Government of the People's Republic of Bangladesh

Bangladesh Road Safety Project

Environmental and Social Management Framework

Volume II: Annexure

November 2021

Roads and Highways Department

Bangladesh Road Transport Authority

Directorate General of Health Services

Bangladesh Police

List of Annexes

ANNEXURE

Annex A: WB Environmental and Social Standards (ESSs)

Sl. No.	Environmental and Social Standard	URL
1	ESS 1: Assessment and Management of Environmental and Social Risks and Impacts	https://pubdocs.worldbank.org/en/837721522762050108/Environmental-and-Social-Framework.pdf#page=29&zoom=80
2	ESS 2: Labor and Working Conditions	https://pubdocs.worldbank.org/en/837721522762050108/Environmental-and-Social-Framework.pdf#page=45&zoom=80
3	ESS 3: Resource Efficiency and Pollution Prevention and Management	https://pubdocs.worldbank.org/en/837721522762050108/Environmental-and-Social-Framework.pdf#page=53&zoom=80
4	ESS 4: Community Health and Safety	https://pubdocs.worldbank.org/en/837721522762050108/Environmental-and-Social-Framework.pdf#page=59&zoom=80
5	ESS 5: Land Acquisition, Restrictions on Land Use and Involuntary Resettlement	https://pubdocs.worldbank.org/en/837721522762050108/Environmental-and-Social-Framework.pdf#page=67&zoom=80
6	ESS 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources	https://pubdocs.worldbank.org/en/837721522762050108/Environmental-and-Social-Framework.pdf#page=81&zoom=80
7	ESS 7: Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities	https://pubdocs.worldbank.org/en/837721522762050108/Environmental-and-Social-Framework.pdf#page=89&zoom=80
8	ESS 8: Cultural Heritage	https://pubdocs.worldbank.org/en/837721522762050108/Environmental-and-Social-Framework.pdf#page=99&zoom=80
9	ESS 9: Financial Intermediaries	https://pubdocs.worldbank.org/en/837721522762050108/Environmental-and-Social-Framework.pdf#page=105&zoom=80
10	ESS 10: Stakeholder Engagement and Information Disclosure	https://pubdocs.worldbank.org/en/837721522762050108/Environmental-and-Social-Framework.pdf#page=111&zoom=80

Annex B: Applicable Environmental Quality Standards

Details of the environmental standards applicable in Bangladesh are described in ECR. Regulated Areas spread to all industries, and regulated items are ambient air quality, water quality (surface water, drink water), noise (boundary, source), emissions from motor vehicles or ships, odor, sewage discharge, waste from industrial units and industrial effluents or emissions. Items and standards, which are related to the BRSP, are listed below. Tables and annotations of environmental regulation are described as textual description of ECR. However, in absence of any environmental quality standard in the ECR 1997 the project will follow Good International Industry Practice (GIIP).

Air Quality

Table B-1 shows the ambient air quality standard in Bangladesh. Table B-2 mentioned air emission standard for motor vehicles.

Table B-1: Ambient Air quality standards in Bangladesh[1]

No.	Parameter	Concentration (µg/m3) as per ECR,1997	Exposure Time
a)	Carbon Mono-oxide	10	8 hours
		40	1 hour
b)	Lead (Pb)	0.5	1 Year
c)	Nitrogen Oxide	100	1 Year
		-	1 hour
d)	Suspended Particulate Matter (SPM)	200	8 hours
e)	Particulate Matter 10µm (PM10)	50	1 Year
		150	24 hours
f)	Particulate Matter 2.5µm (PM2.5)	15	1 Year
		65	24 hours
g)	Ozone	0.235	1 hour
		0.157	8 hours
h)	Sulfur Dioxide	0.08	Year
		0.365	24 hours

Source: Bangladesh Gazette July 19, 2005,

Table B-2: Standards for Emission from Motor Vehicles

Parameter	Unit	Standard Limit
Black Smoke	Hartridge Smoke Unit (HSU)	65
Carbon Monoxide	gm/km	24
	percent area	04
Hydrocarbon	gm/km	02
	ppm	180
Oxides of Nitrogen	gm/km	02
	ppm	600

Source: ECR'1997

Water Quality

Table B-3 shows water quality standard (drinking water). Table B-4 shows the waste water standard from project activities.

[1] Not exceed one time in year

Table B-3: Drinking Water Quality Standards in Bangladesh

No.	Parameter	Unit	ECR'97
1	Aluminum	mg/l	0.2
2	Ammonia (NH3)	mg/l	0.5
3	Arsenic	mg/l	0.05
4	Barium	mg/l	0.01
5	Benzene	mg/l	0.01
6	BOD5 20oC	mg/l	0.2
7	Boron	mg/l	1.0
8	Cadmium	mg/l	0.005
9	Calcium	mg/l	75
10	Chloride	mg/l	150-600
11	Chlorinated Alkanes		
	Carbon Tetrachloride	mg/l	0.01
	1.1 Dichloroethylene	mg/l	0.001
	1.2 Dichloroethylene	mg/l	0.03
	Tetrachloroethylene	mg/l	0.03
	Trichloroethylene	mg/l	0.09
12	Chlorinated Phenols		
	Pentachlorophenol	mg/l	0.03
	2.4.6 Trichlorophenol	mg/l	0.03
13	Chlorine (residual)	mg/l	0.2
14	Chloroform	mg/l	0.09
15	Chromium (hexavalent)	mg/l	0.05
16	Chromium (total)	mg/l	0.05
17	COD	mg/l	4
18	Coliform (fecal)	n/100 ml	0
19	Coliform (total)	n/100 ml	0
20	Color	Huyghens unit	15
21	Copper	mg/l	1
22	Cyanide	mg/l	0.1
23	Detergents	mg/l	0.2
24	DO	mg/l	6
25	Fluoride	mg/l	1
26	Hardness (as CaCO3)	mg/l	200-500
27	Iron	mg/l	0.3-1.0
28	Nitrogen (Total)	mg/l	1
29	Lead	mg/l	0.05
30	Magnesium	mg/l	30-35
31	Manganese	mg/l	0.1
32	Mercury	mg/l	0.001
33	Nickel	mg/l	0.1
34	Nitrate	mg/l	10
35	Nitrite	mg/l	Less than 1
36	Odor		Odorless
37	Oil & Grease	mg/l	0.01
38	pH		6.5-8.5
39	Phenolic compounds	mg/l	0.002
40	Phosphate	mg/l	6
41	Phosphorus	mg/l	0
42	Potassium	mg/l	12
43	Radioactive Materials (gross alpha activity)	Bq/l	0.01
44	Radioactive Materials (gross beta activity)	mg/l	0.1
45	Selenium	mg/l	0.01
46	Silver	mg/l	0.02

No.	Parameter	Unit	ECR'97
47	Sodium	mg/l	200
48	Suspended particulate matters	mg/l	10
49	Sulfide	mg/l	0
50	Sulfate	mg/l	400
51	Total dissolved solids	mg/l	1000
52	Temperature	℃	20-30
53	Tin	mg/l	2
54	Turbidity	JTU	10
55	Zinc	mg/l	5

(Source: ECR'1997)

Table B-4: Wastewater Discharge Standards in Bangladesh

No.	Parameter	Unit	Inland Surface Water	Public Sewer at Secondary Treatment plant	Irrigated Land
1	Ammoniacal Nitrogen (N molecule)	mg/L	50	75	75
2	Ammonia (free ammonia)	mg/L	5	5	15
3	Arsenic (As)	mg/L	0.2	0.05	0.2
4	BOD5 20°C	mg/L	50	250	100
5	Boron	mg/L	2	2	2
6	Cadmium (Cd)	mg/L	0.05	0.5	0.5
7	Chloride	mg/L	600	600	600
8	Chromium (total Cr)	mg/L	0.5	1.0	1.0
9	COD	mg/L	200	400	400
10	Cr6+ (hexavalent Cr)	mg/L	0.1	1.0	1.0
11	Copper (Cu)	mg/L	0.5	3.0	3.0
12	Dissolved Oxygen (DO)	mg/L	4.5-8	4.5-8	4.5-8
13	Electrical Conductivity	micro mho/cm	1200	1200	1200
14	Total Dissolved Solids	mg/L	2,100	2,100	2,100
15	Fluoride (F)	mg/L	7	15	10
16	Sulfide (S)	mg/L	1	2	2
17	Iron (Fe)	mg/L	2	2	2
18	Total Kjeldahl Nitrogen (N)	mg/L	100	100	100
19	Lead (Pb)	mg/L	0.1	1.0	0.1
20	Manganese (Mn)	mg/L	5	5	5
21	Mercury (Hg)	mg/L	0.01	0.01	0.01
22	Nickel (Ni)	mg/L	1.0	2.0	1.0
23	Nitrate (N molecule)	mg/L	10.00	Undetermined	10
24	Oil & grease	mg/L	10	20	10
25	Phenol compounds(C6H5OH)	mg/L	1.0	5	1
26	Dissolved Phosphorus (P)	mg/L	8	8	10
27	Radioactive Materials.	As determined by Bangladesh Atomic Energy Commission			
28	pH		6-9	6-9	6-9
29	Selenium	mg/L	0.05	0.05	0.05
30	Zn (Zn)	mg/L	5.0	10.0	10.0
31	Total Dissolved solid	mg/L	2,100	2,100	2,100
32	Temperature (0C)	Summer	40	40	40
		Winter	45	45	45
33	Total Suspended Solid (TSS)	mg/L	150	500	200
34	Cyanide (CN)	mg/L	0.1	2.0	0.2

(Source: ECR, 1997)

Noise Level

As for noise, the standard limit is set for every category of zone class. Table B-5 shows the noise standard in Bangladesh.

Table B-5: Standards for Noise[2]

No	Zone Class	Limits in dBA	
		ECR	
		Day	Night
a)	Silent Zone	45	35
b)	Residential Zone	50	40
c)	Mixed Zone (this area is used combining residential, commercial and industrial purposes)	60	50
d)	Commercial Zone	70	60
e)	Industrial Zone	70	70

(Source: ECR, 1997)

Notes:

1. The time from 6 a.m. to 9 p.m. is counted as daytime.

2. The time from 9 p.m. to 6 a.m. is counted as night time.

3. Area up to a radius of 100 meters around hospitals or educational institutions or special institutions/ establishments identified/to be identified by the Government is designated as Silent Zones where use of horns of vehicles or other audio signals, and loudspeakers are prohibited.

[2] Textual annotations are as follows.
(1) The day time is considered from 6 a.m. to 9 p.m. and the night time is from 9 p.m. to 6 p.m.
(2) From 9 at night to 6 morning is considered night time.
(3) Area within 100 meters of hospital or education institution or educational institution or government designated / to be designated / specific institution / establishment are considered Silent Zones. Use of motor vehicle horn or other signals and loudspeaker are forbidden in Silent Zone.

Annex C: Sample Checklist for Environmental and Social Screening of Sub-Projects

Subproject Name		
Implementing Agency		
Subproject Location		
Estimated Investment		
Start and Completion Date		

Sub-project Description and Key Activities: Please fill the table below

Name of the sub-project	Type of Intervention/s	Key stakeholders	Brief description of the design

Sl No	Screening criteria	Response to the Question		ES Impact						Remarks
		Yes	No	No Impact	Positive Impact	Negative Impact				
						Low	Moderate	Substantial	High	
	ESS-1: Assessment and Management of Environmental & Social Risk and Impacts									
1	Does the subproject carry risk that disadvantaged and vulnerable groups may have unequitable access to project benefits?									
2	Will the project contribute to any long- term significant adverse (negative), large scale,									

Sl No	Screening criteria	Response to the Question		ES Impact						Remarks
		Yes	No	No Impact	Positive Impact	Negative Impact				
						Low	Moderate	Substantial	High	
	irreversible, sensitive impact at a regional scale or area broader than the project sites?									
3	Whether accessibility of differently able people have been made in the project design?									
	ESS-2: Labor and Working Conditions									
4	Does the subproject involve recruitment of workers including Direct workers Contracted workers Primary supply workers Community workers?									[3]
5	Will there be migrated labor in the project?									[4]
6	Will there be any labor camp for the accommodation of the labors?									[5]
7	How severely the OHS of the workers can be impacted by the project activities									[6]
8	Is there possibility of employing vulnerable categories of workers including women, child labor?									[7]

[3] If yes, please provide the tentative numbers here. Such as: 1. number of Local laborers, migrated labors, community labors, supply workers and number of contractors
[4] Answer should be linked above
[5] Labor camp, rented house etc.? If a labor camp is required, should a location be mentioned?
[6] Accidents, safety, Covid-19
[7] Engaging vulnerable women is preferred but adequate safety measures must be taken

Sl No	Screening criteria	Response to the Question		ES Impact						Remarks
		Yes	No	No Impact	Positive Impact	Negative Impact				
						Low	Moderate	Substantial	High	
9	Does the project area present considerable Gender-Based Violence (GBV) and Sexual Exploitation and Abuse (SEA) risk?									[8]
10	Is there possibility that activities and deployment of labor would add to the GBV prevalence?									
11	Will the activities cause interaction between labors and communities in view of COVID-19 situation?									
12	Is there any potential for conflict between construction workers and local peoples (and vice versa)?									
13	Does the subproject have a Labor GRM in place, to which all workers have access, designed to respond quickly and effectively?									
	ESS-3: Resource Efficiency and Pollution Prevention and Management									
14	Will the activities use or generate substances that will cause pollution of water bodies (groundwater/surface water) during the construction or use of the facilities?									
15	In case the sup-project is located by the side of a river, is there any									

[8] Answer should be linked with question 8. Also, community based GBV/SEA should be considered including previous history.

Sl No	Screening criteria	Response to the Question		ES Impact						Remarks
		Yes	No	No Impact	Positive Impact	Negative Impact				
						Low	Moderate	Substantial	High	
	drinking water source at upstream and downstream of the project location which can be affected?									
16	Are there any low-lying areas prone to water logging/flooding due to project activities?									
17	Is there necessity of substantial removal of Top Soil?									
18	Will the project / any of its component might contaminate or pollute the Land?									
19	Will the project result in stagnation of water flow or pondage or weed growth									
20	Will the project use or store dangerous substances (e.g., massive quantities of hazardous chemicals/ materials like Chlorine, Diesel, Petroleum products; any other?									
21	Will the project produce solid or liquid wastes; including construction/demolition wastes (including de-weeding wastes, muck/silt, dust); polluted liquids?									
22	Will the project cause or increase air pollution or odor nuisance?									
23	Will the project cause or increase noise pollution or vibration level?									

Sl No	Screening criteria	Response to the Question		ES Impact						Remarks
		Yes	No	No Impact	Positive Impact	Negative Impact				
						Low	Moderate	Substantial	High	
24	Is there any potential for release of toxic gases or accident risks (e.g., potential fire outbreaks)									
	ESS-4: Community Health and Safety									
25	Will the project result in Health & Safety Risks in the neighborhood?									
26	Is there possibility of potential disruption to common property, accessibility, traffic system etc. due to project activity?									[9]
27	Will the activities affect other communities who rely (or might become dependent) on the same resources that the proposed activity will be using?									
28	Will the activities create a situation that may threaten the livelihood of people who have been providing similar types of services in the community?									
29	Are there any sensitive ES receptors such as residences, schools, hospitals etc. which might be impacted by the project?									
	ESS-5: Land Acquisition, Restrictions on Land Use and Involuntary Resettlement									

[9] If common properties are affected or disrupted, please link with ESS5 as well.

Sl No	Screening criteria	Response to the Question		ES Impact						Remarks
		Yes	No	No Impact	Positive Impact	Negative Impact				
						Low	Moderate	Substantial	High	
30	Will the proposed activities potentially involve involuntary resettlement?									
31	If the answer to any of the Ques above is yes, answer below and write detailed here.	Please write detailed here								
31a	Will there be any acquisition or requisition of private land?	Please write the purpose of acquisition or requisition here								
31b	Will there be any repossession of public land from formal private uses with a legally constituted lease/rent agreement?	Please write the purpose of acquisition or requisition here								
31c	Will there be any repossession of public land from informal private uses without any legally constituted lease/rent agreement?	Please write the purpose of acquisition or requisition here								
31d	Is the ownership status of the land known? If yes, please provide details here.									[10]
31e	Is there a possibility of voluntary land donation? If yes, please provide details here.									[11]
31f	Will there be any loss of residential, commercial or community structures?									[12]

[10] Government/private or owned? by other entities
[11] If yes, who will donate?
[12] Please provide numbers here, if the answer is yes

Sl No	Screening criteria	Response to the Question		ES Impact						Remarks
		Yes	No	No Impact	Positive Impact	Negative Impact				
						Low	Moderate	Substantial	High	
31g	Is there any presence of squatters who may be affected due to interventions?									
31h	Will there be any loss of trees, crops, or any fixed assets?									[13]
31i	Would the resettlement site culturally sensitive?									
	ESS-6: Biodiversity Conservation and Sustainable Management of Living Natural Recourses									
32	Will the activities be located within or close to protected areas and areas of ecological significance including critical habitats, key biodiversity areas and internationally recognized conservation sites?									
33	Is there any possibility of degradation of land / eco-systems due to the project activities?									
34	Is there any possibility of tree cutting that may have impact on local ecology?									
35	Will the activities cause any degradation to the nearby aquatic environment?									
	ESS-7: Indigenous/Tribal Peoples									
36	Will the activities affect tribal peoples with indigenous status									[14]

[13] Numbers and types

[14] If yes, please provide details here. Also communicate with Bank's E&S team.

Sl No	Screening criteria	Response to the Question		ES Impact						Remarks
		Yes	No	No Impact	Positive Impact	Negative Impact				
						Low	Moderate	Substantial	High	
	those would be affected by the project interventions?									
37	Are there any tribal peoples in the project influence area those would be benefited by the project interventions?									
	ESS-8: Cultural Heritage									
38	Loss or impacts on Cultural/heritage properties									
	ESS-10: Stakeholders Engagement and Information Disclosure									
39	Has the screening team conducted any consultations with the different stakeholders during screening?									
40	Do the local people aware of the proposed project?									

Conclusions:

Sub-Project Category	**□ Low □ Moderate □ Substantial □ High**
Key Reasons	
E&S Instruments Required	□ ***Detailed*** **ESIA and ESMP** □ ***ESA*** □ ***Resettlement Plan*** □ ***Site-specific*** **ESMP**

Report Prepared by:	Reviewed by:	Approved by:
Environmental and Social Team, Contract Package No. …….	Name: Designation: Organization: Email: Sign:	Name: Designation: Organization: Email: Sign:

Annex D: Terms of Reference (ToR) for ESIA Study

1. BACKGROUND AND CONTEXT

Road safety is high on the GOB's agenda. A Road Transport Act 2018, has introduced stricter penalties for traffic offenses, including for driving without a license, owning unregistered vehicles, driving unfit vehicles, overloading, and parking violations, and places emphasis on the greater operator and designer accountability for safety performance and stronger enforcement of unsafe user behavior through the deployment of mobile courts. GOB has also called upon its National Road Safety Council (NRSC) to address growing public concerns about road safety. Proposed initiatives include road user safety awareness and education programs using a variety of media; public transport user and driver safety; safer public transport route franchising and driver employment conditions; promotion of motorcycle and cyclist safety helmet use; safer pedestrian infrastructure including safety railings, rumble strips and raised pedestrian platforms at busy intersections; removal of roadside market encroachment to improve pedestrian access and safety; safer road signs, markings, and lighting; improved driver licensing procedures; the establishment of a road safety authority and improved safety data collection; and the establishment of a road safety fund to ensure adequate resourcing of proposed actions and their monitoring and evaluation. Implementation challenges have been recognized, and agency responsibilities and delivery timelines for the proposed actions have been set to 2024.

In this context, according to a request from the GOB, the World Bank, jointly with the GOB's Roads and Highways Department (RHD) and other government stakeholders (notably, Bangladesh Police and Health Departments), is preparing a Bangladesh Road Safety Project (BRSP) to help GOB build its road safety management capacity and achieve targeted reduction in the country's road traffic injuries over the coming decade.

The risks and impacts of project interventions cannot be determined until the program or subproject details have been identified. Therefore, an ESMF was prepared for BRSP during appraisal mainly to address the potential environmental and social, labour, Environment, Health and Safety (EHS) and stakeholder's engagement issues related to individual IA's sub-projects to be implemented under the BRSP. All the potential major environmental and social impacts along with mitigation and management measures have been compiled in the form of ESMF. More particularly, this ESMF highlights the requirements related to the 10 Environment and Social Standards (ESSs) of the World Bank Environmental and Social Framework (ESF).

2. SCOPE OF THE ASSIGNMENT AND WORLD BANK ES STANDARDS

Environmental and social impact assessment (ESIA) is the instrument to identify and assess the potential environmental and social impacts of the proposed project, evaluate alternatives, and design appropriate mitigation, management, and monitoring measures. The ESIA report shall be prepared in light with the GoB rules and regulations and Environmental and Social Framework (ESF) (that includes ten ES Standards) as mentioned below and Guidance Notes of the World Bank. A copy of the ESF and ESS Guidance Notes may be found at:

http://documents.worldbank.org/curated/en/383011492423734099/pdf/114278-WP-REVISED-PUBLIC-Environmental-and-Social-Framework.pdf
https://www.worldbank.org/en/projects-operations/environmental-and-social-framework/brief/environmental-and-social-framework-resources#guidancenotes

ESS1: ASSESSMENT AND MANAGEMENT OF ENVIRONMENTAL AND SOCIAL RISKS AND IMPACTS (by the Subproject)

The ESIA will illustrate the existing ES baseline conditions of the subproject area and assess impacts of the proposed activities within the subproject Area of Influence (AoI). The Consultant will describe, delineate and map the AoI based on likely risk and impact and influence of the subproject. A combination of secondary and primary data would be used in determining the baseline condition. The secondary data should reflect the AoI and be of recent effort (within a year of the study). The ESIA report will be based upon the Environmental and Social Framework (ESMF) prepared during the preparation of the project. ESMF along with other ES documents which was also prepared during the preparation of the project could be good source of secondary data for this report. The assessment will cover:

Physical environment: Geology; topography; soil type and land use plan; meteorology; surface and groundwater hydrology; water quality; noise/sound pollution; air quality; potential natural hazards and/or other related climatic events.

Biological environment: The study will assess impacts of the subproject on habitats and the biodiversity they support, if any. In planning and undertaking environmental and social assessment related to the biodiversity baseline, the Borrower will follow relevant GIIP. ESA and ESMF developed for the project have biodiversity related information, risk and impacts for the overall project.

Socioeconomic and cultural environment: Subproject area population estimate; land use and patterns of land ownership and tenure practice; planned development activities; community structure; employment; distribution of income etc. It will also cover identification of the disadvantaged and vulnerable groups in accordance with the guidance available in ESS1 (para 28(b) and foot note 28), assessing existing status of gender-based violence (GBV) following the World Bank's Good Practice Note (GPN). An illustration on how various stakeholders (including the disadvantaged and the vulnerable) will be consulted and how their concerns and expectations will be incorporated in the ESIA/ESMP will also need to be included.

Projection of potential Impacts on physical, biological, socio-economic and cultural environment: Based on the present baseline situation, the consultant will estimate and assess the probable key risks and impacts of the planned subproject on the environment and population of the area.

Analysis of Alternative: The study will include alternative analysis considering different methods of project interventions, alignment, material used and No-action alternative.

ESS2: LABOR AND WORKING CONDITION

In line with the existing Project Labor Management Procedure (LMP), the study will assess likely labor requirement for this subproject, potential risks and impacts on the labor including hazardous work, child labor and forced labor, migrant or seasonal workers, discrimination against women, vulnerable workers etc, labor influx, occupational health and safety (OHS), possible accidents and emergencies, risks of GBV among others. The study would identify subproject specific labor issues and management of related risks and impacts to be included in the bidding document. OHS issues like protection against traffic safety, accidental fire, need for emergency procedure, evacuation, issues of COVID-19 protocols etc. will be specified in the ESIA for further inclusion in the bid documents. Based on the assessment of labour issues, recommendations will be made if LMP need to be updated.

ESS3: RESOURCE EFFICIENCY AND POLLUTION PREVENTION AND MANAGEMENT

The study will broadly assess potential impacts on various environmental parameters such as air, surface and groundwater and soil, hydrology, drainage etc. due to the proposed subproject activities and recommend measures to reduce/mitigate such impact. The study will address the issue of sustainable sourcing of construction material throughout the implementation of the subproject and provide guidelines for sustainable material sourcing in line with internationally accepted standards.

ESS4: COMMUNITY HEALTH AND SAFETY

The study will assess the impacts of the proposed subproject activities on the health and safety of the communities in the subproject area. This will include risk from road accidents, accidental fire, emergency events, need for emergency plan and training/awareness building for the community around the subproject. The study will recommend measures and actions to efficiently handle the issue of community health and safety concerns.

ESS5: LAND ACQUISITION, RESTRICTION ON LAND USE AND INVOLUNTARY RESETTLEMENT

The consultant will carefully study the land requirement of the subproject and assess if acquisition, requisition, involuntary resettlement, economic and physical displacement will be required or not. In such case, it will recommend measures to address the issues including preparation of RAP if needed. Further, legacy issues or outstanding compensation for land and resettlement issues, legal cases will also be studied and measures to address the same will be provided in the ESIA.

ESS6: BIODIVERSITY CONSERVATION AND SUSTAINABLE MANAGEMENT OF LIVING NATURAL RESOURCES

The assessment will include the impact of the proposed subproject activities on various biodiversity and habitat and ecosystem and recommend necessary management plan, if necessary.

ESS7: INDIGENOUS PEOPLE/ SUB-SAHARAN AFRICAN HISTORICALLY UNDERSERVED TRADITIONAL LOCAL COMMUNITIES

The study will determine the presence of IPs and/or ethnic minority communities in the subproject area meeting the definition of ESS7. The study will also analyse potential risks and impacts on IPs/ ethnic communities, if present in the area, due to any potential activities/ future activities. The study will also suggest if free prior and informed consent will need to be taken from these communities following the criteria mentioned in the ESS7.

ESS8: CULTURAL HERITAGE

The consultant will identify significant archaeological and historical resources and cultural heritage and assess how these could be impacted due to implementation of the subproject and recommend steps to follow to address such impacts. The ESIA should also include Chance Finds Procedure, in line with ESF, should a previous heritage is discovered during the excavation.

ESS9: FINANCIAL INTERMEDIARY

This standard is not relevant to the project.

ESS10: STAKEHOLDER ENGAGEMENT AND INFORMATION DISCLOSURE

Guided by the Project Stakeholder Engagement Plan (SEP), the study will identify the subproject specific key stakeholders and carryout stakeholder consultation as per the SEP. It will identify affected groups, interested parties, vulnerable and disadvantaged people of the subproject area and will describe how their views are taken into considerations in the design and ESMP for this sub-project. The ESMP will also propose how the relevant stakeholders will be engaged throughout the implementation of this sub project.

SCOPE OF THE ESIA AND TASK PARAMETERS

The study area will comprise of the subproject specific Area of Influence (AoI), to be determined by the Consultant basing on the risk profile and subproject activities. Specifically, the Consultant will:

- Collect, review and analyse ES baseline information of the subproject specific AoI, which will be determined and delineated by the Consultant. Baseline would be captured on the basis of primary data and authentic secondary information collected on the AoI in nearness of time (within a year of the study). The primary data collection is also required to validate secondary information as necessary.
- Analyse the institutional and legal framework for the assessment and management of ES risks and impacts of the subproject, identify institutional and jurisdictional gaps against the GoB rules and regulations and World Bank's ESF and Environment, Health and Safety Guidelines (EHSG) and recommend measures to address the gaps.
- Assess potential ES risks and impacts following GoB guidelines, GIIP and ESSs of WB of the sub project activities covering the full life cycle of the sub-project i.e., design, implementation and operation and recommend mitigation measures
- Assess the susceptibility of the project area to various natural disaster such as cyclone, earthquake, water surges and/or other climatic events etc their possible impacts and recommend appropriate management plan for combating such event.
- Systematically analyse feasible alternatives of the proposed subproject site, technology, design methods, alignment and operation including the "without subproject" situation considering environmental and social impacts of each alternative.
- Identify key stakeholders relevant to the subproject; organize public consultation meetings at various stages as per SEP of the BRSP. The stakeholder identification and consultation will be in line with the Project level SEP and will ensure the views of the stakeholders, especially the disadvantaged and the vulnerable are taken into account. The stakeholder will also need to be provided with feedback on the project modalities, risks and impacts.
- Develop appropriate management plans for implementing, monitoring and reporting of the recommended environmental and social mitigation and enhancement measures.

3. INDICATIVE OUTLINE OF THE ESIA AND BRIEF DESCRIPTIONS

Executive Summary

Concisely discusses critical environmental and social issues due to subproject activities, significant findings and recommended actions.

Chapter 1: Introduction and Background

This chapter will introduce the subproject within the whole project umbrella and the objective, scope and methodology of the study. The chapter should briefly indicate geographic, environmental, social, and temporal context of the subproject area. This chapter should contain maps and photographs showing the area that may be affected by the current and planned activities.

Chapter 2: Legal and Institutional Framework

The Chapter will summarize the legal and institutional framework relevant to this specific sub-project as depicted in ESMF.

Chapter 3: ES Baseline of The Project

The chapter would include baseline data on relevant environmental and social characteristics of the subproject area. This will include both physical and biological environment. Assessment of ES baseline would be based on both primary and secondary data. Primary data collection is also necessary to validate

secondary information if deemed necessary. The data may include, among others, environmental quality status (air, noise, water, soil), physical environmental context (physiography, topography, geology, seismicity), hydrology, terrestrial and aquatic ecosystem, basic demographic summary (data on gender, age, educational background, livelihood, housing etc.), status of land use, identification of squatters, common social facilities and buildings (CPR), status of GBV, availability and types/capacity of labor, presence of ethnic minorities, vulnerable groups etc. Data may be obtained from a combination of secondary sources and suitable primary data, such as personal interviews and household or community surveys as relevant. The data should be based on the subproject AoI and be of recent nature (within a year of the study). The consultants will identify what baseline data will be used to measure implementation outcome this sub-project.

CHAPTER 4: ENVIRONMENTAL AND SOCIAL RISKS AND IMPACTS

The chapter would address both potential ES impacts of the subproject.

The ES risks and impacts are those (i) defined by the GoB, World Bank Group EHSG and ESF. Specially ES risks are those that may include:

- *Climate change and other trans-boundary or global risks and impacts;*
- *Any material threat to the protection, conservation, maintenance and restoration of natural habitats and biodiversity;*
- *Those related to ecosystem services and the use of living natural resources, such as fisheries and social risks and impacts*
- *Threats to human security through the escalation of personal, communal or crime or violence, if any;*
- *Risks and impacts on the disadvantaged or vulnerable;*
- *Any prejudice or discrimination toward individuals or groups in providing access to development resources and project benefits;*
- *Negative potential economic and social impacts relating to the involuntary taking of land or restrictions on land use, if any;*
- *Risks or impacts associated with land and natural resource tenure and use, including, as relevant, potential project impacts on local land use patterns and tenurial arrangements, land access and availability, food security and land values, and any corresponding risks related to conflict or contestation over land and natural resources;*
- *Potential impacts on the health, safety and well-being of workers and project-affected communities;*
- *Effects on the communities due to negative impact on ecosystem services;*
- *Effects on communities due to design of infrastructure;*
- *Generation of wastes and its communal affect;*
- *Any risk due to migrant workers;*
- *Risks to cultural heritage.*

Chapter 5: Alternative Analysis and Design

This chapter will include an analysis of the potential alternatives with regards to different methods of subproject interventions, technology, alignment, use of materials including their impact on the environment. The chapter will also include an analysis with a no-action scenario. It will also set out the basis for selecting the particular project design proposed and specifies the applicable EHSGs, especially those related to zero emission/discharge, green energy production/usage, circular economy etc.

CHAPTER 6: Mitigation Measures and ES Management Plan

This chapter would include appropriate mitigation measures, ES management plan and monitoring plan for E&S compliance for ES risks and impacts of the subproject as per the guide notes of GOB, WB and GIIP. Mitigation measures may include, among others, issues related to air quality, noise, soil pollution, water resources, traffic management, waste disposal, protecting biodiversity, how concerns and expectations of vulnerable and disadvantaged are addressed and incorporated in the management plan and their engagement modalities during the lifecycle of the project, occupational and community health and safety, GBV, labor issues etc. This chapter will also include estimations for environmental management and monitoring of E&S compliance, financial and manpower allocation requirement etc.

Chapter 7: Continuous Stakeholder Engagement during Implementation

Guided by the Project SEP, this chapter will document the key stakeholder mapping and public consultation, including the method of communication, grievance redress system, keeping in view COVID-19 related protocols. The issue of completing the feedback loop will have to be borne in mind while developing this chapter. Especially, maintenance of continuous engagement of stakeholders and how it will be reported during implementation of ESMP will be also be illustrated. Disclosure and information sharing/reporting back to the stakeholders modalities will also be provided.

Chapter 8: Implementation Arrangements for ESMP

This chapter will assess the institutional capacity of implementing agencies (RHD, BRTA, DGHS, BP) and the NPIU/sub PIUs for implementation of the ESMP, provide suggestions if necessary for augmenting the capacity and describe implementation arrangement and operational measures including responsibilities, timeline, budget, monitoring arrangement, reporting requirement etc.

4. REPORTING REQUIREMENT

The Consultants will be required to work closely with NPIU/sub PIUs and will report to the National Project Director.

5. REFERENCES

The World Bank Environmental and Social Framework (ESF)
The World Bank's Environmental and Social Standards (ESS)
World Bank Group General Environmental Health and Safety Guidelines (EHSG)
(https://www.ifc.org/wps/wcm/connect/topics_ext_content/ifc_external_corporate_site/sustainability-at-ifc/policies-standards/ehs-guidelines)
World Bank Group Industry Sector Guidelines for Construction Materials Extraction (Same as above)
IFC Guidelines on Cumulative Impact Assessment (CIA)
(https://www.ifc.org/wps/wcm/connect/topics_ext_content/ifc_external_corporate_site/sustainability-at-ifc/publications/publications_handbook_cumulativeimpactassessment)
Good Practice Note on Labor Influx Management
(https://thedocs.worldbank.org/en/doc/fc074f5b6cc1621dc65675bf83c9d0b8-0290032021/original/ESF-Labor-Influx-Good-Practice-Note.pdf)
Good Practice Note on Addressing GBV
(https://documents1.worldbank.org/curated/en/399881538336159607/pdf/Environment-and-Social-Framework-ESF-Good-Practice-Note-on-Gender-based-Violence-English.pdf)
Guidance Notes for Borrowers (ESS 1-10)
(https://www.worldbank.org/en/projects-operations/environmental-and-social-framework/brief/environmental-and-social-framework-resources#guidancenotes)
ILO OHS Standards

Annex E: Structure of Partial Environmental and Social Assessment (IEE Report)

A partial environmental and social assessment (i.e., IEE report) also be prepared in light with the GoB rules and regulations and Environmental and Social Framework (ESF) (that includes ten ES Standards) as mentioned in the guideline of ESIA study and Guidance Notes of the World Bank.

Similar to the ESIA study; an IEE report will also follow the same structure but the level of assessment will be lower than the ESIA study. For example, an IEE study mostly rely on the secondary data for establishing the environmental and social baseline. Furthermore, alternative analysis is also not a mandatory scope if it is found that there are no major environmental and social impacts evolving from the subproject.

Indicative Outline of the IEE and Brief Descriptions

Executive Summary
Concisely discusses critical environmental and social issues due to subproject activities, significant findings and recommended actions.

Chapter 1: Introduction and Background
This chapter will introduce the subproject within the whole project umbrella and the objective, scope and methodology of the study. The chapter should briefly indicate geographic, environmental, social, and temporal context of the subproject area. This chapter should contain maps and photographs showing the area that may be affected by the current and planned activities.

Chapter 2: Legal and Institutional Framework
The Chapter will summarize the legal and institutional framework relevant to this specific sub-project as depicted in ESMF.

Chapter 3: ES Baseline of The Project
The chapter would include baseline data on relevant environmental and social characteristics of the subproject area. This will include both physical and biological environment. Assessment of ES baseline would be based on mostly from secondary sources. The consultants will identify what baseline data will be used to measure implementation outcome this sub-project.

CHAPTER 4: ENVIRONMENTAL AND SOCIAL RISKS AND IMPACTS

The chapter would address both potential ES impacts of the subproject.

The ES risks and impacts are those (i) defined by the GoB, World Bank Group EHSG and ESF. Specially ES risks are those that may include:

- *Climate change and other trans-boundary or global risks and impacts;*
- *Any material threat to the protection, conservation, maintenance and restoration of natural habitats and biodiversity;*
- *Those related to ecosystem services and the use of living natural resources, such as fisheries and social risks and impacts*
- *Threats to human security through the escalation of personal, communal or crime or violence, if any;*
- *Risks and impacts on the disadvantaged or vulnerable;*
- *Any prejudice or discrimination toward individuals or groups in providing access to development resources and project benefits;*

- *Negative potential economic and social impacts relating to the involuntary taking of land or restrictions on land use, if any;*
- *Risks or impacts associated with land and natural resource tenure and use, including, as relevant, potential project impacts on local land use patterns and tenurial arrangements, land access and availability, food security and land values, and any corresponding risks related to conflict or contestation over land and natural resources;*
- *Potential impacts on the health, safety and well-being of workers and project-affected communities;*
- *Effects on the communities due to negative impact on ecosystem services;*
- *Effects on communities due to design of infrastructure;*
- *Generation of wastes and its communal affect;*
- *Any risk due to migrant workers;*
- *Risks to cultural heritage.*

Chapter 5: Alternative Analysis and Design

This chapter will include an analysis of the potential alternatives with regards to different methods of subproject interventions, technology, alignment, use of materials including their impact on the environment. The chapter will also include an analysis with a no-action scenario. It will also set out the basis for selecting the particular project design proposed and specifies the applicable EHSGs, especially those related to zero emission/discharge, green energy production/usage, circular economy etc.

CHAPTER 6: Mitigation Measures and ES Management Plan

This chapter would include appropriate mitigation measures, ES management plan and monitoring plan for E&S compliance for ES risks and impacts of the subproject as per the guide notes of GoB, WB and GIIP. Mitigation measures may include, among others, issues related to air quality, noise, soil pollution, water resources, traffic management, waste disposal, protecting biodiversity, how concerns and expectations of vulnerable and disadvantaged are addressed and incorporated in the management plan and their engagement modalities during the lifecycle of the project, occupational and community health and safety, GBV, labor issues etc. This chapter will also include estimations for environmental management and monitoring of E&S compliance, financial and manpower allocation requirement etc.

Chapter 7: Continuous Stakeholder Engagement during Implementation

Guided by the Project SEP, this chapter will document the key stakeholder mapping and public consultation, including the method of communication, grievance redress system, keeping in view COVID-19 related protocols. The issue of completing the feedback loop will have to be borne in mind while developing this chapter. Especially, maintenance of continuous engagement of stakeholders and how it will be reported during implementation of ESMP will be also be illustrated. Disclosure and information sharing/reporting back to the stakeholders modalities will also be provided.

Chapter 8: Implementation Arrangements for ESMP

This chapter will assess the institutional capacity of implementing agencies (RHD, BRTA, DGHS, BP) and the NPIU/sub PIUs for implementation of the ESMP, provide suggestions if necessary for augmenting the capacity and describe implementation arrangement and operational measures including responsibilities, timeline, budget, monitoring arrangement, reporting requirement etc.

Annex F: Sample Mitigation/Enhancement Measures During different Project Phases

Issues/ Activities	Potential Environmental Impacts	Proposed Mitigation Measures	Responsibility	
			Implementation	Supervision
Pre-Construction Phase				
Land Acquisition/ Requisition	• Encroachment of agricultural land, cultural sites, fish habitat etc. • Loss of agricultural production, fish resources; • Loss of income and livelihoods; • Social conflict.	– Avoid agricultural land, social/religious institutes, fish habitat during finalization of the alignment of the approach road and location of the bridge; – Prior to start construction adequate compensation should be given to the PAPs in-time according to RAP. – Adequate compensation should be given for standing crops; – Avoid agricultural land, if possible; – Create job opportunities for the PAPs.	Sub PIUs	NPIU
Loss of vegetation/ tree	• Accident risk during removal of trees/vegetation's in the project sites; • Birds and others species can migrate from the trees/vegetation's; • Impacts on the local climatic condition.	– Prior to start construction, all vegetation should be removed from the proposed construction sites with the c consultation of the local relevant authorities; – Avoid disturbance and careful during construction vehicle and equipment movement; – Proper H&S measures (use of appropriate PPE such as hand gloves, safety shoes and helmet) for the workers should be taken during removal of trees, bushes & crops; – To mitigate the ecological impact, tree plantation plan can be considered in the design & accordingly tree plantation will be done in an appropriate location to be determined by the PIUs after consultation with the concerned authority; – The engineer shall approve such felling; only when the proponent secures receive a "clearance" for such felling from the PIUs, as applicable; – Tree felling, if unavoidable, shall be done only after compensatory plantation of at least two saplings for every tree cut is done; – During the tree removal from the bridges and approaches construction sites diameter at best height (DBH) of the trees is 6 inch, only such trees should be considered by the contractor for compensation and plantation; – Tree plantation at the suitable locations after completion of the construction activities.	Contractor	NPIU/Sub PIUs
Removal of Utilities	• Vulnerable for workers health and safety; • During movement of heavy Construction machineries equipment's can damage the utility services if not previously removed; • Due to carelessness or incautiousness death from sudden electric shocks may occur.	– Prior to start construction, the utility services (electrical cables, telephone line, water supply pipeline, gas supply pipeline and internet line) should be shifted with the consultation of the relevant organizations; – Inform the local community before starting removal or demolishing work; – Carefully remove the utilities that are connected to any structures; – Proper Health and safety measures for the workers should be taken during shifting of these lines to avoid any incidents.	Contractor	NPIU/Sub PIUs
Dismantling	• Dust pollution in the construction site; • Health hazard for the workers and community during dismantling works; • Noise level increase;	– Notify the adjacent community before starting the demolishing work; – During the removal or demolition of existing structures if required will be fully removed by the contractor; – Spraying of water in the dry land or from where there is a possibility to generate dust;	Contractor	NPIU/Sub PIUs

Issues/ Activities	Potential Environmental Impacts	Proposed Mitigation Measures	Responsibility	
			Implementation	Supervision
	• Vibration effects on the structures on the surrounding of the project area; • Surface water contamination, blockage of navigation and drainage, impacts on aquatic animal;	– Banned fishing, swimming, boat movement activities in the construction sites, if applicable; – Proper H&S measures for the workers such as using of appropriate PPE (helmet, Earplug, musk, safety shoes, hand gloves etc.) should be taken to avoid any accidents; – Construct noise barrier around the dismantling site; – Stop the engine when it is not required; – Monitor Noise level as per DoE guidelines; – Impact wise mitigation measures are given.		
Archaeological/ Historical/ Social/ Cultural/ Religious Sites	• Encroachment of Archaeological/ Historical/ Social/ Cultural/ Religious sites • Air and dust pollution; • Noise level may create uncomforting for the local community; • Vibration can effect on social/ cultural/ religious site.	– Follow best management practice at Archaeological/Historical/Social/Cultural/ Religious sites during the safety improvement works; – Spraying water on the dry surface to reduce dust pollution; – Vehicles transporting construction material to be covered; – Create noise barrier around the construction sites; – Limit the speed of vehicles; – Stop the construction work for short time like prayer time.	Contractor	NPIU/Sub PIUs
Labour management	• If labour management plan is not prepared /followed then working environment will degrade	– Labour management plan (LMP) is required to be developed for the project/sub-project – Confirm that implementation of LMP is specifically incorporated into the contract documents either as clause or by appending the LMP along with the ESMP to the contract documents.	Sub PIUs	NPIU
Setting up labour camps	• Land encroachment; • Solid and liquid waste from the labour camp	– Labour camp should be constructed at a distance from the water bodies; – Avoid productive land and away from the settlement during the selection of land for the setup of labour camp; – No solid and liquid waste discharge into the water bodies; – Instruct workers to maintain clean environment in the camps.	Contractor	NPIU/Sub PIUs
Construction Phase				
Air Pollution	• Construction vehicular traffic: Air quality can be affected by vehicle exhaust emissions and combustion of fuels • Construction equipment: Air quality can be adversely affected by emissions from construction machineries and combustion of fuels; • Construction activities: Dust generation from earth excavation, earth & sand stockpiles during dry period.	– Fit vehicles with appropriate exhaust systems and emission control devices; – Maintain vehicles and construction equipment in good working condition including regular servicing; – Operate the vehicles in a fuel-efficient manner; – Impose speed limits at 30 km/hour on vehicle movement at the worksite to reduce dust emissions; – Control the movement of construction traffic in the access road; – Focus special attention on containing the emissions from generators; – Construction equipment causing excess pollution (e.g., visible smoke) will be banned from construction sites immediately prior to usage; – Water spray to the dry earth/material stockpiles, access roads and bare soils as and when required to minimize the potential for environmental nuisance due to dust;	Contractor	NPIU/Sub PIUs

Issues/ Activities	Potential Environmental Impacts	Proposed Mitigation Measures	Responsibility	
			Implementation	Supervision
		– Increase the watering frequency during periods of high risk (e.g., high winds); – Stored materials such as: excavated earth, dredged soil, gravel and sand shall be covered and confined to avoid their wind drifted; – Restore disturbed areas as soon as possible by vegetation; – Establish adequate locations for storage, mixing and loading of construction materials, in a way that dust dispersion is prevented because of such operations; – Use temporary barriers to control dust around the construction sites near the populous residential areas – The Air quality monitoring should be carried out by the contractor following the National Air Quality Standard (Schedule-2: Standards for Air Quality, ECR, 1997 and Amendment in 2005).		
Noise Pollution	• Construction vehicular traffic: Vibration and Noise quality will be deteriorated due to vehicular traffic. • Construction equipment: Noise and vibration will have an impact on adjacent surrounding residents. • Construction activity: Noise will have an impact on adjacent residents.	– Strict measures for noise pollution control need to be undertaken during construction activities; – Create noise barrier and consider the minimum noise levels at sensitive receptor sites (e.g., dense residential area, schools, mosques, health centers etc.); – Stone breaking machine should be confined within a temporary shed so that noise pollution could be kept minimum; – Protection devices (ear plugs or ear muffs) shall be provided to the workers operating in the vicinity of high noise generating machines during construction; – Construction equipment and vehicles shall be fitted with silencers and maintained properly; – Instruction to the drivers to avoid unnecessary horn; – The Noise level monitoring should be carried out by the contractor following the National Noise Quality Standard (Schedule-4: Standards for Sound, ECR, 1997 and Noise Pollution (control) rules 2006). – Vibration monitoring should be carried out by the contractor. – The contractor shall be responsible for repairing any damage caused as a result of vibrations generated from or by the use of his equipment, plant.	Contractor	NPIU/Sub PIUs
Groundwater Pollution	• Contamination of groundwater due to Pollution lack of septic tanks or mobile toilets; • Accidental spillage of hazardous liquid from the construction camps.	– The contractor will make arrangement for water required for construction in such a way that the water availability and supply to nearby communities remain unaffected; – Handling and storage of the potential contaminants has to be organized under strict condition to avoid water pollution during construction; – Handling of hazardous liquid should be done carefully by the designated experienced person; – Handling and storage of the potential contaminants should be done by the experienced workers. Proper monitoring should be done by the experienced person;	Contractor	NPIU/Sub PIUs

Issues/ Activities	Potential Environmental Impacts	Proposed Mitigation Measures	Responsibility	
			Implementation	Supervision
		– The groundwater quality monitoring should be carried out by the contractor following the National Water Quality Standard (Schedule-3: Standards for Water, ECR, 1997).		
Surface Water Pollution	• Construction & general wastes from the construction sites; • Oil spill from the construction vehicles and construction camp can effect on fishes and aquatic wildlife (such as snakes, frogs etc.)	– Contractor should prepare Waste Management Plan and follow it properly during the construction period; – Any wastes should not be throwing into the river/khal/canal other than dump into the designated waste dumping area; – Store the oil and petroleum product in a separate location cover by a concrete structure; – Handling of hazardous liquid should be done carefully by the designated experienced person; – Monitor the surface water by testing in designated laboratory should be done by the Contractor following the National Water Quality Standard (Schedule-3: Standards for Water, ECR, 1997).	Contractor	NPIU/Sub PIUs
Land/ Soil Pollution	• Decrease the production capacity of agricultural land; • Land or soil erosion from water or wind; • Sediment pollution and increase the turbidity; • Reduction the microorganism.	– Avoid the productive land, agricultural land, archaeological sites, protected area, forest area, natural habitat etc.; – Land/soil quality should be ensured by the contractor to fill the abutment area and approach road; – Re-vegetation the exposed area as early as possible to reduce the soil erosion; – Create barrier for reducing the sedimentation into the water bodies; – The Land or soil quality test should be carried out by the contractor.	Contractor	NPIU/Sub PIUs
Waste (Solid, Liquid and Hazardous) Pollution **Organic waste: remaining foods, leafs, papers, straw, fruit cover etc.** **Inorganic waste: Polythene, Glasses, Synthetic paper, plastic etc.**	• Improper storage and handling of construction & general liquid waste such as fuels, lubricants, chemicals and hazardous liquid onsite, and potential spills from these liquid materials may harm the environment and health of construction workers. • Improper storage and handling of construction & general solid wastes.	– The contractor will minimize the generation of sediment, oil and grease, excess nutrients, organic matter, litter, debris and any form of waste (particularly petroleum and chemical wastes); – Any wastes should not be throwing into the river/khal/canal other than dump in to the designated waste dumping area; – Handling of hazardous liquid should be done carefully by the designated experienced person; – Organic waste should be managed by composting method. A concrete chamber with 3 rooms is needed to be provided. In one room organic waste should be dumped and another room inorganic waste will be dumped. When the room will be filled then covered by earth. Then dump to the third room. After 6-month organic waste will be converted into fertilizer and will be used by the farmers; – Inorganic waste should be given to the authorized vendor for free of cost for recycling; – Accidental spillage of hazardous waste should be managed by spreading wood powder on the surface of the oil and this powder mixed with oil must store in a designated concrete room; – Provide appropriate PPE to the construction personnel for handle construction materials;	Contractor	NPIU/Sub PIUs

Issues/ Activities	Potential Environmental Impacts	Proposed Mitigation Measures	Responsibility	
			Implementation	Supervision
Hazardous waste: Paint, fuel, chemicals, oil, petroleum products, bitumen etc.		– Make sure all containers, drums and tanks that are used for storage are in good condition; – Take all precautionary measures when handling and storing fuels and lubricants, avoiding environmental pollution; – Waste water monitoring should be carried out by the contractor, following the national standard (Schedule-10: Standard for waste from Industrial units or Projects waste).		
Drainage Congestion	• Stockpiling of construction materials in the river/khal/canal also create drainage congestion.	– Immediately remove all the construction debris from the construction site as well as from the water bodies in a planned way; – Duration of stockpiling should be minimized as much as possible; – Avoid the encroachment of the water bodies; – Protect water bodies from sediment loads by silt screen or bubble curtains or another barrier; – Regularly inspect and maintain all drainage channels to assess and alleviated any drainage channels to assess and alleviate any drainage congestion problem – Construction activity should be recommended during the dry season; – Construction workers shall be instructed to protect water resources;	Contractor	NPIU/Sub PIUs
Road Traffic and Accidents	• Increased traffic use of narrow access road by construction vehicle will affect the movement of normal road traffics and the safety of the road users specially the students	– Proper Traffic Management Plan (TMP) should be prepared by the contractor during starting of construction & follow it strictly; – In this TMP, the road safety measures such as speed breakers, visible warning signs/lights in Bangla and English, road safety signs, flagman etc. should be included to ensure uninterrupted traffic; – Movement specially at nearby the educational (Schools, colleges, Madrasha etc.), community infrastructure (mosques, graveyards, Prayer Ground etc.) and health complex; – In addition, BRTA traffic rules and regulations should be strictly followed; – Divert traffic to follow alternative routes to avoid traffic jams; – Avoid talking with mobile during driving.	Contractor	NPIU/Sub PIUs
Landscape and Aesthetics	• Presence of construction camps, equipment and their activities; • Movement of construction vehicles on the existing road network and temporary haul roads;	– Parking of construction vehicles and stockpiling of construction materials/excavated earth should be done in systematic way to avoid the damaging of aesthetics of the site; – Duration of stockpiling should be minimized as much as possible; – Vegetation plantation after complete of the construction work; – Completely remove the construction camp facilities, equipment's and their activities; – Limit the speed of the vehicles and cover the vehicles during the movement or transportation of materials on the existing road network and temporary haul road; – Plantation of trees at the construction site after completion of the construction activities immediately.	Contractor	NPIU/Sub PIUs

Issues/ Activities	Potential Environmental Impacts	Proposed Mitigation Measures	Responsibility	
			Implementation	Supervision
Occupational Health and Safety	• Campsites for construction workers and Safety are the important locations that have significant impacts such as health and safety hazards on local resources and infrastructure of nearby communities.	– Construction workers camp shall be located at least 500 m away from the nearest habitation; – Consider the location of construction camps away from communities in order to avoid social conflicts; – Create awareness among the camp users on health and safety requirements to be maintained and code of conduct; – Implement OHS measures as per LMP and inspect regularly as per the guideline given in Annex H.	Contractor	NPIU/Sub PIUs
	• Lack of proper infrastructure facilities, such as housing, water supply and sanitation facilities will increase pressure on the local services and generate substandard living standards and health hazards	– Adequate housing for all workers should be provided avoiding over crowing; – Safe and reliable water supply; – Hygienic sanitary facilities and sewerage system; – Implement OHS measures as per LMP and inspect regularly as per the guideline given in Annex H.	Contractor	NPIU/Sub PIUs
	• Management of wastes is crucial to minimize impacts on the environment.	– Ensure proper collection and disposal of solid wastes within the construction camps; – Insist waste separation by source; organic wastes in one container and inorganic wastes in another container at sources; – Dispose organic wastes in a designated safe place on daily basis; – The organic wastes should be always covered with a thin layer of sand so that flies, mosquitoes, dogs, cats, rats, etc. are not attracted; – Locate the garbage pit/waste disposal site minimum 500m away from the resident area so that people are not disturbed with the odor likely to be produced from anaerobic decomposition of wastes at the waste dumping places.	Contractor	NPIU/Sub PIUs
	• There will be a potential for diseases to be transmitted including malaria, exacerbated by inadequate health and safety practices. • There will be an increased risk of work crews spreading sexually transmitted infections and HIV/ AIDS.	– Provide adequate health care and sanitation facilities within the construction sites; – Train all construction workers in basic sanitation and health care issues and safety matters and on the specific hazards of their work; – Provide HIV awareness programming, including STI (sexually transmitted infections) and HIV information, education and communication for all workers on regular basis; – Regular mosquito repellant spraying during monsoon periods.	Contractor	NPIU/Sub PIUs
	• Construction work may pose health and safety risks to the construction workers and site visitors leading to severe injuries and deaths.	– Provide the workers a safe and healthy work environment; – Provide appropriate PPE for workers, such as safety boots, helmets, masks, gloves, protective clothing, goggles, full-face eye shields and ear protection; – Maintain the PPE properly by cleaning dirty ones and replacing them with the damaged ones; – Appoint an environment, health and safety manager to look after the health and safety of the workers;	Contractor	NPIU/Sub PIUs

Issues/ Activities	Potential Environmental Impacts	Proposed Mitigation Measures	Responsibility	
			Implementation	Supervision
		– Inform the local authorities responsible for health, religious and security before commencement of civil works and establishment of construction camps so as to maintain effective surveillance over public health, social and security matters.		
	Lack of first aid facilities and health care facilities in the immediate vicinity will aggravate the health conditions of the victim.	– Provide health care facilities and first aid facilities are readily available; – Document and report occupational accidents, diseases, and incidents and actions taken; – Identify potential hazards to workers, particularly those that may be life threatening and provide necessary preventive and protective measures; – Provide awareness to the construction drivers to strictly follow the driving rules; – Provide adequate lighting in the construction area and along the roads in the construction site.	Contractor	NPIU/Sub PIUs
Community Health and Safety	• Accidents on the approach road and construction site; • Noise and dust pollution; • Communicable diseases can spread among the local community.	– Prior to start the construction activities contractor will be informed the local community; – Instruct the drivers and limit the speed of the vehicles; – Regular health checkup of the workers and awareness training about the communicable diseases; – Ban all swimming and fishing activities in the construction site, in case of a bridge site; – Proper lighting at the project site during the night time; – Avoid unnecessary noise pollution; – Spraying water in the dry surface to reduce the dust pollution – Provide proper access control to the project site and unauthorized entry to the project site will be controlled by deploying security personnel.	Contractor	NPIU/Sub PIUs
Impacts on Archaeological/ Historical/ Social/ Cultural/ Religious Sites	• Air and dust pollution; • Noise level may create uncomforted; • Vibration can effect social/ cultural/ religious sites.	– Create temporary barrier around the project site; – Regular spraying of water in the construction site and approach road to reduce the dust emission; – Control the speed limit about 30 km/hour in the construction site and approach road; – Construction activities should be continued during day time only; – Religious norms of the respective sites should be maintained – Carefully handling of construction machineries and equipment's near the sensitive receptors near the project site.	Contractor	NPIU/Sub PIUs
Housing and Commercial Structures	• Air and dust pollution; • Noise level may create uncomforted; • Mental stress; • Vibration can effect on structures.	– Spraying water on the dry surface to reduce dust pollution; – Create noise barrier around the construction sites; – Limit the speed of vehicles in the construction site; – Prior notice to the local inhabitants for resettlement issues if required; – Compensation should be given to the PAPs in-time according to RAP; – Realignment of approach road if required; – Job opportunities for the PAPS and priority should be given;	Contractor	NPIU/Sub PIUs

Issues/ Activities	Potential Environmental Impacts	Proposed Mitigation Measures	Responsibility	
			Implementation	Supervision
		– Plantation of trees in an appropriate location will be determined by the NPIU after consultation with the concern authority (Forest Department).		
Flora and Fauna	• Dust will be generated during earthwork and deposited on the leaves of nearby trees; this will abduct the growth of trees. • Noise generation from the construction vehicles and equipment's can create disturbance for the birds and wildlife;	– Proper construction management plan should be introduced in the Contractor construction sites; – Regular water spraying in the dry area from where there is a possibility to dust pollution; – Proper management plan for the waste management in the construction sites; – Construction work should be preferred during dry season; – No disturbance for aquatic animal and keep provision for the fish movement; – Diversion road should be removed properly as soon as possible; – Construction activities should be continued during day time only; – Create noise barrier and avoid unnecessary machineries and equipment's operation; – Vegetation plantation after compilation of the construction work; – Construction workers shall be instructed to protect natural resources, flora and fauna, including wild animals and aquatic life, hunting and unauthorized fishing are prohibited; – Natural river/khal/canal will be reinstated after completion of construction works;	Contractor	NPIU/Sub PIUs
Disturbance to Wildlife Movement	• Noise from construction machineries and vehicles, movement of workers likely to be disturb the movement of wildlife; • Permanent migration may occur from the area; • Increase of mortality due to collision with vehicles;	– Instruct workers and contractors to avoid harassment and Contractor disturbance of wildlife; – Schedule activities to avoid disturbance of wildlife during critical periods of the day (e.g., night) or year (e.g., periods of breeding, nesting); – Turn off all unnecessary lighting at night; – Maintain noise-reduction devices (e.g., mufflers) in good working order on vehicles and construction equipment; – Temporary fencing around the construction site during construction period; – Educate workers regarding the occurrence of important resources in the area and the importance of their protection, including the appropriate regulatory requirements; – Regular monitoring of the death and disturbance of wildlife in the construction site.	Contractor	NPIU/Sub PIUs
Influx of construction workers	• Availability on the resources like food, housing, water resources; • Communicable diseases may also spread; • Social Conflict.	– Contractor should be ensured the availability of water for the construction activities; – Provision of clean drinking water in the construction camp in accordance with Schedule 3(b) of ECR, 1997; – Trained the workers by providing health and safety training on communicable diseases; – Educating project personnel, and area residents on risks, prevention, and available treatment for vector-borne diseases; – No child and/or forced labour will be employed by the EPC contractor; – Working conditions and terms of employment will be fully compliant to the Bangladesh labour laws.	Contractor	NPIU/Sub PIUs
Operation Phase				

Issues/ Activities	Potential Environmental Impacts	Proposed Mitigation Measures	Responsibility	
			Implementation	Supervision
Air Pollution	• Dust emission from the increasing number of vehicles in the site area; • Vehicular emission from burning fuels.	– Establish the speed breaker to limit the speed of the vehicle near the site; – Strictly follow the BRTA rules and regulations; – Increase number of plantations by adding new species of trees on the appropriate locations after consultation with the concern authority.	RHD, BRTA	RHD, BRTA
Surface Water Pollution	• Remaining construction materials may be washed by the rainfall into the water sources and lead to sedimentation and increase turbidity; • Hazardous materials spilled by accidents; • Soil erosion during rainy season can contaminate nearby surface water.	– Remaining construction materials will be completely removed from the proposed project site after completing of the construction activities; – Cover the bare surface by plantation of trees/vegetation to reduce the surface soil erosion; – Speed control measures close to the site to reduce the occurrence of accidents; – Avoid rainy season for continuing any development activities. – Drainage and collection structures on the road project, particularly in areas near the river and irrigation canals, shall be designed such that spills of hazardous materials shall not result to contamination of these water courses.	RHD, BRTA	RHD, BRTA
Groundwater Pollution	• Accidental spillage of hazardous chemicals and materials.	– Speed control measures close to the site to reduce the occurrence of accidents; – Inform to the concern authority to take necessary action to reduce the contamination of groundwater.	RHD, BRTA, DGHS	RHD, BRTA, DGHS
Noise Pollution	• Faulty engine and hydraulic horn may increase the noise level.	– Necessary instruction for the drivers; – Establishment of signboard near the sensitive receptors like mosques, schools, temple, bazar etc.	RHD, BRTA	RHD, BRTA,
Flora and Fauna	• Dust will hinder vegetation growth; • Increase number of deaths of wildlife and collision with the vehicles; • Avifauna will be affected by the movement of vehicles; • Fish and other aquatic animals will be affected.	– Re-plantation of various suitable local trees can be done on the slopes of the roads or the suitable locations around the project site; – Establishment of speed breaker or signboard indicating the movement route of the wildlife; – No disturbance for aquatic animal and keep provision for the fish and other aquatic animals' movement; – Diversion road should be removed properly as soon as possible; – Construction workers shall be instructed to protect natural resources, flora and fauna, including wild animals; – Natural river/khal/canal will be reinstated after completion of construction works; – Fingerling (fish) can be released to the river/khal/canal near the bridge site to boost up the fish resources.	RHD, BRTA	RHD, BRTA,
Landscape and Aesthetics	• Land use of the proposed project area will be changed; • Improper removal of construction camp facilities and other construction waste will affect landscape and aesthetics.	– Tree/vegetation plantation at the suitable site; – Proper removal of construction camp facilities and construction wastes from the site after completion of the works; – Excavated borrow pit area will be properly managed by the contractor, it will be preferred to use dredging materials after quality testing.	RHD, BRTA, DGHS	RHD, BRTA, DGHS

Issues/ Activities	Potential Environmental Impacts	Proposed Mitigation Measures	Responsibility	
			Implementation	Supervision
Road Traffic and Accidents	• Number of vehicles movement will be increased in the area; • Encourage drivers to higher the vehicle speed and road accidents may increase.	– Enforce speed limits and impose penalties on the traffic violators – Establish road safety sign and appropriate traffic signs; – A proper traffic management plan can be introduced and strictly follow the BRTA rules; – Keep provision of adequate lighting facilities at the site; – Avoid using mobile phone during driving.	RHD, BRTA	RHD, BRTA,

Annex G: Guideline for Preparation of Environmental & Social Monitoring Plan

Table: Format of Monitoring Plan-During Project Implementation Period (Sample)

Environmental Impact/Issue	Actions	Responsibility		Key Performance Indicator	Timing	Cost Allocation
		Execution	Monitoring			
1. Activity: Design / pre-construction considerations of infrastructures						
1.1 Changes in land use, loss of properties, cultivated land and grazing land, relocation of settlements and amenities	−The RAP will be implemented for permanent land acquisition and loss of assets/ livelihood and other similar impacts	NPIU	Sub PIUs, PMC	• Documentary evidence of RAP implementation • Establishment of resettlement sites • Payment of compensation amounts • People resettling in new villages • Income levels of displaced households • Number of public grievances re resettlement and compensation	Before construction	Included in Overall program Cost
	-Contractors will lease the land for construction facilities on temporary basis. Proper documentation will be carried out for this leasing. Site selection will be carried out in consultation with the community and local officials; approval from PMC will also be required for the selected sites.	Contractor	Sub PIUs, PMC	• Documentary evidence of land leasing for temporary facilities • PMC approval for the selected site(s) • Absence of grievances regarding temporary facilities	Before contractor mobilization	Included in contractors' costs
1.2 borrowing construction material	- A material (particularly river sand and soil from agricultural land/wetlands, if required) borrowing plan will be prepared	Contractor	Sub PIUs, PMC	• Approved plan • Plan itself will outline appropriate KPIs for its implementation.	Before construction	Included in Contractors' costs

Table: Overview of Impacts, Mitigation and Monitoring Plan

Impacts/Issues	Mitigation Measures	Time Frame	Cost (USD x 10^6)	Responsibility		Key Monitoring Indicators	Monitoring Frequency
				Implementation	Supervision		
ENVIRONMENTAL IMPACTS DUE TO PROJECT SITING							
Land cover and land use changes	Relevant ESCoPs of site selection. Integrated Pest Management Plan; Linkages with ongoing pest management programs	2022 onwards	In budget of ESMP	Sub PIUs	NPIU, PMC	-to be developed under IPM	Six-monthly
Loss of natural vegetation and trees	Compensatory tree plantation along reconstructed embankment	2022-2026	In budget of ESMP	Sub PIUs	NPIU, PMC	-trees cut and trees planted	Monthly
Loss of aquatic habitat	Organic shrimp firming/aquaculture expansion Fish sanctuaries/MPA in BoB	2022-2026	In budget of ESMP	Sub PIUs	NPIU, PMC	-abundance of fishes and species diversity in MPA/sanctuaries	Quarterly
Drainage congestion and water logging	Installation of regulators and culverts	2022-2026	Project design	Contractor	NPIU, PMC	-User committees are formed and trained; area water logged	Quarterly (Monthly during flood season)
ENVIRONMENT IMPACTS DURING IMPLEMENTATON PERIOD							
Impacts of burrowing of material from river beds, agriculture land and wetlands (if required)	Compliance with relevant ESCoPs of sand extraction, agricultural top soil management and wetland digging	2022-2026	In budget of Contractor	Contractor	NPIU, Sub PIUs PMC	Sites approved, ongoing visual inspection of sand extraction	At the beginning of works and through sand extraction
Air pollution	Pollution prevention and implementation of ESCoPs	2022-2026	In budget of Contractor	Contractor	NPIU, Sub PIUs PMC	Plan approved and implemented; community complaints	Quarterly
Noise	Noise control measures and relevant ESCoPs	2022-2026	In budget of Contractor	Contractor	NPIU, Sub PIUs PMC	Plan approved and implemented; community complaints	Quarterly
Water pollution	Pollution prevention and control plan	2022-2026	In budget of Contractor	Contractor	NPIU, Sub PIUs PMC	Plan approved and implemented	Quarterly
Soil contamination	Pollution prevention and control plan	2022-2026	In Contractors budget	Contractor	NPIU, Sub PIUs PMC	Plan approved and implemented	Quarterly
Solid wastes and hazardous wastes	Waste management and pollution control plan	2022-2026	In budget of Contractor	Contractor	NPIU, Sub PIUs PMC	Plan approved and implemented	Quarterly
Impacts on aquatic habitat	Treatment of waste effluents	2022-2026	In budget of Contractor	Contractor	NPIU, Sub PIUs PMC	Sites approved and ongoing monitoring of plan implementation	Before and during construction

Impacts/Issues	Mitigation Measures	Time Frame	Cost (USD x 10^6)	Responsibility		Key Monitoring Indicators	Monitoring Frequency
				Implementation	Supervision		
Impacts on wildlife habitats	No construction related activities on sensitive wildlife habitat, use of low wattage lights at construction sites	2022-2026	In budget of ESMP	Contractor	NPIU, Sub PIUs PMC	Biodiversity monitoring studies	Six monthly
Site clearance and restoration	Site restoration and landscaping	2022-2026	In budget of Contractor	Contractor	NPIU, Sub PIUs PMC	Sites established and cleared	After construction
Occupational health and safety	Implement health and safety, and emergency response plan	2022-2026	In budget of Contractor	Contractor	NPIU, Sub PIUs PMC	Plan prepared and implemented	Quarterly
ENVIRONMENTAL IMPACTS DURING POST PROJECT PERIOD							
Generation of solid waste	Implementation of Health Safety Environment Plan	2027 on wards	IA's annual budget	IA	IA	Plan prepared and implemented	Six monthly
Air and noise pollution	Air and noise quality and appropriate measures	2027	IA's annual budget	IA	IA	to be developed	
Water pollution	Organic aquaculture, water treatment, etc.	2027 on wards	IA's annual budget	IA	IA	to be developed	

Table: Effects Monitoring Plan

Parameter / Activity	Location	Means of Monitoring	Frequency	Responsible Agency	
				Implemented By	Supervised By
During Project Implementation					
Traffic Safety	Construction of road safety features	Visual inspection to see whether proper traffic signs are placed and flag-men for traffic management are engaged	Monthly	Contractor	NPIU, PMC
Air Quality (dust, smoke)	Construction sites	Visual inspection to ensure good standard equipment is in use and dust suppression measures (e.g., spraying of waters) are in place.	Daily	Contractor	NPIU, PMC
	Material storage sites	Visual inspection to ensure dust suppression work plan is being implemented	Monthly	Contractor	NPIU, PMC
Air quality	Sensitive receptors along construction corridor	24 hours continuous monitoring with the help of appropriate instruments and analyzers (particulate matter, carbon dioxide, sulphur and nitrogen oxides)	Quarterly	Contractor	NPIU, PMC
Noise	Construction sites	Noise measurement using noise meter; Ensure work restriction between 21:00-06:00 close to the sensitive locations	Weekly	Contractor	NPIU, PMC
Surface Water Quality	At the baseline monitoring sites	Sampling and analysis of surface water quality (TDS, Turbidity, pH, dissolved oxygen, biological and chemical oxygen demand)	Quarterly	Contractor through a nationally recognized laboratory	NPIU, PMC
Groundwater quality	Locations of tube-well installation (for workers camps)	Depth of tube well should be more than 30m. Test water for arsenic iron and manganese before installing of casing. If the quality is found not suitable further deepening will be done.	During drilling of wells	Contractor trough a nationally recognized laboratory	NPIU, PMC
	Water wells to be used by contractors for drinking	Laboratory analysis of all drinking water parameters specified in national standards	After development of wells	Contractor trough a nationally recognized laboratory	NPIU, PMC
Plantation	Construction sites, affected vegetation sites	Visual inspection to ensure plantations are taken care of.	Monthly	Contractor	NPIU, PMC
Waste Management	Construction camps and construction sites, other infrastructure sites, etc.	Visual inspection that solid waste is disposed at designated site	Monthly	Contractor	NPIU, PMC
Drinking water and sanitation	Construction camps and construction sites	Ensure the construction workers are provided with safe water and sanitation facilities in the site by checking drinking water quality	Weekly	Contractor	NPIU, PMC
Flora and Fauna	Sensitive habitats in Project influence area	Survey and comparison with baseline environment	Six-monthly	Biodiversity Conservation and	NPIU, PMC

Parameter / Activity	Location	Means of Monitoring	Frequency	Responsible Agency	
				Implemented By	Supervised By
		Ensure use of lighting at construction sites conforms with requirements to limit impacts to wildlife		Monitoring Consultant	
Restoration of Work Sites	All Work Sites	Visual Inspection	After completion of all works	Contractor	NPIU, PMC
Safety of workers Monitoring and reporting accidents	At work sites	Usage of Personal Protective equipment and implementation of contractor OHS plan	Monthly	Contractor	NPIU, PMC
Grievances (environmental issues)	In the project area	Number of grievances registered and addressed	Monthly	PIU	NPIU, PMC
During Post Project Period					
Plantation	Construction sites	Visual inspection to ensure plantations are taken care of.	Monthly	Contractor	NPIU, PMC
Waste effluents	Construction camps and construction sites, other infrastructure sites	Visual inspection that solid and liquid waste effluents are properly managed during post project period	Six-monthly	Environmental Desk of NPIU	NPIU

Annex H: Guideline for Preparing Environment and Social Management Plan (ESMP)

The Consultant is required to develop an Environmental and Social Management Plan (ESMP) consisting of a set of feasible and cost-effective mitigation measures and monitoring and institutional plan to prevent or reduce significant negative impacts to acceptable levels. This will include measures for emergency response to accidental events (e.g., fires, explosions), as appropriate. The Consultant will provide an estimation of the impacts and costs of the mitigation measures, and of the institutional and training requirements to implement them. In particular, this would include:

- **Environmental and Social Mitigation & Enhancement Measures:** Recommend feasible and cost-effective measures to prevent or reduce significant negative impacts to acceptable levels. Apart from mitigation of the potential adverse impacts on the environmental components, the ESMP shall identify opportunities that exist for the enhancement of the environmental quality along the surrounding area. Residual impacts from the environmental measures shall also be clearly identified. The ESMP shall include detailed specification, bill of quantities, execution drawings and contracting procedures for execution of the environmental mitigation and enhancement measures suggested, separate for pre-construction, construction and operation periods. In addition, the ESMP shall include good practice guides related to construction and upkeep of plant and machinery. Responsibilities for execution and supervision of each of the mitigation and enhancement measures shall be specified in the ESMP. A plan for continued consultation to be conducted during implementation stage of the project shall also be appended.
- **Institutional Arrangements, Capacity Building and Trainings:** The ESMPs shall describe the implementation arrangement needed for the project, implementation of ESMP, especially the capacity building proposals including the staffing of the environment unit (as and when recommended) adequate to implement the environmental mitigation and enhancement measures. For each staff position recommended to be created, detailed job responsibilities shall be defined. Equipment and resources required for the environment unit shall be specified, and bill of quantities prepared. A training plan and schedule shall be prepared specifying the target groups for individual training programs, the content and mode of training. Training plans shall normally be made for the client agency (including the environmental unit), the supervision consultants and the contractors.
- **Supervision and Monitoring:** Environmental monitoring plan will be an integral part of the ESMP, which outlines the specific information to be collected for ensuring the environmental quality at different stages of project implementation. The parameters and their frequency of monitoring should be provided along with cost of the monitoring plan and institutional arrangements for conducting monitoring and supervision. Reporting formats should be provided along with a clear arrangement for reporting and talk corrective action. The ESMP shall list all mandatory government clearance conditions, and the status of procuring clearances.
- **Reporting:** The ESMP will specify the documentation and reporting requirements, specifically, complete record will be maintained for compliance monitoring, effects monitoring, trainings, grievances, accidents, incidents, resource usage, and waste disposal quantities.
- **Grievance Redress Mechanism:** The ESMP will describe the grievance redress mechanism (GRM) to address the project-related grievances and complaints particularly from the local communities.
- **ESMP implementation cost:** The ESMP will also include the cost of its implementation including personnel costs, costs on trainings, effects monitoring, additional studies, and others.

Annex I: Details of the Environmental and Social Code of Practices (ESCoPs)

ESCoP 1: Waste Management

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
General Waste	Soil and water pollution from the improper management of wastes and excess materials from the construction sites.	The Contractor shall • Develop waste management plan for various specific waste streams (e.g., reusable waste, flammable waste, construction debris, food waste etc.) prior to commencing of construction and submit to PMC for approval. • Organize disposal of all wastes generated during construction in an environmentally acceptable manner. This will include consideration of the nature and location of disposal site, so as to cause less environmental impact. • Minimize the production of waste materials by 3R (Reduce, Recycle and Reuse) approach. • Segregate and reuse or recycle all the wastes, wherever practical. • Prohibit burning of solid waste • Collect and transport non-hazardous wastes to all the approved disposal sites. Vehicles transporting solid waste shall be covered with tarps or nets to prevent spilling waste along the route • Train and instruct all personnel in waste management practices and procedures as a component of the environmental induction process. • Provide refuse containers at each worksite. • Request suppliers to minimize packaging where practicable. • Place a high emphasis on good housekeeping practices. • Maintain all construction sites in a cleaner, tidy and safe condition and provide and maintain appropriate facilities as temporary storage of all wastes before transportation and final disposal.
Hazardous Waste	Health hazards and environmental impacts due to improper waste management practices	The Contractor shall • Collect chemical wastes in 200 liter drums (or similar sealed container), appropriately labeled for safe transport to an approved chemical waste depot. • Store, transport and handle all chemicals avoiding potential environmental pollution. • Store all hazardous wastes appropriately in bunded areas away from water courses. • Make available Material Safety Data Sheets (MSDS) for hazardous materials on-site during construction. • Collect hydrocarbon wastes, including lube oils, for safe transport off-site for reuse, recycling, treatment or disposal at approved locations. • Construct concrete or other impermeable flooring to prevent seepage in case of spills.

ESCoP 2: Fuels and Hazardous Substances Management

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
Fuels and hazardous goods	Materials used in construction have a potential to be a source of contamination. Improper storage and handling of fuels, lubricants, chemicals and hazardous goods/materials on-site, and potential spills from these goods may harm the environment or health of construction workers.	The Contractor shall • Prepare spill control procedures and submit the plan for PMC approval. • Train the relevant construction personnel in handling of fuels and spill control procedures. • Store dangerous goods in bunded areas on a top of a sealed plastic sheet away from watercourses. • Refueling shall occur only within bunded areas. • Make available MSDS for chemicals and dangerous goods on-site. • Transport waste of dangerous goods, which cannot be recycled, to a designated disposal site approved by DoE. • Provide absorbent and containment material (e.g., absorbent matting) where hazardous material are used and stored and personnel trained in the correct use. • Provide protective clothing, safety boots, helmets, masks, gloves, goggles, to the construction personnel, appropriate to materials in use. • Make sure all containers, drums, and tanks that are used for storage are in good condition and are labeled with expiry date. Any container, drum, or tank that is dented, cracked, or rusted might eventually leak. Check for leakage regularly to identify potential problems before they occur. • Store hazardous materials above flood plain level. • Put containers and drums in temporary storages in clearly marked areas, where they will not be run over by vehicles or heavy machinery. The area shall preferably slope or drain to a safe collection area in the event of a spill. • Put containers and drums in permanent storage areas on an impermeable floor that slopes to a safe collection area in the event of a spill or leak. • Take all precautionary measures when handling and storing fuels and lubricants, avoiding environmental pollution. • Avoid the use of material with greater potential for contamination by substituting them with more environmentally friendly materials. • Return the gas cylinders to the supplier. However, if they are not empty prior to their return, they must be labeled with the name of the material they contained or contain, information on the supplier, cylinder serial number, pressure, their last hydrostatic test date, and any additional identification marking that may be considered necessary.

ESCoP 3: Drainage Management

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
Excavation and earth works, and construction yards	Lack of proper drainage for rainwater/liquid waste or wastewater owing to the construction activities harms environment in terms of water and soil contamination, and mosquito growth.	The Contractor shall • Prepare a program for prevent/avoid standing waters, which PMC will verify in advance and confirm during implementation • Provide alternative drainage for rainwater if the construction works/earth-fillings cut the established drainage line • Establish local drainage line with appropriate silt collector and silt screen for rainwater or wastewater connecting to the existing established drainage lines already there • Rehabilitate road drainage structures immediately if damaged by contractors' road transports. • Build new drainage lines as appropriate and required for wastewater from construction yards connecting to the available nearby recipient water bodies. Ensure wastewater quality conforms to the relevant standards provided by DoE, before it being discharged into the recipient water bodies. • Ensure the internal roads/hard surfaces in the construction yards/construction camps that generate has storm water drainage to accommodate high runoff during downpour and that there is no stagnant water in the area at the end of the downpour. • Construct wide drains instead of deep drains to avoid sand deposition in the drains that require frequent cleaning. • Provide appropriate silt collector and silt screen at the inlet and manholes and periodically clean the drainage system to avoid drainage congestion. • Protect natural slopes of drainage channels to ensure adequate storm water drains. • Regularly inspect and maintain all drainage channels to assess and alleviate any drainage congestion problem. • Reduce infiltration of contaminated drainage through storm water management design.
Ponding of water	Health hazards due to mosquito breeding	The Contractor shall • Do not allow ponding/storage of water especially near the waste storage areas and construction camps • Discard all the storage containers that are capable of storing of water, after use or store them in inverted position.

ESCoP 4: Soil Quality Management

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
Filling of Sites with dredge spoils	Soil contamination will occur from drainage of dredged spoils	The Contractor shall • Ensure that dredged sand used for land filling shall be free of pollutants. Prior to filling, sand quality shall be tested to confirm whether soil is pollution free. Sediments shall be properly compacted. Top layer shall be the 0.5 m thick clay on the surface and boundary slopes along with grass. Side Slope of Filled Land of 1:2

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
		shall be constructed by suitable soils with proper compaction as per design. Slope surface shall be covered by top soils/ cladding materials (0.5m thick) and grass turfing with suitable grass. • Leaching from the sediments shall be contained to seep into the subsoil or shall be discharged into settling lagoons before final disposal. • No sediment laden water in the adjacent lands near the construction sites, and/or wastewater of suspended materials excessive of 200mg/l from dredge spoil storage/use area in the adjacent agricultural lands.
Storage of hazardous and toxic chemicals	Spillage of hazardous and toxic chemicals will contaminate the soils	The Contractor shall • Strictly manage the wastes management plans proposed in ECP1 and storage of materials in ECP2 • Construct appropriate spill contaminant facilities for all fuel storage areas • Establish and maintain a hazardous materials register detailing the location and quantities of hazardous substances including the storage, use of disposals • Train personnel and implement safe work practices for minimizing the risk of spillage • Identify the cause of contamination, if it is reported, and contain the area of contamination. The impact may be contained by isolating the source or implementing controls around the affected site • Remediate the contaminated land using the most appropriate available method to achieve required commercial/industrial guideline validation results.
Construction material stock piles	Erosion from construction material stockpiles may contaminate the soils	The Contractor shall • Protect the toe of all stockpiles, where erosion is likely to occur, with silt fences, straw bales or bunds.

ESCoP 5: Top Soil Management

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

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
		utilized for covering all disturbed area and along the proposed plantation sites • Prior to the re-spreading of topsoil, the ground surface will be ripped to assist the bunding of the soil layers, water penetration and revegetation.
Transport	Vehicular movement outside ROW or temporary access roads will affect the soil fertility of the agricultural lands	The Contractor shall • Limit equipment and vehicular movements to within the approved construction zone • Construct temporary access tracks to cross concentrated water flow lines at right angles • Plan construction access to make use, if possible, of the final road alignment • Use vehicle-cleaning devices, for example, ramps or wash down areas.

ESCoP 6: Topography and Landscaping

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
Land clearing and earth works	Flood plains of the existing Project area will be affected by the construction of various project activities. Construction activities especially earthworks will change topography and disturb the natural rainwater/flood water drainage as well as will change the local landscape.	The Contractor shall • Ensure the topography of the final surface of all raised lands (construction yards, approach roads, access roads, bridge end facilities, etc.) are conducive to enhance natural draining of rainwater/flood water; • Keep the final or finished surface of all the raised lands free from any kind of depression that insists water logging • Undertake mitigation measures for erosion control/prevention by grass-turfing and tree plantation, where there is a possibility of rain-cut that will change the shape of topography. • Cover immediately the uncovered open surface that has no use of construction activities with grass-cover and tree plantation to prevent soil erosion and bring improved landscaping.

ESCoP 7: Air Quality Management

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
Construction vehicular traffic	Air quality can be adversely affected by vehicle exhaust emissions and combustion of fuels.	The Contractor shall • Fit vehicles with appropriate exhaust systems and emission control devices. Maintain these devices in good working condition. • Operate the vehicles in a fuel-efficient manner • Cover haul vehicles carrying dusty materials moving outside the construction site Impose speed limits on all vehicle movement at the worksite to reduce dust emissions • Control the movement of construction traffic • Water construction materials prior to loading and transport • Service all vehicles regularly to minimize emissions

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
		• Limit the idling time of vehicles not more than 2 minutes.
Construction machinery	Air quality can be adversely affected by emissions from machinery and combustion of fuels.	The Contractor shall • Fit machinery with appropriate exhaust systems and emission control devices. Maintain these devices in good working condition in accordance with the specifications defined by their manufacturers to maximize combustion efficiency and minimize the contaminant emissions. Proof or maintenance register shall be required by the equipment suppliers and contractors/subcontractors • Focus special attention on containing the emissions from generators • Machinery causing excess pollution (e.g. visible smoke) will be banned from construction sites • Service all equipment regularly to minimize emissions • Provide filtering systems, duct collectors or humidification or other techniques (as applicable) to the concrete batching and mixing plant to control the particle emissions in all its stages, including unloading, collection, aggregate handling, cement dumping, circulation of trucks and machinery inside the installations
Construction activities	Dust generation from construction sites, material stockpiles and access roads is a nuisance in the environment and can be a health hazard.	The Contractor shall • Water the material stockpiles, access roads and bare soils on an as required basis to minimize the potential for environmental nuisance due to dust. Increase the watering frequency during periods of high risk (e.g. high winds). Stored materials such as gravel and sand shall be covered and confined to avoid their being wind-drifted • Minimize the extent and period of exposure of the bare surfaces • Reschedule earthwork activities or vegetation clearing activities, where practical, if necessary to avoid during periods of high wind and if visible dust is blowing off-site • Restore disturbed areas as soon as practicable by vegetation/grass-turfing • Store the cement in silos and minimize the emissions from silos by equipping them with filters. • Establish adequate locations for storage, mixing and loading of construction materials, in a way that dust dispersion is prevented because of such operations • Crushing of rocky and aggregate materials shall be wet-crushed, or performed with particle emission control systems.

ESCoP 8: Noise and Vibration Management

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
Construction vehicular traffic	Noise quality will be deteriorated due to vehicular traffic	The Contractor shall • Maintain all vehicles in order to keep it in good working order in accordance with manufactures maintenance procedures • Make sure all drivers will comply with the traffic codes concerning maximum speed limit, driving hours, etc.

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
		• Organize the loading and unloading of trucks, and handling operations for the purpose of minimizing construction noise on the work site
Construction machinery	Noise and vibration may have an impact on people, property, fauna, livestock and the natural environment.	The Contractor shall • Appropriately site all noise generating activities to avoid noise pollution to local residents • Use the quietest available plant and equipment • Modify equipment to reduce noise (for example, noise control kits, lining of truck trays or pipelines) • Maintain all equipment in order to keep it in good working order in accordance with manufactures maintenance procedures. Equipment suppliers and contractors shall present proof of maintenance register of their equipment. • Install acoustic enclosures around generators to reduce noise levels. • Fit high efficiency mufflers to appropriate construction equipment • Avoid the unnecessary use of alarms, horns and sirens.
Construction activities	Noise and vibration may have an impact on people, property, fauna, livestock and the natural environment.	The Contractor shall • Notify adjacent landholders prior any typical noise events outside of daylight hours • Educate the operators of construction equipment on potential noise problems and the techniques to minimize noise emissions • Employ best available work practices on-site to minimize occupational noise levels • Install temporary noise control barriers where appropriate • Notify affected people if major noisy activities will be undertaken, e.g. pile driving • Plan activities on site and deliveries to and from site to minimize impact • Monitor and analyze noise and vibration results and adjust construction practices as required. • Avoid undertaking the noisiest activities, where possible, when working at night near the residential areas.

ESCoP 9: Protection of Flora

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

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
		any associated activities such as sites for stockpiles, disposal of fill and construction of diversion roads, etc. • Do not burn off cleared vegetation – where feasible, chip or mulch and reuse it for the rehabilitation of affected areas, temporary access tracks or landscaping. Mulch provides a seed source, can limit embankment erosion, retains soil moisture and nutrients, and encourages regrowth and protection from weeds. • Return topsoil and mulched vegetation (in areas of native vegetation) to approximately the same area of the roadside it came from. • Avoid work within the drip-line of trees to prevent damage to the tree roots and compacting the soil. • Minimize the length of time the ground is exposed or excavation left open by clearing and re-vegetate the area at the earliest practically possible. • Ensure excavation works occur progressively and revegetation done at the earliest • Provide adequate knowledge to the workers regarding nature protection and the need of avoid felling trees during construction • Supply appropriate fuel in the work caps to prevent fuel wood collection

ESCoP 10: Road Transport and Road Traffic Management

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

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
		○ Name and contact address / telephone number of the Contractor ○ Inconvenience is sincerely regretted.
	Accidents and spillage of fuels and chemicals	The Contractor shall • Restrict truck deliveries, where practicable, to day time working hours. • Restrict the transport of oversize loads. • Operate road traffics/transport vehicles, if possible, to nonpeak periods to minimize traffic disruptions. • Enforce on-site speed limit

ESCoP 11: Construction Camp Management

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
Siting and Location of construction camps	Campsites for construction workers are the important locations that have significant impacts such as health and safety hazards on local resources and infrastructure of nearby communities.	The Contractor shall • Locate the construction camps at areas which are acceptable from environmental, cultural or social point of view. • Consider the location of construction camps away from communities in order to avoid social conflict in using the natural resources such as water or to avoid the possible adverse impacts of the construction camps on the surrounding communities. • Submit to the PMC for approval a detailed layout plan for the development of the construction camp showing the relative locations of all temporary buildings and facilities that are to be constructed together with the location of site roads, fuel storage areas (for use in power supply generators), solid waste management and dumping locations, and drainage facilities, prior to the development of the construction camps. • Local authorities responsible for health, religious and security shall be duly informed on the set up of camp facilities so as to maintain effective surveillance over public health, social and security matters
Construction Camp Facilities	Lack of proper infrastructure facilities, such as housing, water supply and sanitation facilities will increase pressure on the local services and generate substandard living standards and health hazards.	The Contractor shall provide the following facilities in the campsites: • Adequate housing for all workers • Safe and reliable water supply. Water supply from deep tube wells of 300 m depth that meets the national standards • Hygienic sanitary facilities and sewerage system. The toilets and domestic waste water will be collected through a common sewerage. Provide separate latrines and bathing places for males and females with total isolation by wall or by location. The minimum number of toilet facilities required is one toilet for every ten persons. • Treatment facilities for sewerage of toilet and domestic wastes • Storm water drainage facilities. Both sides of roads are to be provided with shallow v drains to drain off storm water to a silt retention pond which shall be sized to

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
		provide a minimum of 20 minutes retention of storm water flow from the whole site. Channel all discharge from the silt retention pond to natural drainage via a grassed swale at least 20 meters in length with suitable longitudinal gradient. • Paved internal roads. Ensure with grass/vegetation coverage to be made of the use of top soil that there is no dust generation from the loose/exposed sandy surface. Pave the internal roads of at least haring-bond bricks to suppress dusts and to work against possible muddy surface during monsoon. • Provide child crèches for women working construction site. The crèche shall have facilities for dormitory, kitchen, indoor and outdoor play area. Schools shall be attached to these crèches so that children are not deprived of education whose mothers are construction workers • Provide in-house community/common entertainment facilities dependence of local entertainment outlets by the construction camps to be discouraged/prohibited to the extent possible.
Disposal of waste	Management of wastes is crucial to minimize impacts on the environment	The Contractor shall • Ensure proper collection and disposal of solid wastes within the construction camps • Insist waste separation by source; organic wastes in one pot and inorganic wastes in another pot at household level. • Store inorganic wastes in a safe place within the household and clear organic wastes on daily basis to waste collector. Establish waste collection, transportation and disposal systems with the manpower and equipment/vehicles needed. • Dispose organic wastes in a designated safe place on daily basis. At the end of the day cover the organic wastes with a thin layer of sand so that flies, mosquitoes, dogs, cats, rats, are not attracted. One may dig a large hole to put organic wastes in it; take care to protect groundwater from contamination by leachate formed due to decomposition of wastes. Cover the bed of the pit with impervious layer of materials (clayey or thin concrete) to protect groundwater from contamination. • Locate the garbage pit/waste disposal site min 500 m away from the residence so that peoples are not disturbed with the odor likely to be produced from anaerobic decomposition of wastes at the waste dumping places. Encompass the waste dumping place by fencing and tree plantation to prevent children to enter and play with. • Do not establish site specific landfill sites. All solid waste will be collected and removed from the work camps and disposed in approval waste disposal sites.
Fuel supplies for cooking purposes	Illegal sourcing of fuel wood by construction workers will impact the natural flora and fauna	The Contractor shall • Provide fuel to the construction camps for their domestic purpose, in order to discourage them to use fuel wood or other biomass.

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
		• Made available alternative fuels like natural gas or kerosene on ration to the workforce to prevent them using biomass for cooking. • Conduct awareness campaigns to educate workers on preserving the protecting the biodiversity and wildlife of the project area, and relevant government regulations and punishments on wildlife protection.
Health and Hygiene	There will be a potential for diseases to be transmitted including malaria, exacerbated by inadequate health and safety practices. There will be an increased risk of work crews spreading sexually transmitted infections and HIV/AIDS.	The Contractor shall • Provide adequate health care facilities within construction sites. • Provide first aid facility round the clock. Maintain stock of medicines in the facility and appoint fulltime designated first aider or nurse. • Provide ambulance facility for the laborers during emergency to be transported to nearest hospitals. • Initial health screening of the laborers coming from outside areas • Train all construction workers in basic sanitation and health care issues and safety matters, and on the specific hazards of their work • Provide HIV awareness programming, including STI (sexually transmitted infections) and HIV information, education and communication for all workers on regular basis • Complement educational interventions with easy access to condoms at campsites as well as voluntary counseling and testing • Provide adequate drainage facilities throughout the camps to ensure that disease vectors such as stagnant water bodies and puddles do not form. Regular mosquito repellant sprays during monsoon. • Carryout short training sessions on best hygiene practices to be mandatorily participated by all workers. Place display boards at strategic locations within the camps containing messages on best hygienic practices
Safety	In adequate safety facilities to the construction camps may create security problems and fire hazards	The Contractor shall • Provide appropriate security personnel (police / home guard or private security guards) and enclosures to prevent unauthorized entry in to the camp area. • Maintain register to keep a track on a head count of persons present in the camp at any given time. • Encourage use of flameproof material for the construction of labor housing / site office. Also, ensure that these houses/rooms are of sound construction and capable of withstanding wind storms/cyclones. • Provide appropriate type of firefighting equipment suitable for the construction camps • Display emergency contact numbers clearly and prominently at strategic places in camps. • Communicate the roles and responsibilities of laborers in case of emergency in the monthly meetings with contractors
Site Restoration	Restoration of the construction camps to original condition requires demolition of	The Contractor shall • Dismantle and remove from the site all facilities established within the construction camp including the

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

ESCoP 12: Cultural and Religious Issues

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

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
		• Establish a mechanism that allows local people to raise grievances arising from the construction process. • Inform the local authorities responsible for health, religious and security duly informed before commencement of civil works so as to maintain effective surveillance over public health, social and security matters

ESCoP 13: Worker Health and Safety

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
Best practices	Construction works may pose health and safety risks to the construction workers and site visitors leading to severe injuries and deaths. The population in the proximity of the construction site and the construction workers will be exposed to a number of (i) biophysical health risk factors, (e.g. noise, dust, chemicals, construction material, solid waste, waste water, vector transmitted diseases etc), (ii) risk factors resulting from human behavior (e.g. STD, HIV etc) and (iii) road accidents from construction traffic.	The Contractor shall • Implement suitable safety standards for all workers and site visitors which shall not be less than those laid down on the international standards (e.g., International Labor Office guideline on 'Safety and Health in Construction; World Bank Group's 'Environmental Health and Safety Guidelines') and contractor's own national standards or statutory regulations, in addition to complying with the national standards of the Government of Bangladesh (e.g. `The Bangladesh Labor Code, 2006') • Provide the workers with a safe and healthy work environment, taking into account inherent risks in its particular construction activity and specific classes of hazards in the work areas, • Provide personal protection equipment (PPE) for workers, such as safety boots, helmets, masks, gloves, protective clothing, goggles, full-face eye shields, and ear protection. Maintain the PPE properly by cleaning dirty ones and replacing them with the damaged ones. • Safety procedures include provision of information, training and protective clothing to workers involved in hazardous operations and proper performance of their job • Appoint an environment, health and safety manager to look after the health and safety of the workers • Inform the local authorities responsible for health, religious and security duly informed before commencement of civil works and establishment of construction camps so as to maintain effective surveillance over public health, social and security matters.
	Child and pregnant labor	The Contractor shall • not hire children of less than 14 years of age and pregnant women or women who delivered a child within 8 preceding weeks, in accordance with the Bangladesh Labor Code, 2006
Accidents	Lack of first aid facilities and health care facilities in the immediate vicinity will aggravate the health conditions of the victims	• Provide health care facilities and first aid facilities are readily available. Appropriately equipped first-aid stations shall be easily accessible throughout the place of work • Document and report occupational accidents, diseases, and incidents. • Prevent accidents, injury, and disease arising from, associated with, or occurring in the course of work by minimizing, so far as reasonably practicable, the causes of hazards. In a manner consistent with good international industry practice.

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
		• Identify potential hazards to workers, particularly those that may be life-threatening and provide necessary preventive and protective measures. • Provide awareness to the construction drivers to strictly follow the driving rules • Provide adequate lighting in the construction area and along the roads
Construction Camps	Lack of proper infrastructure facilities, such as housing, water supply and sanitation facilities will increase pressure on the local services and generate substandard living standards and health hazards.	• The Contractor shall provide the following facilities in the campsites to improve health and hygienic conditions as mentioned in ESCoP 17 Construction Camp Management • Adequate ventilation facilities • Safe and reliable water supply. Water supply from deep tube wells that meets the national standards • Hygienic sanitary facilities and sewerage system. The toilets and domestic waste water will be collected through a common sewerage. • Treatment facilities for sewerage of toilet and domestic wastes • Storm water drainage facilities. • Recreational and social facilities • Safe storage facilities for petroleum and other chemicals in accordance with ESCoP 2 • Solid waste collection and disposal system in accordance with ESCoP 1. • Arrangement for trainings • Paved internal roads. • Security fence at least 2 m height. • Sick bay and first aid facilities
Water and sanitation facilities at the construction sites	Lack of Water sanitation facilities at construction sites cause inconvenience to the construction workers and affect their personal hygiene.	• The contractor shall provide portable toilets at the construction sites, if about 25 people are working the whole day for a month. Location of portable facilities shall be at least 6 m away from storm drain system and surface waters. These portable toilets shall be cleaned once a day and all the sewerage shall be pumped from the collection tank once a day and shall be brought to the common septic tank for further treatment. • Contractor shall provide bottled drinking water facilities to the construction workers at all the construction sites.
Trainings	Lack of awareness and basic knowledge in health care among the construction workforce, make them susceptible to potential diseases.	The Contractor shall • Train all construction workers in basic sanitation and health care issues (e.g., how to avoid malaria and transmission of sexually transmitted infections (STI) HIV/AIDS. • Train all construction workers in general health and safety matters, and on the specific hazards of their work Training shall consist of basic hazard awareness, site specific hazards, safe work practices, and emergency procedures for fire, evacuation, and natural disaster, as appropriate. • Commence the malaria, HIV/AIDS and STI education campaign before the start of the construction phase and complement it with by a strong condom marketing, increased access to condoms in the area as well as to voluntary counseling and testing. • Implement malaria, HIV/AIDS and STI education campaign targeting all workers hired, international and national, female and male, skilled, semi- and unskilled occupations, at the time of recruitment and thereafter pursued

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
		throughout the construction phase on ongoing and regular basis. This shall be complemented by easy access to condoms at the workplace as well as to voluntary counseling and testing.

Annex J: Guideline for Evaluation of OHS Management

FORM-1: Project OHS Review Checklist

No.	Questions/ Considerations	Yes	No	Comments/ Corrective Action (for "No" responses)
Document Request – Pre-Mission				
1	Safety Plan (OHS Management Plan).			
2	OHS/Safety Induction Training for workers and visitors.			
3	Work Procedures/SOPs (high-risk activities) if available:			

No.	Questions/ Considerations	Yes	No	Comments/ Corrective Action (for "No" responses)
	i. Traffic Control/ Road Safety (e.g., Traffic Management Plan) ii. Motor Vehicle and Transport Safety iii. Operating Heavy Equipment/ Machinery iv. Grading and Earth Moving Operations v. Excavation, Trenching and Shoring vi. Asphalt/ Concrete Paving and Patching Operations vii. Electrical Safety (buried utilities, overhead power lines, etc.) viii. Night Work ix. Permit-to-Work Systems			
PIU/PMU				
4	Meet with the Resident Engineer (RE) to discuss about OHS, i.e., assess RE's safety leadership skills and capacity (e.g., knowledge of safety risks and control measures). This role is key in improving safety culture and making safety improvements in the project.			
5	Review the project organizational structure including OHS personnel, roles & responsibilities, qualifications/experience and adequate resources.			
6	Areas of accountability and responsibility for all personnel involved in the project are defined, documented and communicated.			
Review the Safety Plan (OHS Management Plan) with PIU/PMU Team on the following:				
	PLANNING			
7	Procedures established, implemented, documented and maintained for hazard identification, hazard/risk assessment and control of hazards/risks of activities (e.g., Risk Register).			
8	Evidence that risks and opportunities related to OHS hazards & risks, compliance obligations and other issues have been identified and addressed.			
9	Evidence that the organization/ project planning takes into consideration actions to address significant OHS hazards & risks; compliance obligations; risks and opportunities.			
10	Evidence of planning actions to achieve Safety Plan implementation, including WHAT will be done; what RESOURCES will be required; WHO will be responsible; WHEN it will be completed; HOW results will be evaluated, including indicators for monitoring progress.			
11	OHS high risks are reviewed and amended to address changes at regular and planned intervals and whenever changes to activities, procedures or significant changes in operating conditions occur.			
	SUPPORT			
12	Evidence that the organization has determined and provided RESOURCES needed for the establishment, implementation, maintenance and continual improvement of Safety Plan/OHS Management Plan.			
13	Evidence the project has a process in place to determine necessary COMPETENCE and necessary training.			
14	Evidence that processes for INTERNAL & EXETERNAL OHS/SAFETY COMMUNICATIONS has been established including contractors, subcontractors, and local government & community.			
	OPERATION			
15	Evidence that the project has established procedures to comply with the Safety Plan applying the hierarchy of controls (elimination/substitution, engineering, administrative and personal protective equipment) as mitigation measures.			

No.	Questions/ Considerations	Yes	No	Comments/ Corrective Action (for "No" responses)
16	Project has established an effective process for Management of Change that impact OHS performance.			
17	Controls (e.g. pre-qualifications, procedures) have been established to ensure OHS requirements established for procurement of contactors, subcontractors, local workers and services (e.g. bus transportation).			
18	Evidence the project has emergency preparedness and response plans in place.			
19	All personnel (including contractors, local workers and visitors) have undertaken training appropriate to identified needs.			
20	Procedures developed to ensure that pertinent safety/ OHS information is communicated to and from employees and other interested parties.			
21	Reporting procedures include OHS performance reporting (including results of OHS inspection, audits and reviews).			
22	Reporting procedures include safety incidents, accidents, near-misses, etc.			
23	Reporting procedures for safety issues, concerns and questions. Also, is there a process to address and communicate issues to stakeholders?			
24	Project has emergency preparedness and response procedures where emergency situations are identified, and emergency procedures documented for preventing and mitigating associated injury. The procedures are reviewed and revised where necessary, especially after the occurrence of incidents or emergency situations.			
25	Emergency preparedness and response procedures are periodically tested (e.g. fire/ evacuation drills).			
	MONITORING/ EVALUATION			
26	Safety Plan is established, implemented and maintained to monitor the performance and effectiveness of relevant operational controls and conformance with organizational objectives and targets.			
27	Internal/ External safety audit program and procedures established, implemented and maintained for periodic audits to be undertaken by a competent person.			
28	Audit/ Inspection program and procedures facilitate determination of whether the Safety Plan/ OHS Management Plan has been properly implemented and maintained			
29	Project management undertakes Safety Plan/ OHS Management Plan reviews at intervals to ensure its continuing suitability, adequacy and effectiveness.			
Worksite Visit				
30	Verify if the Safety Plan/ OHS Management Plan has been implemented at the worksite. Focus on high-risk activities such as road works/traffic safety, operating heavy equipment, excavations, grading and earth moving operations, etc.			
31	Use the ***Construction Worksite Inspection Checklist*** (checklist provided) to verify specific OHS programs on the construction worksite.			
32	Interview contractors and local workers (day labourers) to determine if they have completed any Safety Induction/ Orientation training (or if it's available), knowledge of safety rules and safe work practices, toolbox talks, awareness of hazards/risks and mitigation measures, use and maintenance of personal protective equipment (PPE).			
33	Evidence of communications between project and local community including signage explaining about the project,			

No.	Questions/ Considerations	Yes	No	Comments/ Corrective Action (for "No" responses)
	warning/ hazard signs to warn about hazards, community engagement and training, etc.			
34	If time is available, interview local community members to determine if they are aware of the project, the impact of project on the community including hazards/ risks such as noise, dust, increase in traffics, vehicles, people, etc.			
	Incident Investigation Follow-up and Action Plans for Incident # CP-01			
35	Verify if compensation has been paid to the worker's family.			
36	Verify if vehicle maintenance program is implemented. Program should include regular maintenance schedules, daily inspections of vehicles, out of service criteria should be established, priority scheduling for safety related deficiencies, and individual vehicle maintenance records.			
37	Driver Training: Ensure hired drivers receive the proper training in safe vehicle operation (e.g. defensive driving), project vehicle policy and driving rules, and continued training as needed based performance evaluations.			
38	Determine if the Traffic Management Plan is developed and implemented. If implemented, discuss with road workers/ day labourers to determine if they understand the work practices/ procedures.			
39	Interview site supervisor and determine if he/she understands their roles & responsibilities, process engagement between workers and supervisor.			
40	Induction/ Orientation training for day labourers; interview day labourers to verify if they understand the hazards/risks with work activities being performed, the use of PPE and what supervision is available onsite. Toolbox talk is a general safety awareness tool and not training.			
	Incident Investigation Follow-up and Action Plans for Incident # NWP-01			
41	Verify if compensation has been paid to the worker's family.			
42	Determine if the Traffic Management Plan is developed and implemented. Discuss with road workers/ day labourers to determine if they understand the work practices/ procedures.			
43	Induction/ Orientation training for day labourers; interview day labourers to verify if they understand the hazards/risks with work activities being performed, the use of PPE and what supervision is available onsite. Toolbox talk is a general safety awareness tool and not training.			
44	Determine if onsite supervision has been established for all workers and discuss with supervisors on their roles & responsibilities.			
45	Verify if heavy equipment operation procedures have been developed and implemented. Verify if spotters are available for all heavy equipment. Review training records to ensure heavy equipment operators are trained to the procedures and appropriate license to operate. Day labourers should also be training on safety awareness working near heavy equipment.			

FORM-2: Construction Worksite Inspection Checklist

Site Name:	Date:

Project/Job/Location:	Job No. or Contract No.: (if applicable)
Person carrying out site inspection (Name and Position):	
Contractor (if applicable):	
Contractor's Site Supervisor:	Telephone:

Instructions: Any recognized hazard shall be corrected immediately, and interim protection provided for any serious hazards not readily corrected. Keep completed forms on file.

	Yes	No	N/A	Corrective Action (*for "No" responses*)
Document				
Is there a Safety Plan, covering this work, on site? (if required)				
Are Safe Work Procedures (SWPs) available on site for all site activities currently being undertaken assessed as having a high risk?				
Does the SWP identify site specific hazards and controls related to the work being carried out?				
Are workers on site working in accordance with their SWPs? (Are they implementing the controls listed in their SWMS, and using the plant and equipment listed in their SWPs?)				
Induction				
Are there Safety Induction records on site?				
Have all workers undergone site specific induction training prior to starting work on site?				
Consultation				
Are Toolbox Talks held prior to site works commencing, and then weekly, or more frequently as required?				
Is there a process for workers to address safety concerns, issues and questions? Documentation that safety concerns/issues are addressed?				
Site Area				
a) Security Is the site securely fenced / barricaded / site occupants isolated from any risk?				
Are all materials stored within the secured work site / site shed / vehicles?				
b) Signage Are site safety rules available/displayed on site? (Principal Contractor site safety rules displayed when required)				
When fencing is erected, is there a clearly visible sign with the name & phone number, (including an after-hours emergency telephone number) of the Principal Contractor and appropriate Construction & PPE signage displayed?				
c) Emergency /Incidents Where is the nearest phone in case of an emergency?				Location:
Is an emergency/incident procedure displayed on site and are workers aware of the procedure?				
Are there suitable fire extinguishers on site & have fire extinguishers been serviced in last six months & tag stamped?				
Is there an adequately stocked first aid kit on site?				
Is there a qualified first aid person on site? (one first aid person for up to 25 workers for high risk work)				
Is there an accident/injury book/register on site?				

	Yes	No	N/A	Corrective Action (*for "No" responses*)
d) Amenities – (1 toilet per 20 workers): Are there washing facilities, adequate fresh cool drinking water, clean toilet available?				
e) Waste Disposal Is there a rubbish / waste container on site? Is the site area clear of rubbish/scattered materials? Is documentation available for any waste/hazardous material disposed of offsite?				
Housekeeping				
Is there general neatness of the work area?				
Are projecting nails removed or bent over?				
Are waste containers provided and used?				
Are passageways and walkways clear?				
Fire Prevention				
Are there adequate fire extinguishers that are accessible and inspected?				
Is the phone number of the local fire department posted?				
Are "No Smoking" signs posted and enforced near flammables?				
Electrical				
Are extension cords or attachments with bare wires, missing ground pins, or damage taken out of service?				
Are ground fault circuit interrupters (GFCIs) being used?				
Are terminal boxes equipped with required covers?				
Are flexible cords and cables protected from damage?				
Are unused openings in cabinet boxes and fittings closed?				
Are all cabinets, panels and switches located in wet locations enclosed in weatherproof enclosures?				
Hand, Power and Powder Actuated Tools				
Are hand tools inspected regularly? Are broken handles and mushroom heads repaired or taken out of service?				
Are protective guards in place on tools, such as saws?				
Is the right tool being used for the job?				
Are operators of powder actuated tools licensed?				
Fall Protection				
Are employees working more than 2 meters above a lower level protected by guardrails, safety nets, personal fall arrest system?				
Are safety rails and cables secured properly and located at the correct heights?				
Are employees that are exposed to fall hazards wearing safety harness and tied off?				
Are employees located below falling objects protected?				
Are employees using body belts for positioning devices only?				
Ladders				
Are ladders extended at least 91 cm above the landing?				
Are ladders secured to prevent slipping, sliding, or falling?				
Are ladders with split or missing rungs taken out of service?				
Are stepladders used in fully open position?				
Do employees avoid top two rungs of stepladder?				
Scaffolding				
Is scaffolding inspected daily?				
Is scaffolding erected on sound rigid footing?				
Are guardrails, intermediate rails, toe-boards and screens in place?				
Is scaffolding tied to structure as required?				
Is planking sound and sturdy?				
Is proper access provided?				

	Yes	No	N/A	Corrective Action (*for "No" responses*)
Are employees located below protected from falling objects?				
Floor and Wall Openings				
Are all floor or deck openings planked over or barricaded?				
Is perimeter protection in place?				
Are deck planks secured?				
Are materials stored away from edge?				
Trenches, Excavation and Shoring				
Is a competent person present, inspecting daily?				
Are excavations over 1.5 meters in depth shored or sloped back?				
Are materials and spoil pile at least 1 meter from trench opening?				
Is equipment operated safely at trench or excavation?				
Are ladders provided every 7.5 meters in trench more than 1.5 meters deep?				
Have underground utility installations been located?				
Are employees that are exposed to vehicular traffic wearing warning vests with highly visible material?				
Are trenches filled in as soon as work is completed to minimize erosion?				
Material Handling				
Are materials properly stored or stacked?				
Are employees using proper lifting methods?				
Are tag lines used to guide loads?				
Is there an adequate number of workers for each operation?				
Welding and Cutting				
Are compressed gas cylinders stored upright and secured?				
Is there a proper separation distance between fuels and oxygen? (minimum 6 meters)				
Are there fire extinguishers nearby?				
Are hoses and regulators in good condition?				
Cranes				
Outriggers are extended and swing radius barricade in place?				
Are crane operator logs maintained and up-to-date?				
Are operators familiar with load charts?				
Are chains and slings inspected and tagged as required?				
Are hand signal charts located on crane?				
Concrete Construction				
Are employees protected from cement dust?				
Is exposed skin covered?				
Are runways adequate?				
Are walls over 2.5 meters supported?				
Are all protruding reinforcing bars covered?				
Is lockout/tagout procedure used on any machinery where inadvertent operation could cause injury?				
Demolition Work				
Have gas, electricity and other services been located and isolated/disconnected?				
Are stockpiled materials covered to prevent erosion by wind & rain, or dampened with water to reduce windblown dust?				
If dust is a problem, does the fence installed around the site have a cloth barrier to act as a windbreak?				
Plant and Equipment				
a) Documentation Do plant operators have appropriate licenses for licensed work?				
Does all machinery have registration/permits?				
Are Safety Check logbooks for machinery being completed?				

	Yes	No	N/A	Corrective Action (*for "No" responses*)
b) Specific Plant Is traffic control in place if required?				
Do backhoes/excavators/bobcats/cranes/boom pumps/ EWP's have "Beware of Electrical Hazards" signs?				
Have existing services been verified & are workers aware of safe practices/regulations if working close to power lines &/or underground/hidden services?				
Is plant in good order (visual inspection - no oil leaks, hydraulic hoses, etc.)?				
Is the Safe Working Load indicated on the boom of all cranes / EWP / lifts?				
Are licensed persons involved with mobile crane movements & are slings & cranes in good order, & is there evidence of inspections of these?				
Do vehicles, earth moving or compacting equipment with an obstructed view to the rear have a backup alarm or used with an observer?				
Do vehicles and earth moving equipment have seat belts and are they used?				
Are flagmen wearing highly visible garments and using flags, sign paddles or lights?				
Are workers wearing high visibility clothing in the vicinity of traffic/mobile plant?				
Hazardous Substances				
Is there a hazard communication program with safety data sheets (SDSs) and inventory list on site?				
Is each original container for a hazardous substance labeled with product identifier, signal word(s), hazard statement(s), pictogram(s), precautionary statement(s) and name, address, and phone number of the chemical manufacturer, importer or other responsible party?				
Is each secondary container for a hazardous substance labeled with original labeling or product identifier and words, pictures, and/or symbols, which provide at least general information regarding the hazards?				
Is exposure to lead or lead based paint, such as paint removal controlled?				
Is exposure to silica, such as sandblasting, using sand or cutting brick or cinderblock controlled?				
Is exposure to asbestos controlled?				
Personal Protective Equipment (PPE)				
Are hard hats being worn?				
Are safety boots being worn?				
Are safety glasses being worn?				
Are dust masks used when required?				
Is hearing protection being worn when required?				
Are high visibility vests being worn when required?				
Unsafe Acts or Practices Observed (List):				

Annex K: Sample GRM Form

Grievance Form: Bangladesh Road Safety Program
Grievance reference number (to be completed by Project):

Contact details (may be submitted anonymously)	Name (s):		
	Address:		
	Telephone:		
	Email:		
How would you prefer to be contacted (check one)	By mail/post: ☐	By phone: ☐	By email ☐
Preferred language	☐ Bangla	☐ English	
Provide details of your grievance. Please describe the problem, who it happened to, when and where it happened, how many times, etc. Describe in as much detail as possible.			
What is your suggested resolution for the grievance, if you have one? Is there something you would like IA (RHD, BRTA, DGHS, BP) or another party/person to do to solve the problem?			
How have you submitted this form to the project?	Website ☐	Email ☐	By hand ☐
	In person ☐	By telephone ☐	Other (specify) ☐
Who filled out this form (If not the person named above)?	Name and contact details:		
Signature			
Name of IA's official assigned responsibility			
Resolved or referred to GRC1?	☐ Resolved	☐ Referred	If referred, date:
Resolved referred to GRC2?	☐ Resolved	☐ Referred	If referred, date:
Completion			
Final resolution (briefly describe)			
	Short description	Accepted ? (Y/N)	Acknowledgement signature
1st proposed solution			
2nd proposed solution			
3rd proposed solution			

Annex L: Details of the Stakeholder Consultations and List of Attendees

Stakeholder Consultation Meeting - 1

(National Level)
Bangladesh Road Safety Program
Stakeholder Consultation Meeting Minutes

Introduction:

Stakeholder engagement is an inclusive process, usually conducted throughout the project life cycle. This process supports the development of strong, constructive and responsive relationships that are important for successful management of a project's environmental and social risks, when designed and implemented properly. Stakeholder engagement is most effective when initiated at an early stage of the project development process, and is an integral part of early project decisions and the assessment, management and monitoring of the project's environmental and social risks and impacts. Effective stakeholder engagement can improve the environmental and social sustainability of projects, enhance project acceptance, and make a significant contribution to successful project design and implementation. As a part of this process, a consultation meeting was organized by Roads and Highway Department (RHD) on behalf of all the implementing agencies involved in the project. The remaining four IAs were invited to express their important views on the program activities, particularly on the associated environmental and social risks of the project and their institutional approach to manage the risks. This document provides a summary of the stakeholder consultation meeting and the feedback RHD received from the invited stakeholders. Table 1.1 summaries the meeting details, followed by a summary of the discussion by all the IAs representatives and respective stakeholders.

Meeting details in brief:

Table 1.1: Summary of the meeting logistics

Serial no.	Issues	Details
1.	Stakeholder Consultation Meeting date:	14 September, 2021
2.	Stakeholder Consultation Meeting time:	3.00 pm – 5.00 pm
3.	Meeting Platform:	Virtual Meeting via Zoom Note: The entire meeting was recorded and saved for future reference
4.	Presentation of the - Project Details - Environmental and Social risks and its management - Other related details	A PowerPoint presentation was done by the Mohammad Jahed Hossain, SE, SEC, RHD in the beginning of the session, which summarized all the necessary details of the project that the stakeholders must know.
5.	Representatives from The World Bank:	1) Akhtar Zaman, (Social Development Specialist) 2) Raisin Akhtar Feroz, Consultant 3) Hannan Biswas, Consultant 4) Ferdausi Sumana, Social Development Consultant
6.	Representatives from RHD:	1) Mohammad Jahed Hossain (SE, SEC, RHD) 2) Ms. Annesha, (EE, Environment Division, RHD)
7.	Representatives/Focal person of BRTA:	Md. Lokman Hossain Mollah, Director, Operation
8.	Representatives/Focal person of DTCA:	Mohammad Rabiul Alam Additional Executive Director (TMPTI)
9.	Representatives/Focal person of DGHS:	Not present
10.	Representatives/Focal person of Bangladesh Police:	Name DIG, Highway Police

Discussions by the IAs:

The consultation meeting mainly organized by the RHD on behalf of all the implementing agencies involved in the project. Therefore, the remaining four agencies were invited to express their important

views on the program activities. They were also requested to describe their thoughts on the associated environmental and social risks and potential impacts of the project and their institutional approach to manage the risks.

Sl.	Implementing Agency	Focal Person	Brief Discussion
1	Bangladesh Police	DIG, Highway Police	▪ The highway police department found that the accidents mainly occur at the junctions of feeder roads and highways. The non-motorized vehicles or three wheelers enter into the highway at these sections and due to unavailability of proper road safety features, the accidents happen at those areas. ▪ Lack of skilled drivers is also a main reason of the accidents. ▪ Training of the Highway Police may also be proposed under the program. ▪ The highway police stations do not have adequate number of equipment and transports to support the victims during the emergency. Therefore, strengthening the Highway Police is necessary to mitigate the hazards caused by road accidents.
2	Dhaka Transport Coordination Authority	Mohammad Rabiul Alam Additional Executive Director (TMPTI)	▪ The DTCA is not directly involved with the project rather it will coordinate with the Dhaka North City Corporation (DNCC) since the roads are under the jurisdiction of DNCC. ▪ There are several related ongoing projects in the Dhaka City, and other projects may initiate in future. Therefore, coordination with other projects is required for successful implementation and to ensure the maximum outcome during operation. ▪ There is no road design guideline for urban areas in Bangladesh. Therefore, the roads in the urban areas are not designed properly considering the safety features. Under the project, an initiative might be taken to develop this guideline.
3	Bangladesh Road Transport Authority	Md. Lokman Hossain Mollah Director, Operation	▪ This project will construct new Vehicle Inspection Centers (VICs) at different locations. ▪ We notice that, at the VICs, there is a long que of vehicles and it causes local air pollution. ▪ Noise pollution is also occurring at the VICs. ▪ People living around the VICs are facing the disturbance due to the long que of vehicles. There is always traffic congestions, hindrance of free movement and other social activities are also disturbed due to the location of VICs. The VIC at Mirpur is an example to be mentioned here.
4	Directorate General of Health Services	Not Present in the Meeting	

Discussions by the Invited Stakeholders:

The participants were requested to contribute and share their perspectives in the discussion session after the presentation and brief discussions by the focal person of all the implementing agencies (IAs). The below table summarizes the discussion.

Sl.	Name of Participants	Issues Discussed	Response by IAs
1	Md. Monibur Rahman	▪ This is an important project in the context of present road safety in Bangladesh.	

Sl.	Name of Participants	Issues Discussed	Response by IAs
	Additional Commissioner Traffic, DMP	▪ Banani and Mohammadpur areas are primarily selected for the pilot project and those areas has opposite kinds of problem in terms of social and economic context. ▪ In Mohammadpur area all kinds of people (rich, middle class, lower middle class and slum people) are living and therefore all kinds of vehicle are moving through the roads in this area. On the contrary, in Banani area the rich people are mostly living and vehicles types are almost similar and mostly private vehicles. ▪ Due to different social context, the police department should take different approaches to manage the associated risks of the project. ▪ For successful and effective implementation of traffic management during the project implementation period, a strict and definite schedule is very important. ▪ From our experience, it is very easy to manage the traffic at the main roads within the selected areas in Dhaka City. However, to support in the feeder road; if any activities will be considered; the police department would not be able to do so always and it will cause severe problem. ▪ In Banani area, over speeding and frequent use of horns are a common problem. Vehicles at the VIP roads become reckless sometimes, and police faces difficulties to control it. ▪ Additionally, in the Banani area the vehicles do hard breaks at the U-turn or side turn areas which increases the accidents in significant numbers. ▪ Furthermore, if any project work blocks the entire road, then we need to find out an alternative route prior to the construction work. ▪ Road Safety sign at important locations may reduce the number of accidents. ▪ Finally, IAs need to ensure an effective inter departmental coordination before to start any works in the Dhaka City.	
2	Sayed Hasan Noor Islam (Raston) Ward Councilor 32 No. Ward, DNCC	▪ Getting permission to work within the area nearby prime minister's residential areas are very laborious and complex. Even we have to take permission from the SSF. Civil works in Mohammadpur area may be time consuming due to this permission process. ▪ Though there are some safety features in the roads but these are damaged due to lack of maintenance. Also, stealing of the road equipment, like bulb, safety barrier, cover of manhole is also creating several unexpected occurrences in the road. ▪ Suggestion: stop all the minor road crossings and enhance the larger U-loop. ▪ Furthermore, inter-departmental coordination is crucial for successful management of the project.	
3	Ilias Kanchan Chairman	▪ Regarding the improvement of road safety; capacity development of BRTA is mandatory.	Mohammad Jahed Hossain (SE, SEC, RHD) thanks Mr.

Sl.	Name of Participants	Issues Discussed	Response by IAs
	Nirapod Sarak Chai	▪ Though we are trying to improve the data management capacity for a long time, Bangladesh Government didn't take any effective initiative. We need to focus on the improvement of our data management capacity ▪ Police should have special power to involve in accident cases. At this point, the police department cannot do anything until a case is filed to the respective police station. However, they are not maintaining a proper data base to log all these incidents. ▪ Empowerment of the private sector for crash data management might also be considered. The *Nirapod Sarak Chai* movement is trying to develop it with their own capacity. Our government can consider any organization for this type of work. ▪ There were several initiatives from government but the implementation was not up to the expected mark. ▪ Battery driven three wheelers are now one of the main reasons of road accidents in highways. Few years back, there were no 'Nosimon' and 'Korimon' in the highways; but our government is not taking any actions to stop it. ▪ The rickshaw pullers should also get training and license to drive rickshaw on the road. ▪ Advertisement and information dissemination is important to reduce the number of road accidents. We are advertising a lot to combat against the Covid-19 and it has been a successful initiative of our government. Similarly, the road safety issues should be in the media and textbook. ▪ Road safety awareness is always neglected in our country. This issue needs to be added in the project design.	Ilias Kanchan and confirms that his valuable suggestions will help the IAs to improve the program design.
4	AIG Traffic Management	▪ Highway Police do not have adequate manpower to stop all the NMT/three wheelers from entering to the highways from the feeder road. ▪ Though highway police have to support the victims at the first but they do not have adequate equipment and vehicles. ▪ ICU ambulance is required to support the victims. ▪ From 2019 the highway police are using the MAAP-5 software for crash data management. ▪ Police are not informed for all accidents cases. Sometimes victims go to hospitals directly and police are not informed until the hospital authority informs them. ▪ GD helps the police to improve the data management. Therefore, GD should be mandatory for all accident cases.	
5	Shakhawat Swapon, Safety Management Foundation	▪ Awareness to reduce road safety is important. ▪ Community training on road safety may help to reduce the number of accidents.	

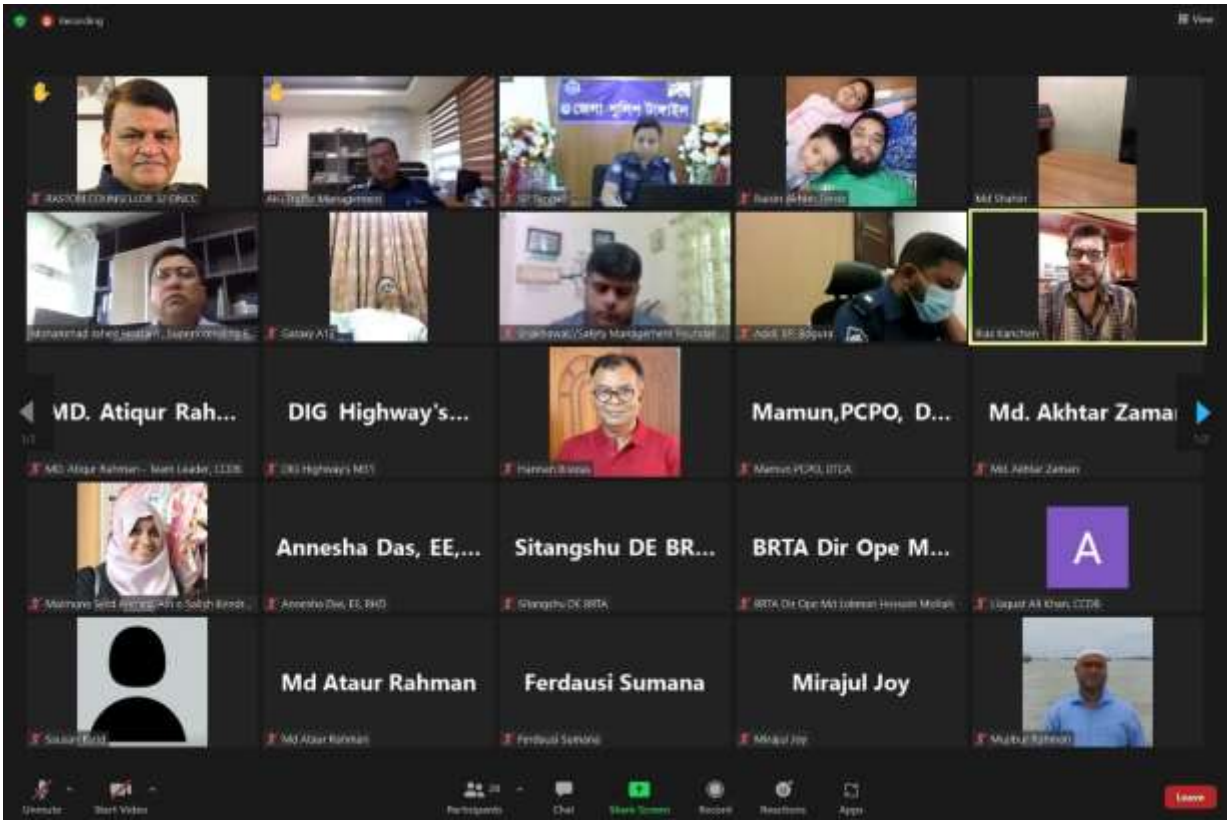
Sl.	Name of Participants	Issues Discussed	Response by IAs
		▪ Popular NGOs can engage in this process.	
6	Liaquat Ali Khan CCDB	▪ Road accident victims can be included in different awareness raising programs, since they have gone through the trauma and they also need support for their living. ▪ Many projects affected people loss their income earning opportunities when a new project repossessed public lands and or acquired private lands. The project should not forget those peoples' livelihoods support. ▪ The three-wheelers' drivers are poor and it is not wise to negatively impact on their livelihood. Our government should consider building the SMVT lane for those type of vehicles so that they can continue their earnings.	
7	Barkat Ullah Bhulu Dhaka CNG Autorickshaw Owners Association	▪ A separate lane for small vehicles would be helpful, rather than completely stopping them to enter into the highway. Mostly the drivers of the small vehicles are low incomed people and they need to continue their job for livelihood. ▪ Rate of motorbike registration is increasing rapidly, which is alarming. In urban areas motorbike accident rates are high. Usually, bikers are very rough and never follow the traffic rules. To reduce the number of bike accidents, BRTA should take immediate action in reducing the number of bike registration. Also, the BRTA should check in for illegal motorbikes on road and take actions immediately.	
8	AIG Traffic Management	▪ The victims can be supported by activating the funds as per the clause 52 under Road Transport Act, 2018. ▪ Sometimes the road design does not take the social context in consideration. For instance, there are some sections along the Dhaka-Chattogram highway where old people cannot cross the road conveniently. The width of the road is too high for an old person to cross the road. Therefore, accidents occur often at those areas. The respective engineers should take such kind of issues in consideration while planning and designing.	
9	Addl. SP, Bogura	▪ Bangladesh Police play a major role, particularly after an accident and has to response at first. ▪ Only police department has some initiatives for data management but other departments do not have this capacity. ▪ Police can share the data to anyone for accident analysis. ▪ CCTV can be installed at accident prone areas and footages can be used for further analysis. ▪ Bogura is called as the 'entrance door' of the North Bengal. Therefore, this district carries huge traffic and the accident case is comparatively high. ▪ Coordination with Police department would be helpful for successful implementation of the program.	

Sl.	Name of Participants	Issues Discussed	Response by IAs
10	Maimuna Syed Ahmed Ain O Salish Kendro	▪ Why the project is categorized as a 'substantial' risk when the data management capacity is yet not established and it is always a tough thing to do? ▪ Sexual harassment is common in our public transport. Is there any initiative to reduce it under the project? ▪ It is being said that the trauma center along the highway corridor and district centers will be developed under this program. Is it possible to consider the development in a broader aspect rather aiming only for the accidents?	Mohammad Jahed Hossain, SE, SEC, RHD ▪ The categorization is given based on our preliminary assessment. We are still working on the ESMF and this will be finalized later. ▪ The trauma centers are not confined only for the accidents cases but it will be open for all. Raisin Akhter Feroz (Consultant) ▪ There are provisions for training to the drivers and the sexual harassment issue is included among the many other topics. Hannan Biswas (Consultant) ▪ Mentioned regarding comprehensive gender focus plan which identify and mitigate SEA/SH issues in road safety project.
11	ASP Tangail	▪ The police department does not have enough capacity to ensure the road safety. Therefore, facilitating the team with proper equipment, like radar gun, breath analyzer etc. would be helpful. ▪ There is no provision for the drivers to take rests in the highway. During the long traffic congestion, sometimes the drivers fell asleep which leads to accidents sometimes. ▪ Prevention of sexual harassment at public transport; this issue should be included in our law to protect women and children while they are traveling in the public transport.	

Summarizing and Concluding the Session:

At the end of the Stakeholder Consultation Meeting, Annesha Das, EE, Environment Division, RHD summarized the key points of the session. She pointed out the key concerns and suggestions given by the participants and briefly retried in front of the participants. Later, Mohammad Jahed Hossain, SE, Social and Environment Circle, RHD concluded the session and thanked everyone for joining and contributing in the session by sharing their valuable thoughts and opinions.

Snapshot of Stakeholder Consultation


MD. Atiqur Rah...
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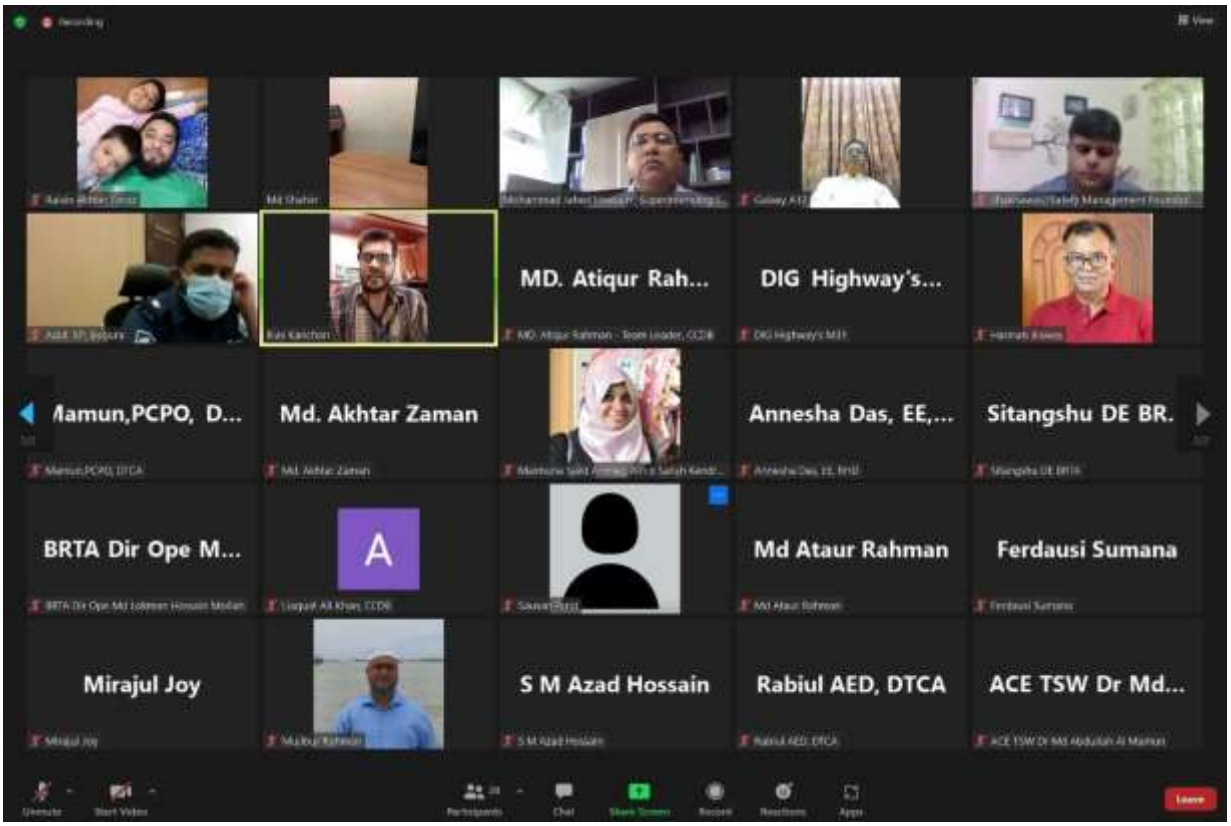
Mamun,PCPO, D...
Md. Akhtar Zama
Annesha Das, EE,...
Sitangshu DE BR...
BRTA Dir Ope M...
Md Ataur Rahman
Ferdausi Sumana
Mirajul Joy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Md. Akhtar Zaman
Annesha Das, EE,...
Sitangshu DE BR.
BRTA Dir Ope M...
Md Ataur Rahman
Ferdausi Sumana
Mirajul Joy
S M Azad Hossain
Rabiul AED, DTCA
ACE TSW Dr Md...

List of Participants

Sl. No.	Name	Designation, Department/Organization	Email ID	Telephone No.
1	Dr. Abdullah Al Mamun	ACE, Technical Wing Services, RHD	mamun89@gmail.com	
2	Mohammad Jahed Hossain	SE, SEC, RHD	jahedrhd24@yahoo.com	01819380225
3	Annesha Das Hasi	Executive Engineer, Environment Circle, RHD	annesha.buet@gmail.com	01816542513
4	Sausan Farid	Executive Engineer, Social Circle, RHD	kajoree_sausan@yahoo.com	
5	Sitangshu Biswas,	Director (Engg.), Road Safety Wing, BRTA	ssbbd@hotmail.com de@brta.gov.bd	01721503395 ,
6	Lokman Hossain Mollah	Director (Operation), BRTA		
7	Md. Rabiul Islam	Additional Executive Director (TMPTI), DTCA	rabiulrhd@gmail.com	
8	Mr. Mamun	PCPO, DTCA		
9	AIG	Highway Police, Dhaka	addlighp@police.gov.bd	01769691399
10	Md. Monibur Rahman	Additional Commissioner Traffic, DMP Bangladesh Police		
11	Sayed Hasan Noor Islam (Raston)	Ward Councilor, 32 No. Ward (Mohammadpur)	rashtonbd@gmail.com	01711101819
12	Mr. Ilias Kanchan	Chairman, Nirapad Sarak Chai (NISCHA)	nirapadsarakchai@gmail.com ilias.kanchan28@gmail.com	02-48316352; 01711303567
13	Mr. S M Azad Hossain-	Organizing Secretary, Nirapad Sarak Chai (NISCHA)	smazadh@yahoo.com	01716493089
14	Mr. Mirazul Moin Joy	International Affair Secretary, Nirapad Sarak Chai (NISCHA)	mirajjoy.mj@gmail.com	01715607855
15	Maimuna Syed Ahmed	Ain o Shalish Kendra	nihad@siaalaw.com ask@citechco.net	8100192, 8100195, 8100197, 01714025069
16	Md. Shahin	Executive Director, PATHWAY	shahin@pathwaybd.org	01777162619
17	Hazi Barakat Ullah Bhulu	Dhaka Metropolitan CNG Auto Rickshaw Association	b.ullah1961@gmail.com	01715-106005
18	Shakhawat Swapon	Founder and Chairman Safety Management Foundation	info@safetybd.org	01710264982
19	Mr. Atikur Rahman,	Team Leader, Resettlement, CCDB	info@ccdbbd.org ccdbresettlement@yahoo.com	(+880) 2-48036370-3 01711394962
20	Mr. Liakat Ali Khan	Team Leader, CCDB	ccdbresettlement@yahoo.com	01712196360
21	ASP Tangail	Bangladesh Police, Tangail		
22	Addl. SP, Bogura	Bangladesh Police, Bogura		
23	Md. Ataur Rahman			
24	Mujibur Rahman			
25	Md. Akhtar Zaman	Senior Social Development Specialist World Bank	makhtaruzzaman1@worldbank .org	01715201739
26	Ferdausi Mahojabin Sumana	Social Development Specialist World Bank	fmahojabinsumana@worldbank .org	01727400272
27	Hannan Biswas	Consultant, Social Development Specialist	biswashannan2009@gmail.co m	01711246872
28	Raisin Akhter Feroz	Consultant, Environmental Specialist	raisinakhterferoz@gmail.com	01712555517

Stakeholder Consultation Meeting - 2

(Local Level)

Bangladesh Road Safety Program

Stakeholder Consultation Meeting Minutes

Introduction:

Mohammad Jahed Hossain, SE, SEC, RHD started with meeting with a brief on what the project is, and why are we doing this project. After the introductory session, Mr. Jahed asked everyone to introduce themselves. After the introduction session, Mr. Jahed presented the details of the projects. He took 25 minutes to present the project and used ppt. After the presentation, he opened the floor and asked the representatives of the IAs and stakeholders to share their opinion. Table 1.1 summaries the meeting details, followed by a summary of the discussion by all the IAs representatives and respective stakeholders.

Meeting details in brief:

Table 1.1: Summary of the meeting logistics

Serial no.	Issues	Details
11.	Stakeholder Consultation Meeting date:	19 September, 2021
12.	Stakeholder Consultation Meeting time:	3.00 pm – 5.00 pm
13.	Meeting Platform:	Virtual Meeting via Zoom Note: The entire meeting was recorded and saved for future reference
14.	Presentation of the - Project Details - Environmental and Social risks and its management - Other related details	A PowerPoint presentation was done by the Mohammad Jahed Hossain, SE, SEC, RHD in the beginning of the session, which summarized all the necessary details of the project that the stakeholders must know.
15.	Representatives from The World Bank:	5) Akhtar Zaman, (Social Development Specialist) 6) Raisin Akhter Feroz, Consultant 7) Hannan Biswas, Consultant 8) Ferdausi Sumana, Social Development Consultant
16.	Representatives from RHD:	3) Mohammad Jahed Hossain (SE, SEC, RHD) 4) Annesha Das Hasi (EE, Environment Division, RHD)
17.	Representatives/Focal person of BRTA:	There was no Focal Person of these IAs from their Dhaka Office. However, the local representatives of each department was present at the meeting.
18.	Representatives/Focal person of DTCA:	
19.	Representatives/Focal person of DGHS:	
20.	Representatives/Focal person of Bangladesh Police:	

Discussions by the Invited Stakeholders:

The participants were requested to contribute and share their perspectives in the discussion session after the presentation and brief discussions by the focal person of all the implementing agencies (IAs). The below table summarizes the discussion.

Sl.	Name of Participants	Issues Discussed	Response by IAs
1	Ali Ahmed Khan SP Highway Police Gazipur	Reasons of road accidents according to his experience: ▪ People who died in road accidents are mostly pedestrians. There is not enough foot over bridge; where it is not possible to build a foot over bridge, there can be under pass, particularly where there is market (kacha bazaar) and hospital.	

Sl.	Name of Participants	Issues Discussed	Response by IAs
		▪ Reasons of motorbike accidents: There is no separate lane for motorbikes, riders don't wear helmet, sometime motorcycles do not have license, bikers overspeed while driving. ▪ Vehicles are made of very light materials, hence when accident occurs, they can't protect the riders/passengers, and at the same time the vehicles do not remain in a condition to reuse, even after a substantial investment and restructuring. ▪ Gasoline and other fuels are not pure, sellers mix water with fuel; hence resulting in pollution and degradation of the motor quality. ▪ Low quality motor parts, when people try to get a replacement for the new one.	
2	Md. Abdur Rahim Executive Engineer RHD, Natore	Reasons of road accidents according to his experience: ▪ When high moving vehicles try to overtake the slow-moving vehicle, accidents happen; ▪ BRTA needs to arrange training for drivers; ▪ Need to build rest area for the drivers. This has to be ensured that, the drivers do not drive more than a particular hour and they must rest after that. We have seen that the drivers fall asleep when they drive at night. ▪ Building an automatic database for drivers to log their working hours.	
3	SMA Rakib BURO Bangladesh	▪ Need to include people from grassroot level, top-down approach doesn't work, need to have a bottom-up approach.	
4	SM Azad Hossain Nirapod Sorok Chai	▪ Presented a short survey stat: 2600 road accident happened in last 8 months, 3600 people died, 4500 people injured. ▪ Presented a case study: The breadwinner (CNG driver) died leaving his three daughters and wife behind. Now the wife is struggling to meet the end goals. ▪ Vehicles are modified from one form to another, particularly by taking parts form different vehicles which is very risky. Local representatives need to be appointed to monitor these kinds of incidents.	
5	Waliur Rahman Babu, Transport Owners Association Rajshahi	▪ Need to work on building awareness, particularly on individual basis. ▪ There should be a system to support the victims.	
6	Tonmoy Sanyal BELA	▪ Canals beside the roads are filled by RHD while building roads and highways. This is not environment friendly, because during any adverse weather, i.e.; heavy rains and flood there is high risk that the roads get damaged due to lack of water passing channel. ▪ The trees (Eucaliptus and Akashmoni) beside the roads are not environmentally friendly either. However, the RHD is planting such kind of trees along the highways; for example, the Naogaon-Rajshahi highway. ▪ The RHD does not have a citizen charter where the prepared EIA is disclosed for the public. Additionally, for some cases the EIA is not prepared also.	

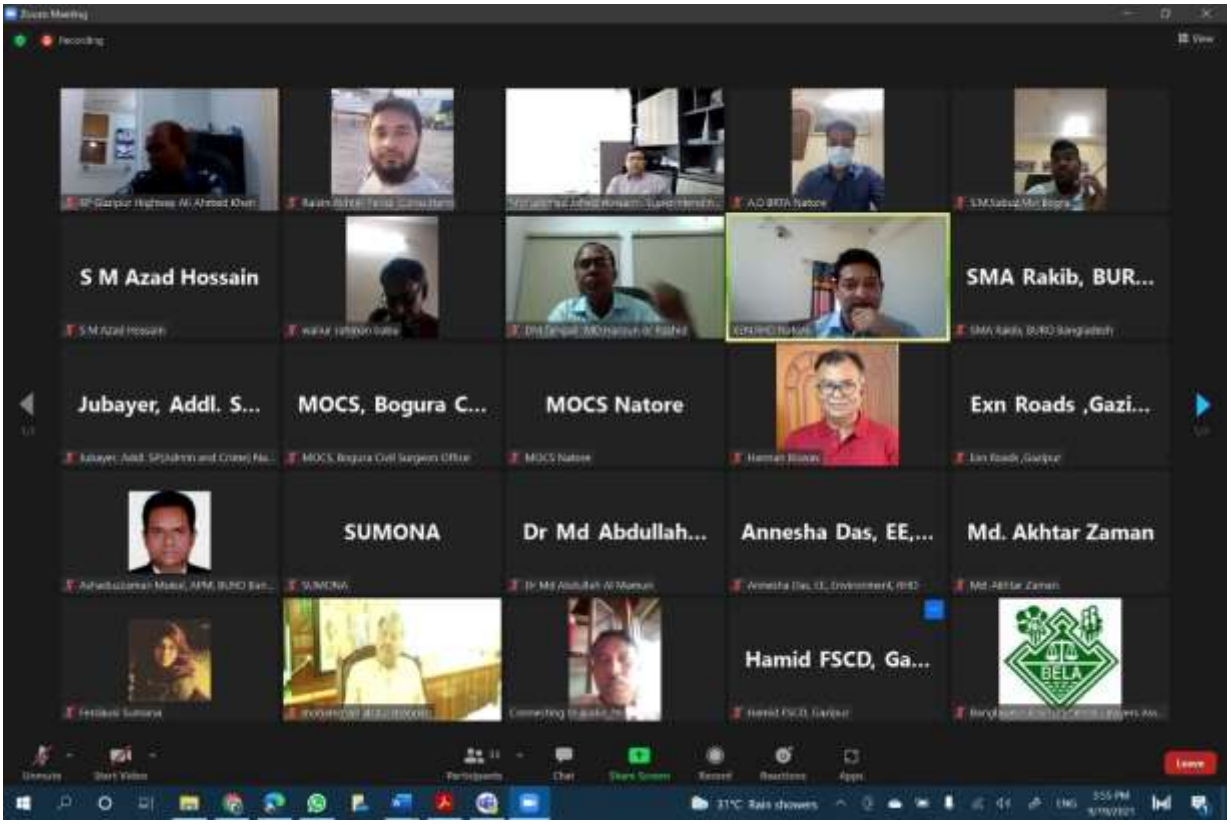
Sl.	Name of Participants	Issues Discussed	Response by IAs
7	Md. Shazzadul Haque Medical Officer Civil Surgeon Office, Bogura	▪ Field officers of the IAs, particularly highway police need to coordinate with the hospitals, so that the victim can get quick service delivery.	
8	SM Fakrul Basher	▪ He proposed separate lanes for different types of vehicles; particularly for the low weight vehicles. ▪ Road crossing should not be in several locations but it can be limited within a certain location.	
9	Mohammad Abdul Mannan Akand President Truck Owners Association Bogura	▪ Tax on heavy vehicles have gone up. This has to be reduced. ▪ Dumping vehicles and dumping sites; this has to be coordinated. For unfit vehicles, the owners should be paid some amount for the vehicles because most of the owner loose income if their vehicle is taken away. ▪ North Bengal supplies the maximum products; especially food items to each corner of Bangladesh. Therefore, the number of vehicles from this area is higher than the others. The drivers have to meet the targeted arrival time set by the owners. To meet the target the driver always in mental pressure and often do the accident. ▪ Our BRTA offices are not well equipped and they do not have adequate manpower also. For emergency cases they cannot provide support with other departments due to their lack of capacity. ▪ Police shouldn't have the right to charge a fine to the bus/truck drivers. If anybody has the right, that's magistrate. Also, when police are given this power, they exploit this opportunity, hence leading to corruption. ▪ Overloading should be checked regularly to avoid accidents. ▪ In the highway there is no rest areas and night stay areas for drivers. Therefore, the drivers have to stay on the road or they drive for a long time. This is one of the main reasons for accidents.	
10	Md. Liaqat Ali Khan Team Leader, CCDB	▪ If this project has land acquisition and resettlement, there will be victims and that has to be taken care of. ▪ NGOs working on resettlement issues need to be included in this process. ▪ Grievance redress mechanism is a crucial issue and has to be considered with priority. ▪ Need separate lane at the both sides of a highway for slow moving vehicles.	
11	Toufiq Hasan Moyna Bogura Motor Malik Somiti	▪ Requests WB & other IAs to implement the issues that will come up from the discussion. He also mentions, there have been discussions and plans but those are hardly been implemented before.	
12	Sumona Buro Bangladesh	▪ School going children need to be included and make them a part of awareness building process. ▪ Sorok Poribohon Law, 2018 need to be implemented strictly. ▪ It's difficult to ride the buses, particularly for women because the reserved women sit are really small. Hence, we take CNG/taxi instead of	

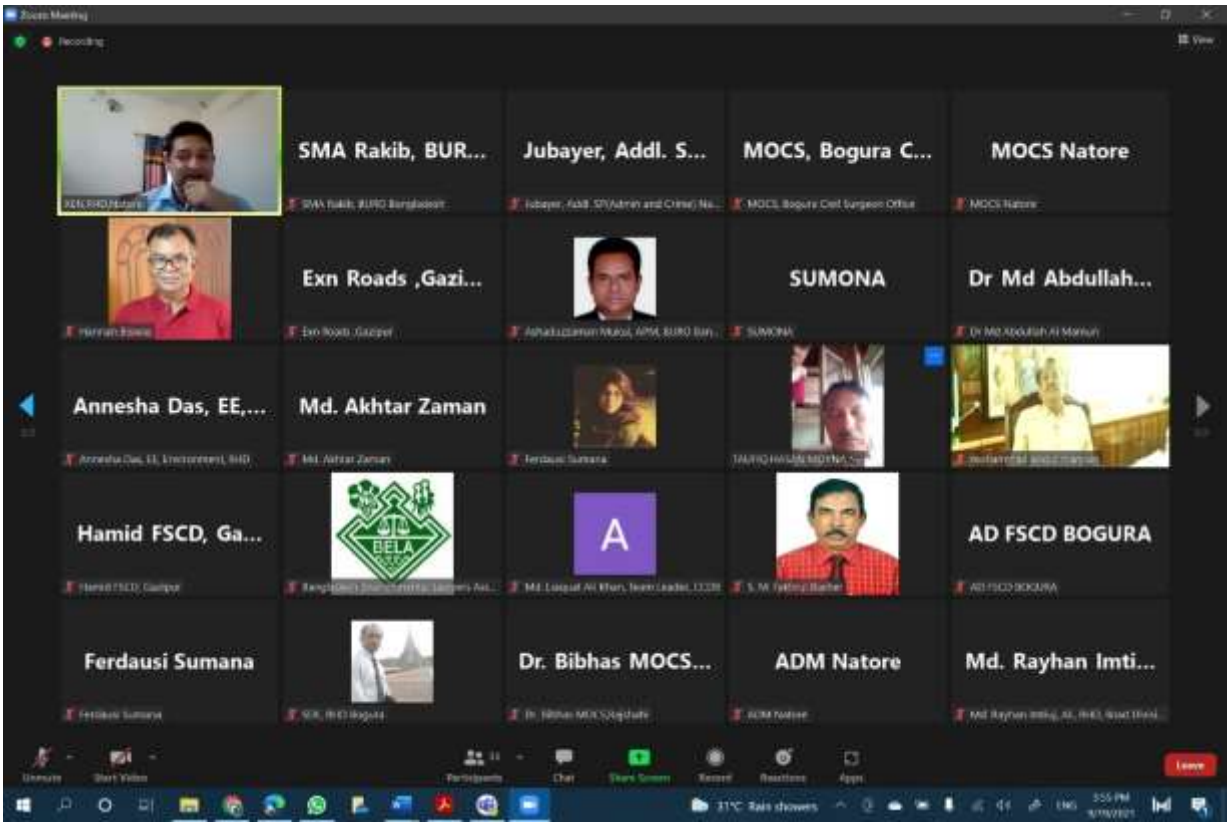
Sl.	Name of Participants	Issues Discussed	Response by IAs
		bus, but that is too risky at the highways. These issues need to be considered.	
13	Rafiul Islam SDE, RHD, Bogura	▪ Slow moving vehicles, particularly vans and rickshaws during night on highway create problem because those can't be seen from far. Hence, accident happens. ▪ Slow moving vehicles can't be stopped/removed either, because people who drive those vehicles are mostly poor and if we stop these suddenly, drivers will lose their livelihood. Rather, we can stick retro reflective lights at the end of those vehicles, so that we can see these vehicles from far. This can help to reduce accidents on highway, particularly during night. ▪ It's important to clean the connecting roads, particularly the small connecting roads from highways. Women living in that area can be given responsibilities to cut the bushes; Women empowerment! ▪ There are small shops on the connecting roads and it's difficult to recognize them from far, during night. May need to relocate or evacuate those.	
14	ADM, Natore	▪ Need to conduct research on public awareness to identity who needs awareness and how we can reduce road accidents numbers.	
15	SM Sabuz Inspector BRTA, Bogura Circle	▪ He talks about 4Es; Engineering faults, Education faults, Enforcement faults, Environmental faults. ▪ Engineering fault: how to reduce road accidents? Digitized Vehicle Inspection Center is one of the key things to focus and strengthen. Unfit vehicles need to be removed from roads as those are one of the main reasons for road accidents. He particularly focusses on VIC services, which need to be strengthened. ▪ Education fault: School going children are not learning anything about road safety issues through their text books. If we can include topics related to road safety in text books, children will take it more seriously. Need to include this in school curriculum. ▪ Enforcement fault: Overloaded vehicles are on road and there is no way to inspect this. Followings can be done: - Categorization of license deepening on their weight - Strictly monitoring vehicles' weight. ▪ Environmental fault: Fog during winter causes a huge problem and causes accidents. We need to find out proper way to resolve/mitigate this.	

Summarizing and Concluding the Session:

At the end of the Stakeholder Consultation Meeting, Annesha Das Hasi, EE, Environment Division, RHD summarized the key points of the session. She pointed out the key concerns and suggestions given by the participants and briefly retried in front of the participants. Later, Dr. Md. Abdullah Al Mamun, ACE, Technical Services Wing, RHD concluded the session and thank everyone for joining and contributing in the session by sharing their valuable thoughts and opinions.

Snapshot of Stakeholder Consultation





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