provide necessary guidance to expedite the sub-project development and implementation. The steering committee will have a safeguards focal person.

29 The Local Government Engineering Department (LGED), the Department of Public Health Engineering (DPHE), the Roads and Highways Department (RHD), and the Bangladesh Rural Electrification Board (BREB) will be the executing agencies and implementing agencies. responsible for project oversight and coordination. There will be a safeguards focal person in the EA/IA. The EA/IA will be assisted by PMCs. The EAs/IAs will form project implementation units (PIU). The PIUs will identify a focal person for environmental safeguards. The focal person will be assisted in the conduct of the environmental assessment, the development and implementation of EMPs, and compliance monitoring by project consultants. All the implementing agencies are currently implementing ADB projects under this institutional arrangement (further defined in Section VI). ADB also conducts safeguards training for project executing and implementing agencies. Thus, the government has sufficient capacity in implementing ADB requirements and strengthening of capacity, other than through the course of the consultant's work with local counterparts, is not required. ADB will continue to conduct capacity building programs during implementation.

30 The Project Organization established to ensure the requirements of all stakeholders are adequately addressed is shown in the following diagram (**Figure 2**).

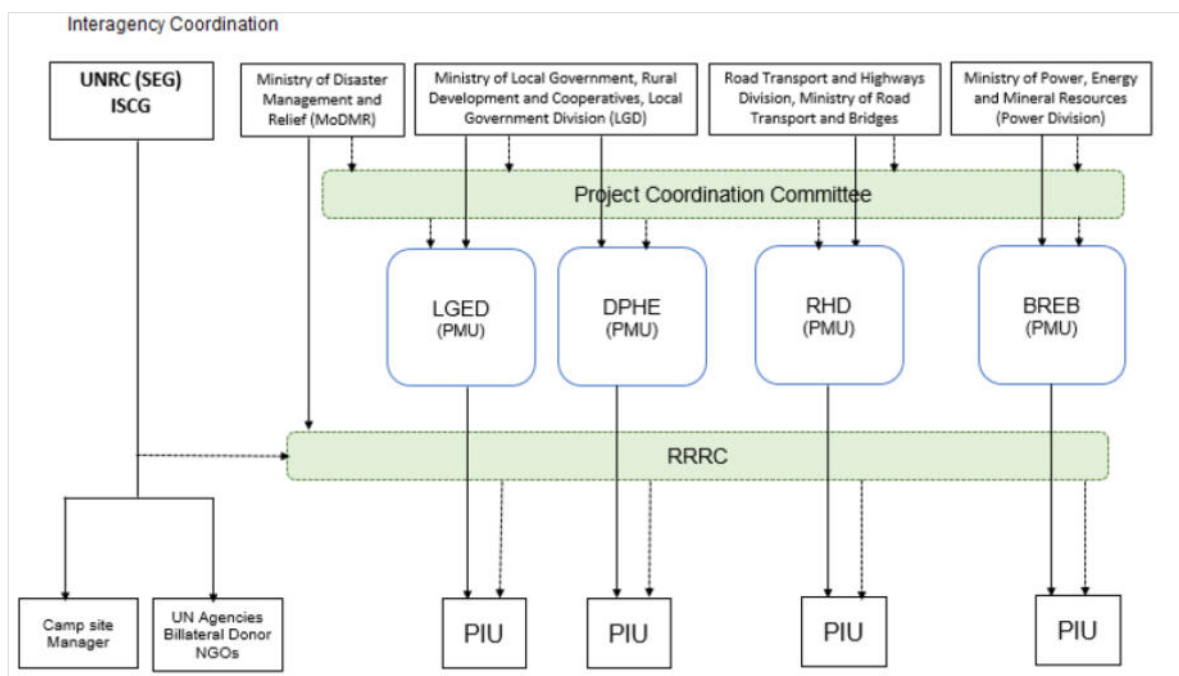


Figure 2 Project organization structure

2.2 RESPONSIBILITIES: ENVIRONMENTAL SAFEGUARDS

31 In compliance with ADB's Safeguard Policy Statement (2009), the project's safeguard categories are as follows:

32 **Environment (category B):** ADB formed subproject selection criteria to avoid significant adverse environmental impacts. An environmental assessment and review framework (EARF) has been prepared following ADB's Safeguards Policy Statement (2009) and government laws and regulations. ADB has disclosed the EARF on its website. Implementation arrangements build on the implementing agencies' experience from other ADB-financed projects, and the project team will help the implementing agencies gain adequate capacity to manage environmental impacts through consultant support. Initial environmental examinations and environmental management plans will be prepared consistent with the EARF and will be incorporated in bidding documents and contract documents to be implemented by contractors and monitored by the implementing agencies. Executing and/or implementing agencies will provide environmental report to the Bangladesh Resident Mission on a semiannual basis.

33 **Involuntary resettlement (category B):** ADB formed subproject selection criteria to avoid land acquisition and involuntary resettlement impacts and social risks. A resettlement framework has been prepared and disclosed, following ADB's Safeguards Policy Statement and government laws and regulations, to guide planning studies and detailed designs of subprojects. The project team will help the implementing agencies gain adequate capacity to prepare resettlement plans, if required, through consultant support. Consultations will be undertaken with stakeholders in project areas during implementation. Executing and/or implementing agencies will provide resettlement implementation report to the Bangladesh Resident Mission on a semiannual basis.

2.3 ENVIRONMENTAL CRITERIA FOR SUBPROJECT SELECTION

34 Subprojects selected will not have significant environmental impacts. Environmental guidelines for subproject selection in Table 1 provide further guidance to avoid or minimize adverse impacts during the identification and finalization of subprojects.

Table 1 Environmental Guideline for new subproject

Component	Environmental Guidelines for Subproject Selection
Overall (Applicable to all Subprojects)	Comply with all applicable national and local laws, regulations, and standards.
	Comply with ADB's SPS.
	Avoid land acquisition and involuntary resettlement and have no impacts on indigenous peoples.
	Avoid protected areas and areas of historical/cultural value.
	Avoid building or setting-up construction camp sites along elephant migration routes
Transport Infrastructure	Do not build new* roads and avoid widening existing roads, as much as possible.
	Avoid hill cutting.
	Do not build new* bridges.
	Avoid cutting trees on the roadside and if any trees have to be removed, plant two new trees for every tree lost.
	Consult the relevant archaeological agency regarding archaeological potential subproject areas to ensure that these are located in areas where there is a low risk of chance finds.

3 Monitoring Framework and environmental compliance

3.1 MONITORING FRAMEWORK

Impact the Project is Aligned with Social recovery of displaced persons in Teknaf and Ukhia camps accelerated (Defined by the project)			
Results Chain	Performance Indicators with Targets and Baselines	Data Sources and Reporting Mechanisms	Risks
Outcome Living conditions and resilience of displaced persons improved	By 2021 <ol style="list-style-type: none"> Reported cases of waterborne diseases decreased by 20%. Occurrence of landslides and flooding in project area during average monsoon months reduced by 50%. At least 90% of households in project area connected to electricity. Average travel time to transport relief goods and services to campsites reduced by 50%. 	<ol style="list-style-type: none"> Project beneficiary survey, executing agency reports 	Crisis and influx of displaced persons extend beyond the project life and exceed projected demand for services.
Outputs 1. Water supply and sanitation improved	By 2020 <ol style="list-style-type: none"> 5 mobile water carriers for the distribution of potable water to the camps provided (2018 baseline: 0) 600 community bathing facilities for women constructed and maintained, of which 10%–20% of women are employed and involved (2018 baseline: 0) 40 mini piped water supply systems with production tube wells constructed (2018 baseline: 0) 5 integrated waste management facilities constructed, and a collection system established (2018 baseline: 0) 2 small surface water treatment plants constructed or expanded (2018 baseline: 0) 	1a–e. Periodic project progress reports prepared by the executing agency	Extreme climate events disrupt or delay execution of works.

2. Disaster risk management strengthened	<p>2a. 10 multipurpose cyclone shelters constructed with sex- disaggregated toilets and designated space for women, including pregnant women and lactating mothers (2018 baseline: 0)</p> <p>2b. 20 semi permanent food distribution centers constructed and employed 10%–20% of women in the community (2018 baseline: 0)</p> <p>2c. 5 km of hill slope protection and/or toe walls constructed (2018 baseline: 0)</p> <p>2d. 5 km storm water drainage network constructed (2018 baseline: 0)</p> <p>2e. 200 lightning arresters installed (2018 baseline: 0)</p> <p>2f. Gender-sensitive disaster risk management plans, adopting community-based disaster risk reduction approach, prepared and implemented (2018 baseline: not applicable)</p>	2a–f. Periodic project progress reports prepared by the executing agency	
3. Energy sources provided	<p>3a. A 33/11 kV, 10 MVA substation constructed; and Coxsbazar-Teknaf grid augmented</p> <p>3b. A 50 km, ≤11 kV new distribution line constructed with 5 MVA distribution transformers installed (2018 baseline: 0)</p> <p>3c. 2,000 new mini grid-connected street lights and 4,000 new stand- alone solar LED lights with built-in solar PV panels and battery banks installed (2018 baseline: 62 grid- connected street lights and 2,495 solar PV street lights inside the camps)</p> <p>3d. 70,000 retained heat cookers provided (2018 baseline: 0)</p> <p>3e. 50 solar PV micro-grid systems installed at Balukhali, Kutupalong, Noyapara, Leda, and Shamlapur camps (2018 baseline: 0)</p>	3a–e. Periodic project progress reports prepared by the executing agency	
4. Access roads improved	<p>4a. 30 km of internal roads and stairs (where required) with drainage facilities constructed (2018 baseline: 0)</p> <p>4b. 30 km of rural roads to connect to food storage centers, food distribution centers, field hospitals, primary health care centers, cyclone shelters, and primary education centers reconstructed and rehabilitated (2018 baseline: 0)</p> <p>4c. 50 km of the road from Coxsbazar to Teknaf resurfaced, including the improvement of critical sections (market areas and culverts) (2018 baseline: 0)</p> <p>4d. 10%–20% of women employment in the construction and rehabilitation of access roads achieved (2018 baseline: 0)</p>	4a–d. Periodic project progress reports prepared by the executing agency	

Key Activities with Milestones

1. Water supply and sanitation improved

- 1.1 Identify and appraise subprojects, as required (by Q3 2018)
- 1.2 Recruit consultants (by Q3 2018)
- 1.3 Prepare bid documents and commence bidding (by Q3 2018)
- 2. Disaster risk management strengthened
- 2.1 Identify and appraise subprojects, as required (by Q3 2018)
- 2.2 Recruit consultants (by Q3 2018)
- 2.3 Prepare bid documents and commence bidding (by Q3 2018)
- 2.4 Complete disaster risk capacity building for implementing agencies and key stakeholders (Q4 2018)
- 3. Energy sources provided
- 3.1 Identify and appraise subprojects, as required (by Q3 2018)
- 3.2 Recruit consultants (by Q3 2018)
- 3.3 Prepare bid documents and commence bidding (by Q3 2018)
- 4. Access roads improved
- 4.1 Identify and appraise subprojects, as required (by Q3 2018)
- 4.2 Recruit consultants (by Q4 2018)
- 4.3 Prepare bid documents and commence bidding (by Q3 2018)

3.2 COMPLIANCE WITH ENVIRONMENTAL RELATED PROJECT COVENANTS

3.2.1 National Covenant

35 The National Environmental Policy (NEP) was adopted in 1992 and is now under revision. It embraces different sectors related to agriculture, forest, power, health, transport, housing etc. The central theme of policy is to ensure protection and improvement in environment. The policy supports sustainable development and long-term use of natural resources. The National Environment Policy contains policy statements and strategic options with regard to population and land-use management, management and utilization of natural resources and other socio-economic sectors, as well as the necessary arrangements for the implementation of the policy.

36 The main Ministry, Department, Institutions and Boards responsible for development of policy, framing regulation, developing projects, monitoring and approval of issues related to environment protection and conservation are presented in this section. The Department of Environment (DoE) was established in 1977 under the Environment Pollution Control Ordinance, 1977. During 1987-89, Forestry was a Division of Agriculture Ministry with a Secretary to Government in charge of the Forestry Division. With the formation of the new Ministry of Environment and Forests, in 1989, both the departments were transferred to this new Ministry.

37 The DoE has been placed under the MoEFCC as its technical wing and is statutorily responsible for the implementation of the Environment Conservation Act, 1995. Besides these two departments, MoEFCC controls the Bangladesh Forest Industries Development Corporation (BFIDC), Bangladesh Forest Research Institute (BFRI) and Bangladesh National Herbarium (BNH).

38 The Ministry of Environment and Forests and Climate Change (MoEFCC) prepare the environmental policies. MoEF has also formulated regulation toward clearance of projects from environmental angles based on environmental impact assessment report.

39 The Department of Environment is responsible for environmental issues while forest issues are looked after Department of Forests. Over the years, the MoEF has adopted number of legal instrument in the form of Acts for the protection and conservation of the environment. **Table 2** summarizes the Environmental Legislation applicable to the sub-projects.

Table 2 Summary of Environmental Legislations Applicable to the Proposed Project

No.	Environmental Legislation / Act	Objective	Relevance to the Project	Responsible Institution
1	National Environmental Policy, 1992	Ensure that development components do not pollute the environment or degrade resources. It sets out the basic framework for environmental action together with a set of broad sectoral action guidelines.	Restriction on operations which can not be initiated in ecological critical areas Regulation on vehicles emitting smoke which is harmful to the environment Follow standards on quality of air, water, noise and soil Sets limits for discharging and emitting waste	Ministry of Environment and Forests, and Climate Change
2	National Environmental Management Action Plan (NEMAP), 1995	An action plan to identify key environmental issues affecting Bangladesh, identifies actions for reducing the rate of environmental degradation and improve quality of life.	Sectoral agencies to coordinate with MoEFCC in preparing environmental guidelines	Ministry of Environment and Forests, and Climate Change
3	Environment Court Act, 2000 and subsequent amendments in 2003	Establishment of Environment Court for trial of an offence or for compensation under environmental law, such as environment pollution.	Option to affected persons for grievances related to environment safeguards.	Ministry of Environment and Forests, and Climate Change
4	The Forest Act (1927) and Forest (Amendment) Act (2000)	An act to control trespassing, illegal resource extraction and provide a framework for the forestry revenue collection system;	Requires clearances for any project within forest areas and clearances for any felling, extraction, and transport of forest produce.	Department of Forests
5	National Forest Policy (1994)	To conserve existing forests and bring about 20% of the country's land area under the Forestation Programme and increase reserved forests by 10% per year until 2015	Incorporate tree planting in the subproject Clearance for any felling, extraction, and transport of forest produce	Department of Forests
6	The Bangladesh Wildlife (Conservation & Security) Act, 2012	To conserve and protect wildlife in Bangladesh including designation of protected areas. Protection of wildlife is provided with lists of species with four schedules: first, second, third and fourth schedule. The fourth schedule species have the highest level of protection.	Consultation and necessary permits required if the project will pass through the wildlife sanctuaries and other protected areas.	Department of Forests
7	National Safe Drinking Water Supply and Sanitation Policy of 1998	Ensures access to safe water and sanitation services at an affordable cost	Pourashavas and water sanitation authorities will take actions to prevent wastage of water. They will take necessary steps to increase public awareness to prevent misuse of water Pourashavas shall be responsible for solid waste collection, disposal and their management	Ministry of Local Government, Rural Development, and Cooperatives

8	National Water Act 2013	Ensures Bangladesh water sources are free from any type of pollution. Pollution from water in urban outfalls and reservoirs, e.g. lakes, canals, ponds and ditches may result in amenity losses, fisheries depletion, health problems and fish and aquatic species contamination.	Secure clearance certificate on water resource development subprojects	Ministry of Water Resources
9	Wetland Protection Act 2000	Advocates protection against degradation and resuscitation of natural water-bodies such as lakes, ponds, beels ¹ , khals, tanks, etc. affected by man-made interventions or other causes. Prevents the filling of publicly-owned water bodies and depressions in urban areas for preservation of the natural aquifers and environment. Prevents unplanned construction on riverbanks and indiscriminate clearance of vegetation on newly accreted land.	In case of diversion of water from Naf river, detailed assessment will be done	Ministry of Water Resources
10	Bangladesh Labor Law, 2006	It is a comprehensive law covering labour issues such as: conditions of service and employment, youth employment, benefits including maternal benefits, compensation for injuries, trade unions and industrial relations, disputes, participation of workers in company's profits, regulation of safety of dock workers, penalty procedures, administration and inspection. This Act pertains to the occupational rights and safety of factory workers and the provision of a comfortable environment for working. It also includes rules on registration of labourers, misconduct rules, income and benefits, health and fire safety, factory plan	Compliance to provisions on employment standards, occupational health and safety, welfare and social protection, labor relations and social dialogue, and enforcement. Prohibition of employment of children and adolescents.	Ministry of Labor and Employment
11	Bangladesh Labor Rules, 2015	Includes rules on registration of laborers, misconduct rules, income and benefits, health and fire safety, factory plan	Contractors to implement occupational health and safety measures Contractor will be liable for compensation for work-related injuries	Department of Labor
12	The Pourashava Act 2009 / Ordinance issued for the amendment of local government (municipality) ordinance, 2009 and 2010; The Pourashava Ordinance, 1977; Municipal	Provides guidance for subproject integrated community and workers health and hygiene at the construction and operation and maintenance stages of the project	Coordinate with pourashava committees on disaster management measures, water and sanitation and waste management	Local Authorities

¹ A beel is a billabong or a lake-like wetland with static water (as opposed to moving water in rivers and canals - typically called khaals), in the Ganges - Brahmaputra flood plains of the Eastern Indian states of West Bengal, and Assam and in the country of Bangladesh.

	Administration Ordinance, 1960			
13	Bangladesh Climate Change Strategy and Action Plan of 2009	Enhances the capacity of government ministries, civil society and private sector to meet the challenges of climate change	Integrate adaptation measures for buildings in consideration of extreme climatic events	Ministry of Environment, Forests and Climate Change
14	Building Construction (Amendment) Act and Building Construction Rules, Bangladesh National Building Code	Regulates technical details of building construction and to maintain standards of building construction	Follow specifications to ensure structural integrity of buildings	Ministry of Housing and Public Works
15	Electricity Act, 1910 and Electricity Rules 1937	Requires compensation for any damage, detriment or inconvenience caused by the project; Requires precautionary measures in laying down electricity supply lines near or where any metallic substance or line crosses to avoid electrocution	Secure permission to supply energy and lay down or place electricity supply lines for the conveyance and transmission of electricity from respective authorities prior to any works Give full compensation for any damage, detriment or inconvenience caused by him or by anyone employed by him Take precautions in laying down electricity supply lines near or where any metallic substance or line crosses in order to avoid electrocution	Ministry of Power, Energy and Mineral Resources
16	The National Energy Policy (1996 and Updated 2004)	Ensures environmentally sound sustainable energy development programs causing minimum damage to the environment, to encourage public and private sector participation in the development and management of the energy sector and to bring the entire country under electrification.	Public and private sector participation in the development and management of the energy subprojects. Provides guidelines for renewable energy subprojects	Ministry of Power, Energy and Mineral Resources
17	Standing Order on Disaster, 1999 (Updated 2010)	Enhances capacity at all tiers of government administrative and social structures for coping with and recovering from disasters	Geographical information system (GIS) technology will be applied at the planning stage to select location of cyclone shelter considering habitation, communication facilities, distance from the nearest cyclone center, etc Advice from the concerned District Committee should be obtained prior to final decision	Ministry of Disaster Management and Relief
18	National Disaster Management Act of 2012	Establishes a framework for managing disasters in a comprehensive way.	Setting-up emergency response procedures	Ministry of Disaster and Relief

3.2.2 ADB Safeguards policy statement

40 The important elements of ADB's resettlement policy statement (APS 2009) include the following:

- iv. Compensation to replace lost assets, livelihood, and income;
- v. Assistance for relocation, including provision of relocation sites with appropriate facilities and services; and
- vi. Assistance for rehabilitation to achieve at least the same level of well-being with the project as without it.

41 For any ADB operation requiring involuntary resettlement, resettlement planning is an integral part of project design, to be dealt with from the earliest stages of the project cycle, taking into account the following basic principles:

- i. Involuntary resettlement will be avoided whenever feasible.
- ii. Where population displacement is unavoidable, it should be minimized.
- iii. All lost assets acquired or affected will be compensated. Compensation is based on the principle of replacement cost.
- iv. Each involuntary resettlement is conceived and executed as part of a development project or program. Affected persons need to be provided with sufficient resources to re-establish their livelihoods and homes with time-bound action in co-ordination with civil works.
- v. Affected persons are to be fully informed and closely consulted.
- vi. Affected persons are to be assisted to integrate economically and socially into host communities so that adverse impacts on the host communities are minimized and social harmony is promoted.
- vii. The absence of a formal title to land is not a bar to ADB policy entitlements.
- viii. Affected persons are to be identified and recorded as early as possible to establish their eligibility, through a census which serves as a cut-off date, and prevents subsequent influx of encroachers.
- ix. Particular attention will be paid to vulnerable groups including those without legal title to land or other assets; households headed by women; the elderly or disabled; and indigenous groups. Assistance must be provided to help them improve their socio-economic status.
- x. The full resettlement costs will be included in the presentation of project costs and benefits.

3.2.3 SPS (2009) compliance status

42 Refer to **Table 3** for the status of the respective component sub-projects with regard to compliance status to ADB's policy statement (APS 2009).

Table 3 ADB Safeguards Policy Status

ADB Safeguard Policy Statement	Contract Package Status				
	Cyclone Shelter Sub-project	Road Sub-project	Drainage/erosion Sub-project	Water Supply Sub-project	Others Sub-project
(i) Involuntary resettlement will be avoided whenever feasible.	complied	complied	complied	complied	complied
(ii) Where population displacement is unavoidable, it should be minimized.	No displacement	No displacement	No displacement	No displacement	No displacement

ADB Safeguard Policy Statement	Contract Package Status				
	Cyclone Shelter Sub-project	Road Sub-project	Drainage/erosion Sub-project	Water Supply Sub-project	Others Sub-project
(iii) All lost assets acquired or affected will be compensated. Compensation is based on the principle of replacement cost.	NA	Matrix formulated	Matrix formulated	NA	NA
(iv) Each involuntary resettlement is conceived and executed as part of a development project or program. Affected persons need to be provided with sufficient resources to re-establish their livelihoods and homes with time-bound action in co-ordination with civil works.	NA	Provided in Compensation Matrix	Provided in Compensation Matrix	NA	NA
(v) Affected persons are to be fully informed and closely consulted.	complied	complied	complied	complied	complied
(vi) Affected persons are to be assisted to integrate economically and socially into host communities so that adverse impacts on the host communities are minimized and social harmony is promoted.	NA	NA	NA	NA	NA
(vii) The absence of a formal title to land is not a bar to ADB policy entitlements.	NA	NA	NA	NA	NA
(viii) Affected persons are to be identified and recorded as early as possible to establish their eligibility, through a census, which serves as a cut-off date, and prevents subsequent influx of encroachers.	NA	complied	complied	NA	NA
(ix) Particular attention will be paid to vulnerable groups including those without legal title to land or other assets; households headed by women; the elderly or disabled; and indigenous groups. Assistance must be provided to help them improve their socio-economic status.	NA	complied	complied	NA	NA
(x) The full resettlement costs will be included in the presentation of project costs and benefits.	NA	NA	NA	NA	NA

4 Project status of ongoing contract packages

4.1 PROJECT STATUS

43 To date 60 sub-projects have been identified. Of them BREB will implement 12 subprojects, DPHE will implement 23 subprojects, LGED will implement 22 subprojects and RHD will implement 3 subprojects. Of these subprojects 42 subprojects are identified as Category B according to ADB classification.

44 According to the ADP policy on environment, all the B category subprojects would require EMP and IEE reports before project implementation to ensure that the projects will be environmental viable and all the environmental laws, rules, restriction and policies of ADB and GoB are attained. The status of the subprojects are given in **Table 4**.

45 To date 19 EMPs and 7 IEEs have been completed out of 42 Category B projects. All the other EMPs and IEEs are expected to be completed by 2nd week of February.

Table 4 Project Status of the ongoing subprojects

Sl. No	Sectors	Package Number	General Description	Category	Status of Report				Bid Documents submitted to ADB (Date)	Contract Award Date
					ENV Cat	REA Checklist	EMP	IEE		
01	Energy Infrastructures	BREB/ W1A	Supply, Installation, Testing & Commissioning of 33/11KV Sub-Station (10/14MVA, Turn Key) at Palongkhali, Ukhiya.	B	Done	Done	Done	Done	31 Aug 2018	2 Dec 2018
02		BREB/ W1B	Augmentation of Cox's Bazaar Transmission Grid Network to strengthen 33/11KV Sub-Station (10/14MVA, Turn Key)	B	Done	Done	Yet to start	Yet to start		
03		BREB/ W2	Construction of 50 KM of 11 KV and below lines with necessary transformers from proposed two substations to Palongkhali area, Ukhiya	B	Done	Done	Done	Done	31 Aug 2018	2 Dec 2018
04		BREB/G1	Supply and installation of 200 nos. lightening arresters along the access roads from Palongkhali to Kutupalong camp, and all other camps.	C	Done	Done				
05		BREB/G2A	Supply, installation and Operation & Maintenance of 2,000 Nos. Solar PV Powered LED Street Lights	C	Done	Done			31 Aug 2018	
06		BREB/G2B	Supply and installation of 2,000 nos. solar powered 20-watt LED street lights, in all Camps.	C						
07		BREB/G3A	Supply and distribution of 17,500 retained heat cookers to the displaced people at all camps: Group 1	C	Done	Done				
08	Energy Infrastructures	BREB/G3B	Supply and distribution of 17,500 retained heat cookers to the displaced people at all camps: Group 2	C	Done	Done				

Sl. No	Sectors	Package Number	General Description	Category	Status of Report				Bid Documents submitted to ADB (Date)	Contract Award Date
					ENV Cat	REA Checklist	EMP	IEE		
09		BREB/G4A	Supply and distribution of 17,500 retained heat cookers to the displaced people at all camps: Group 2	C	Done	Done				
10		BREB/G4B	Supply and distribution of 17,500 retained heat cookers to the displaced people at all camps: Group 2	C	Done	Done				
11		BREB/G5	Supply and installation of 50 nos. solar mini-grid for household electricity supply within the camp (150 household per cluster: to cater 7,500 HH) at Balukhali mega camp	C	Done	Done				
12		BREB/G6	Supply and Installation 2000 units of BREB street lights (including flood lights and photocell lights) inside the camps Balukhali, Leda and Noapara	C	Done	Done				
01	Urban Sector	DPHE/ G1	Supply of 7 no. water Carrier for Emergency Water supply, capacity 3000-liter, including operation for 2 years, for Cox's Bazar and Ukhiya, Teknaf	C	Done	Done		31 August 2018	31 August 2018	
02		DPHE/ G2	Supply and operation of waste management equipment/vehicle for two years. (Vacuu tag, Suction pipe, SWR equipment, drainage management equipment) for Camps in Ukhiya	C						
03		DPHE/ G3	Supply and operation of waste management equipment/vehicle for two years for Camps in Teknaf	C				Mid-January 2019	Mid-January 2019	
04	Urban Sector	DPHE/G4	Supply and operation of 4 no. drilling rigs					Mid-January 2019	Mid-January 2019	

Sl. No	Sectors	Package Number	General Description	Category	Status of Report				Bid Documents submitted to ADB (Date)	Contract Award Date
					ENV Cat	REA Checklist	EMP	IEE		
05		DPHE/ W1	Construction and operation of 7 nos. mini piped water supply system with Production Tube Well in camps and adjacent affected villages. Group -1 (camp-5)	B	Done	Done	Done	Done	Bid Evaluation report 20/11/2018 IEE required at earliest before the timeline	1 st week of January 2019
06		DPHE/ W2	Construction and operation of 7 nos. mini piped water supply system with Production Tube Well in camps and adjacent affected villages. Group -2 (camp-5)	B	Done	Done	Done	Done	30/11/2018	03/01/2019
07		DPHE/ W3	Construction and operation of mini piped water supply system with solar powered production well in camps and adjacent affected villages: Group 3 (Camp 17)	B	Done	Done	Done	Done		
08		DPHE/ W4	Construction and operation of mini piped water supply system with solar powered production well in camps and adjacent affected villages: Group 4 (Camp 2)	B	Done	Done	Done	Ongoing	December 2018	
09		DPHE/ W5	Construction and operation of mini piped water supply system with solar powered production well in camps and adjacent affected villages: Group 5 (KRC and Camp 3)	B	Done	Done	Done	Ongoing		

Sl. No	Sectors	Package Number	General Description	Category	Status of Report				Bid Documents submitted to ADB (Date)	Contract Award Date
					ENV Cat	REA Checklist	EMP	IEE		
10		DPHE/ W6	Construction and operation of mini piped water supply system with solar powered production well in camps and adjacent affected villages: Group 6 (Camp 4)	B	Done	Done	Done	Ongoing		
11		DPHE/ W7	Construction and operation of mini piped water supply system with solar powered production well in camps and adjacent affected villages: Group 7 (Camp 11)	B	Done	Done	Done	Ongoing		
12	Urban Sector	DPHE/ W8	Construction and operation of mini piped water supply system with solar powered production well in camps and adjacent affected villages: Group 8 (Camp 13)	B	Done	Done	Done	Ongoing		
13		DPHE/ W9A	Construction and operation of Integrated waste management and resource recovery facility with collection system at the outskirts of Kutupalong Balukhali Megacamp, Ukhiya Group-1	B	Ongoing	Ongoing				
14		DPHE/ W9B	Construction and operation of Integrated waste management and resource recovery facility with collection system at the outskirts of Kutupalong Balukhali Megacamp, Ukhiya Group-1	B	Ongoing	Ongoing				
15		DPHE/ W10	Construction and operation of Integrated waste management and resource recovery facility with collection system at Shayamlapur, Teknaf	B	Ongoing	Ongoing		5/01/2019	Design submission-30/11/2018 Bid	

Sl. No	Sectors	Package Number	General Description	Category	Status of Report				Bid Documents submitted to ADB (Date)	Contract Award Date
					ENV Cat	REA Checklist	EMP	IEE		
									Submission-15/12/2018	
15		DPHE/ W11	Construction of Surface Water Treatment Plant for supporting water supply at Cox's Bazar city and surrounding areas	B						
16		DPHE/ W12A	Construction of pipe water Systems including surface water treatment plants for the camps in Nayapara, Teknaf	C				28/02/2019	28/02/2019	
17	Urban Sector	DPHE/ W12B	Construction of pipe water systems for the camps in Unchiprang/ Shamlapur, Teknaf	C	Ongoing	Ongoing		15/12/2018	15/12/2018	
18		DPHE/ W13	Construction of Community Bathing Facilities for women, Group -1	C	Done	Done		31 August 2018	31 August 2018	06/12/2018
19		DPHE/ W14	Construction of Community Bathing Facilities for women, Group -2	C	Done	Done		25/11/2018	25/11/2018	
20		DPHE/ W15	Construction of Community Bathing Facilities for women, Group -3	C	Done	Done				
21		DPHE/ W16	Construction of Community Bathing Facilities for women, Group -4	C	Done	Done		07/12/2018	07/12/2018	

Sl. No	Sectors	Package Number	General Description	Category	Status of Report				Bid Documents submitted to ADB (Date)	Contract Award Date
					ENV Cat	REA Checklist	EMP	IEE		
22	Urban Sector	DPHE/ W16	Construction of Community Bathing Facilities for women, Group -5	C	Done	Done				
23		DPHE/W18	Construction of piped water supply with surface water reservoirs, treatment plant and other and associated facilities at Ukhiya	B						
01		LGED/ W1A	Construction of 7.5 km Internal Roads and Stairs with Drainage Facilities Inside the camps in Ukhiya, Group 1	B	done	done	Done	Ongoing (expected 03 Jan 2019)	1/12/18, will be Delayed by three weeks	23/1/19, will be delayed by two weeks
02		LGED/ W1B	Construction of 7.5 km Internal Roads and Stairs with Drainage Facilities Inside the camps. in Ukhiya, Group 2	B	done	done	Ongoing (expected 1st week of Jan 2019)	Expected second week of Jan 2019	22/12/18, will be delayed by two weeks	10/2/19, will be delayed by two weeks
03		LGED/ W2A	Construction of 7.5 km Internal Roads and Stairs with Drainage Facilities Inside the camps. in Teknaf -Group 3	B	done	done	Ongoing (expected 1st week of Jan 2019)	Ongoing (expected 1st week of Jan 2019)	29/12/18, will be delayed by two weeks	17/2/19, will be delayed two weeks
04		LGED/ W2B	Construction of 7.5 km Internal Roads Internal Roads and Stairs with Drainage Facilities Inside the camps in Teknaf – Group 4	B					6/1/19, will be delayed by a week	26/2/19, will be delayed by a week
05	Urban Sector	LGED/ W3	Improvement of 1.5 km existing Folia Para road connecting Highway to U-B Road Ukhiya Ukhiya+ Upgradation of 5.5 km existing N.I. Chowdhury Road Connecting Marine Drive to U-B road.	B	Done	Done	Done, revised EMP based on design change in ongoing, expected 25 Dec 2018	Ongoing, expected 5 Jan 2019	11/11/18, tender dropped, will be delayed by two weeks	2/1/19, tender dropped, will be delayed by two weeks
06		LGED/ W4a	Upgradation of existing N.I. Chowdhury Road Connecting	B	done	Done	Expected first week of Jan 2019	Expected fourth week of Jan 2019	10/12/18, will be	29/1/18, will be delayed by a week

Sl. No	Sectors	Package Number	General Description	Category	Status of Report				Bid Documents submitted to ADB (Date)	Contract Award Date
					ENV Cat	REA Checklist	EMP	IEE		
			Marine Drive to U-B road, including construction of Bridge/ culverts at Ukhiya (Group 1: 4.5 km within Ch 0+000 km to 10+000 km)						delayed by a week	
07		LGED/ W4b	Upgradation of existing N.I. Chowdhury Road Connecting Marin Drive to U-B road, including construction of Bridge/ culverts at Ukhiya (Group 2: 9.6 km within Ch. 10+000 km to 19+600 km)	B	done	done	Expected first week of Jan 2019	Expected first week of February	17/12/18, will be delayed by a week	5/2/19, will be delayed by a week
08		LGED /W5	Upgradation of existing 8.8 km link road connecting Cox's Bazar-Teknaf and Marine Drive Highways, Ukhiya	B	done	done	Revision ongoing, expected 25 Dec 2018	Ongoing, expected Second week of January	21/11/18, will be delayed by a week	8/1/19, will be delayed by a week
09	Agriculture and Natural resources	LGED/ W6	Construction of 4 nos. school cum cyclone shelter for affected people, 3 story LGED Prototype, in Ukhiya	B	Done	Done	Done	Done	2/11/18	26/12/18
10		LGED/ W8	Construction of 3 nos. school cum cyclone shelter for affected people, 3 story LGED Prototype, in Ukhiya	B	Done	Done	Done	done	20/10/18	25/11/18
11		LGED/ W9	Construction of 3 nos. School cum cyclone shelter for affected people, 3 story LGED Prototype, in Teknaf	B	Done	Done	Done	Ongoing, expected 23 Dec 2018	30/10/18	26/12/18
12	Agriculture and Natural resources	LGED/ W10	Hill Slope Protection Works inside the Kutupalong Balukhali Mega Camp, Ukhiya Group -1	B	done	done	Ongoing, expected 31 Dec 2018	Ongoing, expected 15 Jan 2019	11/12/18, will be delayed by two weeks	31/1/19

Sl. No	Sectors	Package Number	General Description	Category	Status of Report				Bid Documents submitted to ADB (Date)	Contract Award Date
					ENV Cat	REA Checklist	EMP	IEE		
13		LGED/W11	Hill Slope Protection Works inside the Kutupalong Balukhali Inside Mega Camp Ukhiya Group -2	B	done	done	Ongoing	Ongoing	15/1/19	5/3/19
14		LGED/W12	Hill Slope Protection Works inside the Kutupalong Balukhali Inside Mega Camp Ukhiya Group -3	B	done	done	Ongoing	Ongoing	26/1/19	16/3/19
15		LGED/ W13	Hill Slope Protection Works inside the Kutupalong Inside Mega Camp Ukhiya Group -4	B	done	done	Ongoing	Ongoing	2/2/19	26/3/19
16		LGED/ W14	Hill Slope Protection Inside Mega Camp Ukhiya Group -5	B	done	done	Ongoing	Ongoing	15/2/19	3/4/19
17		LGED/ W15	Hill Slope Protection Works inside the Kutupalong Balukhali Mega Camp, Ukhiya Group -6	B	done	done	Ongoing	Ongoing	4/2/19	26/3/19
18		LGED/ 16	Hill Slope Protection Works inside the Kutupalong Balukhali Inside Mega Camp Ukhiya Group -7	B	done	done	Ongoing	Ongoing	8/2/19	4/4/19
19		LGED/W17	Hill Slope Protection Works inside the Kutupalong Balukhali Inside Mega Camp Ukhiya Group -8	B	done	done	Ongoing	Ongoing	18/2/19	16/4/19
20	Agriculture and Natural resources	LGED/ W18	Hill Slope Protection Works inside the Kutupalong Inside Mega Camp Ukhiya Group -9	B	done	done	Ongoing	Ongoing	26/2/19	22/4/19
21		LGED /W19	Construction of Semi-Permanent Food Distribution Centers and loading /unloading yard in Ukhiya and Teknaf	B	Done	Done	Done	-	4/11/18	27/12/18

Sl. No	Sectors	Package Number	General Description	Category	Status of Report				Bid Documents submitted to ADB (Date)	Contract Award Date
					ENV Cat	REA Checklist	EMP	IEE		
22		LGED/ W20	Construction of Storm Water Drainage Network inside camps and evacuating water outside camps, 2 groups in Ukhiya	B	done	done	Ongoing, expected 31 Dec 2018	Ongoing	15/12/18	6/2/19
22		LGED/ W21	Construction of Storm Water Drainage Network inside camps and evacuating water outside camps: 1 group in Teknaf	B	done	done	Ongoing(expected 31 Dec 2018)	Ongoing (expected 2 nd week of Feb 2019)	15/12/18, will be delayed by two weeks	3/2/19, will be delayed by two weeks
01	Transport Sector	RHD/ W1	Rehabilitation of National Highway from Link Road (Cox' s Bazar) (Chainage 381+494) to Ukhia (Chainage- 406+494)	B	Done	Done	Done		31 August 2018	
02		RHD/W2	Rehabilitation of National Highway from Ukhia (Chainage 406+494) to Unchiprang (Chainage- 431+494)	B	Done	Done	Done		31 August 2018	
03		RHD/W3	Reconstruction of critical sections of major access road connecting Cox's bazar Link Road - Teknaf with the Camps, Package 3: Palongkhali to Nhila Teknaf	B	Done	Done	Done			

5 Environmental Status

5.1 ENVIRONMENTAL ISSUES OF THE CURRENT PROJECT

46 Until date (December 2018) a few number of environmental issues have ben encountered or identified to be affecting project design. **Table 5** represents the environmental issues, recommendations and measures taken. **Table 6** later represents the civil works and other issues, recommendation and measures taken.

Table 5 Environmental Status of the subproject, issues and recommendation

Sl . No.	Subproject Category	Environmental issues raised	Recommendations by the consultants	Measures Taken
01	LGED Internal Roads	LGED W1A <ul style="list-style-type: none"> Road length is reduced to ~4.3km instead of 7.5km to avoid duplication (since other organizations are already constructing roads inside the camp); Open drain has been considered in the design, there are plenty of children those play around the drain area at the Rohingya Bazar end who are at risk of falling in the drain and hurting themselves The road runs through a very narrow valley (made from hill-cutting), there is concern of hill erosion and eroded materials carried by flash flood and storm water runoff during rainy season 	<ul style="list-style-type: none"> Case by case drain cover suggested instead of open drain design; drain cover suggested especially at the Rohingya Bazar end of the road where population density is high and the proposed roadside drains are accessible by children Wall protection from erosion, steel net or geocell is suggested; Waste water drainage pathway needs to be determined; baseline water quality can be considered; 	<ul style="list-style-type: none"> Design revision is ongoing Consultants and ADB Safeguards teams are revising plans to include possible water quality tests Design consultants revising their plan of drainage network from aid of sector coordination group
		LGED W1B, W2A, W2B <ul style="list-style-type: none"> Identification and Design phase ongoing 	<ul style="list-style-type: none"> Suggest LGED PD to design covered drain and erosion protection in advance so that design revision can be avoided to save time 	
02	LGED Access Roads	LGED W3 <ul style="list-style-type: none"> Proposed Falia para (1.5km) and NI Chowdhury connecting Road to Marine Drive (5.5km) has been found to be non-feasible. See Table 6 for details. 3 km of the proposed 5.5 km NI Chowdhury road has been found to be too narrow and thickly vegetated (mainly deep rooted bushy vegetation native to hill tracts) 	<ul style="list-style-type: none"> Avoid thick bushy vegetation for proposed road since it will be non-feasible to find out the alignment Since the area belongs to the Forest Department, at the proposal stage Forest Department should be consulted. 	<ul style="list-style-type: none"> Redesign and retender process ongoing, tender dropped due to forest department issues Foliapara part has been reduced to 1.04km during planning NI Chowdhury part has been reduced to ~2.5km due to survey issues and possible forested land encroachment
		LGED W4a, W4b <ul style="list-style-type: none"> Proposal yet to be finalized Survey issues 	<ul style="list-style-type: none"> Suggested LGED PD to avoid hilly areas under reserve forest Suggested the design consultants and Upazila engineers to avoid Asian Elephant Passing paths as much as possible 	<ul style="list-style-type: none"> Design consultants revising their plan Proposal and Survey work team at the Upazila has been made aware of the environmental consultants' suggestion
		LGED W5 <ul style="list-style-type: none"> Proposed 8.8 km road appears to be non-feasible from the environmental point of view The alignment runs to reserve forest and hills The alignment has not yet been finalized, only about 4 km of the alignment has been identified The path passes through several elephant crossing paths 	<ul style="list-style-type: none"> The existing road is more or less 3.7m. during final alignment preparation, it is not suggested to find it through narrow hills which may involve hill cutting and forest encroachment The alignment should follow the exiting route, which, at least wont encroach forested land or hill Few spots on the existing path (about 4km) have been found to be quite spacious while 	<ul style="list-style-type: none"> LGED engineers are planning for alternative proposal

Sl . No.	Subproject Category	Environmental issues raised	Recommendations by the consultants	Measures Taken
		<ul style="list-style-type: none"> The possible Marine Drive end of the alignment may end up in privately owned land, which might prove difficult at the end to acquire Proposed two way motorized road will require significant amount of hill cutting and will create disturbance to the sensitive hill environment 	<p>some parts are as narrow as 3m. it is suggested to make the road max 3.7m to avoid hill cutting and forest encroachment. However, the areas along the alignment can be used as waiting areas for larger vehicles to cross by. Smart signaling system can be used so that road traffic from both ends can be controlled to avoid full frontal collision.</p> <ul style="list-style-type: none"> The road can be proposed to be unidirectional to that narrow road does not affect frontal vehicle crossings. Since couple of other parallel roads are on the verge of proposal, such idea can be adopted. 	
03	LGED Cyclone shelters	LGED W6, W8, W9 <ul style="list-style-type: none"> In most cases access roads are narrow, long and damaged Most of the sites are located at valley of the hills in such a way that storm water carrying eroded materials may affect the constructed buildings Drainage system is quite poor around the proposed sites 	<ul style="list-style-type: none"> Mitigation measures have been suggested in the EMPs prepared for the cyclone shelters 	<ul style="list-style-type: none"> Mitigation measures will be taken during construction
04	LGED Food Distribution centers	LGED W19 <ul style="list-style-type: none"> No current environmental issues There are few non environmental issues that are addressed in Table 6 	<ul style="list-style-type: none"> No mitigation measure suggested 	<ul style="list-style-type: none"> Design done One Food Distribution Center in Madhurchara camp has land issue, WFP needs to handover the land to LGED for construction Hakimpara has been relocated to a government land due to private land issue. The location is about 200m from the originally proposed land by WFP. WFP needs to handover the land to LGED before construction can start.
05	LGED Hill slope protection and erosion control	LGED W10 <ul style="list-style-type: none"> Design still under way. 	<ul style="list-style-type: none"> Possibilities of grass and medium story vegetation plantation Along with precast RCC blocks, possibilities of geocell and steel net needs to be considered 	<ul style="list-style-type: none"> Design consultants revising their plan
06	LGED Storm water Drainage Network	LGED W20 <ul style="list-style-type: none"> A complete study on drainage network is unavailable at the campsite. Therefore, there is gap in analysis of flow direction and ultimate catchment point. The design of 	<ul style="list-style-type: none"> Devise and implement a tree plantation plan along the drainage canal Integrate the slope protection works with the drainage network 	<ul style="list-style-type: none"> Design consultants revising their plan

Sl . No.	Subproject Category	Environmental issues raised	Recommendations by the consultants	Measures Taken
		drainage network needs to consider local topography and flow direction as far as possible <ul style="list-style-type: none"> • There is a scope of tree planation along drainage channel • The drainage channels need slope protection work 		
07	BREB Energy structures	Currently no issues		
08	DPHE Project Related Goods (DPHE G1–G4)	Currently no issues		
09	DPHE Mini Piped Water Supply System with Solar Powered Production Well	DPHE W1-W58 <ul style="list-style-type: none"> • Indicative EMP has been prepared since the sites for the production well have not been confirmed yet. • Proper aquifer zoning should be done to estimate the total water reserve • Potential erosion/land slide may occur when moderately to highly sloping terrains are disturbed for the construction of bore hole/ production wells, installation of distribution pipes. • Accident/ dropping small children on open trench, landslide when excavation at slopes. • Baseline water quality should be considered. 	<ul style="list-style-type: none"> • All the safeguard documents should be updated after site selection. • Suggested to avoid highly sloping terrains for excavation and prepare proper protection before such excavation. • Suggested to conduct soil stabilization/slope stabilization or hill top stabilization before excavation or construction of boreholes/production wells. • Confining terrain disturbance considering the surface drainage routes and patterns in pipe layout. • Stabilizing disturbed slopes immediately after installation and backfill and use erosion control blankets or re-vegetate and use vegetation promotion blankets. • Secondary data can be collected from ICCCAD through IOM or tested the water parameter at DPHE Cox's bazar Lab. 	<ul style="list-style-type: none"> • Mitigation measures will be implemented during construction • Provision of test well has been considered • DPHE lab authority agreed to test the water quality.
10	DPHE Integrated Waste Management and Resource Recovery Facility	DPHE W9A, W9B <ul style="list-style-type: none"> • Design phase ongoing and no current environmental issue DPHE W10 <ul style="list-style-type: none"> • Survey and Design phase ongoing. • There is a possibility to inundate the FSTP during high tide or seasonal flooding since the proposed plant is located close to the water body (Monkhali River). • Nearby community may be affected due to odor from the manhole. • Forest will be affected if the co composting facility will establish there. 	DPHE W10 <ul style="list-style-type: none"> • Suggested to design consultant to consider the high flood level. • Suggested to apply silicon or grease for air tightness in the manhole to prevent odor. • Since the land belongs to the Forest Department, at the proposal stage Forest Department should be consulted. 	DPHE W10 <ul style="list-style-type: none"> • Mitigation measures will be taken during construction • DPHE will consult with Forest Department.

Sl . No.	Subproject Category	Environmental issues raised	Recommendations by the consultants	Measures Taken
11	DPHE Surface Water Treatment Plant and Water Supply System	DPHE W11, W12A, W18 <ul style="list-style-type: none"> Design phase ongoing and no current environmental issue DPHE W12B <ul style="list-style-type: none"> Existing agricultural practice can be hampered due to alter the natural flow of the stream. Loss of terrestrial habitats due to impoundment Risk of eutrophication / growth of non-native and/or invasive species. Forest will be affected if the co composting facility will establish there. Risk of flooding due to dam failure. 	DPHE W12B <ul style="list-style-type: none"> Watershed management plan is suggested for the water reservoir site. Environmental quality survey (SW, benthic invertebrates, planktons etc.) should be considered. Since the land belongs to the Forest Department, at the proposal stage Forest Department should be consulted. Fish net is suggested to install in the reservoir to prevent aquatic species. Emergency response plan is suggested to mitigate emergency incidences. 	DPHE W12B <ul style="list-style-type: none"> Mitigation measures will be taken during construction DPHE will consult with Forest Department.
12	DPHE Community Bathing Facility for Women	DPHE W13-W17 <ul style="list-style-type: none"> Site selection for the bathing facility has not been confirmed yet, thus site-specific issue can be raised. Baseline water quality can be consider. 	DPHE W13-W17 <ul style="list-style-type: none"> Safeguard documents should be updated after site selection, if required. ECoP has been suggested to mitigate environmental issues. Secondary data can be collected from ICCCAD through IOM or tested the water parameter at DPHE Cox's bazar Lab. 	DPHE W13-W17 <ul style="list-style-type: none"> Mitigation measures will be taken during construction DPHE lab authority agreed to test the water quality.
13	RHD Road	RHD W1 –W3 <ul style="list-style-type: none"> The road runs through several forested areas, such as national park, reserved forest and wildlife sanctuary Along the project road there are two active elephant crossings The road embank development will require significant amount of earthworks As per the Government of Bangladesh rules the project road requires an EIA study 	RHD W1 –W3 <ul style="list-style-type: none"> Though there are several forest areas but due to nature of the road improvement there will be no tree cutting. For the elephant crossing areas several mitigation measures have been suggested in the IEE and EMP for prep-construction, construction and operation stage. The IEE and EMP clearly mentioned about the sources of earth materials as per the national law and hill cutting is strictly prohibited. The preparation of the EIA report needs an approval of Terms of Reference (ToR) from Department of Environment (DoE). 	RHD W1 –W3 <ul style="list-style-type: none"> Mitigation measures will be taken during construction and operation stage The approval of ToR is already collected from DoE and EIA preparation is under process.

Table 6 Civil works and other non-environmental issues

Sl . No.	Subproject Category	Issues raised	Recommendations by the consultants	Measures Taken
----------	---------------------	---------------	------------------------------------	----------------

01	LGED Internal Roads	LGED W1A <ul style="list-style-type: none"> Despite of coordination with the ISCG in the camp, gaps in coordination has been found during road planning. Many of the organization in the camp are working on road projects and there are overlapping road constructions taking place. It has been found difficult to find and design proper roads that has not been modified recently. LGED is not experienced with hilly roads. It has been difficult to find surveyors inside the roads. 	<ul style="list-style-type: none"> Increase the amount of coordination with RRRRC, local CICs and ISCG to find out the appropriate roads 	<ul style="list-style-type: none"> The project coordinator from ADB will be coordinating with the sectoral groups and authorities from now on
		LGED W1B, W2A, W2B <ul style="list-style-type: none"> Identification and Design phase ongoing 	<ul style="list-style-type: none"> No suggestions yet 	
02	LGED Access Roads	LGED W3 <ul style="list-style-type: none"> Tender dropped due to non-feasibility of the access road LGED is not experiences with hilly roads. Experienced surveyors have been difficult to find. There is a gap of understanding of the EAPs objective within LGED local official who are in charge of proposing road alignment. EAP is supposed to improve exiting roads. However, it seemed from the consultants' field visit that the term "existing" has been misinterpreted. Many pedestrian pathways featuring in the LGED gazettes are not exactly HBB or BC road that has been indicated by the ADB project documents. Therefore, constructing roads on the existing pedestrian pathways actually do not satisfy EAP's criteria for road improvement. Coordination among LGED, Forest Department, District Commissioner etc seemed to be weak. LGED has not coordinated with the FD official for any permission for road construction within the forested land. In the hilly topography survey work proved to be quite difficult. Moreover, survey works have been hampered a few time due to unexpected rains and landslides in the area Local politics is also in play which is influencing LGED's decision maker (local) in selecting road alignment and length. The alignments and length has been changed few times already and still decisions are changing 	<ul style="list-style-type: none"> Increase the level of coordination with FD and DC Target only the existing HBB or BC roads for improvement The LGED HQ needs to put command on Local offices to overcome the political influences 	<ul style="list-style-type: none"> Redesign and retender process ongoing, tender dropped Foliapara part has been reduced to 1.04km during planning NI Chowdhury part has been reduced to ~2.5km due to survey issues and possible forested land encroachment
		LGED W4a, W4b <ul style="list-style-type: none"> Proposal yet to be finalized Survey issues, same as above 	<ul style="list-style-type: none"> Same as above 	<ul style="list-style-type: none"> Design consultants revising their plan
		LGED W5	<ul style="list-style-type: none"> The existing road is more or less 3.7m. during final alignment preparation, it is not suggested 	<ul style="list-style-type: none"> LGED engineers are planning for alternative proposal

		<ul style="list-style-type: none"> Proposed 8.8 km road appears to be non-feasible from the environmental point of view. From Palongkhali end only about 4 km was seemingly accessible by foot. Any expansion from this end towards Chapokkhali will involve hill cutting, blocking local streams (not perennials) and encroachment of private lands (with Nut orchards, paddy field) at the marine drive end. The alignment runs to reserve forest and hills The alignment has not yet been finalized, only about 4 km of the alignment has been identified The path passes through several elephant crossing paths The possible Marine Drive end of the alignment may end up in privately owned land, which might prove difficult at the end to acquire Proposed two way motorized road will require significant amount of hill cutting and will create disturbance to the sensitive hill environment 	<p>to find it through narrow hills which may involve hill cutting and forest encroachment</p> <ul style="list-style-type: none"> The alignment should follow the exiting route, which, at least wont encroach forested land or hill Few spots on the existing path (about 4km) have been found to be quite spacious while some parte are as narrow as 3m. it is suggested to make the road max 3.7m to avoid hill cutting and forest encroachment. However, the areas along the alignment can be used as waiting areas for larger vehicles to cross by. Smart signaling system can be used so that road traffic from both ends can controlled to avoid full frontal collision. The road can proposed to be unidirectional to that narrow road does not affect frontal vehicle crossings. Since couple of other parallel roads are on the verge of proposal, such idea can be adopted. 	
--	--	---	--	--

6 Concluding observations

47 Current environmental conditions of few proposed subprojects are presented through some site photographs in **Annex A** of this report.

48 The concluding observations are as follows:

- The implementing agencies need to consult the Environmental Safeguards consultants and ADB's safeguard division while proposing the project, before going into design. In this way, if the Safeguards division and Environmental Consultants checks the environmental and other related issues, the implementing agencies can go for designing and can save time by avoiding redesign issues
- The implementing agencies need to better coordinate with the DoE and Forest Department. It appears the level of coordination is weak.

7 Annex A

1. LGED Access Roads



Figure 3 Palongkhali-Chapokkhali Access Road



Figure 4 NI Chowdhury Access Road

2. LGED Cyclone shelters



Figure 5 LGED Cyclone Shelters

3. LGED Internal Roads



Figure 6 NI Chowdhury Access Road

4. BREB Power Supply



Figure 7 LGED Cyclone Shelters

5. DPHE Water reservoir and surface water treatment plant



Figure 8 Proposed water reservoir at Rohingya kata

6. DPHE Solid waste and faecal sludge management



Figure 9 Proposed site for solid waste and faecal sludge management

7. DPHE mini piped water supply



Figure 10 Proposed sites for mini piped water supply system

8. RHD Road



Figure 11 Environmental condition of the RHD road