Government of the People's Republic of Bangladesh

Ministry of Shipping

Bangladesh Regional Connectivity Project 1

(Proposed for World Bank Assistance)

Environmental Management Framework

Bangladesh Land Port Authority (BLPA)

October 2016

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List of Acronyms

BDT	Bangladesh Taka
BLPA	Bangladesh Land Port Authority
BP	Bank Policy
CSC	Construction Supervision Consultant
CCTV	Closed Circuit Television
DoE	Department of Environment
EA	Environmental Assessment
ECA	Environmental Conservation Act; Ecologically Critical Areas
ECC	Environmental Clearance Certificate
ECoP	Environmental Code of Practice
ECR	Environment Conservation Rules
EHS	Environmental Health and Safety
EIA	Environmental Impact Assessment
EMF	Environmental Management Framework
EMP	Environmental Management Plan
ESIA	Environmental and Social Impact Assessment
E&S	Environmental and Social
FGD	Focus Group Discussions
GoB	Government of Bangladesh
GRM	Grievances Redress Mechanism
GRC	Grievances Redress Committee
ICT	Information and Communication Technology
IDA	International Development Association
IEE	Initial Environmental Examination
IUCN	International Union for Conservation of Nature
LC	Land Customs
LGED	Local Government Engineering Department
MOEF	Ministry of Environment and Forest
MoS	Ministry of Shipping
NE	North Eastern
NOC	No Objection Certificate
NGO	Nongovernmental Organization
NSW	National Single Window
OP	Operational Policy
O&M	Operation and Maintenance
PD	Project Director
PIU	Project Implementation Unit
PM	Particulate Matter
RAP	Resettlement Action Plan
RPF	Resettlement Policy Framework
t	Metric ton or tonnne
ToR	Terms of Reference
USD	US Dollars
VOC	Volatile Organic Compounds
WB	World Bank
WBG	World Bank Group
WHO	World Health Organization
WTO Cell	World Trade Organization Cell

EXECUTIVE SUMMARY

Introduction

The Bangladesh Regional Connectivity Project 1 is the proposed Project by the Government of Bangladesh (GoB) to lower time and costs associated with trade and improve infrastructure and conditions for trade along strategically important regional transport corridors. The components of this project are:

- Component 1: Investments in infrastructure, systems and procedures to modernize key land ports essential for trade with India and Bhutan. Bangladesh Land Port Authority (BLPA) is the implementing agency for this component.
- Component 2: Enhance trade sector coordination and productive capacity ((managed by Ministry of Commerce, WTO Cell). This component consists of: Developing (pilot) programs to support female traders and entrepreneurs; Capacity development support for the National Trade and Transport Facilitation Committee; and Improvements to Bangladesh Trade Portal and setting up a National Enquiry Point for Trade.
- Component 3: National Single Window Implementation and Strengthening Customs Modernization.

Environmental Assessment

The key component of this Project that has potential environmental impacts is Component 1, which aims to develop port infrastructure. The land ports proposed for development include: (i) upgrading of existing Bhomra land port, (ii) developing a new land port at existing Sheola land customs station, and (iii) development of one more land port, which is yet to be determined (likely to be a new land port at Ramgarh). In addition, security infrastructure at Benapole land port will be improved including construction of a perimeter fence and installation of a gate pass system, and CCTVs. Environmental assessment (EA) of the Project has been carried out using a framework approach since some of the proposed subprojects are yet to be identified, including the third land port in Component 1 The present Environmental Management Framework (EMF) is developed to (i) ensure all relevant environmental issues are mainstreamed into the design and implementation of the proposed subcomponents or subprojects, (ii) ensure compliance of the Project with national and World Bank requirements, and (iii) guide conducting detailed EIAs for the subprojects where required. This EMF is applicable for the whole project covering all 3 components. For purposes of developing this EMF, the two initial proposed land ports at Bhomra and Sheola; and the anticipated land port at Ramgarh have been screened, to understand the range of potential environmental impacts and risks that may be associated with their development, and in turn to design appropriate procedures, systems and generalized management requirements that will apply to these or other land ports to be developed or upgraded under the project. Feasibility study for Bhomra and detailed designs for Sheola are in progress, including draft EIAs which are being prepared based on this EMF.

Policy and Regulatory Framework

The Environmental Conservation Act (ECA) of 1995 is the main legislative framework related to environmental protection in Bangladesh. In accordance with this Act, the development of land ports under Component 1a will need to be cleared by Department of Environment (DoE) before commencing the project following procedures given in the Environment Conservation Rules (ECR) 1997. ECR divides the projects in to various categories for the purpose of environmental clearances. Development or upgradation of land ports are not included in any of these categories. However, considering the previous experience of BLPA on obtaining environmental clearances for other land ports and consultations with the DOE, it can be expected that development of new land ports or upgradation of existing land ports will fall in to 'Orange B' category.

Among the World Bank Safeguards, from an environmental perspective, the Environmental Assessment (OP/BP 4.01) is triggered. This Project falls into Category B since most of these impacts are site specific and can be mitigated with standard mitigation measures. Environmental Impact Assessment (EIA) reports and related social safeguard instruments will be prepared for each land port in compliance with this policy. Further, public consultation and disclosure requirements of the World Bank will be complied.

Proposed Developments at the Land Ports

Typical facilities to be built at each of land ports include: (i) port facilities such as administrative building, ware houses, transshipment Sheds, open stack yards, and Bangladesh and India truck terminals; (ii) service areas such as barrack, dormitory, restaurant, substation/generator and fuel house, and mosque; (iii) infrastructure facilities such as fencing/boundary wall, road network, drains, footpath, parking, and landscaping; (iv) electrification works such as area lighting, boundary wall lighting, footpath lighting, road lighting, substation equipment and diesel generator, and solar power; (v) water supply and sanitation works such as water supply and sanitation facilities including water treatment and sewage treatment facilities; and (iv) safety and security facilities such as fire protection and detection, CCTV system, intruder alarm system, car park management, access control system, physical security, and watch towers. The facilities shall specifically incorporate the needs of women users (such as toilet facilities for women, women-only waiting rooms) and differently abled users, and address safety-related issues for all users.

Environmental Setting

Bhomra Land Port: Bhomra land port is an existing facility located 75 km from Khulna opposite the town of Ghojadanga in India, approximately 100 km from Kolkata. Once the Padma Bridge[1] is completed, it will be on the shortest route from Kolkata to Dhaka. The land port is operated by BLPA and was opened in May 2013. Generally, topography of the area is plain with some low lying lands at some locations. The port surrounding areas are located with commercial areas, road side shops and agricultural areas. All these areas are modified habitats and no natural habits are located in the port's area of influence. Generally, topography of the area is plain with some low lying lands at some locations. A stream (Khumra Khal) is located along the border, about 600 m away from the land port. Since the stream is located on a slightly higher elevation than the port area, there is no natural drainage available and water stagnation was noticed in some areas in the port. Ichamati river is located about 3 km south-western side of the port. The port and surrounding areas are highly polluted by the road dust. Unpaved sidewalks and transshipment yards are the major sources of dust. The access roads near the border area also not paved. The current (2014-2015) annual amount of exports at this port is about 58,000 tonnes, and imports is about 1.80 million tonnes. About 500 to 600 Indian trucks cross into Bangladesh every day, and 20 to 25 Bangladesh trucks enter India.

Sheola Land Port: The proposed Sheola Land Port will be developed around the existing Sheola Land Customs (LC) Station at Borogram. The distance of Sheola Land Customs station from Biyanibazar Upazila Parishad is 13km and 45km from Sylhet district headquarter. Some part of proposed port site is located in a flood plain. The site is flooded with water during rainy season and during dry season it is used to park the trucks and for temporary storage area for the imported coal. A small rainwater drain (stream) is located adjacent to the port site. The Kushiara river is located about 3 km north of the site; and Muriha Haour (an inland drainage basin) is located 3 km south of Sheola. The current annual amount of exports at this station is 131 tonnes and imports is 43 tonnes. The current traffic levels are about 20 trucks per day.

Ramgarh Land Port: The proposed Ramgarh land port site is located at the southeast border of Bangladesh in Ramgarh sub district of Khagrachari Hill district in the Chittagong Hill Tracts; about 100 km from Chittagong port via existing good quality regional roads. The site is located adjacent to the

[1] The upgrading of Bhomra land port does not depend on construction of Padma Bridge.

River Feni, which forms the border with India. Ramgarh was declared as Land Customs Station, but the operations are yet to commence. Currently there are no existing facilities and no formal trade. The areas proposed for port development are currently located in an agriculture land. The Ramgarh town is located about 2 km from the port site. A border security force hostel is located near the land port site.

Screening of Environmental Impacts

Bhomra Land Port: A summary of the potential impacts associated with existing operation of Bhomra land port and proposed development are given below along with potential mitigation measures:

- Dust is the major concern at the Bhomra port for both port workers and surrounding communities. Dust control measures will be considered during design of the facilities. These could include, for example, concrete pavement of transhipment yard, pavement of unpaved roads and sidewalks, dust suppression through water sprays or covered storage areas; sweeping/vacuum collecting equipment, etc.
- Water logging conditions are noticed in Bhomra port. Hence storm water drains are to be designed.
- There are no waste collection mechanism and disposal facilities available at the port. Waste collection and disposal facilities will be developed.
- There are no separate facilities for women travelers/traders at the port and hence they will be established.
- There are complaints about drinking water quality supplied to the offices and yards; and toilet facilities of workers are also not being properly maintained. Safe drinking water and sanitation facilities for workers and truck drivers are to be established and maintained.
- Unregulated commercial and residential development is noticed around the Bhomra port and hence municipal land use zoning needs to be developed to restrict unplanned developments around the port facilities.

Sheola Land Port: A summary of the potential impacts associated with the proposed development are given below along with potential mitigation measures:

- Some part of the proposed site is located in a flood plain land and hence filled with water during monsoon season. An inland water basin, Muriha Haour, is located 3 km south of Sheola. Generally, flood plains are fish spawning areas and haours are the fish habitats. Care will be taken to avoid waste water runoff from proposed port facilities to Muriha Haour.
- Residences are located near the proposed port site. Hence dust and noise would be a major concern during the operation phase. Adequate noise control measures such as developing buffer zones around the port facilities will be considered during the design of the port. Dust control measures also will be considered during design of the facilities.
- A rainwater drain (channel) passes through the site, which carries rain water during monsoon and has a limited catchment area. The channel alignment is not straight, and has a bend and therefore channel erosion is noticed along the banks. Bank protection measures are required to control the erosion. The port site will be developed above the 100-year flood level and will consider the climate change impacts.

Ramgarh Land Port: A summary of the potential impacts associated with the proposed development are given below along with potential mitigation measures:

- The Feni river located adjacent to the land port and is susceptible to pollution from the discharges of the port facilities. Adequate storm water drainage and waste water discharge facilities will be designed to avoid any pollution of the river waters. The port site

will be developed above the 100-year flood level and will consider the climate change impacts.

- An ashram (hermitage), a culturally important area is located near the proposed port area. To minimize dust and noise pollution on this area, adequate control measures such as developing buffer zones around the port facilities will be considered during the design of the port.

Environmental Management Plan

The Environmental Management Plan details of further tasks to be carried out and various plans to be prepared for all components of the Project. The Component 1 (Investments in infrastructure, systems and procedures to modernize key selected land ports) of the Project only needs special attention and various environmental management plans need to be prepared for this component during preparation of EIA and its implementation. For security improvement investments at Benapole, and any other minor land port related investments which do not require a separate EIA and detailed site-specific EMP based on screening (for example, investments such as retrofitting of existing buildings, installation or upgrading of perimeter gates and fences, installation of security cameras, etc.), contractors will be required to apply applicable standard Environmental Codes of Practice (ECoPs) for construction management (see Annex 3). Detailed ESIA studies to be carried out for each subproject and clearance of the World Bank and DOE will be obtained before their implementation. Studies carried out under Component 1C related to future investments on enhanced connectivity to the land ports will also be completed in accordance with applicable World Bank and national standards, including consultations and public disclosure.

Institutional Arrangements

BLPA will establish a Project Implementation Unit (PIU) for implementation of the Project. The PIU will include an Environmental and Social Cell (E&S Cell) with adequate environmental and social staff for overall supervision of implementation of EMF and RPF. PIU will engage services of consultants to conduct EIAs for sub-projects. The Supervision Consultants and Contractors will have Environmental and Social Specialists to supervise and implement EMP/RAP. BLPA will also establish a project level Grievance Redress Mechanism (GRM) based on its existing institutional mechanism.

The total budget for EMF implementation under this project has been estimated as USD 3.0 Million. Detailed cost estimates will be prepared during EIA studies of sub-projects.

Consultation and Disclosure

A national level public consultation workshop was held in Dhaka on August 10, 2016 with all the relevant stakeholders, including the local communities, to share the results of draft EMF and invite feedback and input from the stakeholders. The draft EMF and RPF have been disclosed in BLPA website on August 1, 2016 and will also be sent to WB Infoshop. The EIA and RAP documents to be prepared for proposed land ports will also be disclosed on the BLPA website and also will be made available to the local communities by placing them at existing customs offices or land port offices.

1. INTRODUCTION

The Bangladesh Regional Connectivity Project 1 is the proposed Project by the Government of Bangladesh (GoB) to lower time and costs associated with trade and improve infrastructure and conditions for trade along strategically important regional transport corridors. The Project has three components. The Component 1 will include Investments in infrastructure, systems and procedures to modernize and improve connectivity of key land ports essential for trade with India and Bhutan. The Component 2 includes support coordination for trade, and economic empowerment opportunities for women. Component 3 implements a national single window to improve international trading performance and customs modernization. This Environmental Management Framework (EMF) presents the environmental assessment of the Project. A Resettlement Policy Framework (RPF) has also been prepared for the Project and is presented in a separate cover.

1.1 Background

Geographically, Bangladesh is well located to play an important role in the South Asia region as a logistics and transit country. It can facilitate movements between several surrounding countries especially between mainland India and its North East (NE) Region states, and landlocked Nepal and Bhutan as well as overland trade flows between South Asia and Myanmar and the rest of East Asia. Thus the land ports are strategically important for bilateral trade flows and through transit traffic movements across the region. Of the various flows, the greatest potential lies in the traffic moving between Northeast India and the rest of India. According to 2009 estimates, more than 40 million tonnes of traffic move annually through the Siliguri Corridor (a 40 km corridor located between Nepal and India, also known as the Chicken's Neck) between Northeast India and the rest of India. In addition, about another one million tonnes also move between Kolkata, and Nepal and Bhutan. There is therefore potential that in addition to current bilateral flows, the Bangladesh borders could handle a significant proportion of the more than 41 million tonnes of traffic (Table 1.1). These numbers reflect the current difficult long transit route and do not reflect the enormous trade volumes that could increase should a more direct transit route through Bangladesh be facilitated.

Table 1.1: Major Regional Trade Flows in the NE Region of South Asia Region

Trade flow	Volume (million tonnes)
Rest of India – NE States	38.5
NE States – Rest of India	2.35
Nepal/Bhutan – Kolkata	0.92
Total	41.8

Source: Government of Bangladesh, 2011

In order to improve key multi-modal transport corridors and networks that would address current transport bottlenecks for trade and help boost national, regional and international trade for Bangladesh, the World Bank is providing a Recipient-Executed Trust Fund (RETF) Grant to the Government of Bangladesh (GoB) to finance economic, financial, technical, environmental and social safeguards studies and technical assistance for Trade and Transport Facilitation, including dredging of priority inland waterways; provision of vessels, navigational aids, and safety equipment and improvement of selected river ports along priority waterways; and improving selected key priority border posts and their last mile connectivity. These interventions are expected to facilitate domestic trade, international trade with third countries, as well as regional trade with neighboring countries including India, Nepal and Myanmar. This EMF is prepared under this RETF.

1.2 The Proposed Project

The proposed 'Bangladesh Regional Connectivity Project 1' (the Project) aims to improve infrastructure and conditions for trade along strategically important regional transport corridors. The Project will develop three land ports (subprojects). Initially, a new land port in Sheola has been proposed, along with upgrading of the existing land port at Bhomra. The third land port is will be determined during the course of project implementation. The third land port will likely to be Ramgarh land port, but will be finalized after an official agreement with India. At all financed land ports, investments will also strengthen facilities for women traders and various agencies involved in customs clearance.

The World Bank is considering financing of this Project. The implementing agency for this project is Bangladesh Land Port Authority (BLPA). The objective of the Project is to lower trade transaction costs associated with complying with government regulatory requirements for import and export activities; reduce border crossing times at selected border crossing points; and enhance connectivity for trade along strategically important regional transport corridors. The expected outcomes of the Project are: (i) reduction in border crossing time at existing land ports targeted by the Project, (ii) increased cross-border trade flows at greenfield land ports targeted by the Project, (iii) enhanced connectivity between economic centers in Bangladesh and NE India states, and (iv) reduction in the time required to comply with regulatory requirements associated with import/export activities.

The Project has three subcomponents, which are described in Chapter 3. The key component of this project that has potential environmental impacts is Component 1, which aims to develop port infrastructure. The land ports proposed for development include: (i) upgrading of existing Bhomra land port, (ii_ developing a new land port at existing Sheola land customs station, and (iii) one more land port to be determined. In addition, security infrastructure at Benapole land port will be improved including construction of a perimeter fence and installation of a gate pass system, and CCTVs. For purposes of developing this Environmental Management Framework, the two initial proposed land ports at Bhomra and Sheola, and anticipated land port at Ramgarh have been screened, to understand the range of potential environmental impacts and risks that may be associated with their development, and in turn to design appropriate procedures, systems and generalized management requirements that will apply to these or other land ports to be developed or upgraded under the project. Locations of these subprojects are shown in Figure 1.1. Sheola is located between eastern side of Bangladesh and North East India; while the Bhomra is located on western border of Bangladesh. Ramgarh is located on the southeast border of Bangladesh. If any of these land ports are developed, this framework also includes site-specific screening of relevant environmental, health and safety issues.

1.3 Environmental Assessment of the Project

Environmental assessment (EA) of the Project has been carried out using a framework approach since some of the proposed subprojects are yet to be identified, including the third land port in Component 1. An Environmental Management Framework (EMF) and Resettlement Policy Framework (RPF, which is presented under a separate cover) have been developed to:

(i) ensure all relevant environmental and social issues are mainstreamed into the design and implementation of the proposed land ports,
(ii) consider in an integrated manner the potential environmental and social risks, benefits and impacts of the proposed subprojects and identify measures to avoid, minimize and manage risks and impacts while enhancing benefits,
(iii) ensure compliance with national and World Bank requirements, and
(iv) guide conducting the detailed EIAs of the subprojects where required.

This EMF presents detailed guidelines for carrying out EA (including EMP) of subprojects. These guidelines cover: (i) Environment Screening (identification of possible impacts) (ii) Description of

baseline environment around the proposed port facilities; (iii) identification of major sub-project activities during both construction and operational phases; (iv) assessment, prediction and evaluation of impacts of project activities on the baseline environment; (v) carrying out public consultations; (vi) preparation of environmental codes of practice (ECoPs); and (vii) identification of mitigation measures and preparation of an environmental management plan (EMP) including monitoring requirements.

1.4 EMF Study Methodology

This EMF has been prepared by the BLPA[2] and submitted to the World Bank for the project.

The methodology followed in preparing the EMF consists of the following steps:

- Review of available details of the subprojects and meeting/discussions with various stakeholders including local communities
- Review of the policy and regulatory requirements
- Reconnaissance field visit and initial scoping and screening of the identified proposed investment sites to determine the key environmental parameters and aspects that are likely to be impacted by the project activities. The purpose of such screening is to get a preliminary idea about the degree and extent of potential environmental impacts of a particular sub-project, which would subsequently be used to assess the need for and scope of further detailed environmental assessment. Screening details are provided in Chapter 5.
- Consultations with the stakeholders including beneficiary/affected communities and developing the consultation process
- An initial assessment of the potential and likely impacts of the project activities
- Prepare an outline environmental management plan
- Compilation of the present EMF.

1.5 Contents of the EMF Report

Chapter 2 reviews the prevailing WB policies and national regulatory requirements relevant to environmental assessment. Chapter 3 presents a simplified description of the project, its various components and other salient information relevant for environmental assessment. Description of the baseline environmental conditions is presented in Chapter 4. Screening and assessment of potentially environmental issues as well as the appropriate mitigation measures to address these negative impacts have been discussed in Chapter 5. Chapter 6 presents the outline of the environmental management plan (EMP). Finally, Chapter 7 describes the consultations that have been carried out with the stakeholders and also the requirements of similar consultations to be carried out while conducting the EIAs of the subprojects.

[2] BLPA engaged services of Dr. Venkata Nukala, an individual environmental consultant of Ministry of Shipping of GoB.

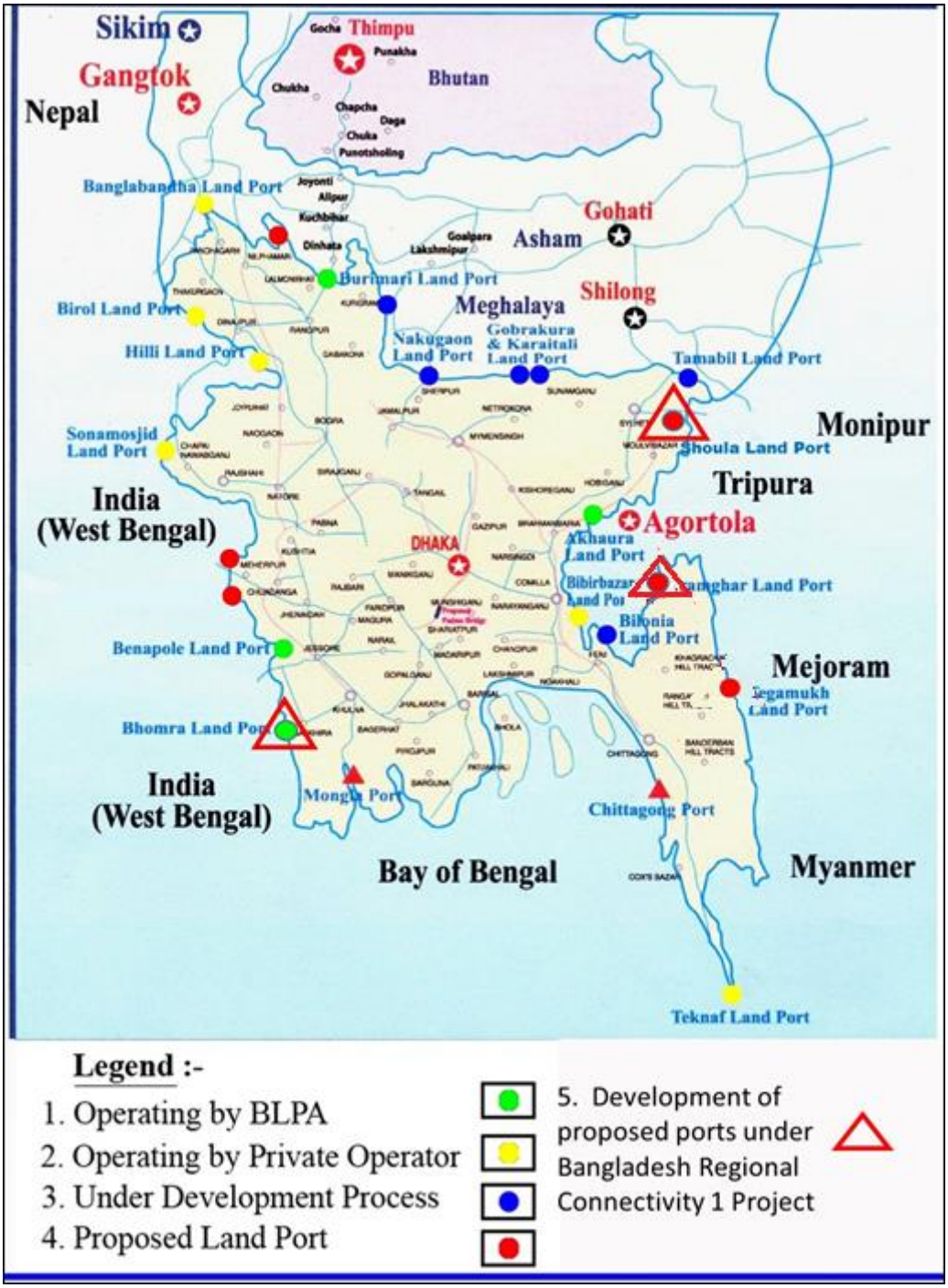

Figure 1.1: Locations of Proposed Land Ports to be developed by the Project

2 Policy and Regulatory Framework

2.1 Applicable Legislation and Policies in Bangladesh

Bangladesh Environmental Conservation Act, 1995 and amended in 2010: The Environmental Conservation Act (ECA) of 1995 is the main legislative framework related to environmental protection in Bangladesh. This umbrella Act includes laws for conservation of the environment, improvement of environmental standards, and control and mitigation of environmental pollution. This Act has established the Department of Environment (DoE), and empowers its Director General to take measures as he considers necessary which includes conducting inquiries, preventing probable accidents, advising the Government, coordinating with other authorities or agencies, and collecting and publishing information about environmental pollution. According to this act (Section 12), no industrial unit or project shall be established or undertaken without obtaining, in a manner prescribed by the accompanying Rules, an Environmental Clearance Certificate (ECC) from the Director General of DoE. In accordance with this Act, the proposed Project will need to be cleared by DoE before commencing the project following procedures given in the Environment Conservation Rules (ECR) 1997 (discussed below).

Other Relevant Acts, Laws and Rules in Bangladesh: Other legislation relevant to the proposed project are listed below.

- **Bangladesh Environment Conservation Rules (ECR), 1997** empowers the GoB to declare ecologically critical areas, classification of industries and projects into various categories, procedures for issuing the environmental clearance certificate, and determination of environmental standards. According to the Rule 7 (1) of the Environmental Conservation Rules 1997; for the purpose of issuance of Environmental Clearance Certificate (ECC), every industrial units or projects, in consideration of their site and impact on the environment, will be classified into the four categories and they are: Category I (green), Category II (Orange-A), Category III (Orange B) and Category IV (Red). Development or upgradation of land ports are not included in any of these categories.
- **Bangladesh Wildlife (Protection and Safety) Act 2012** protects 1,307 species of plants and animals; and mandates imprisonment and fines for wildlife poaching, capturing, trapping, and trading. There is a risk that construction workers will kill the wildlife. Mitigation measures to address these risks are covered in EMF.
- **Bangladesh Wildlife (Preservation) Order (1973) and Act (1974)** regulates the hunting, killing, capture, trade and export of wild life and wild life products. It designates a list of protected species and game animals. It empowers the Government to declare areas as game reserves, wildlife sanctuaries, and national parks to protect the country's wildlife. Mitigation measures to address impacts on wildlife are covered in EMF.
- **The Bangladesh Labor Act, 2006** provides the guidance of employer's extent of responsibility and workmen's extent of right to get compensation in case of injury by accident while working. Mitigation measures to address workers' health and safety are included in the EMF.

2.1.1 Implication of GoB legal and regulations on the Proposed Project

The legislations relevant for environmental assessment for development of land ports are the Environmental Conservation Act 1995 (ECA'95) and the Environmental Conservation Rules 1997 (ECR'97). Department of Environment (DoE), under the Ministry of Environment and Forest (MoEF), is the regulatory body responsible for enforcing the ECA'95 and ECR'97.

Development or upgradation of land ports are not included in any of these categories mentioned in ECR 97. However, considering the previous experience of BLPA on obtaining environmental clearances for other land ports and scope of works involved in those ports, it can be expected that development of new land ports or upgradation of existing land ports will fall in to 'Orange B' category. However final decision on categorization will solely depend on the DOE based on their review of EA documents.

It is the responsibility of the BLPA as a proponent to conduct an environmental assessment of development proposal, the responsibility to review this assessment for the purpose of issuing Environmental Clearance Certificate rests on DoE. Based on consultation with DOE, the development of land ports are expected to be categorized as "Orange" and hence BLPA will submit the following documents to DOE:

- An Initial Environmental Examination (IEE)
- An Environmental Management Plan (EMP)

On review of the above documents, the DOE will give the environmental clearance for the Project. If the DOE, based on the review of the above documents, deduce that the Project will fall in to "Red Category", the BLPA will need to submit the following additional documents:

- An Environmental Impact Assessment (EIA)
- An Environmental Management Plan (EMP)

The environmental clearance procedure for both Orange and Red Category projects can be summarized the Figure 2.1.

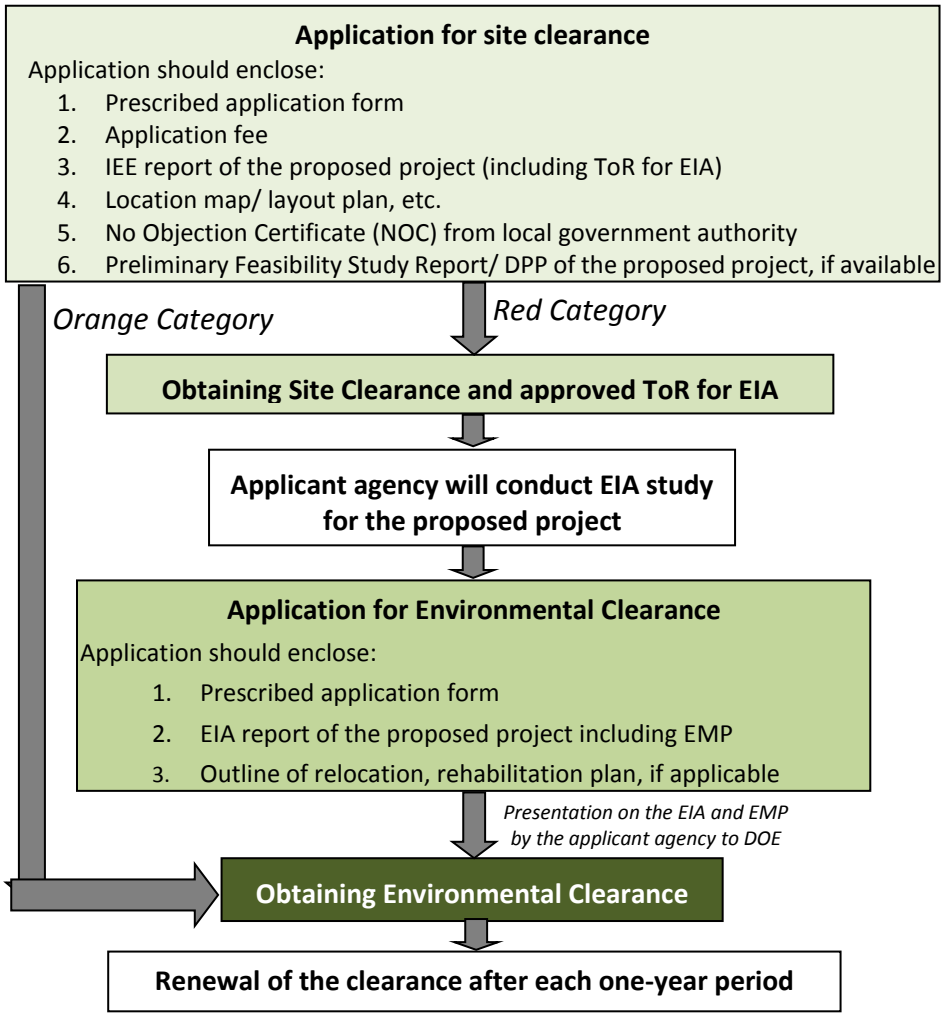

Figure 2.1: Process of obtaining Clearance certificate from DoE

2.2 International Treaties signed by Bangladesh

Bangladesh is a signatory to a number of international environment-related treaties, conventions, declarations and protocols. The following are the relevant international treaties and conventions to which Bangladesh is a party:

- Convention of Biological Diversity, 1992 (Biodiversity convention – Rio de Janeiro). The Convention has three objectives: the conservation of biological diversity, the sustainable use of its components, and the fair and equitable sharing of the benefits arising out of the utilization of generic resources. All parties are required to cooperate for the conservation of biodiversity, in respect of areas beyond national jurisdiction and other matters of regional interests, and must develop national strategies for the conservation and sustainable use of biodiversity and integrate this into sectoral or cross-sectoral guidelines.
- 1974 Convention on Wetlands of International Importance especially as Waterfowl Habitat (RAMSAR). The Convention requires states to designate at least one wetland site on the basis of its ecology, biology, zoology, limnology or hydrology and requires the conservation of wetlands by establishing nature reserves. There is also a requirement that any loss of wetland should be compensated for by creation of new habitat.
- United Nations Framework Convention on Climate Change, Rio de Janeiro (1992). The convention is broadly applicable due to project construction and operation activities. Mitigation measures to address greenhouse gases emissions are covered in the EMF;
- Vienna Convention for the Protection of the Ozone Layer, Montreal (1987). Mitigation measures to address greenhouse gases emissions are covered in the EMF;
- Convention on Conservation of Migratory Species of Wild Animals (1979). Migratory birds visit the project areas and mitigation measures to address impacts on migratory birds are included in the EMF;
- Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), Washington (1973). This is not directly relevant to the project since the project does not involve in any international trade of endangered species of wild fauna and flora. General restrictions have however been included in the Environmental Code of Practice;
- Convention concerning the Protection of World Culture and Natural Heritage (World Heritage Convention) (1972). Though directly not applicable to the project since there are no known such sites are located in the project area – measures to address chance finds are included in the EMF; and
- Kyoto Protocol (1997) and Copenhagen Accord (2009) on climate change. Mitigation measures to address greenhouse gases emissions from the project activities are included in the EMF.
- The Minamata Convention on Mercury (2013) to protect human health and the environment from anthropogenic emissions and releases of mercury and mercury compounds. This Convention was a result of three years of meeting and negotiating, after which the text of the Convention was signed by delegates from 140 countries on 19 January 2013. According to this convention, the trade related to mercury containing products will not be allowed through the land ports.
- The Paris Agreement (2015) is an agreement on climate change dealing with greenhouse gases emissions mitigation, adaptation for holding the increase in the global average temperature to well below 2 °C above pre-industrial levels and to pursue efforts to limit the temperature increase to 1.5 °C above pre-industrial levels, recognizing that this would significantly reduce the risks and impacts of climate change. This agreement may be applicable to the project because use of emissions related to the construction and operation of land ports.

2.3 World Bank Safeguard Policies

The World Bank has developed a number of Safeguard Policies to ensure that all possible impacts are considered and mitigation measures are spelled out prior to the implementation of any proposed project. These policies ensure that the quality of operations is uniform across different settings worldwide. If the decision is taken that a Safeguard Policy should be applied, mitigation measures and plans must be developed and in place before the implementation of a proposed project.

The Bank requires environmental screening and classification for all investment projects proposed for Bank financing, to help ensure that they are environmentally and socially sound and sustainable. Screening and classification take into account the natural environment (air, water, and land); human health and safety; social aspects (including especially involuntary resettlement and presence of Indigenous Peoples); cultural property; and trans-boundary and global environmental aspects.

The objectives of environmental screening and classification are: to evaluate the environmental risks associated with a proposed operation; to determine the depth and breadth of Environmental Assessment (EA); and to recommend an appropriate choice of EA instrument(s) suitable for a given project. The Bank recognizes that environmental screening and classification is not absolute and involves professional judgment on a case by case basis. When screening, careful consideration needs to be given to potential environmental impacts and risks associated with the proposed project. Judgment is exercised with reference to the policy expectations and guidance; real impacts on the ground; and established regional and Bank-wide precedence and good practice.

The applicable WB safeguard policies are described below. In the following section, a table is provided indicating how each policy applies to the proposed investments.

2.3.1 Environmental Assessment (OP/BP 4.01)

EA requirement. The World Bank requires environmental assessment (EA) of projects proposed for Bank support to ensure that they are environmentally sound and sustainable, and thus to improve decision making. The Bank Policy OP/BP 4.01 considers that EA is a process whose breadth, depth, and type of analysis depend on the nature, scale, and potential environmental impact of the proposed project. EA evaluates a project's potential environmental risks and impacts in its area of influence; examines project alternatives; identifies ways of improving project selection, siting, planning, design, and implementation by preventing, minimizing, mitigating, or compensating for adverse environmental impacts and enhancing positive impacts; and includes the process of mitigating and managing adverse environmental impacts throughout project implementation. EA takes into account the natural environment (air, water and land); human health and safety; social aspects (involuntary resettlement, indigenous peoples and physical cultural resources); and trans-boundary and global environmental aspects. The Bank Policy also envisages that the borrower Government is responsible for carrying out the EA and the Bank advises the borrower on the Bank's EA requirements.

EA classification. The World Bank classifies the proposed project into one of the four categories, depending on the type, location, sensitivity, and scale of the project and the nature and magnitude of its potential environmental impacts. These categories are defined below.

- ***Category A:*** A proposed project is classified as Category A if it is likely to have significant adverse environmental impacts that are sensitive, diverse, or unprecedented. These impacts may affect an area broader than the sites or facilities subject to physical works.
- ***Category B:*** A proposed project is classified as Category B if its potential adverse environmental impacts on human populations or environmentally important areas--including wetlands, forests, grasslands, and other natural habitats--are less adverse than those of Category A projects.
- ***Category C:*** A proposed project is classified as Category C if it is likely to have minimal or no adverse environmental impacts. Beyond screening, no further EA action is required for a Category C project.

- ***Category FI***: A proposed project is classified as Category FI if it involves investment of Bank funds through a financial intermediary (FI), in subprojects that may result in adverse environmental impacts.

2.3.2 Natural Habitats (OP 4.04)

The Policy highlights the importance of conservation of natural habitats, like other measures that protect and enhance the environment, for long-term sustainable development. The Bank therefore supports the protection, maintenance, and rehabilitation of natural habitats and their functions in its economic and sector work, project financing, and policy dialogue. The Bank also supports, and expects borrowers to apply a precautionary approach to natural resource management to ensure opportunities for environmentally sustainable development. The Bank- promotes and supports natural habitat conservation and improved land use by financing projects designed to integrate into national and regional development the conservation of natural habitats and the maintenance of ecological functions. Furthermore, the Bank promotes the rehabilitation of degraded natural habitats. The Bank does not support projects that involve the significant conversion or degradation of critical natural habitats.

2.3.3 Physical Cultural Resources (OP 4.11)

The World Bank's This policy addresses physical cultural resources, which are defined as movable or immovable objects, sites, structures, groups of structures, and natural features and landscapes that have archaeological, paleontological, historical, architectural, religious, aesthetic, or other cultural significance. Physical cultural resources may be located in urban or rural settings, and may be above or below ground, or under water. Their cultural interest may be at the local, provincial or national level, or within the international community.

The Bank assists countries to avoid or mitigate adverse impacts on physical cultural resources from development projects that it finances. The impacts on physical cultural resources resulting from project activities, including mitigating measures, may not contravene either the borrower's national legislation, or its obligations under relevant international environmental treaties and agreements.

2.3.4 Forests (OP/BP 4.36)

This Policy recognizes the need to reduce deforestation and promote sustainable forest conservation and management in reducing poverty. The Bank believes that forests are very much essential for poverty reduction and sustainable development irrespective of their location in the world. The Bank assists borrowers with forest restoration activities that maintain or enhance biodiversity and ecosystem functionality. The Bank also assists borrowers with the establishment and sustainable management of environmentally appropriate, socially beneficial, and economically viable forest plantations to help meet growing demands for forest goods and services. The Bank does not finance projects that, in its opinion, would involve significant conversion or degradation of critical forest areas or related critical natural habitats. Furthermore, the Bank does not finance projects that contravene applicable international environmental agreements.

2.3.5 Projects on International Waterways (OP 7.50)

Projects on international waterways may affect the relations between the World Bank and its borrowers, and between riparian states. Therefore, the Bank attaches great importance to the riparian making appropriate agreements or arrangements for the entire waterway, or parts thereof, and stands ready to assist in this regard. A borrower must notify other riparian of planned projects that could affect water quality or quantity, sufficiently far in advance to allow them to review the plans and raise any concerns or objections.

2.3.6 Involuntary Resettlement (OP/BP 4.12)

The WB's experience indicates that involuntary resettlement under development projects, if unmitigated, often gives rise to severe economic, social, and environmental risks: production systems are dismantled; people face impoverishment when their productive assets or income sources are lost; people are relocated to environments where their productive skills may be less applicable and the competition for resources greater; community institutions and social networks are weakened; kin groups are dispersed; and cultural identity, traditional authority, and the potential for mutual help are diminished or lost. This policy includes safeguards to address and mitigate these impoverishment risks.[3]

The overall objectives of the Policy are given below.

- Involuntary resettlement should be avoided where feasible, or minimized, exploring all viable alternative project designs.
- Where it is not feasible to avoid resettlement, resettlement activities should be conceived and executed as sustainable development programs, providing sufficient investment resources to enable the persons displaced by the project to share in project benefits. Displaced persons should be meaningfully consulted and should have opportunities to participate in planning and implementing resettlement programs.
- Displaced persons should be assisted in their efforts to improve their livelihoods and standards of living or at least to restore them, in real terms, to pre-displacement levels or to levels prevailing prior to the beginning of project implementation, whichever is higher.

2.3.7 Projects in Disputed Areas (OP 7.60)

Projects in disputed areas may raise a number of delicate problems affecting relations not only between the Bank and its member countries, but also between the borrower and one or more neighboring countries. In order not to prejudice the position of either the Bank or the countries concerned, any dispute over an area in which a proposed project is located is dealt with at the earliest possible stage.

The Bank may proceed with a project in a disputed area if the governments concerned agree that, pending the settlement of the dispute, the project proposed for country A should go forward without prejudice to the claims of country B.

2.3.8 Environment, Health and Safety Guidelines

The Environment, Health, and Safety (EHS) Guidelines[4]contain the performance levels and measures that are generally considered to be achievable in new facilities or project by existing technology at reasonable costs. In addition, there are also industry specific EHS guidelines. The guidelines that may be relevant to the Project are: EHS Guidelines for Ports, Harbors, and Terminals (if any land ports are developed with a water-transport interface).

2.3.9 Applicable World Bank Policies to the Project

The applicable World Bank policies for the Project, particularly for development of land ports under Component 1a of the Project are given in Table 2.1. Presumed policy applicability has been made based on the two known land ports likely to be financed under the project (e.g., Bhomra and Sheola). Since the third land port, and the scope of development or upgrading to be undertaken, is not yet identified, the safeguard policies which will apply to it cannot be definitively determined at this stage.

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3 Excerpts from WB OP 4.12.WB Operational Manual. December 2001.

4 EHS Guidelines available at: http://www.ifc.org/wps/wcm/connect/554e8d80488658e4b76af76a6515bb18/Final%2B-%2BGeneral%2BEHS%2BGuidelines.pdf?MOD=AJPERES

Table 2.1: Triggering the World Bank Policies for Subprojects

Directive	Policy	Applicability	Explanation
Environmental Assessment	OP/BP 4.01	Triggered.	Construction and operation of land ports are expected to cause impact on natural environment (air and noise quality) and health and safety of local community and workforce. This Project falls into Category B since most of these impacts are site specific and can be mitigated with standard mitigation measures. Environmental and Impact Assessment (EIA) reports will be prepared for each land port in compliance with this policy. The connecting roads to new land port of Sheola (45 km) may need to be strengthened and widened. The current Project will carry out studies for design of these investments, but other than potential minor improvements in the immediate vicinity of the land ports, such as to improve traffic flow and safety into and out of the port facilities, road upgrading and/or strengthening works of a larger scale will not be included under the proposed project. They may however be carried out under a future World Bank project. As such, the assessments shall be conducted in compliance with OP 4.01 and other applicable World Bank safeguard policies.
Natural Habitats	OP/BP 4.04	Not Triggered.	No natural habitats are located in the known sites proposed for land port development. The proposed lands for port extension or development in Bhomra are currently under agricultural, commercial and residential use. The proposed Sheola land port is located in a floodplain and is being used as parking facility and coal storage area during dry season and in some residential area. Appropriate mitigation and control measures will be included in the design and EIA of each land port to address any potential impacts on floodplain habitat.
Pest Management	OP 4.09	Not triggered.	The BLPA will not use any pesticides, rodenticides or other vector control products in any of its land ports or in the proposed subprojects.
Physical Cultural Resources (PCR)	OP 4.11	Not triggered.	Though there are no identified PCRs located in the known subproject sites which would likely be directly affected or displaced by proposed works, 'chance find' procedures (Annex 1) will be included in the EMPs
Indigenous Peoples	OP/BP 4.10	Triggered	There are no indigenous people near the identified proposed land ports. However, the third likely land port at Ramgarh is located in an area with indigenous peoples. Hence, this policy has been triggered pre-emptively. If required for the third land port, an Ethnic Minority / Vulnerable Peoples' Development Plan will be developed, in accordance with the RPF.

Directive	Policy	Applicability	Explanation
Involuntary Resettlement	OP/BP 4.12	Triggered	Land is required for project infrastructure facilities. A Resettlement Policy Framework (RPF) has been prepared under separate cover, detailing the relevant requirements to ensure compliance with this policy.
Forests	OP/BP 4.36	Not triggered.	None of the proposed land port locations are near forested areas.
Safety of Dams	OP/BP 4.37	Not triggered	No proposed land ports involve, rely on, or could be directly affected by any existing or proposed dams.
Projects in International Waterways	OP/BP/ GP 7.50	Not triggered	The known land port locations do not affect international waterways. The third likely land port at Ramgarh is located next to Feni river, which is an international waterway between India and Bangladesh. About 100 m of bridges along with necessary bank abutments will be required on the Feni river to connect to the land ports on the Indian side. Government of India is preparing to construct this bridge. Bangladesh is the downstream riparian and the construction and operation of ports and bridges are not expected to affect the quality and quantity of water resources of the upstream riparian.
Projects in Disputed Areas	OP/BP 7.60	Not triggered	Not triggered. None of the proposed subprojects are located in disputed areas.
Access to Information		Applicable to the project.	EMF has been disclosed in country (on BLPA website on August 1, 2016) and will be sent to WB InfoShop. A national level public consultation workshop was held in Dhaka on August 10, 2016. The individual EIAs of the subprojects that will be prepared in due course will also be disclosed on BLPA website and will be made available in hard copy in locally accessible locations in the project area, including BLPA/Customs offices at the existing ports; and will also be sent to WB InfoShop.

2.4 Public consultation and disclosure requirements by World Bank

The Bank reaffirms its recognition and endorsement of the fundamental importance of transparency and accountability to the development process. Accordingly, it is Bank's policy to be open about its activities and to welcome and seek out opportunities to explain its work to the widest possible audience. According to 'OP 4.01: Environmental Assessment' of World Bank, the following conditions applies to the proposed subprojects.

Consultations. For all Category A and B projects the borrower should consult the project-affected groups and local nongovernmental organizations (NGOs) about the project's environmental aspects and takes their views into account. The borrower should initiate such consultations as early as possible.

Disclosure. The borrower should provide relevant information on project interventions in a timely manner prior to consultation and in a form and language that are understandable and accessible to the groups being consulted. The borrower should provide a summary of the proposed project's objectives, description, and potential impacts for the initial consultation. For consultation after the

draft EA report is prepared, the borrower should provide a summary of the EA's conclusions. In addition, the borrower makes the draft EA report available at a public place accessible to project-affected groups and local NGOs. The borrower also ensures that EA reports for all subprojects are made available in a public place accessible to affected groups and local NGOs. The executive summary of ESIA documents needs to be translated into Bengali. Public availability of the EA report in the borrowing country and official receipt by the Bank are prerequisites to Bank appraisal of these projects.

In addition, consultations have been held while preparing EMF as well as RPF at the land port sites and also at national level in Dhaka. A summary of consultations held and key issues raised is presented in Chapter 7. The EMF and RPF have been disclosed in country on BLPA website and will also be sent to World Bank InfoShop.

3 PROJECT DESCRIPTION

3.1 Description of Overall Project and Its Components

Bangladesh Regional Connectivity Project 1 (the Project) will finance interventions aimed to facilitate connectivity, trade and transport for national and regional trade. The Project consists of three components as follows:

***Component 1: Investments in infrastructure, systems and procedures to modernize and improve key land ports essential for trade with India and Bhutan (US$75 million) (BLPA-managed Component*).** This component will finance development of three land ports: Bhomra, Sheola, and one more land port to be determined (likely to be Ramgarh). Although Bhomra is a relatively new land port facility commissioned in 2013, trade volumes at Bhomra have already exceeded those at Benapole. The feasibility study indicates that projected trade volumes are soon to exceed Bhomra's current capacity. As such, the Project proposes to fund the first phase expansion of the Bhomra land port facility. Sheola is a key border crossing between Bangladesh and Sutarkandi of Assam state in Northeast India. There are currently rudimentary facilities and BLPA plans to develop this facility into a formal land port facility. Given that feasibility studies as well as discussions with Government of India, are ongoing for several land ports to be developed, the third land port to be developed under the Project will be determined during Project implementation. In addition, at Benapole, security infrastructure will be improved including the construction of a perimeter fence, and the installation of a gate pass system and CCTVs.

Component 2: Enhance trade sector coordination and productive capacity (managed by Ministry of Commerce, WTO Cell).

- ***Component 2a: Develop (pilot) programs to support female traders and entrepreneurs (US$5.0 million).*** This sub-component will address regulatory, capacity building, skills development, networking and other issues faced by the women traders and entrepreneurs in Bangladesh. The activities will be piloted by the Ministry of Commerce (MoC) through WTO Cell
- ***Component 2a: Support the (Inter-ministerial) National Trade and Transport Facilitation Committee(US$ 1.0 million).***. The Bangladesh Trade Portal (BTP) was launched in March 2016. This component will support further enhancements to the BTP further expanding the coverage of export related goods and ensuring that content is kept up to date. The component will finance operational costs for the BTP for the first 3 years of the Project and MoC will thereafter finance operational and maintenance costs from GoB own resources. This component will also set up the National Enquiry Point for Trade, which will help Bangladesh to meet a requirement of WTO Trade Facilitation Agreement
- ***Component 2c***: ***Improvements to Bangladesh Trade Portal and setting up a National Enquiry Point for Trade (US$1.0 million).*** The Bangladesh Trade Portal (BTP) was launched in March 2016. This component will support further enhancements to the BTP further expanding the coverage of export related goods and ensuring that content is kept up to date. The component will finance operational costs for the BNTP for the first three years of the Project and MoC will thereafter finance operational and maintenance costs from GoB own resources. This component will also set up the National Enquiry Point for Trade, which will help Bangladesh to meet a requirement of WTO Trade Facilitation Agreement.

Component 3: National Single Window Implementation and Strengthening Customs Modernization (US$67 million). The lead implementation agency for this component is the Customs Department in National Board of Revenue.

- National Single Window Implementation. To improve its international trading performance, Bangladesh has committed to implement a National Single Window. The Bangladesh National Single Window (BD-NSW), through the introduction of an electronic, online solution, will

facilitate faster and more transparent international trade procedures, reduce transaction costs borne by traders and provide consistency and certainty to the total process, from the start of the regulatory requirements to the processing and clearance of goods. The BD-NSW will deliver a user-friendly, electronic system that streamlines and automates procedures for registered private sector stakeholders and Government Agencies to facilitate the application, processing and issue of various international trade related permits, licenses, certificates and their integration with Customs declaration processing, clearance and payment of fees and taxes.

- Strengthening Customs Modernization in line with international standards through: (i) procurement and Implementation of a sophisticated automated risk management system/module that will interface with the BD-NSW system to support the more effective targeting of high risk cargo by Customs and other border management agencies ; and, (ii) Implementation of a valuation (price reference) database module to assist in better assessing the value of imported goods in line with international commitments associated with the WTO Valuation Agreement as well as its full integration into the National Single Window system. The required system implementation and operationalization support to be financed by the Project will build upon and further strengthen initiatives currently underway supported by WBG's Trade and Competitiveness Practice under a parallel technical assistance project.

3.2 Proposed Developments in Land Ports

Details of existing facilities and the proposed facilities to be built in the Bhomra and Sheola land ports are given in the following subsections. Typical facilities to be built at BLPA land ports include:

- **Port facilities**: administrative building, ware houses, transshipment Sheds, open stack yards, and Bangladesh and India truck terminals;
- **Service Areas**: barrack, dormitory, restaurant, substation/generator and fuel house, and mosque;
- **Infrastructure**: fencing/boundary wall, road network, drains, footpath, parking, and landscaping;
- **Electrification Works**: area lighting, boundary wall lighting, footpath lighting, road lighting, substation equipment and diesel generator, and solar power;
- **Water Supply and Sanitation Works**: water supply and sanitation facilities including water treatment and sewage treatment facilities
- **Safety and Security**: fire protection and detection, CCTV system, intruder alarm system, car park management, access control system, physical security, and watch towers

In addition, a fencing wall also be constructed around the existing Benapole land port facility for security along with installation of a gate pass system, and CCTVs.

3.2.1 Proposed Developments in Bhomra Land Port

Existing Facilities

Bhomra land port is an existing facility located in Sadar Upazila of Sathkhira district, 15 km from Satkhira town, 75 km from Khulna, and 85 km from Jessore. Located about 355 km from Dhaka. The land port on Indian side is Ghojadanga in Chabbish Paragarans district of West Bengal. The land port in Bhomra was established in 2013 in a 15.72 acres of land. Average annual imports are 1.8 million tonnes (mainly building chips, rice, wheat, fruits, onions, garlic, ginger, etc.). Average annual exports are: 0.06 million tonnes (jute, fish, cotton waste, etc.).

The current facilities are: warehouses-2, transshipment shed-1, open stack yard-2, transshipment yard-1, weighbridge-1, and an administrative building. The transshipment yard is operated manually and about 2,000 laborers work daily in this port. Two toilet complexes are built for workers and truck drivers' use.

Proposed Facilities

The proposed facilities at Bhomra land port are development of additional storage facilities (open stockyard and warehouse) and parking facilities for trucks; and water supply, toilets, internal roads, and administrative buildings. The estimated land acquisition requirement for the full proposed expansion is about 100 acres in which 7.8 acres are currently under agriculture use and remaining area is in commercial or residential use. The expansion will be implemented in three phases, the first phase will include expansion of the port facilities (truck terminals for both Bangladesh and India) in the 7.8 acres of agricultural land and strengthening of existing facilities including water supply, drainage, pavements and dust control measures. Phase 2 development will include building of accommodation quarters, administrative building, passenger terminal, local road network and border check post. Phase 3 development will mainly include building of open stack yards and warehouse and other supporting facilities. It is not yet determined whether the Project may support only phase 1, or phases 1 and 2, or phases 1, 2 and 3 of the proposed expansion. Location of the existing port and proposed areas for development in various phases are given in Figure 3.1 and facilities to be built in various phases are given in Table 3.1. These are based on a feasibility study carried out by BLPA, which will be revisited during detailed design stage.

Figure 3.1: Existing Bhomra Land Port and Proposed Areas for Development

Table 3.1: Details of Proposed Facilities at Bhomra Land Port

Facility	Phase 1	Phase 2	Phase 3
Strengthening of existing facilities, including water supply, sanitation, pavement of transshipment yards, etc.	Inside the existing facilities		
Drainage	3 km		
Administration Building		4,800 m^2	

Facility	Phase 1	Phase 2	Phase 3
Passenger Terminal		3,766 m^2	
Inspection Building	600 m^2		600 m^2
Transhipment yard	1,675 m^2		6,655 m^2
Chassis Stack yard			40,245 m^2
Heavy stack yard	20,580 m^2	10,835 m^2	42,000 m^2
Cold storage			1,850 m^2
Warehouse			5,400 m^2
Quarantine			2,200 m^2
Indian truck terminal	3,770 m^2		64,285 m^2
Bangladesh truck terminal	3,180 m^2	38,850 m^2	
Labour shed			200 m^2
Guest house		4,000 m^2	
driver's dorm		1,000 m^2	
Dormitory for staff		2,000 m^2	

Source: Feasibility study of Bhomra land port

3.2.2 Development of new Sheola Land Port

Existing Facilities

The proposed Sheola land port will be developed around an existing land custom station, which is functioning since 1948. Located 13 km from Biyanibazar, the sub-district head quarter, 45 km from Sylhet, and 290 km from Dhaka. The land port on Indian side is Sutarkandi (in the state of Assam), located about 15 km from Karimganj, 241 km from Shillong and 341 km from Guwahati. Major imports are coal, stone and perishable food items. Major exports are packaged food items.

The current facilities are: The existing facilities include an immigration building in 1.3 acre land and a rented building for customs office. This station is connected to Sylhet through a 5.5 m wide asphalt road.

Proposed Facilities

About 20 acres of land will need to be acquired for the development of the land port. The proposed facilities include a transshipment yard, administration offices, truck terminals, open stack yard, barrack, internal roads and drainage facilities, drinking water and sanitation facilities, and facilities for women (waiting rooms) and disabled people (ramps). Since coal will be a major import, coal stack yards will be developed with appropriate containment, dust control, and drainage system including an equalization tank followed by multi-grade filter for water purification prior to discharge from the site. Details of the proposed facilities to be developed are given in Table 3.2 and Figure 3.3.

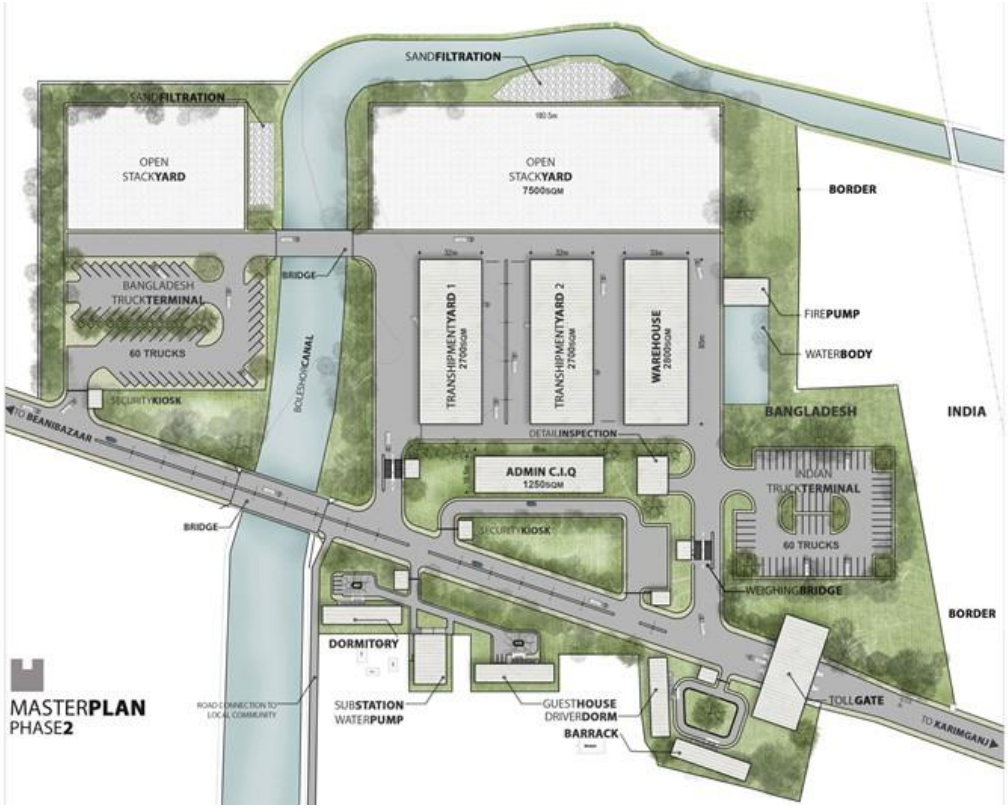


Figure 3.2: Layout of Proposed Sheola Land Port

Table 3.2: Details of Proposed Facilities at Sheola

Proposed Development	**Approximate Quantities**
A. Land Development	
Land Development	20 acres
Boundary Wall	2,508 m long &1.50 m height
Internal Road Network	1100 m long
Footpath	1.5 m wide ~ 2,100.0 m long
Landscaping	Plantation, Greenery, soft & hard landscaping
B. Building and Other Infrastructure	
Port Facilities	
Administrative Building(4-Storied),	8,250.00 m^2
Ware house1 no's	2,040.00 m^2
Transshipment Yard Shed 2 no's	4,080.00 m^2
Open Stack yard	6,000.00 m^2
Bangladesh & India Truck terminal	10,631.00 m^2
Inspection Building 1 & 2	500.00 m^2
Service Area	
Barrack (Border)	905.05 m^2
Dormitory-2 Storied	1,000.00 m^2
Hotel & Restaurant	400.00 m^2
Pump House	390.00 m^2
Substation Building	450.00 m^2
Mosque	100.00 m^2

Proposed Development	Approximate Quantities
C. Basic Services	
Area Lighting	80,172.0 m^2
Boundary wall lighting	2,508.0 m
Footpath lighting	3,200.0 m
Road Lighting	1,095.0 m
Substation Equipment & Diesel Generator	1,600 KVA -2 no's, Sub-station, 650 KVA-1no, Diesel generator 110 KVA – 1 no's, Double Generator (Server)
Solar Power	25 KW
Water Reservoir	100 m^3
External Drainage	2,000 m
Deep tube-well 1 nos.	150 mm dia 230 m deep
D. Equipment and Plants	
Water Treatment Plant	25 m^3
Weighing Bridge	100 metric ton capacity 2 no's
IT Solution	Networking & Cabling, Server, Internet Uplink
Equalization tank and filter media (for treatment of coal runoff water	270 m^3
E. Safety & Security	
Fire Protection, Fire detection CCTV System, Alarm, PA, BMS, Watch Tower, Gate etc.	

Source: Detailed engineering design of Sheola Land Port

3.2.3 Development of new Ramgarh Land Port

Existing Facilities

Ramgarh was declared as Land Customs Station in 2010, but the operations are yet to commence. Currently there are no existing facilities and no formal trade. On Indian side also, there is a Land Customs Station at Sabroom in Tripura state. Both the governments of Bangladesh and India have agreed to develop a land port at Ramgarh. The opening of new trade routes between Bangladesh and the north-eastern states of India through Ramgarh-Sabroom border point is considered as a high potential commercial route in the near future. Chittagong Port can serve as the main port of Northeast India, and bilateral trade is expected to increase significantly. Ramgarh could also serve as a transit point between West Bengal (via Bangladesh), Tripura, and the rest of Northeast India.

Proposed Facilities

About 23 acres of land will need to be acquired for the development of the land port. Feasibility engineering design of the proposed facilities is yet to be undertaken, however it is anticipated that the proposed facilities will include The proposed facilities include a warehouse, administration offices, truck terminal, open stack yard, barrack, internal roads and drainage facilities, drinking water and sanitation facilities, and facilities for women (waiting rooms) and disabled people (ramps). A bridge needs to be constructed over the River Feni to connect Bangladesh and India. The Government of India has agreed to build this bridge

3.3 Implementing Agency and other Agencies Present at the Border

BLPA is the implementing agency of the Project and also responsible for operation of the land port facilities. In addition to BLPA, Customs and Immigration are the two major institutions that have permanent presence at these land ports. However, other administrative bodies may also operate at border crossings. These include:

- Police and other security forces, unless Customs and Immigration have the resources to ensure security within the facility.
- Border troops and security forces – these are not usually housed in the facility.
- Other agencies (e.g., agriculture, food safety, phyto-sanitary, veterinary, consumer protection agencies, etc.) which may elect to be present at the border station. This is usually the preferred solution, as the presence on site of these departments accelerates clearance and release.
- A bank branch, available to receive payments of duties.
- Clearing agents for handling imports and transit shipments.

3.4 Implementation Schedule

Development of each land port is expected to take about 3 years. The engineering designs and EIA studies for the Sheola land port are in progress and its construction is expected to start in 2017. BLPA will procure consulting firms for preparation of detailed engineering designs of other land ports during the first year of project implementation and overall implantation period of the Project is about 5 years. The proposed implementation schedule of the Project is given in Table 3.3.

Table 3.3: Implementation Schedule of the Project

Component	Subprojects	Timeline
Component 1: Investments in infrastructure, systems and procedures to modernize key selected land ports essential for trade with India and Bhutan	Construction of Sheola Land Port	2017-2019
	Detailed designs of Bhomra and the third land port, which is yet to be identified	2017-2018
	Construction of upgrading works of Bhomra land port and the third land port	2018-2020
	Construction of security perimeter fence at Benapole land port facility	2018-2020
Component 2a: Develop (pilot) programs to support female traders and entrepreneurs.		2018-2021
Component 2b: Capacity Development Support for the National Trade and Transport Facilitation Committee		2018-2021
Component 3: National Single Window Implementation and Strengthening Customs Modernization		2018-2021

4 Baseline Environment

4.1 Bhomra Land Port

Location. Bhomra land port is located 75 km from Khulna opposite the town of Ghojadanga in India, approximately 100 km from Kolkata. Once the Padma Bridge is completed, it will be on the shortest route from Kolkata to Dhaka. The land port is operated by BLPA and was opened in May 2013.

Environmental Setting: The satellite map of the existing Bhomra port and proposed extension areas are shown in Figure 4.1. Generally, topography of the area is plain with some low lying lands at some locations. A stream (Khumra Khal) is located along the border, about 600 m away from the land port. A flood embankment was also constructed along the stream on Bangladesh side. Since the stream is located on a slightly higher elevation than the port area, there is no natural drainage is available and water stagnation was noticed in some areas in the port. Ichamati river is located about 3 km south-western side of the port. Photographs of the port and its surrounding areas are shown in Annex 2. The port surrounding areas are located with commercial areas, road side shops and agricultural areas. The land proposed for development in phase 1 (located on the north of access road) is mainly located in agricultural land; but phase 2 and 3 expansion would also extend into the built-up area and local road network. All these areas are modified habitats and no natural habits are located.

The port and surrounding areas are highly polluted by the road dust. Unpaved side walks and transhipment yards are the major sources of dust. The access roads near the border area also not paved.

Figure 4.1: Location of Bhomra Land Port

Traffic. About 500 to 600 Indian trucks cross into Bangladesh every day, and 20 to 25 Bangladesh trucks enter India. Indian trucks trans-load onto Bangladesh vehicles in Bhomra, and Bangladesh trucks trans-load in Ghojadanga. The major commodities exported from Bangladesh are garments and knitted fabric, coconut products, food products, chocolate, cotton oil, yarn, and fruit juice. The annual traffic data and value of imports/exports are given in Table 4.1. There are about 300 foot passengers

both ways daily. Travellers are allowed to bring in up to 65 kg of goods, and are cleared by Customs and Immigration at the border line checkpoint.

Table 4.1: Amount of Exports and Imports at Bhomra Land Port (July 2014 to June 2015)

Name of Month	Goods Recived (M T)	Goods Delivery (MT)	Number Of Truck			Import		Export	
			Foreign Truck	Local Truck	Tolal Truck (4+5)	Amount (M T)	Taka. (core)	Amount (M T)	Taka.
1	2	3	4	5	6	7	8	9	10
July	122783	122783	6292	7012	13304	122783	306.43	3913.800	185769181.00
August	140432	140432	7259	8447	15706	140432	387.98	4134.575	167989857.00
September	152599	152599	8042	9605	17647	152599	426.92	7369.920	254672878.00
October	117623	117623	5780	7033	12813	117623	300.63	3115.630	126177188.00
November	162455	162455	8278	10000	18278	162455	422.99	3660.354	186218494.00
December	167953	167953	8217	9860	18077	167953	439.14	4056.230	188174541.00
January	183675	183675	8939	11425	20364	183675	457.11	3731.470	198145978.00
February	164952	164952	8085	10744	18829	164952	411.76	4294.113	238564844.00
March	166329	166329	8766	11782	20548	166329	387.88	6074.997	306734314.00
April	140176	140176	6999	8909	15908	140176	340.04	4279.600	180702128.00
May	153686	153686	7840	8939	16779	153686	338.17	6185.490	315650456.00
June	136563	136563	6647	7507	14154	136563	271.54	7260.580	495969632.00
Total	1809226	1809226	91144	111263	202407	1809226	4490.59	58076.759	2844769491.00

*Serial No 7,8,9,10 information collects from Bhomra Land Customs, Serial No 8 information of import goods value i

Air Quality: Air quality is the major concern at the existing land port area due to dust from unpaved transhipment yards, side walks, heavy traffic and resuspension of dust. Air quality data collected at Bhomra port site during April 2016 show exceedances in suspended particulate matter and particulate matter. The recorded suspended particulate matter is 1733 µg/m^3 (DOE standard is 200 µg/m^3), PM10 is 234 (DOE standard is 150 µg/m^3 and WB guideline is 50 µg/m^3) and PM2.5 is 112 µg/m^3 (DOE standard is 65 µg/m^3 and WB guideline is 25 µg/m^3). Noise quality also exceeds the DOE standards and World Bank guidelines for industrial areas. Air and noise quality data at Bhomra is given in Table 4.2 and Table 4.3, respectively.

Table 4.2: Ambient Air Quality at Bhomra Land Port

Parameter	Unit	Sampling duration, hour	Concentration	DOE Standard	WB guideline
Suspended Particulate Matter (SPM)	µg/m^3	8	1733	200	
Particulate Matter, PM_{10}	µg/m^3	8	234	150	50
Particulate Matter, $PM_{2.5}$	µg/m^3	8	112	65	25
Sulphur dioxide (SO2)	µg/m^3	8	9	365	20
Oxides of nitrogen (NOx)	µg/m^3	8	81	100	200

Table 4.3: Noise Quality at Bhomra Land Port

Parameter	Unit	Value	DOE Standard	World Bank Guidelines
Day time noise (6 AM-9 PM)	dBA	77	60 (mixed land use) 75 (Industrial)	55 (residential) 70 (Industrial)
Night time noise (9 PM-6 PM)	dBA	74	50 (mixed land use) 75 (Industrial)	45 (residential) 70 (Industrial)

Water Quality: The groundwater from shallow wells in the project area is generally not potable due to high total dissolved content of more than 1,000 mg/l (limit for DOE standard for drinking water). Groundwater from a deep tube well in the project area has been tested and the water quality is

found to be within the DOE drinking water standards with a total dissolved solids of 764 mg/l, pH of 7.5 and iron of 5.8 mg/l.

4.2 Sheola Land Port

The proposed Sheola Land Port will be developed around the existing Sheola Land Customs (LC) Station at Borogram. The Sheola LC station at this location is functional from 1996. Prior to this location, the Sheola LC was located about 3 km north of this location near the Khushiara river, where the export and import activities were conducted through the Kushiara river route.

Location: The distance of Sheola Land Customs station from Biyanibazar Upazila Parishad is 13km and 45km from Sylhet district Headquarter. The Indian part of it is called Sutarkandi, which is situated under Karimgang district of Assam State. A 16 km pavement road exists from Sheola to Karimganj district. The distance from Sheola (Sutarkandi) to Guwahati, capital of Assam is 341 km.

Environmental Setting: Some part of proposed port site is located in a flood plain. Satellite map of the port area is shown in Figure 4.2. The site is flooded with water during rainy season and during dry season it was used to part the trucks and temporary storage area for the imported coal. A small rainwater drain (stream) is located adjacent to the port site. The Kushiara river is located about 3 km north of the site; and Muriha Haour (an inland drainage basin) is located 3 km south of Sheola. The haours are generally good habitats of fish. There is also an immigration check post here.

Figure 4.2: Location of the Proposed Sheola Land Port

The road from Sylhet to Sheola L.C Station is constructed by the LGED and Paved. It is expected to be adequate for at least the first 5 years of port operations, but the road connectivity needs to be strengthened and widened for heavy vehicles as traffic volumes increase. Details and imports and exports of the Sheola custom station is given in Table 4.4. The current annual amount of exports at this station is 131 tonnes and imports is 43 tonnes. The current traffic levels are about 20 trucks per day. The generally imported goods are coal, stone, orange, ginger, onion, apple, mango and cement clinker; and the exported goods are Chips, lollipop, ice pop, milk candy chocolate, catchup, energy drinks, mango drinks, power drinks, cement, plastic

products, cotton, vermicelli, litchi drinks, melamine products, ceramic products, brick breaking machine, tissue paper, caustic soda, soap, tube well casing pipes, and fish.

Table 4.4: Amount of Exports and Imports at Sheola Land Customs Station

Fiscal Year	Amount (Crore BDT)
Exported Goods	
2011-12	72.15
2012-13	65.16
2013-14	80.50
2014-15(up to April)	65.73
Imported Goods	
2011-12	14.19
2012-13	21.50
2013-14	22.16
2014-15(up to April)	17.98

Air and Noise Quality: Ambient air quality and noise quality in Sheola, in general, is within DOE standards and World Bank EHS guideline values. PM2.5 concentrations slightly exceed World Bank guideline values. Air and noise quality data at Sheola, collected in April 2016, are shown in Table 4.5 and Table 4.6, respectively.

Table 4.5: Ambient Air Quality at Sheola Land Customs Station

Parameter	Unit	Sampling duration, hr	Concentration	DOE Standard	WB guideline
Suspended Particulate Matter (SPM)	$\mu g/m^3$	8	79	200	
Particulate Matter, PM_{10}	$\mu g/m^3$	8	50	150	50
Particulate Matter, $PM_{2.5}$	$\mu g/m^3$	8	38	65	25
Sulphur dioxide (SO2)	$\mu g/m^3$	8	0	365	20
Oxides of nitrogen (NOx)	$\mu g/m^3$	8	66	100	200

Table 4.6: Noise Quality at Sheola Land Customs Station

Parameter	Unit	Value	DOE Standard	World Bank Guidelines
Day time noise (6 AM-9 PM)	dBA	58.5	60 (mixed land use) 75 (Industrial)	55 (residential) 70 (Industrial)
Night time noise (9 PM-6 PM)	dBA	42.4	50 (mixed land use) 75 (Industrial)	45 (residential) 70 (Industrial)

Water Quality: Surface water quality of the channel located adjacent to the site is generally good with low total dissolved solids (29 mg/l) and total suspended solids (51 mg/l. The pH is 7.6 and dissolved oxygen (6.5 mg/) and biological oxygen demand (6.1 mg/l) are within the DOE standards for surface water. Groundwater from a nearby shallow tube well also has low total dissolved solid of 135 mg/l and no arsenic is found in the groundwater.

Soil Quality: Quality of the surface soils has not been collected under the current study, but it is noticed that surface soils near the coal deposit areas are contaminated with coal dust. Detailed soil quality studies will be carried out during project implementation.

4.3 Ramgarh Land Port

Location: Ramgarh is located at the southeast border of Bangladesh in Ramgarh Upazilla of Khagrachari District, at the northern tip of the Chittagong Hill Tracts. The closest Indian border area is Sabroom of South Tripura district of Tripura Province. Ramgarh is located about 100 km Chittagong port.

Environmental Setting. The proposed Ramgarh land port site is located adjacent to the River Feni, which forms the border with India. The port area is located in a hilly terrain but the areas adjacent to the river are flood prone. There is currently no bridge crossing the river Feni, and no approach/access road to Inda, although the Government of India is currently working on the survey and design of the bridge. The areas proposed for port development are currently located in an agriculture land. A border security force hostel is located near the land port site. An ashram (hermitage), a culturally important area is located near this border security force hostel. The Ramgarh town is located about 2 km from the port site. The population of Ramgarh is 26,974 (2011 census). Majority of the population are ethnic Bengalis but there is sizable minority belonging to Indigenous groups belonging to Chakma, Marma and Tripura.

There is decent road connectivity with Ramgarh from Khagrachari District, Sadar, and junction point of Dhaka-Chittagong highway to Chittagong Port, Dhaka and other parts of the country. There are some narrow and defective Bailey bridges on the road from Ramgarh to the junction point of the side road with Dhaka-Chittagong Highway.

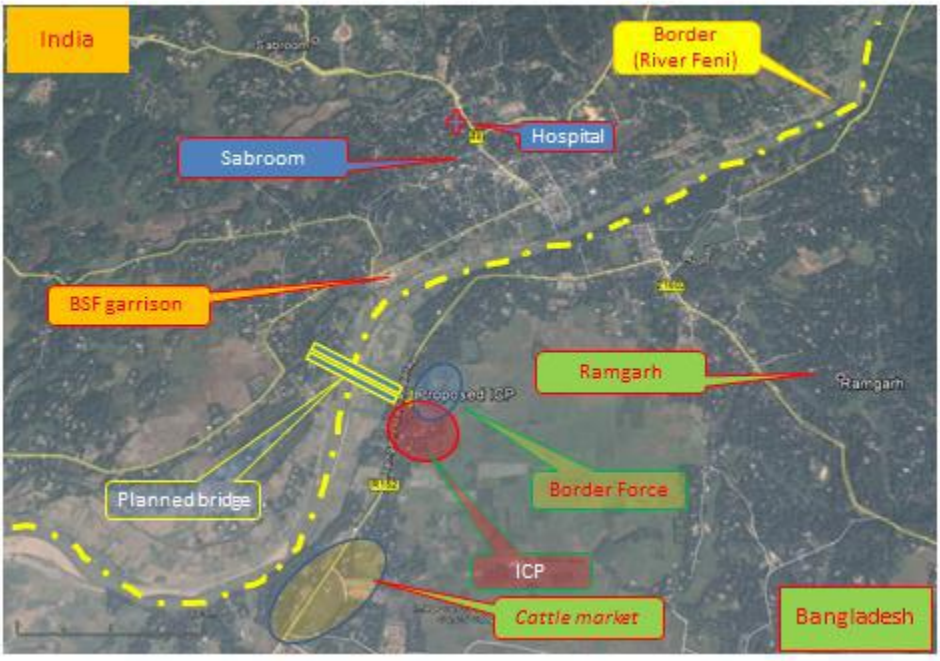


Figure 4.3: Locations Map of proposed Ramgarh Land Port

Currently there is no formal trade between two countries, but people from India visit Ramgarh to access its large local market facilities, and people from Bangladesh cross the border to access the hospital facility in Sabroom.

5 Screening of Potential Impacts and Mitigation Measures

An environmental screening checklist[5] was used to assess the potential environmental issues in construction and operation of the proposed land ports. Consultations were also held with local communities and workers to understand their concerns. General mitigation measures and best management practices to address the construction related impacts are given in Annex 3 Environmental Code of Practices (ECoPs) which are prepared based on World Bank General EHS guidelines and experiences from other projects in Bangladesh. By inclusion by these ECoPs in general specifications of contractors bidding documents, most of the construction related impacts can be mitigated.

5.1 Screening of Environmental Impacts of Bhomra Land Port

The environmental screening checklist of Bhomra land port is given in Table 5.1. Bhomra is an existing land port and no environmentally sensitive areas are located around the port facilities. A summary of the potential impacts associated with existing operation of Bhomra land port and proposed development are given below along with potential mitigation measures:

- Bhomra land port was developed recently in 2013, but due to lack of adequate planning at that time the potential of Bhomra land port was underestimated and only limited area was acquired for the port development. Now according the BLPA master plan, another 46 acres of land will be required for complete development of Bhomra land port, which will be carried out in a phased approach.
- Dust is the major concern at the Bhomra port for both port workers and surrounding communities. Dust control measures will be considered during design of the facilities. These could include, for example, concrete pavement of transhipment yard, pavement of unpaved roads and sidewalks, dust suppression through water sprays or covered storage areas; sweeping/vacuum collecting equipment, etc.
- Water logging conditions are noticed in Bhomra port. Hence storm water drains are to be designed.
- There are no waste collection mechanism and disposal facilities are available at the port. Waste collection and disposal facilities will be developed.
- There are no separate facilities for women travellers/traders at the port and hence they will be established.
- There are complaints about drinking water quality supplied to the offices and yards; and toilet facilities of workers are also not being properly maintained. Safe drinking water and sanitation facilities for workers and truck drivers are to be established and maintained.
- Unregulated commercial and residential development is noticed around the Bhomra port and hence there should be municipal land use zoning needs to be developed to restrict unplanned developments around the port facilities.

Table 5.1: Environmental Screening of Bhomra Land Port

Screening Questions	**Yes / No /?. Briefly describe**	**Is this likely to result in a significant effect? Yes/No/? – Why?**
1. Will construction, operation or decommissioning of the Project involve actions which will cause physical changes in the locality	Yes, the extension area proposed for the port facilities are located in areas currently used for agriculture,	Yes, currently there is no land use plan and zoning around the port facilities. Due to lack of this land use zoning restriction, lot of

[5] The screening checklist is developed by European Commission and is available at http://ec.europa.eu/environment/archives/eia/eia-guidelines/g-screening-full-text.pdf

Screening Questions	Yes / No /?. Briefly describe	Is this likely to result in a significant effect? Yes/No/? – Why?
(topography, land use, changes in water bodies, etc.)?	residential and commercial purposes. Land port development will change the current land use and also influence the land use around the port facilities.	commercial and unplanned development is expected around the port facilities. The unplanned development is due mainly because of benefits from the increase in trade and traffic in terms of catering, supplies to drivers, accommodation needs, mechanical services, etc.
2. Will construction or operation of the Project use natural resources such as land, water, materials or energy, especially any resources which are non-renewable or in short supply?	Yes. Petroleum products will be required for both construction (construction equipment) and operation of land ports.	Yes, due to extensive construction and land filling activities involved.
3. Will the Project involve use, storage, transport, handling or production of substances or materials which could be harmful to human health or the environment or raise concerns about actual or perceived risks to human health?	Yes. Petroleum products or hazardous cargo may need to be stored at the port facilities; however, these cargos are rare.	No, since closed storage yards are already developed for storing of petroleum and other hazardous cargo.
4. Will the Project produce solid wastes during construction or operation or decommissioning?	Yes. Both solid and liquid waste will be produced by the land ports during construction (construction related waste) and operation (cargo waste).	Yes. Solid waste will be generated at the land port. Proper collection and disposal of solid waste will be required.
5. Will the Project release pollutants or any hazardous, toxic or noxious substances to air?	Yes. Dust is the main concern at the land port facility. This is because lack of pavement of facilities inside the port, resuspension of dust on the road. Dust is major concern for both workers and nearby communities. Some of the loose material cargo (such as coal and stones), stored along the road side, is also major source of dust.	Yes, road dust will be increased due to increased traffic. Paving of internal roads in the land port and paving of roads near the border areas are to be carried out. Regular sweeping or watering of roads will be required to control the dust.
6. Will the Project cause noise and vibration or release of light, heat energy or electromagnetic radiation?	Yes. Construction and operation works generate noise levels from machinery and traffic	Yes, noise impact will be significant for some of the residences located along the access roads. Adequate buffer zone will be required around the port facilities to control the noise levels.
7. Will the Project lead to risks of contamination of land or water from releases of pollutants onto the ground or into surface waters, groundwater, coastal wasters or the sea?	Yes. There is a risk of contamination from construction; and also from port facilities and cargo storages.	Yes, currently there are no drainage facilities within the land port. Water stagnation was noticed in some areas. Drainage facilities need to be developed for effective storm water disposal and to control

Screening Questions	Yes / No /?. Briefly describe	Is this likely to result in a significant effect? Yes/No/? – Why?
		the water logging.
8. Will there be any risk of accidents during construction or operation of the Project which could affect human health or the environment?	Yes. Construction works may pose health and safety hazards to the workers and nearby community. During operation, major sources are dust and emissions from with activities associated with land ports and related facilities and traffic. The drinking water facilities provided to the office staff contains turbidity and iron. Toilets provided to the labourers are not being maintained properly.	Yes. There are risks of physical hazards (cargo handling and use) and chemical hazards (dust and emissions form fuels. There are also risks of safety hazards due to non-use of personal protective equipment (e.g. safety shoes and helmets) during manual handling of cargo. Safe drinking and sanitation facilities are to be provided for both the office staff and working labourers. Personal protective equipment needs to be used by the workers.
9. Will the Project result in social changes, for example, in demography, traditional lifestyles, employment?	Yes. There has been lot of development from last three years since the port was opened. About 2000 labourers work in this port, and also there is lot of commercial development around the port facilities.	Yes, the land port has a lot of potential for development in future after completion of Padma bridge. However, the current proposed development has no relation with the construction of Padma bridge. So several employment opportunities will be generated in and around the port facilities, and in the associated industries.
10. Are there any other factors which should be considered such as consequential development which could lead to environmental effects or the potential for cumulative impacts with other existing or planned activities in the locality?	Yes. There has been lot of development from last three years since the port was opened. About 2000 labourers work in this port, and also there is lot of commercial development around the port facilities.	Yes, without any municipal land use zoning restriction, there will be unplanned and unregulated residential and commercial development surrounding the port areas. After completion of the Padma bridge, the distance from Bhomra land port to Dhaka will be much shorter that Benapole land port, which is currently the largest land port in Bangladesh.
11. Are there any areas on or around the location which are protected under international or national or local legislation for their ecological, landscape, cultural or other value, which could be affected by the project?	No. The port and proposed areas for extension are located in a human disturbed land. No areas that are protected under international and national legislation are located around the port facilities.	No.
12. Are there any other areas on or around the location which are important or sensitive for reasons of their ecology e.g. wetlands,	No. the proposed facilities are not located in any important or sensitive areas for their ecology	No

Screening Questions	Yes / No /?. Briefly describe	Is this likely to result in a significant effect? Yes/No/? – Why?
watercourses or other waterbodies, the coastal zone, mountains, forests or woodlands, which could be affected by the project?		
13. Are there any areas on or around the location which are used by protected, important or sensitive species of fauna or flora e.g. for breeding, nesting, foraging, resting, overwintering, migration, which could be affected by the project?	No.	No
14. Are there any inland, coastal, marine or underground waters on or around the location which could be affected by the project?	No	No
15. Are there any areas or features of high landscape or scenic value on or around the location which could be affected by the project?	No	No
16. Are there any routes or facilities on or around the location which are used by the public for access to recreation or other facilities, which could be affected by the project?	No	No
17. Are there any transport routes on or around the location which are susceptible to congestion or which cause environmental problems, which could be affected by the project?	Yes, presently are no terminals to park the import or export vehicles. So the cargo has to wait on the main highway causing traffic congestion on the main highway.	No, the improved parking facilities will be expected to reduce the traffic congestion.
18. Is the project in a location where it is likely to be highly visible to many people?	Yes, the facilities are located in an urban environment	No
19. Are there any areas or features of historic or cultural importance on or around the location which could be affected by the project?	No, there are no known areas of historic or cultural importance will be affected by the Project.	No.
20. Is the project located in a previously undeveloped area where there will be loss of greenfield land?	No. This is an existing facility and proposed extension areas are located in areas used for agricultural, residential and commercial purposes	No.
21. Are there existing land uses on or around the location e.g. homes, gardens, other private property, industry, commerce, recreation, public open space, community facilities, agriculture, forestry, tourism, mining or quarrying which could be affected by the project?	Yes, the land use mostly commercial around the port facilities. A school is also located near the land port	Yes, some houses close to the land port will be affected.
22. Are there any plans for future land uses on or around the location which could be affected by the project?	No.	Yes, Proper land use planning and zoning is required around the land port to address

Screening Questions	Yes / No /?. Briefly describe	Is this likely to result in a significant effect? Yes/No/? – Why?
		unplanned commercial development.
23. Are there any areas on or around the location which are densely populated or built-up, which could be affected by the project?	Yes, the project areas are located near a town which is densely populated.	yes, there will be community health and safety issues during construction and operation of the facilities.
24. Are there any areas on or around the location which are occupied by sensitive land uses e.g. hospitals, schools, places of worship, community facilities, which could be affected by the project?	Yes, a school is located near the land port, which could be affected by construction and operation related impacts	No, the proposed parking facilities will reduce the traffic safety hazards near the school.
25. Are there any areas on or around the location which contain important, high quality or scarce resources e.g. groundwater, surface waters, forestry, agriculture, fisheries, tourism, minerals, which could be affected by the project?	No.	No.
26. Are there any areas on or around the location which are already subject to pollution or environmental damage e.g. where existing legal environmental standards are exceeded, which could be affected by the project?	Yes, the air quality particularly dust pollution is quite obvious near the land port.	No, the dust control measures will be taken up in this project.
27. Is the project location susceptible to earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions e.g. temperature inversions, fogs, severe winds, which could cause the project to present environmental problems?	Yes, risk of earth quake is a concern in the Project area.	No, the design of port facilities will consider adequate building standards.

5.2 Screening of Environmental Impacts of Sheola Land Port

The environmental screening checklist of proposed Sheola land port is given in Table 5.2. This is a new land port to be established around the areas currently being used by land customs station. The land port will be located in a flood plain land, which is a barren land during dry season and is being used for parking of vehicles, and some residential areas. A summary of the potential impacts associated with the proposed development are given below along with potential mitigation measures:

- Coal is the major import item from the current Sheola customs station and stack yards will be developed for storage of coal. This coal is generally of low quality with high sulphur content, and is being used for brick kilns around Sylhet. Runoff from the coal stack yards may produce acidic water. Adequate facilities will be designed for collection of the run off water in to the storage tank (equalization tank) for neutralization, and subsequent filtration through multilayer filter media and discharge after complying with DOE standards.
- Some part of the proposed site is located in a flood plain land and hence filled with water during monsoon season. An inland water basin, Muriha Haour, is located 3 km south of Sheola. Generally, flood plains are fish spawning areas and haours are the fish habitats. Care will be taken to avoid waste water runoff from proposed port facilities to Muriha Haour.

- Residences are located near the proposed port site. Hence dust and noise would be a major concern during the operation phase. Adequate noise control measures such as developing buffer zones around the port facilities will be considered during the design of the port. Dust control measures also will be considered during design of the facilities.
- A rainwater drain (channel) passes through the site, which carries rain water during monsoon and has a limited catchment area. The channel alignment is not straight, and has a bend and therefore channel erosion is noticed along the banks. Bank protection measures are required to control the erosion. The port site will be developed above the 100-year flood level and will consider the climate change impacts.

Table 5.2: Environmental Screening of Sheola Land Port

Screening Questions	**Yes / No /? . Briefly describe**	**Is this likely to result in a significant effect? Yes/No/? – Why?**
1. Will construction, operation or decommissioning of the Project involve actions which will cause physical changes in the locality (topography, land use, changes in water bodies, etc.)?	Yes, the proposed land is a flood plain land and extensive borrow material will be required for filling up the land to above the flood level.	Yes, the drainage pattern will be changed due to filling up of floodplain land
2. Will construction or operation of the Project use natural resources such as land, water, materials or energy, especially any resources which are non-renewable or in short supply?	Yes. Borrow material would be required for developing the land. Petroleum products will be required for both construction (construction equipment) and operation of land ports.	Yes, due to extensive land filling and construction activities are involved.
3. Will the Project involve use, storage, transport, handling or production of substances or materials which could be harmful to human health or the environment or raise concerns about actual or perceived risks to human health?	Yes. Coal is the main import item and will be stored in open stack yards within the facility. Petroleum products may also need to be stored at the port facilities for the operation of standby generators.	Yes, unless site designs adequately prevent coal dust from escaping the facility and falling on nearby agricultural and residential areas, and coal leachate from seeping into groundwater or being ejected untreated into surface waters.
4. Will the Project produce solid wastes during construction or operation or decommissioning?	Yes. Both solid and liquid waste will be produced by the land port during construction (construction related waste) and operation (cargo waste).	Yes. Solid waste will be generated at the land port. Proper collection and disposal of solid waste will be required.
5. Will the Project release pollutants or any hazardous, toxic or noxious substances to air?	Yes. Dust and emissions from construction equipment and vehicular traffic will be a concern both during construction and operation.	No, dust control measures will be adopted in the design (e.g. paved roads) and will be regularly maintained (e.g. regular sweeping or water spraying).
6. Will the Project cause noise and vibration or release of light, heat energy or electromagnetic radiation?	Yes. Construction and operation works generate noise levels from machinery and traffic	No, adequate buffer zone will be established around the port facilities to control the noise levels.
7. Will the Project lead to risks of contamination of land or water from releases of pollutants onto the ground or into surface waters, groundwater,	Yes. There is a risk of contamination from construction; and also from port facilities and cargo	Yes, the risk contamination is more due to changes in the drainage pattern in the project area.

Screening Questions	Yes / No /? . Briefly describe	Is this likely to result in a significant effect? Yes/No/? – Why?
coastal wasters or the sea?	storages (particularly coal stack yards)	
8. Will there be any risk of accidents during construction or operation of the Project which could affect human health or the environment?	Yes. Construction works may pose health and safety hazards to the workers and nearby community. During operation, major sources are dust and emissions from with activities associated with land ports and related facilities and traffic.	Yes. There are risks of physical hazards (cargo handling and use) and chemical hazards (dust and emissions form fuels. There are also risks of safety hazards due to non-use of personal protective equipment (e.g. safety shoes and helmets) during manual handling of cargo. Safe drinking and sanitation facilities are to be provided for both the office staff and working labourers.
9. Will the Project result in social changes, for example, in demography, traditional lifestyles, employment?	Yes. The project will generate employment opportunities for the local community both during construction and operation phases. The local communities are indigenous people and their life style could be impacted by increasing of their exposure to outside communities.	Yes, several employment opportunities will be generated in and around the port facilities, and in the associated industries.
10. Are there any other factors which should be considered such as consequential development which could lead to environmental effects or the potential for cumulative impacts with other existing or planned activities in the locality?	Yes. The existing 45 km road from Sylhet to the Sheola need to be strengthened and widened.	No, the road is passing through modified area of agricultural lands and settlements.
11. Are there any areas on or around the location which are protected under international or national or local legislation for their ecological, landscape, cultural or other value, which could be affected by the project?	No. The proposed facilities for extension are located in a human disturbed land. No areas that are protected under international and national legislation are located around the port facilities.	No.
12. Are there any other areas on or around the location which are important or sensitive for reasons of their ecology e.g. wetlands, watercourses or other waterbodies, the coastal zone, mountains, forests or woodlands, which could be affected by the project?	Yes, an haor (inland drainage basin) is located about 3 km south of the proposed port facility	No
13. Are there any areas on or around the location which are used by protected, important or sensitive species of fauna or flora e.g. for	No.	No

Screening Questions	Yes / No /? . Briefly describe	Is this likely to result in a significant effect? Yes/No/? – Why?
breeding, nesting, foraging, resting, overwintering, migration, which could be affected by the project?		
14. Are there any inland, coastal, marine or underground waters on or around the location which could be affected by the project?	Yes, the nearby rainwater drain and shallow groundwater could be affected by the Project	Yes, the water quality of the river and groundwater could be affected by the discharges from the proposed port facilities
15. Are there any areas or features of high landscape or scenic value on or around the location which could be affected by the project?	No	No
16. Are there any routes or facilities on or around the location which are used by the public for access to recreation or other facilities, which could be affected by the project?	No	No
17. Are there any transport routes on or around the location which are susceptible to congestion or which cause environmental problems, which could be affected by the project?	Yes, the road leading to the border are susceptible to traffic congestion.	No
18. Is the project in a location where it is likely to be highly visible to many people?	No, the facilities will be located in a rural setting	No
19. Are there any areas or features of historic or cultural importance on or around the location which could be affected by the project?	No.	No.
20. Is the project located in a previously undeveloped area where there will be loss of greenfield land?	Yes, the proposed facilities are located in a floodplain land which was previously underdeveloped	Yes, the drainage pattern would be affected if adequate drainage measures were not taken in the design
21. Are there existing land uses on or around the location e.g. homes, gardens, other private property, industry, commerce, recreation, public open space, community facilities, agriculture, forestry, tourism, mining or quarrying which could be affected by the project?	Yes, there are few houses located closed to the proposed port	No
22. Are there any plans for future land uses on or around the location which could be affected by the project?	No.	Yes, Proper land use planning and zoning is required around the proposed land port to address unplanned commercial development.
23. Are there any areas on or around the location which are densely populated or built-up, which could be affected by the project?	No	No
24. Are there any areas on or around	No	No

Screening Questions	Yes / No /? . Briefly describe	Is this likely to result in a significant effect? Yes/No/? – Why?
the location which are occupied by sensitive land uses e.g. hospitals, schools, places of worship, community facilities, which could be affected by the project?		
25. Are there any areas on or around the location which contain important, high quality or scarce resources e.g. groundwater, surface waters, forestry, agriculture, fisheries, tourism, minerals, which could be affected by the project?	No.	No.
26. Are there any areas on or around the location which are already subject to pollution or environmental damage e.g. where existing legal environmental standards are exceeded, which could be affected by the project?	Yes, under existing practices at the site, coal is informally stored in an open and haphazard manner, leading to potential contamination of adjacent water bodies from uncontrolled runoff.	Yes, the project could significantly improve the baseline pollution levels by providing a safe and controlled storage area for temporary coal storage, thus eliminating current uncontrolled practices.
27. Is the project location susceptible to earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions e.g. temperature inversions, fogs, severe winds, which could cause the project to present environmental problems?	Yes, risk of earth quake is a concern in the Project area.	No, the design of port facilities will consider adequate building standards.

5.3 Screening of Environmental Impacts of Ramgarh Land Port

The environmental screening checklist of proposed Ramgarh land port is given in Table 5.3. This is a new land port to be established in the areas used for agriculture. The land port will be located in already human disturbed area and no environmentally sensitive areas are located around the proposed port facilities. A summary of the potential impacts associated with the proposed development are given below along with potential mitigation measures:

- The Feni river located adjacent to the land port and is susceptible to pollution from the discharges of the port facilities. Adequate storm water drainage and waste water discharge facilities are to be designed to avoid any pollution of the river waters. The port site will be developed above the 100-year flood level and will consider the climate change impacts.
- An ashram (hermitage), a culturally important area is located near the proposed port facilities. To minimize dust and noise pollution on this area, adequate control measures such as developing buffer zones around the port facilities will be considered during the design of the port.
- Safe drinking water and sanitation facilities will be to be established for both employees and workers

Table 5.3: Environmental Screening of Ramgarh Land Port

Screening Questions	Yes / No /?. Briefly describe	Is this likely to result in a significant effect? Yes/No/? – Why?
1. Will construction, operation or	Yes, the proposed area is	Yes, currently there is no land

Screening Questions	Yes / No /?. Briefly describe	Is this likely to result in a significant effect? Yes/No/? – Why?
decommissioning of the Project involve actions which will cause physical changes in the locality (topography, land use, changes in water bodies, etc.)?	under agriculture use	use plan and zoning around the port facilities. Due to lack of this land use zoning restriction, lot of commercial development is expected around the port facilities
2. Will construction or operation of the Project use natural resources such as land, water, materials or energy, especially any resources which are non-renewable or in short supply?	Yes. Petroleum products will be required for both construction (construction equipment) and operation of land ports.	Yes, due to extensive construction activities are involved.
3. Will the Project involve use, storage, transport, handling or production of substances or materials which could be harmful to human health or the environment or raise concerns about actual or perceived risks to human health?	No	No
4. Will the Project produce solid wastes during construction or operation or decommissioning?	Yes. Both solid and liquid waste will be produced by the land port during construction (construction related waste) and operation (cargo waste).	Yes. Solid waste will be generated at the land port. Proper collection and disposal of solid waste will be required.
5. Will the Project release pollutants or any hazardous, toxic or noxious substances to air?	Yes. Dust and emissions from construction equipment and vehicular traffic will be a concern both during construction and operation.	No, dust control measures will be adopted in the design (e.g. paved roads) and will be regularly maintained (e.g. regular sweeping or water spraying).
6. Will the Project cause noise and vibration or release of light, heat energy or electromagnetic radiation?	Yes. Construction and operation works generate noise levels from machinery and traffic	No, adequate buffer zone will be established around the port facilities to control the noise levels.
7. Will the Project lead to risks of contamination of land or water from releases of pollutants onto the ground or into surface waters, groundwater, coastal wasters or the sea?	Yes. There is a risk of contamination from construction; and also from port facilities and cargo storages.	Yes, Feni river is located adjacent to the proposed port facility and will be susceptible to contamination if adequate measures are not in place.
8. Will there be any risk of accidents during construction or operation of the Project which could affect human health or the environment?	Yes. Construction works may pose health and safety hazards to the workers and nearby community. During operation, major sources are dust and emissions from with activities associated with land ports and related facilities and traffic.	Yes. There are risks of physical hazards (cargo handling and use) and chemical hazards (dust and emissions form fuels. There are also risks of safety hazards due to non-use of personal protective equipment (e.g. safety shoes and helmets) during manual handling of cargo. Safe drinking and sanitation facilities are to be provided for both the office staff and working labourers.

Screening Questions	Yes / No /?. Briefly describe	Is this likely to result in a significant effect? Yes/No/? – Why?
9. Will the Project result in social changes, for example, in demography, traditional lifestyles, employment?	Yes. The project will generate employment opportunities for the local community both during construction and operation phases. The local communities are indigenous people and their life style could be impacted by increasing of their exposure to outside communities.	Yes, several employment opportunities will be generated in and around the port facilities, and in the associated industries.
10. Are there any other factors which should be considered such as consequential development which could lead to environmental effects or the potential for cumulative impacts with other existing or planned activities in the locality?	Yes. The connecting road from Ramgarh to Dhaka-Chittagong highway (58 km) need to be widened and the existing bridges are to be strengthened.	Yes, the road passes through hilly terrain and significant cut and fill would be required.
11. Are there any areas on or around the location which are protected under international or national or local legislation for their ecological, landscape, cultural or other value, which could be affected by the project?	No. The proposed facilities for extension are located in a human disturbed land. No areas that are protected under international and national legislation are located around the port facilities.	No.
12. Are there any other areas on or around the location which are important or sensitive for reasons of their ecology e.g. wetlands, watercourses or other waterbodies, the coastal zone, mountains, forests or woodlands, which could be affected by the project?	No	No
13. Are there any areas on or around the location which are used by protected, important or sensitive species of fauna or flora e.g. for breeding, nesting, foraging, resting, overwintering, migration, which could be affected by the project?	No.	No
14. Are there any inland, coastal, marine or underground waters on or around the location which could be affected by the project?	Yes, the Feni river is located next to the proposed port facilities.	Yes, the water quality of the river could be affected by the discharges from the proposed port facilities
15. Are there any areas or features of high landscape or scenic value on or around the location which could be affected by the project?	No	No
16. Are there any routes or facilities on or around the location which are used by the public for access to recreation or other facilities, which could be affected by the project?	No	No

Screening Questions	Yes / No /?. Briefly describe	Is this likely to result in a significant effect? Yes/No/? – Why?
17. Are there any transport routes on or around the location which are susceptible to congestion or which cause environmental problems, which could be affected by the project?	Yes, the road leading to the border are susceptible to traffic congestion.	No
18. Is the project in a location where it is likely to be highly visible to many people?	No, the facilities will be located in a rural setting. The Ramgarh town which is a major settlement with about 50,000 population is located about 2 km from the port site.	No
19. Are there any areas or features of historic or cultural importance on or around the location which could be affected by the project?	No. There is an ashram located close to the proposed land port site, but it will not be affected by the Project.	No.
20. Is the project located in a previously undeveloped area where there will be loss of greenfield land?	No. The proposed facilities are located in an agriculture land.	No.
21. Are there existing land uses on or around the location e.g. homes, gardens, other private property, industry, commerce, recreation, public open space, community facilities, agriculture, forestry, tourism, mining or quarrying which could be affected by the project?	No	No
22. Are there any plans for future land uses on or around the location which could be affected by the project?	No.	Yes, Proper land use planning and zoning is required around the proposed land port to address unplanned commercial development.
23. Are there any areas on or around the location which are densely populated or built-up, which could be affected by the project?	No	No
24. Are there any areas on or around the location which are occupied by sensitive land uses e.g. hospitals, schools, places of worship, community facilities, which could be affected by the project?	No	No
25. Are there any areas on or around the location which contain important, high quality or scarce resources e.g. groundwater, surface waters, forestry, agriculture, fisheries, tourism, minerals, which could be affected by the project?	No.	No.
26. Are there any areas on or around the location which are already subject to pollution or environmental damage e.g. where existing legal environmental standards are	No	No.

Screening Questions	Yes / No /?. Briefly describe	Is this likely to result in a significant effect? Yes/No/? – Why?
exceeded, which could be affected by the project?		
27. Is the project location susceptible to earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions e.g. temperature inversions, fogs, severe winds, which could cause the project to present environmental problems?	Yes, risk of earth quake is a concern in the Project area.	No, the design of port facilities will consider adequate building standards.

6 Environmental Management Plans

The basic objective of the EMP is to manage adverse impacts of proposed project interventions in a way that minimizes the adverse impact on the environment and people at the subproject sties. The specific objectives of the EMP are to:

- Facilitate the implementation of the mitigation measures discussed earlier in the document.
- Maximize potential project benefits and control negative impacts;
- Draw responsibilities for BLPA, contractors, consultants, and other members of the project team for the environmental and social management of the Project;
- Define a monitoring mechanism and identify monitoring parameters in order to:
- Ensure the complete implementation of all mitigation measures,
- Ensure the effectiveness of the mitigation measures;
- Maintain essential ecological process, preserving biodiversity and where possible restoring degraded natural resources; and
- Assess environmental training requirements for different stakeholders at various levels.

The EMP will be managed through a number of tasks and activities and site specific management plans. One purpose of the EMP is to record the procedure and methodology for management of mitigation identified for each negative impacts of the subproject. The management will clearly delineate the responsibility of various participants and stakeholders involved in planning, implementation and operation of the subproject.

6.1 Inclusion of Relevant Components of EMP in Contract Documents

The EIAs to be prepared for subprojects will include a section on special environmental clauses to be incorporated in the Tender Document under General/Particular Specification. These clauses are aimed at ensuring that the Contractor carries out his responsibility of implementing the environment management plan (EMP), monitoring plan as well as other environmental and safety measures. Such clauses may specify, for example, penalties for non-compliance as well as incentives to promote strong compliance. The various contractors must be made accountable to implement the plans and mitigation measures which pertain to them through contract documents and/or other agreements of the obligations and importance of the environmental and social components of the project.

6.2 Institutional Arrangements

The Project implementation will be led by the Project Implementation Unit (PIU) that will be established within BLPA. The PIU will be responsible for procurement of consultants for carrying out the EIA and engineering designs for the proposed sub components. The PIU will be headed by the Project Director (PD). The PIU will consists of an Environment and Social (E&S) Cell with qualified staff. This E&S Cell will assist the PIU on issues related to environmental and social management and oversee the Construction Supervision Consultant (CSC) and contractors and will compile quarterly monitoring reports on EMP compliance, to be sent to the Project Director and also shared with the World Bank, throughout the construction period. The E&S Cell will also provide trainings to the BLPA field personnel responsible for monitoring of environmental compliance during both construction and O&M phases of the project. The organogram PIU is shown in Figure 6.1. In addition, BLPA will recruit a permanent Environmental, Health and Safety Specialist in all the proposed land ports, who will be responsible for overseeing the environmental mitigation measures during operation and maintenance period.

The overall responsibility of environmental performance including EMP implementation of the Project will rest with the PIU. Aside from their in-house environmental and social specialists, the PIU will engage construction supervision consultants (CSC) to supervise the contractors including on their execution of construction-related environmental and social management requirements and

measures. The CSC will ensure adherence to the design parameters including quality requirements, as well as all EMP measures related to construction.

The E&S Cell will have adequate numbers of environmental and social scientists/specialists and maintain coordination and liaison with CSC for effective EMP implementation. A draft ToR for the environmental consultants of E&S cell is given in Annex 6. Similarly, the CSC will also have environmental and social monitors who will supervise and monitor the contractors for effective EMP implementation. The contractors in turn will also have HSE supervisors who will ensure EMP implementation during construction activities and will be tasked to develop necessary detailed HSE plans as per this EMP, and oversee their implementation.

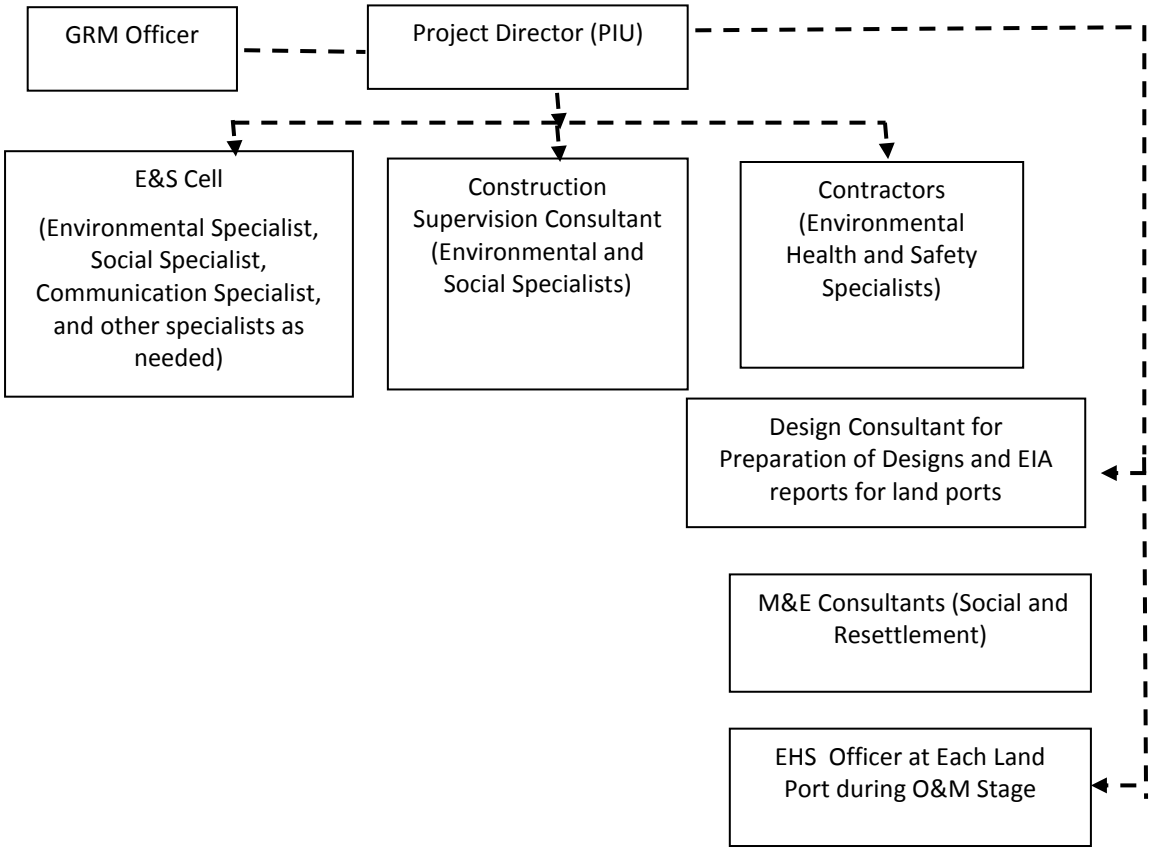


Figure 6.1: Organogram for Environmental and Social Management of the Project

The PIU will also engage an independent organization to carry out external monitoring and evaluation on implementation of RAP; however, this component will not involve monitoring and evaluation of EMP due to limited nature of impacts. The roles and responsibilities of PIU and its consultants are presented in Table 6.1.

Table 6.1: Roles and Responsibilities for EMF Implementation

Organizations	Responsibilities
PIU/BLPA	• Ensure that all project activities are well-managed and coordinated. • Recruitment of consultants for EIA and engineering designs; and approval of EIA by the DOE • Procurement of works and goods. • Payment of compensation to the project affectees • Recruitment and supervision of Construction Supervision Consultants (CSC) • Recruitment and supervision of external monitor and independent Panel of Experts

Organizations	Responsibilities
	• Carry out environmental assessment of sub projects in Component 1A and preparatory studies in Component 1C in compliance with the World Bank and Government of Bangladesh requirements
E&S Cell within PIU/BLPA	• Responsible for assisting PD with developing TORs and hiring of consultants to carry out any required environmental assessment work for subprojects and also for preparatory studies in Component 1C, reviewing consultant deliverables related to environmental assessment, reviewing bid documents for inclusion of EMP measures, supervising construction activities, producing periodic monitoring reports, • Ensuring inclusion of EMP in bidding documents • Providing training on EMP principles and requirements to CSC, contractors, BLPA field staff, and others as needed to ensure effective implementation of EMP • Supervising CSC for the implementation of EMP • Closely coordinate with other concerned agencies, local governments and communities to support implementation of EMP • Preparation of progress reports on implementation of EMP. • Ensure effective implementation of EMP components not directly tasked to the contractor including components dealing with indirect, induced and cumulative effects, as well as operations and maintenance stage plans and measures. • Commissioning and oversight/review of consultant reports for EIAs/EMPs to be developed for the subcomponents of the Project • Ensure compliance of the studies on Component 1C (Component 1C: Preparation Studies and Activities to Enhance Connectivity of Land Ports and Project Implementation Support) comply with World Bank and Government of Bangladesh requirements. • Responsible for developing standard environmental code of practices during operation stage of land ports
EHS Officer at each Land port	• Responsible for implementing standard environmental code of practices during operation stage of land ports • Implementation of mitigation and monitoring measures during operation stage of the land ports (monitoring of dust, traffic, solid waste collection and disposal, OHS issues, etc.)
Design and EIA Consultants	• Carrying out EIA studies in compliance with the GoB and World Bank guidelines following the EMF • Preparing EMP for inclusion in the bid documents
CSC	• Supervise civil works, ensuring compliance with all design parameters including quality requirements • Supervising contractors for EMP implementation • Prepare monthly reports and submit to PIU • CSC will have dedicated environmental and social staff
Contractor	• Responsible for implementation of mitigation and monitoring measures proposed in the EMP • Each contractor will recruit an Environmental, Health, and Safety (EHS) Manager, who will be responsible for implementing the contractors' environmental, health and safety responsibilities, and liaising with government agencies. S/he will have adequate number of staff to support him/her for these tasks.
M&E Consultant	• External Monitoring and evaluation of Resettlement Action Plan

6.3 Environmental and Social Management

Details of further tasks to be carried out and various plans to be prepared for all components of the Project area given in the Table 6.2. Only Component 1 (Investments in infrastructure, systems and procedures to modernize key selected land ports) of the Project needs special attention including

preparation of EIAs and EMPs and their implementation. For security improvement investments at Benapole, and any other minor land port related investments which do not require a separate EIA and detailed site-specific EMP based on screening (for example, investments such as retrofitting of existing buildings, installation or upgrading of perimeter gates and fences, installation of security cameras, etc.), contractors will be required to apply applicable standard Environmental Codes of Practice (ECoPs) for construction management (see Annex 3).

Detailed EIA studies to be carried out for each subproject and clearance of the World Bank and DOE will be obtained before their implementation. Studies carried out under Component 1C related to future investments on enhanced connectivity to the land ports will also be completed in accordance with applicable World Bank and national standards, including consultations and public disclosure.

Table 6.2: Management Plans/ Additional Tasks for the Project

	Plan/Task	Responsibility			Timing
		Plan Preparation	Plan Approval	Review/ Implementation	
A.	**Component 1: Investments in infrastructure, systems and procedures to modernize key selected land ports essential for trade with India and Bhutan**				
	Plans prepared / to be prepared by BLPA / its Consultants and Additional tasks				
1.	Review and update of detailed TORs for the EIA studies for identified subprojects (Sheola and Bhomra)	Independent Consultant	BLPA/ WB	Independent Environmental Consultant	ToR for initially identified/proposed sub projects for Component 1A is already prepared (Annex 5). The scope of the work for carrying out the EIA study is also given in Annex 6
2.	Screening of third land port to be proposed under this component and other investments such as security fencing around Benapole land port facility	E&S Cell	BLPA/ WB	Independent Environmental Consultant	During first year of project implementation (2017), and ongoing as necessary throughout project implementation. A generic screening checklist has been included in Annex 7
3.	Design and EIA/RAP studies for additional land ports	BLPA Consultant	BLPA/ WB	E&S Cell, Independent Environmental Consultant	During first year of implementation or ongoing as required.
4.	Mitigation and Compliance Monitoring Plans	EIA Consultants	BLPA /WB	BLPA through contractors	Preliminary plans are prepared (Table 6.3), but will be updated during detailed EIA studies of subprojects
5.	Environmental Codes of Practice (ECPs)	EIA Consultants	BLPA /WB	BLPA through contractors	Already prepared (Annex 3)

	Plan/Task	Responsibility			Timing
		Plan Preparation	Plan Approval	Review/ Implementation	
6.	Inclusion of environmental clauses in bid documents for various contracts	E&S Cell	BLPA /WB	CSC	2017-2020
7.	Soil quality at Sheola	E&S Cell	BLPA /WB	BLPA through a laboratory	2017
	Plans to be prepared by contractors				
8.	OHS Plan	All contractors	CSC and PIU	All contractors	Before mobilization of each contractor
9.	Pollution Prevention Plans (related to air, noise, soil, water resources)	All contractors	CSC and PIU	All contractors	Before mobilization of each contractor
10.	Waste Disposal and Effluent Management Plan	All contractors	CSC and PIU	All contractors	Before mobilization of each contractor
11.	Drinking Water Supply and Sanitation Plan	All contractors	CSC and PIU	All contractors	Before mobilization of each contractor
12.	Traffic Management Plan	All Contractors	CSC and PIU	All contractors	Before mobilization of each contractor
13.	Construction Camp Management Plan	All contractors	CSC and PIU	All contractors	Before mobilization of each contractor
14.	Fuels and hazardous substances management plan	All contractors	CSC and PIU	All contractors	Before mobilization of each contractor
15.	Emergency Preparedness Plan (for construction phase)	All contractors	CSC and PIU	All contractors	Before mobilization of each contractor
	Plans to be prepared for O&M Phase				
16.	O&M Phase Environmental Code of Practices	CSC	BLPA/WB	BLPA	Prior to completion of construction
17.	Environmental Management System (waste disposal, air and noise quality, etc.)	BLPA (through consultants)	-	BLPA	Prior to completion of construction
18.	Safety Management Systems (OHS Management)	BLPA (through consultants)	-	BLPA	Prior to completion of construction
19.	Land use planning around the port facilities	Local governments (Union Parishad and Upa Zila)		Local government with the support of BLPA	Prior to completion of construction
B.	**Component 2: Enhance trade sector coordination and productive capacity**				

	Plan/Task	Responsibility			Timing
		Plan Preparation	Plan Approval	Review/ Implementation	
20.	No environmental and social tasks				
C.	**Component 3: National Single Window Implementation and Strengthening Customs Modernization**				
21.	No environmental and social tasks				

6.3.1 Environmental Codes of Practice

The environmental codes of practice (ECoPs) are generic, non-site-specific guidelines. The ECoPs consist of environmental management guidelines and practices to be followed by the contractors for sustainable management of all environmental issues. The contractor will be required to follow them and also use them to prepare site-specific management plans (discussed later in the Section). The ECoPs are listed below and attached in Annex 3.

- ECoP 1: Waste Management
- ECoP 2: Fuels and Hazardous Substances Management
- ECoP 3: Water Resources Management
- ECoP 4: Drainage Management
- ECoP 5: Soil Quality Management
- ECoP 6: Erosion and Sediment Control
- ECoP 7: Top Soil Management
- ECoP 8: Topography and Landscaping
- ECoP 9: Borrow Areas Management
- ECoP 10: Air Quality Management
- ECoP 11: Noise and Vibration Management
- ECoP 12: Protection of Flora
- ECoP 13: Protection of Fauna
- ECoP 14: Protection of Fisheries
- ECoP 15: Road Transport and Road Traffic Management
- ECoP 16: Construction Camp Management
- ECoP 17: Cultural and Religious Issues
- ECoP 18: Workers Health and Safety

6.3.2 Mitigations and Compliance Monitoring Plans

The mitigation and compliance monitoring plans are the key element of EMP to be prepared on the basis of impact assessment described in Chapter 5. The Plans describe the potentially negative impacts of each subproject activity, lists mitigation and control measures to address the negative impacts, and assigns responsibilities for implementation and monitoring of these measures. The Plans are outlined in Table 6.3, Table 6.4 and Table 6.5 which will be updated by detailed EIA study.

6.3.3 Construction Stage Site Specific Management Plans

Pollution Prevention Plan will be prepared and implemented by the contractors on the basis of the ECoPs and WBG EHS Guidelines (2007) that will be part of the bidding documents. The Plan will be submitted to the CSC for their review and approval before contractor mobilization.

Waste Disposal and Effluent Management Plan will be prepared and implemented by the Contractor on the basis of the EMP, ECoP, and WBG EHS Guidelines (2007), which will be part of the bidding

documents. The Plan will be submitted to the CSC for their review and approval before contractor mobilization.

Drinking Water Supply and Sanitation Plan: Separate water supply and sanitation provisions will be needed for the temporary facilities including offices, labor camps and workshops in order not to cause shortages and/or contamination of existing drinking water sources. The Plan will be submitted to the CSC for their review and approval before contractor mobilization.

Occupational Health and Safety (OHS) Plan will be prepared and implemented by each contractor on the basis of the WBG EHS Guidelines (2007), ECoPs, and other relevant standards. The Plan will be submitted to the CSC for their review and approval before contractor mobilization.

Borrow Area Management Plan will be prepared and implemented by each contractor on the basis of the WBG EHS Guidelines (2007), ECoPs, and other relevant standards. The Plan will be submitted to the CSC for their review and approval before contractor mobilization

Traffic Management Plan will be prepared by each contractor after discussion with BLPA and authorities responsible for roads and traffic. The Plan will be submitted to the CSC for their review and approval before contractor mobilization. The Plan will identify the routes to be used by the contractors, procedures for the safety of the local community particularly pedestrians, and monitoring mechanism to avoid traffic congestion.

Construction Camp Management Plan will be prepared by each contractor. The Plan will include the camp layout, details of various facilities including supplies, storage, and disposal. The Plan will be submitted to the CSC for their review and approval before camp establishment.

Fuel and Hazardous Substances Management Plan will be prepared by each contractor in accordance with the standard operating procedures, relevant guidelines, and where applicable, material safety data sheets (MSDS). The Plan will include the procedures for handling the oils and chemical spills. The Plan will be submitted to the CSC for their review and approval before contractor mobilization.

An **Emergency Preparedness Plan** will be prepared by each contractor after assessing potential risks and hazards that could be encountered during construction. The Plan will be submitted to the CSC/BLPA for their review and approval before contractor mobilization.

Table 6.3: Mitigation and Compliance Monitoring Plan – Pre-Construction/Design Phase

Environmental and sustainability issue	Issues/Impacts/impact sources	Mitigation Measures/Action Plan	Responsibility	
			Execution	Monitoring
Land Port facilities and land use planning	Issues with existing land ports include • Unregulated development around port facilities • Lack of parking areas • lack of adequate passenger facilities; These above issues are also relevant to the proposed land port sites when designing the project facilities	• Design and provide adequate facilities in the land port designs. • As a part of the engineering designs, a long term master plan will be developed for planning of land port facilities with adequate buffer areas around the port facilities. In addition, the project will support creation and/or updating of land use plans around the port areas during project implementation, to help address challenges related to unregulated but anticipated development around the port facilities that falls outside the scope of the land port's jurisdiction and immediate buffer zone.	Consultant Local Government (Union Parishad and Upa Zila)	BLPA
Drinking water and sanitation facilities	Existing drinking water supply in Bhomra land port is reported be not potable. There are no public water supply system available at any of the proposed land ports	• Design safe drinking water supply and sanitation facilities at all the land ports • There will be Provision for regular maintenance and treatment facilities of the above facilities	Consultant	BLPA
Hydrology	Sheola land port is located near a rainwater drain/channel. The land port may be subjected to floods and also from the bend erosion of the channel.	• Design of land ports will consider flood fore casting and if necessary will construct embankments (or filling the lands above flood levels) for protection of land ports from flooding • Bank protection measures to control the erosion of the rainwater drain	Consultant	BLPA

Environmental and sustainability issue	Issues/Impacts/impact sources	Mitigation Measures/Action Plan	Responsibility	
			Execution	Monitoring
Storm water drainage and sewerage	There are no adequate drainage facilities in Bhomra land port; and water logging is noticed. All other land ports require adequate storm water and sewerage facilities are required to minimize surface water contamination	• Design of storm water drainage for all land ports • Avoiding installation of storm drainage catch basins that discharge directly into surface waters, using containment basins in areas with a high risk of accidental releases of oil or hazardous materials (e.g. fueling or fuel transfer locations), and oil / grit or oil / water separators in all runoff collection areas • Septic tank facilities are to be established at all land ports	Consultant	BLPA
Dust and emissions	Dust is a major health concern at Bhomra land port and also will be a major concern at the proposed land ports	• Dust control measures also will be considered during design of the facilities. These could include, for example, concrete pavement of transshipment yard, pavement of unpaved roads and sidewalks, dust suppression through water sprays or covered storage areas; sweeping/vacuum collecting equipment, etc. • Storage facilities or dust control measures are to be provided for loose or dust generating materials • Plantation around the boundary walls of the port facilities	Consultant	BLPA
Noise	Noise from port facilities	• Design Plantation development around the boundary walls of the port areas	Consultant	BLPA
Environmental assessment of proposed land ports	The current environmental assessment is based on framework approach; however detailed environmental assessment of each land port needs to be carried out.	• Hiring of consultants and carry out EA studies for all land ports in compliance with this EMF, and World Bank and GoB requirements • Submission of EA documents for DOE and World Bank clearance.	Consultants	BLPA

Table 6.4: Mitigation and Compliance Monitoring Plan – Construction Phase

Environmental and sustainability issue	Issues/Impacts/impact sources	Mitigation Measures	Responsibility	
			Execution	Monitoring
Air Quality	• Emissions from construction related traffic and machinery. • Dust from works, other machinery, concrete mixing, and traffic from trucks and vehicles. •	• Implement measures in ECoP 10 Air Quality Management. Dust generation will be restricted as much as possible and water sprinkling carried out as appropriate, especially where earthmoving, and excavation are carried out. • Emissions from construction equipment and traffic will comply with World Bank EHS guidelines and will be monitored.	Contractor	CSC, PIU
Surface Water and Sediment Quality	• Increase in water turbidity from construction works near natural water channels. • Waste water from construction camps, offices and warehouses. • Spillage of fuels, oils, and other chemicals, and waste effluents from workshops and washing bays. • Erosion from construction works	• Implement measures in ECoPs 3, 4 and 6 • Installing filter mechanisms (e.g. draining swabs, filter berms, drainage inlet protection, sediment traps and sediment basins) to prevent sediment and particulates from reaching the surface water.	Contractor	CSC, PIU
Soil and groundwater quality	• Pollution from construction activities and storage facilities. • Soils near the coal storage areas in Sheola are contaminated with coal dust	• Implement ECoP 5: Soil Quality Management • Test the soil quality for Sulphur contamination and develop a more detailed remediation plan before construction begins, in parallel to review and finalization of all subproject design aspects. • The soil contaminated with coal dust at Sheola land port will be excavated and transported to nearest brick kilns	Contractor	CSC, PIU

Environmental and sustainability issue	Issues/Impacts/impact sources	Mitigation Measures	Responsibility	
			Execution	Monitoring
		• For effluents to be discharged from workshops, camps, and offices, treatment arrangements such as retention ponds and septic tanks will be incorporated in the facility designs.		
Noise	• During construction on the land, noise levels produced by vehicles, machinery, concrete mixing, and other construction activities will exceed the applicable standards and may cause nuisance to local community	• Limit the noisy construction activities to daylight hours • Maintain the equipment and vehicles as per manufacturer guidelines	Contractor	CSC, PIU
Health and Safety:	• Workers health and safety hazards associated with construction activities • Community health and safety hazards at the construction sites, including exposure to sexually transmitted diseases such as HIV/AIDS	• Implement ECoP 18 pm Workers Health and Safety, ECoP 16: Construction Camp Management • Require all contractors to specify a code of conduct for expectations of worker behavior at site and with local communities • Separation of people from vehicles and making vehicle passageways one-way, to the extent practical • Traffic management	Contractor	CSC, PIU
Child labour	• Risk of contractors or subcontractors hiring child labour in the construction activities.	• National laws on child labour will be strictly followed. No child labour will be hired by the contractors or subcontractors in any of the project activities.	Contractor	CSC, PIU

Table 6.5: Mitigation and Compliance Monitoring Plan – Operation Phase

Environmental and sustainability issue	Issues/Impacts/impact sources	Mitigation Measures	Responsibility	
			Execution	Monitoring
Air Quality	• Dust from the access roads and port facilities • Fuel storage facilities and transfer may also release volatile organic compounds (VOC).	• Regularly sweeping yards and handling areas • Keeping transfer equipment (e.g. cranes, forklifts, and trucks) in good working condition • Implementing tank and piping leak detection and repair programs.	E&S Cell	BLPA
Surface Water Quality	• Rain water discharge from material stored in open stack yards, such as coal, may carry soot particles and contaminate the surface waters of nearby streams.	• Installing and maintenance of filter mechanisms (e.g. sand filters, draining swabs, sediment traps and sediment basins) to prevent sediment and particulates from reaching the surface water.	Land Port Operator	BLPA
Soil and groundwater quality	• Leakage and spillage of cargo storages including fuels, waste disposal sites and accidents. • Spills of fuels may occur due to accidents (e.g. collisions, groundings, fires), and storage facilities for back up generators.	• Oil and chemical-handling facilities will be located with consideration of natural drainage systems; • Ports will include secondary containment for above ground liquid storage tanks and tanker truck loading and unloading areas; • Hazardous materials storage and handling facilities will be constructed away from active traffic and protect storage areas from vehicle accidents • Fuel dispensing equipment will be equipped with “breakaway” hose connections that provide emergency shutdown of flow should the fueling connection be broken by movement.	Port Operator	BLPA

Environmental and sustainability issue	Issues/Impacts/impact sources	Mitigation Measures	Responsibility	
			Execution	Monitoring
		• Fueling equipment will be inspected daily to ensure all components are in satisfactory condition. • Preparation of spill prevention, control and countermeasure plan by the BLPA		
Noise	• Noise sources in port operations include cargo handling, vehicular traffic, and loading / unloading containers and ships.	• Consideration will also be given in the planning stage for developing vegetation and walls around the port facilities to reduce noise levels.	E&S Cell	BLPA
Occupational health and safety	• Physical hazards associated with cargo handling and use of associated machinery and vehicles. • Work with fuels may present a risk of exposure to volatile organic compounds (VOC) via inhalation or skin contact during normal use or in the case of spills. • Exposure to dust from handling of dry cargo (depending on type of cargo handled, e.g. cement, grain, and coal) and from roads. • Noise from cargo handling, including vehicular traffic, and loading/ unloading.	• Constructing the surface of port areas to be: of adequate strength to support the heaviest expected loads; level, or with only a slight slope; free from holes, cracks, depressions, unnecessary curbs, or other raised objects; continuous; and skid resistant • Materials handling operations will follow a simple, linear layout to reduce the need for multiple transfer points. • Dust control mechanism through water sprays during coal handling; and covering the coal storage areas with tarpaulin/plastic sheets. • Development of Safety System. This safety system would include procedures to regulate the safe movement of trucks within the port facilities, protect the general public from dangers arising from traffic, and prevent events that may result in injury to workers, the public, or the environment. The Safety Management System would include comprehensive emergency	Terminal Operator	BLPA

Environmental and sustainability issue	Issues/Impacts/impact sources	Mitigation Measures	Responsibility	
			Execution	Monitoring
		preparedness and response plans that provide a coordinated response based on the port and community resources required to manage the nature and severity of the emergency event.		
Community health and safety	• Road safety due to increased traffic after construction • Risk of accidents with activities associated with cargo traffic • Visual concerns from cargo operations are uncontrolled dumping, debris, derelict warehouses and broken machinery	• Road safety signs and design, in consultation with communities, will be developed. These include road crossings for children and elderly people, pedestrian facilities, traffic signals, speed controls, etc. • To minimize impacts on visual concerns of the community and improve the cleanliness of port facilities, it is required to implement regular clean up (in the port facilities and water surface) and maintenance	Port Operator	BLPA

6.4 Monitoring Program

As one of the key elements of the EMP, a two-tier monitoring program has been proposed comprising compliance monitoring and effects monitoring. The main purpose of this monitoring program is to ensure that the various tasks detailed in the EMP particularly the mitigation measures are implemented in an effective manner, and also to evaluate program impacts on the key environment and social parameters. Various types of EMP monitoring are discussed below.

6.4.1 Compliance Monitoring

The purpose of the compliance monitoring is to ensure that the contractor implements the mitigation measures given in the EMP are effectively and timely implemented. This monitoring will generally be carried out by the CSC with the help of checklists prepared on the basis of the mitigation measures given in Chapter 5.

6.4.2 Effects Monitoring

Effects monitoring is a very important aspect of environmental management to safeguard the protection of environment. The effects monitoring plan proposed for the subprojects is presented in Table 6.6; which will be revisited and revised during EIA studies. The monitoring will comprise surveillance to check whether the contractor is meeting the provisions of the contract during construction and operation of the project including the responsible agencies for implementation and supervision. Compliance indicators or threshold limits for the monitoring are also given in Table 6.6.

Table 6.6: Effects Monitoring Plan

Parameter/ Activity	Location	Means of Monitoring	Compliance indicator/ threshold limits	Frequency	Responsible Agency	
					Impleme-ntation	Super-vision
During Construction						
Hydrocarbon and chemical storage	Construction camps and yards	Visual Inspection of storage facilities	No leakages from the containers in the storage	Monthly	Contractor	CSC
Traffic Safety	Access Roads	Visual inspection to see whether proper traffic signs are placed and flag-men for traffic management are engaged	Smooth flowing of traffic; and placement of traffic signs and flag-men	Monthly	Contractor	CSC
Dust	Construction sites	Visual inspection to ensure good standard equipment is in use and dust suppression measures (e.g., spraying	No dust generation from the construction activities	Daily	Contractor	CSC

Parameter/ Activity	Location	Means of Monitoring	Compliance indicator/ threshold limits	Frequency	Responsible Agency	
					Impleme-ntation	Super-vision
		of waters) are in place.				
	Material storage sites	Visual inspection to ensure dust suppression work plan is being implemented	No dust generation from the material storage sites	Monthly	Contractor	CSC
Air quality (PM, CO_2, SO_2, NOx)	Near the land ports	24 hours continuous monitoring with the help of appropriate instruments and analyzers	Compliance with the DOE standards	Quarterly during the constructi on phase	Contractor	CSC
Noise	Construction sites	Noise measurement using noise meter; Ensure work restriction between 21:00-06:00 close to the residential areas	Compliance with DOE standards	Weekly	Contractor	CSC
Water quality (For all drinking water parameters including arsenic, iron and coliforms)	Locations of tube-well installation installed for each land port	Depth of tube well should be more than 30m. Test water for arsenic and iron before installing of casing. If the quality is found not suitable further deepening will be done.	Compliance with DOE drinking water standards	During drilling of wells	Contractor trough a nationally recognized laboratory	CSC
	Water wells to be used by contractors for drinking	Laboratory analysis of all drinking water parameters specified in national standards	Compliance with DOE drinking water standards	After developm ent of wells	Contractor trough a nationally recognized laboratory	CSC
Waste Management	Construction camps and	Visual inspection	Facilities are clean and waste collection	Monthly	Contractor	CSC

Parameter/ Activity	Location	Means of Monitoring	Compliance indicator/ threshold limits	Frequency	Responsible Agency	
					Impleme-ntation	Super-vision
	construction sites	that solid waste collection facilities are in place and waste is disposed at designated site	and disposal facilities are in place			
Drinking water and sanitation	Camps, offices	Ensure the construction workers are provided with safe water and sanitation facilities in the site	Availability of safe drinking water and sanitation facilities	Weekly	Contractor	CSC
Cultural and archeological Sites	At all work sties	Visual observation for chance finds	Indication of chance finds	Daily	Contractor	CSC, BLPA
Restoration of Work Sites	All Work Sites	Visual Inspection	The facilities are clean with no waste at the works sties	After completio n of all works	Contractor	CSC, M&E Consult ant, BLPA
Safety of workers Monitoring and reporting accidents	At work sites	Usage of Personal Protective equipment and implementatio n of contractor OHS plan	All workers should use necessary PPEs	Monthly	Contractor	CSC, BLPA
Grievances	In the project area	Number of grievances registered and addressed	Minutes of grievance redress meetings	Monthly	PIU	CSC, BLPA
During Operation and Maintenance						
Dust	At al land port facilities and access roads	Visual inspection	No visible dust	Weekly	EHS Officer of respective Port	BLPA
Air quality (PM, CO_2, SO_2, NOx)	Near the land ports	24 hours continuous monitoring	Compliance with the DOE standards	Quarterly	BLPA through a laboratory	BLPA

Parameter/ Activity	Location	Means of Monitoring	Compliance indicator/ threshold limits	Frequency	Responsible Agency	
					Impleme-ntation	Super-vision
Traffic safety	At al land port facilities and access roads	Visual inspection	NO traffic congestion	Weekly	EHS Officer of Port	BLPA
Cleanliness	At all land ports	Visual Inspection	Facilities are clean with no garbage	Weekly	EHS Officer of respective Port	BLPA
Solid waste collection	At tall land ports	Visual inspection that waste collection facilities are in use	Waste collection and disposal facilities are in place	Weekly	EHS Officer of respective Port	BLPA
Workers and community health and safety	At all land ports	Visual inspection on health and safety issues	Use of necessary PPEs by workers	Monthly	EHS Officer of respective Port	BLPA
Coal wash water	At all land ports	Sampling and analysis of water from stack yards; visual inspection of treatment facilities	DOE effluent standards	Quarterly	BLPA through a laboratory	BLPA
Accidents	At all land ports	Visual assessment and Interviews with involved people	Accident reports	As and when happened	EHS Officer of respective Port	BLPA
Drinking water and sanitation facilities	At all land ports	Visual inspection and interviews	Availability of safe drinking water and sanitation facilities	Monthly	EHS Officer of respective Port	BLPA

6.5 Performance Indicators

For evaluating the performance of the environmental management and monitoring plan, performance indicators are identified to for efficient and timely implementation of measures/actions proposed in EMP. The indicators are defined both for implementation phase and for operation phase. CSC will be responsible for compiling the information on these indicators and report to BLPA.

To measure the overall environmental performance of the project, a list of performance indicators is given below, however a detailed list of indicators will be prepared by EIA studies

- Number of inspections carried out by CSC per month
- Number of non-compliances observed by CSC or E&S.
- Availability of environmental specialists in E&S.
- Availability of environmental specialists in CSC.
- Availability of environmental specialists with contractors.

- Timely reporting of documents (as defined in EMP and monitoring plan)
- Number of trainings imparted to stakeholders/other capacity building initiatives
- Timely disbursement of compensation/ timely resettlement of project affectees
- Timely implementation of resettlement schedule.
- Number of grievances received.
- Number of grievances resolved.
- Number of construction related accidents.

6.6 Grievance Redress Mechanism

BLPA will establish a project level Grievance Redress Mechanism (GRM) [6] based on its existing institutional mechanism. A three tier grievance redress committees (GRC) will be established for this Project. The tier 1 GRM consists of the Port In-charge, a representative from the local government, and a representative from the affected communities. When dealing with the complaints on environmental issues, the committee will take advise of the environmental specialists of the CSC and E&S Cell. The second tier of GRM consists of the Project Director, the GRM Officer of the BLPA (BLPA has already a GRM officer on board) and a representative of district government. The third tier of GRM consists of the Secretary of Ministry of Shipping. The grievance management system will be communicated to the local and affected communities. A toll free number will also be setup to receive the grievances.

6.7 Capacity Building

Capacity building for effective implementation of the environmental and social safeguard requirements is a key element of the EMP. Capacity building for environmental and social safeguard management will need to be carried out at all tiers of the project, including BLPA, E&S Cell, CSC, and contractors. At the construction site, CSC will take the lead in implementing the capacity building plan, though the contractors will also be responsible to conduct trainings for their own staff and workers. The various aspects that are covered under the capacity building will include general environmental and social awareness, key environmental and social sensitivities of the area, key environmental and social impacts of the project, EMP requirements, OHS aspects, and waste disposal. Table 6.7 provides a summary of various aspects of the environmental and social trainings to be conducted at the construction site. E&S Cell may revise the plan during the project implementation as required.

During the O&M phase of the project, these trainings will continue to be conducted by BLPA staff for all relevant O&M personnel and community.

Table 6.7: Environmental and Social Trainings

Contents	Participants	Responsibility	Schedule
General environmental and socioeconomic awareness; Environmental and social sensitivity of the project influence area; Mitigation measures; Community issues and workers' code of conduct; Grievance Mechanism; EMP Awareness of transmissible diseases Social and cultural values.	PIU; CSC; selected contractors' crew	CSC	Prior to the start of the field activities. (To be repeated as needed.)
EMP; Waste disposal; OHS	Construction crew	Contractors	Prior to the start of the construction activities.

[6] Further details on GRM are available in RPF.

Contents	Participants	Responsibility	Schedule
			(To be repeated as needed.)
Road/waterway safety; Defensive driving/ Waste disposal; Cultural values and social sensitivity.	Drivers; boat/launch crew	Contractors	Before and during the field operations. (To be repeated as needed.)
Camp operation; Waste disposal; OHS Natural resource conservation; Housekeeping.	Camp staff	Contractors	Before and during the field operations. (To be repeated as needed.)
Restoration requirements; Waste disposal.	Restoration teams	Contractors	Before the start of the restoration activities.

6.8 Documentation

The E&S Cell with assistance from CSC and contractors will produce the following environmental reporting documentation:

Environmental Monitoring Reports: The environmental monitoring reports will include environmental mitigation measures undertaken, environmental monitoring activities undertaken, details of monitoring data collected, analysis of monitoring results particularly the non-compliances, recommended mitigation and corrective measures, environmental training conducted, and environmental regulatory violations observed. The environmental monitoring reports will be submitted quarterly during the construction period and annually for three years after completion of construction.

Project Completion Environmental Monitoring Report: One year after completion of construction, the E&S Cell will submit a Project Completion Environmental Monitoring Report which will summarize the overall environmental impacts from the project.

For the land ports that will be identified and designed during implementation, EIA and RAP will be submitted by the BLPA for World Bank review and clearance.

6.9 EMP Implementation Cost

Cost estimates will need to be prepared for all the mitigation and monitoring measures to be proposed in the future subprojects EIAs. The cost estimates for some of the mitigation measures to be identified in the EMP will be part of civil works contract. Tentative cost estimates EMP implementation (beyond civil works contract) for subprojects works are given in Table 6.8. Detailed cost estimates will be prepared during detailed EIA studies.

Table 6.8: EMP Cost estimates for development of land ports

	Description	Amount, million USD
1.	Contractor's Budget (for development and implementation of management plans, staff, training, etc.	0.75
2.	Water, soil, air and noise quality monitoring during construction	0.25
3.	PMU Environmental Staff	1.0
4.	CSC Environmental and Social Staff	0.5
5.	International Environmental Consultant to support PIU	0.25
6.	Capacity building	0.25
	TOTAL	**3.0**

7 Consultations and Disclosure

7.1 Consultation Meetings

Field surveys and consultations with various stake holders, at both local and national level, were carried out to develop a comprehensive Environmental Management Framework (EMF) of the Project. Consultation meetings were held during the field visits to identify issues and problems to enable the institution to corrective measures and to identify lessons and opportunities to enhance Project implementation mechanism. Details of stakeholders consulted are given below:

- Primary stakeholders: Affected households, BLPA, Ministry of Shipping, Customs Department, Border Guard Bangladesh, Immigration Department, Labour Unions, Clearing and Forwarding Agents, Department of Agriculture, Department of Veterinary, Trade Associations, Truckers Unions, and Chamber of Commerce.
- Secondary stakeholders: Local government of Union Parishad and Upa Zila; Local Government Engineering, Department of Environment, Roads and Highways Department; and Chittagong Hill Tracts Council; Khagrachari District Council; and representatives of indigenous people associations.

Consultation meetings were held at Bhomra, Sheola and Ramgarh with local communities following methodology of 'free, prior and informed consultations'. The consultation events at Shuala and Ramgarh were also covered in local newspapers. BLPA has also conducted a regional level consultation in Rangamatti, Chittagong Hill Tracts on 13 June 2016 to cover the issues specific to IP safeguards (OP/BP 4.10); which was attended by all the important stakeholders relevant to Chittagong Hill Tracts such as CHT Regional Council, Rangamatti Hill Tracts Council and representative of the Chakma Circle Chief. Finally, a national public consultation workshop was held in Dhaka on August 10, 2016 primarily to target national stakeholders. Advertisements were given in both English and Bengali daily newspapers one week prior to this consultation workshop. Invitations were also sent relevant stakeholders including local communities. Detailed list of participants presented in the workshop are given in Annex 8. Photographs of these consultations are given in Figure 7.1.

Figure 7.1: Photographs from National Public Consultation

7.2 Key Findings of the Consultations

All the stakeholders and local community appreciated the project. The concern of the consultation participants was mainly focused on land acquisition and impact on livelihood, environmental issues including dust pollution. The summary of points discussed at consultation meetings in Bhomra, Sheola, Ramgarh and Dhaka are given in Table 7.1, Table 7.2, Table 7.3 and Table 7.4, respectively.

Table 7.1: Summary of Consultations held at Bhomra

Sl. No.	Comment/Feedback	Response/Action Plan
1	The development of Bhomra land port has improved the region's socioeconomic condition and any further development will be highly appreciated and all necessary support will be provided by the communities.	
2	Proper compensation should be paid for all losses including loss of land, structures, business, rental income from open land (used by traders for temporary storage of materials), employment, and all types of income losses.	Proper compensation will be paid to all affectees in accordance with entitlement matrix RPF, which is prepared in compliance with GoB and World Bank requirements.
3	Road dust is major source of health concern to both workers and community. Construction activities may aggravate the existing conditions.	Measures to control the existing road dust (paving of transhipment yards, parking areas and side walks_ will be considered in the proposed development activities. Dust and noise control measures will be implemented during construction activities.
4	No drainage facilities around the port area and water logging during rainy season.	Drainage system will be developed under the proposed project
5	Labour should be recruited from nearby area. Local people should get priority in employment opportunities.	Preference will be given for local communities for employment during both construction and operation periods.

Table 7.2: Summary of Consultations held at Sheola

Sl. No.	Comment/Feedback	Response/Action Plan
1	The proposed development is welcome and it will develop the transportation and communication facilities in this area, and will improve the socioeconomic condition.	
2	Proper compensation should be paid for all losses including loss of land, structures, business, rental income from open land (used by traders for temporary storage of materials), employment, and all types of income losses.	Proper compensation will be paid to all affectees in accordance with entitlement matrix RPF, which is prepared in compliance with GoB and World Bank requirements.
3	Improved traffic due to land port development may increase the accident risks	Existing access roads to Sheola land port will be widened and necessary traffic safety facilities will be provided in the areas near

Sl. No.	Comment/Feedback	Response/Action Plan
		settlements (e.g. traffic signs, speed control facilities, pedestrian facilities, etc.)
4	Construction activities may cause air and noise pollution.	Dust and noise control measures will be implemented during construction activities.
5	Labour should be recruited from nearby area. Local people should get priority in employment opportunities.	Preference will be given for local communities for employment during both construction and operation periods.

Table 7.3: Summary of Consultations held at Ramgarh

Sl. No.	Comment/Feedback	Response/Action Plan
1	People are aware of the proposed project and are in favour of the proposed developments	
2	The land owners are willing to give their land if market rates are given to them. No one will become landless after this acquisition	Proper compensation will be paid to all affectees in accordance with entitlement matrix RPF, which is prepared in compliance with GoB and World Bank requirements.
3	Ten tribal families will be affected by the land acquisition.	A Small Ethnic Vulnerable Communities Development Framework has been prepared and included in this RFP to ensure protection of interests of Indigenous People.

Table 7.4: Summary of National Consultations held at Dhaka

Sl. No.	Comment/Feedback	Response/Action Plan
1	How was the replacement cost was estimated what is the level of impact on livelihood?	The replacement cost is estimated based on the actual cost to buy or re-build same thing (land or structure) that was lost due to resettlement, and this has been estimated based on market rates. Details are given in RPF. The impact on livelihood from development of Sheola Land Port is severe on 12 persons who are in restaurant business (4 tenants and 8 employees).
2	It has always been seen that facilities for workers are neglected while designing facilities for land port. Is there any resting space for workers in your proposed land port?	Workers waiting room with toilet facilities will be provided in the land ports.
3	What is the timeline for completion of detailed design?	Detailed design of Sheola land port is underway, but the design of Bhomra land port is expected to be completed by next year
4	In the Bhomra land port, it seems that the current land port facilities are not fully developed as originally planned. Moreover, it is my observation that	The proposed development of Bhomra land port will consider the improvement of existing facilities including providing drinking water supply and sanitation, drainage, and dust

Sl. No.	Comment/Feedback	Response/Action Plan
	government is putting too much emphasis building the new service and not providing importance in the existing facilities. How long it will take to develop the existing facilities? in which side of the road land acquisition will occur for the present north side facilities?	control measures. The extension of Bhomra land port will be done in phases and will include towards both northern and southern areas of the existing port facilities.
5	It has not been possible to build the Benapole land port as well equipped, modernized and environment friendly port after 35 years of liberation war. So, will it be possible to build the proposed land ports as environmental friendly and organized land port?	The facilities in Benapole are currently being strengthened through an ADB funded project. For the proposed land ports under this Project, detailed studies and designs will be carried out through an international consulting firm and will ensure all facilities required for port operations are in place and environmental issues (such as drainage, dust control, water supply and sanitation, buffer zone) will be mainstreamed in to the port designs.
6	1. The lands that are already developed in Sheola (low land areas that were already filled with soil) should be given more compensation than the low lying lands. 2. For compensation of buildings right amount should be calculated. 3. Compensation should be given to shops that will be affected by land acquisition 4. Right Amount of land price should be Given	Compensation for loss of land and structures has been estimated at full replacement cost. Compensation will also be provided for the loss of businesses. Details of entitlements are given in RPF.
7	Have you considered the effect of radioactive and hazardous chemicals to the surrounding areas which will be imported to the port?	Hazardous materials such as fuels will be stored in the warehouses. No radioactive materials will be transported through the land ports.
8	How much revenue will be generated from Sheola and Bhomra land ports?	According to the feasibility study of Sheola land port, the revenue will be initially 1.4 million USD per year, and in 2049 it will 10.23 million per year
9	In addition to the facilities that are provided to the various stakeholders, adequate facilities are also should be given to the BLPA staff.	All adequate facilities will be provided to BLPA staff such as office building, dormitories, guest house, restaurant, water supply and sanitation facilities.
10	There should be hospital facilities in every land port.	First aid facilities will be provided at the land ports. Hospital facilities are available within 13 km distance from the proposed Sheola and existing Bhomra land ports
11	Coal that is being transported from north east India is reported to have high sulphur content and hence adequate measures should be in place to control coal dust.	Dust control measures will be included in the project design during handling and storage of coal. Coal will be stored in open stack yards built on concrete platforms. Coal storage

Sl. No.	Comment/Feedback	Response/Action Plan
	Also there should be air quality monitoring during operation phase. The district level offices of DOE should be consulted during EIA studies.	areas will be covered with tarpaulin. Coal wash water from high sulphur will be generally acidic and will be neutralized before filtration and discharge to ensure DOE standards are complied. Air quality will be monitored during operation and maintenance phase. The district level DOE offices will be consulted during the EIA studies.

7.3 Framework for Future Consultations

Consultations with the key stakeholders will be carried out throughout the Project life, particularly for the third land port at Ramgarh involving all district level stakeholders along with regional level indigenous people stakeholders. These stakeholders should comprise of the Khagrachari District Council, Mong Circle Chief and representatives of the traditional institutions, local communities and Chittagong Hill Tracts Council. The framework for the future consultations is presented in Table 7.5.

Table 7.5: Consultation Framework

Description	Objective/Purpose	Responsibility	Timing
Consultations with communities and other stakeholders during EIA studies of subprojects	Sharing EIA TOR	BLPA and EIA Team of Design Consultants	During scoping stage of EIA
	Dissemination of information on project and its key impacts and proposed mitigation measures; soliciting views, comments, concerns, and recommendations of stakeholders	BLPA and EIA Team of Design Consultants	During EIA study (once draft analysis is available for discussion and feedback)
Consultations with communities and other stakeholders during construction phase	Information dissemination; public-relation; confidence building; awareness about risks and impacts; minimizing conflicts and frictions.	E&S Cell, BLPA; Contractors; CSC	Construction phase
Consultations with communities	Liaison with communities and project beneficiaries	BLPA	O&M phase

7.4 Access to Information

The draft EMF and RPF reports have been disclosed in the BLPA website. A national public consultation meeting was held in Dhaka on August 10, 2016 to disclose these draft reports. The documents will also be sent to the World Bank infoshop. The EIA and RAP documents to be prepared for proposed land ports will also be disclosed on the BLPA website and also will be made available to the local communities by placing them at existing customs offices or land port offices.

ANNEX 1: Chance Find Procedures

(Ref: The World Bank Operational Manual, 1999 OP4.11)

Works could impact sites of social, sacred, religious, or heritage value. “Chance find” procedures would apply when those sites are identified during the design phase or during the actual construction period and the related activity will not be eligible for financing under the project.

(1) Cultural property includes monuments, structures, works of art, or sites of significant points of view, and are defined as sites and structures having archaeological, historical, architectural, or religious significance, and natural sites with cultural values. This includes cemeteries, graveyards and graves.

(2) The list of negative subproject attributes which would make a subproject ineligible for support includes any activity that would adversely impact cultural property.

(3) In the event of finding of properties of cultural value during construction, the following procedures for identification, protection from theft, and treatment of discovered artifacts should be followed and included in standard bidding document.

(a) Stop the construction activities in the area of the chance find;

(b) Delineate the discovered site or area;

(c) Secure the site to prevent any damage or loss of removable objects.

(d) Notify the supervisory Engineer who in turn will notify the responsible local authorities;

(e) Responsible local authorities and the relevant Ministry would be in charge of protecting and preserving the site before deciding on subsequent appropriate procedures.

(f) Decisions on how to handle the finding shall be taken by the responsible authorities and the relevant Ministry. This could include changes in the layout (such as when finding an irremovable remain of cultural or archeological importance), conservation, restoration and salvage.

(g) Implementation of the authority decision concerning the management of the finding shall be communicated in writing by the relevant Ministry.

(h) Construction work could resume only after permission is given from the responsible local authorities and the relevant Ministry concerning safeguard of the heritage.

(4) These procedures must be referred to as standard provisions in construction contracts. During project supervision, the Site Engineer shall monitor the above regulations relating to the treatment of any chance find encountered.

(5) Relevant findings will be recorded in World Bank Supervision Reports and Implementation Completion Reports will assess the overall effectiveness of the project’s cultural property mitigation, management, and activities, as appropriate.

ANNEX 2: Photographs of Land Ports

Bhomra Land Port

Transfer Facility at Bhomra Land Port

Storage Facility at Bhomra Land Port

Dust from vehicles inside Port facility

Solid waste disposal inside the port facility

Water stagnation inside the port facility

Toilets and drinking water facility

Transfer of load from one vehicle to the other

Unpaved yard in the land port

Bhomra Land Port (contd..)

Unpaved road at the border

Vehicles waiting for border crossing

Suspension of dust on the roads

Loose material placed next to the road

Road dust from the vehicles

Land to be acquired for extension of Land Port

Consultations with local community

Meeting with port authorities

Sheola Land Port (proposed)

Immigration check post


Vehicles waiting for border crossing


Access road to the border on Indian side


Access roads border on Bangladesh side


Clay material storage on the road side


Floodplain Land to be acquired for Land Port


Consultations with local upazila authorities


Customs and local government authorities

Ramgarh Land Port (proposed)

Indian port on other side of the river

Access road to the proposed port site

Proposed area for the port development

Consultation with local government authorities

Proposed area for the port development

Border security officials

Consultations with local community

Consultation with local communities

ANNEX 3: Environmental Code of Practices

ECoP 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 CSC 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

ECoP 2: Fuels and Hazardous Goods 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 CSC 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.

ECoP 3: Water Resources Management

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
Hazardous Material and Waste	Water pollution from the storage, handling and disposal of hazardous materials and general construction waste, and accidental spillage	The Contractor shall • Follow the management guidelines proposed in ECPs 1 and 2. • Minimize the generation of sediment, oil and grease, excess nutrients, organic matter, litter, debris and any form of waste (particularly petroleum and chemical wastes). These substances must not enter waterways, storm water systems or underground water tables
Discharge from construction sites	During construction both surface and groundwater quality may be deteriorated due to construction activities in the river, sewerages from construction sites and work camps. The construction works will modify groundcover and topography changing the surface water drainage patterns of the area including infiltration and storage of storm water. These changes in hydrological regime lead to increased rate of runoff, increase in sediment and contaminant loading, increased flooding, groundwater contamination, and effect habitat of fish and other aquatic biology.	The Contractor shall • Install temporary drainage works (channels and bunds) in areas required for sediment and erosion control and around storage areas for construction materials • Install temporary sediment basins, where appropriate, to capture sediment-laden run-off from site • Divert runoff from undisturbed areas around the construction site • Stockpile materials away from drainage lines • Prevent all solid and liquid wastes entering waterways by collecting solid waste, oils, chemicals, bitumen spray waste and wastewaters from brick, concrete and asphalt cutting where possible and transport to an approved waste disposal site or recycling depot • Wash out ready-mix concrete agitators and concrete handling equipment at washing facilities off site or into approved bunded areas on site. Ensure that tires of construction vehicles are cleaned in the washing bay (constructed at the entrance of the construction site) to remove the mud from the wheels. This shall be done in every exit of each construction vehicle to ensure the local roads are kept clean.
Soil Erosion and siltation	Soil erosion and dust from the material stockpiles will increase the sediment and contaminant loading of surface water bodies.	The Contractor shall • Stabilize the cleared areas not used for construction activities with vegetation or appropriate surface water treatments as soon as practicable following earthwork to minimize erosion • Ensure that roads used by construction vehicles are swept regularly to remove sediment. • Water the material stockpiles, access roads and bare soils on an as required basis to minimize dust. Increase the watering frequency during periods of high risk (e.g. high winds)

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
Construction activities in water bodies	Construction works in the water bodies will increase sediment and contaminant loading, and effect habitat of fish and other aquatic biology.	The Contractor Shall • Dewater sites by pumping water to a sediment basin prior to release off site – do not pump directly off site • Monitor the water quality in the runoff from the site or areas affected by dredge plumes, and improve work practices as necessary • Protect water bodies from sediment loads by silt screen or bubble curtains or other barriers • Minimize the generation of sediment, oil and grease, excess nutrients, organic matter, litter, debris and any form of waste (particularly petroleum and chemical wastes). These substances must not enter waterways, storm water systems or underground water tables. • Use environment friendly and nontoxic slurry during construction of piles to discharge into the river. • Reduce infiltration of contaminated drainage through storm water management design • Do not discharge cement and water curing used for cement concrete directly into water courses and drainage inlets.
Drinking water	Groundwater at shallow depths is contaminated with arsenic and hence not suitable for drinking purposes.	The Contractor Shall • Pumping of groundwater shall be from deep aquifers of more than 300 m to supply arsenic free water. Safe and sustainable discharges are to be ascertained prior to selection of pumps. • Tube wells will be installed with due regard for the surface environment, protection of groundwater from surface contaminants, and protection of aquifer cross contamination • All tube wells, test holes, monitoring wells that are no longer in use or needed shall be properly decommissioned
	Depletion and pollution of groundwater resources	• Install monitoring wells both upstream and downstream areas near construction yards and construction camps to regularly monitor the water quality and water levels. • Protect groundwater supplies of adjacent lands

ECoP 4: 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	The Contractor shall • Prepare a program for prevent/avoid standing waters, which CSC will verify in advance and confirm during implementation • Provide alternative drainage for rainwater if the construction works/earth-fillings cut the established drainage line

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
	contamination, and mosquito growth.	• 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	• Do not allow ponding 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

ECoP 5: 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 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.

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
		• 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

ECoP 6: Erosion and Sediment Control

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
Clearing of construction sites	Cleared areas and slopes are susceptible for erosion of top soils, that affects the growth of vegetation which causes ecological imbalance.	• Reinstate and protect cleared areas as soon as possible. • Mulch to protect batter slopes before planting • Cover unused area of disturbed or exposed surfaces immediately with mulch/grass turfings/tree plantations
Construction activities and material stockpiles	The impact of soil erosion are (i) Increased run off and sedimentation causing a greater flood hazard to the downstream, (ii) destruction of aquatic environment in nearby lakes, streams, and reservoirs caused by erosion and/or deposition of sediment damaging the spawning grounds of fish, and (iii)	The Contractor shall • Locate stockpiles away from drainage lines • Protect the toe of all stockpiles, where erosion is likely to occur, with silt fences, straw bales or bunds • Remove debris from drainage paths and sediment control structures • Cover the loose sediments and water them if required • Divert natural runoff around construction areas prior to any site disturbance • Install protective measures on site prior to construction, for example, sediment traps • Control drainage through a site in protected channels or slope drains

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
	destruction of vegetation by burying or gullying.	• Install 'cut off drains' on large cut/fill batter slopes to control water runoff speed and hence erosion • Observe the performance of drainage structures and erosion controls during rain and modify as required.

ECoP 7: 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 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	• 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

ECoP 8: 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	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

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
	change topography and disturb the natural rainwater/flood water drainage as well as will change the local landscape.	• 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

ECoP 9: Borrow Areas Management

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
Development and operation of borrow areas	Borrow areas will have impacts on local topography, landscaping and natural drainage.	The Contractor shall • Use only approved quarry and borrow sites • Not use agriculture areas or ecologically sensitive areas as borrow sites • Identify new borrow and quarry areas in consultation with Project Director, if required. • Reuse excavated or disposed material available in the project to the maximum extent possible. • Store top soil for reinstatement and landscaping. • Develop surface water collection and drainage systems, anti-erosion measures (berms, revegetation etc.) and retaining walls and gabions where required. Implement mitigation measures in ECoP 3: Water Resources Management, ECoP 6: Erosion and Sediment Control • The use of explosive should be used in as much minimum quantity as possible to reduce noise, vibration and dust. • Control dust and air quality deterioration by application of watering and implementing mitigation measures proposed in ECoP 10: Air Quality Management • Noise and vibration control by ECoP 11: Noise and Vibration Management.
Dredging from the rivers	Increased turbidity, loss of transparency and increased suspended sediment concentrations. Impact on benthic habitats	The Contractor shall • Select dredging equipment (e.g. Cutter Suction Dredger) which are known to have a low risk of sediment dispersal. The suction action inside the Cutter Suction Dredger means that most of the sediment removed by the cutter is captured. As high dredging efficiency and low turbidity at the cutter head are closely linked, it is uncommon for turbidity generated by the cutter head to cause environmental concern. • Monitor the dredging operation and, if necessary, change the dredge location to minimise fines or modify operations, e.g. restrict the amount of material being dredged (or the number of dredgers allowed to operate) at any one time.

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
		• Maintain record of all sand or sediment extraction (quantities, location shown on map, timing, any sighting of key species)
Dredging placement at temporary locations prior to shifting or direct placement on the proposed site for filling	Dispersion of sediments and release of high sediment laden runoff from the placement sites.	The Contractor • To the extent possible, shall directly place the sediments for filling the proposed disposal areas. Prior to filling commencing, the areas being filled will be subdivided into compartments by construction of temporary containment bunds of suitable material (e.g. dredged sand). Filling will be achieved by progressively pumping a slurry of sand and water into the bunded areas, allowing the surplus water to drain away to artificial and natural waterways in a controlled manner through the pipeline, without affecting floodplains. • Control the discharge of site runoff, including excess dredge water, by the installation and correct use of containment walls, bunds and weirs. • Monitor the quality of water (e.g. sediment content) in site runoff to confirm that the design and operation of the bunds and weirs, and the retention time for dredge waters which facilitates the settlement out of fine sediments prior to discharge off site, is adequate. If required, additional siltation ponds are to be provided to divert the runoff water before discharging in to the river or to the natural streams.

ECoP 10: 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 • 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

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
		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.	• 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

ECoP 11: 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. • Organize the loading and unloading of trucks, and handling operations for the purpose of minimizing construction noise on the work site

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
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 activity	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

ECoP 12: Protection of Flora

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
Vegetation clearance	Local flora are 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

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
		applicable to both the construction areas as well as to 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 re-growth 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 re-vegetation 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

ECoP 13: Protection of Fauna

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
Construction activities	The location of construction activities can result in the loss of wild life habitat and habitat quality,.	The Contractor shall • Limit the construction works within the designated sites allocated to the contractors • check the site for animals trapped in, or in danger from site works and use a qualified person to relocate the animal
	Impact on migratory birds, its habitat and its active nests	The Contractor shall • Not be permitted to destruct active nests or eggs of migratory birds • Minimize the tree removal during the bird breeding season. If works must be continued during the bird breeding season, a nest survey will be conducted by a qualified biologist prior to commence of works to identify and located active nests • Minimize the release of oil, oil wastes or any other substances harmful to migratory birds to any waters or any areas frequented by migratory birds.
Vegetation clearance	Clearance of vegetation may impact shelter, feeding and/or breeding and/or physical destruction and severing of habitat areas	The Contractor shall • Restrict the tree removal to the minimum required. • Retain tree hollows on site, or relocate hollows, where appropriate • Leave dead trees where possible as habitat for fauna

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
		• Fell the hollow bearing trees in a manner which reduces the potential for fauna mortality. Felled trees will be inspected after felling for fauna and if identified and readily accessible will be removed and relocated or rendered assistance if injured. After felling, hollow bearing trees will remain unmoved overnight to allow animals to move of their own volition.
Construction camps	Illegal poaching	• Provide adequate knowledge to the workers regarding protection of flora and fauna, and relevant government regulations and punishments for illegal poaching.

ECoP 14: Protection of Fisheries

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
Construction activities in River	The main potential impacts to fisheries are hydrocarbon spills and leaks from riverine transport and disposal of wastes into the river	The Contractor shall • Ensure the riverine transports, vessels and ships are well maintained and do not have oil leakage to contaminate river water. • Contain oil immediately on river in case of accidental spillage from vessels and ships and in this regard, make an emergency oil spill containment plan to be supported with enough equipment, materials and human resources • Do not dump wastes, be it hazardous or non-hazardous into the nearby water bodies or in the river
Construction activities on the land	The main potential impacts to aquatic flora and fauna River are increased suspended solids from earthworks erosion, sanitary discharge from work camps, and hydrocarbon spills	The Contractor shall • follow mitigation measures proposed in ECoP 3 : Water Resources Management and EC4: Drainage Management
	Filling of ponds for site preparation will impact the fishes.	The Contractor shall • Inspect any area of a water body containing fish that is temporarily isolated for the presence of fish, and all fish shall be captured and released unharmed in adjacent fish habitat • Install and maintain fish screens etc. on any water intake with drawing water from any water body that contain fish

ECoP 15: 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 CSC 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: chainage and 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 • Name and contact address / telephone number of the Contractor • Inconvenience is sincerely regretted.
	Accidents and spillage of fuels and chemicals	• Restrict truck deliveries, where practicable, to day time working hours. • Restrict the transport of oversize loads. • Operate road traffics/transport vehicles, if possible, to non-peak periods to minimize traffic disruptions. • Enforce on-site speed limit

ECoP 16: 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 CSC 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

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
		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.	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 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.

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
		• 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 equipments/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. • 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

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
		• 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 equipments 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 construction camps.	The Contractor shall • Dismantle and remove from the site all facilities established within the construction camp including the 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.

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
		• Not make false promises to the laborers for future employment in O&M of the project.

ECoP 17: 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 CSC/PMU. • 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 • 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

ECoP 18: 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	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

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
	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.	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. • 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	The Contractor shall provide the following facilities in the campsites to improve health and hygienic conditions as mentioned in ECoP 17 Construction Camp Management

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
	supply and sanitation facilities will increase pressure on the local services and generate substandard living standards and health hazards.	• 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 ECoP 2 • Solid waste collection and disposal system in accordance with ECP1. • 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.
Other ECPs	Potential risks on health and hygiene of construction workers and general public	The Contractor shall follow the following ECPs to reduce health risks to the construction workers and nearby community ECoP 2: Fuels and Hazardous Goods Management ECoP 4: Drainage Management ECoP 10: Air Quality Management ECoP 11: Noise and Vibration Management ECoP 15: Road Transport and Road Traffic Management ECoP 16: River Transport management
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

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
		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 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 4: Draft Terms of References of Proposed Environmental Staff in PIU

A. Background:

The Bangladesh Land Port Authority will be developing three new land ports at Sheola and upgrading the existing land port at Bhomra with the financial assistance of World Bank.

An Environmental and Social Cell (E&S Cell) will be setup in PIU to (i) oversee the preparation of EIA/IEE of the each land ports under Component 1 in accordance with the Environmental Management Framework (EMF), and implementation of respective management plans given in EIA/IEE as well as ECoPs as applicable; and (ii) environmental screening of Component 1C connectivity improvement needs at land ports and prepare terms of references for carrying out the detailed EIA studies for those potential future investments; and overseeing of the preparation of EIA studies in compliance with the World Bank and DOE requirements. The following individual consultants will be hired to work in the E&S Cell.

- Environmental Specialist
- Additional Environmental Consultants as required

B. Scope of Services of the Consultants

1. Environmental Specialist

Responsibilities of the Environmental Specialists will include, but not limited to:

i. Assist the Project Director (PD) in completion of EIAs, verification of bid documents and BOQs, and overseeing of implementation of agreed Environmental Management Plan of all land ports in close co-ordination with the design consultants and the World Bank;
ii. Assist the Project Director in finalizing the terms of references and request for proposals for various environmental consulting firms for works related to connecting roads under Component 2
iii. Oversee the pre-construction baseline monitoring of air, noise, water, soil and sediment quality to be carried out by the construction supervision consultant
iv. Ensure integration of the EA and resulting EMP into the project redesign and implementation plans (contract documents);
v. Assist the PD in review and approval the Construction Environmental Action to be prepared by the contractor before starting of the construction works
vi. Ensure incorporation of appropriate environmental specifications into the respective bidding and contract documents;
vii. Ensure compliance of the mitigation measures by the Contractors;
viii. Documenting and reporting on the experience in the implementation of the environmental process;
ix. Liaison with the Contracts, CSC for the Implementation of the EMP;
x. Liaison with the DOE on environmental and other regulatory matters; including renewal of environmental clearance documents as and when required
xi. Develop training program on environmental aspects for the key stakeholders (BLPA, contractors, public representatives and local government institutions/ NGOs;
xii. Dialogue with the project affected persons (PAPs) and ensure that the environmental concerns and suggestions are incorporated and implemented in the project;
xiii. Undertaking environmental monitoring and reporting to the Project Director and follow-up activities;

xiv. Document the standard construction practices in the project on incorporation and integration of environmental issues into engineering design and on implementing measures reconstruction/rehabilitation and maintenance programs;
xv. Assist the PD to arrange for the Environmental Auditing and follow up action on the Audit recommendation.
xvi. Report to the PD on the environmental aspects pertaining to the project.
xvii. Lead on resolution of any grievances related to environmental management issues, in coordination with the Grievance Redress Officer.
xviii. To guide and assist the PD and the BLPA to strengthen the environmental management practices in embankment rehabilitation, revetment and road construction.
xix. Ensuring development and regular update of database for project specific environmental information
xx. Prepare quarterly progress reports on the implementation of the EMF/EMP for transmission to the World Bank throughout the project implementation period.
xxi. Maintaining project-specific Database for Environmental Management
xxii. Ensuring all environmental clearances and any other regulatory approvals are appropriately maintained throughout the life of the project, including meeting all reporting requirements as applicable
xxiii. Draft terms of reference and oversee contracting and implementation of contract requirements for consultants hired to complete EA work for Component 2of the program. Ensure and facilitate effective and smooth ongoing communication and flow of information between the environmental consultants, design consultants and social consultants. Review draft deliverables and provide comments to consultants.
xxiv. Any other tasks specified by the PD
xxv. Compiles monthly, quarterly and annual reports to update ongoing environmental processes and address current issues. Provide recommendations for implementation of corrective actions and suggest program improvements.

C. Key Qualification of the Consultant
Environmental Specialist

Masters in environment engineering or environmental science with 15 years working background in planning, implementation and monitoring of environmental management for large infrastructure projects. Experience in institutional capacity analysis, preparation and implementation of EMPs, and knowledge of latest environmental safeguard policies of the international development financing institutions in Bangladesh are required.

ANNEX 5: ToRs for Environmental Assessment Studies of Land Ports under Bangladesh Regional Connectivity Project 1

BLPA with the financial assistance of World Bank would like to develop a green field land port in Sheola; and rehabilitation of existing land port at Bhomra. Since the World Bank and GoB are the financing sources of the studies, the project must comply with the policies and legislative requirements of both the World Bank and the GoB. World Bank Operational Policy Environment Assessment (OP/BP 4.01) policy has been triggered and an Environmental Impact Assessment (EIA) including Environmental Management Plan (EMP) will be required for each proposed land port, as well as specific additional social management measures. On the national side, the Environment Conservation Rules (ECR), 1997 (amended 2010) of Bangladesh Government will apply to the project. It is expected that the land ports will fall under the "orange B" as per the ECR, and therefore will require IEE for environmental clearance. The Consultant will carry out consultations with DOE and if required needs to prepare ToR for EIA studies for DOE approval and carry out EIA studies.

The main objectives of the proposed study are: (i) evaluate the potential overall environmental and social impacts of the proposed project activities as well as related health and safety risks and issues; (ii) propose specific minimization, mitigation, management and monitoring measures and systems as part of an Environmental Management Plan (EMP) for the project, including cost estimates for their implementation; (iii) suggest project specific standard Environmental Code of Practices (ECPs); and, (iv) identify the institutional arrangements, and capacity building needs, for implementing the EMP.

The EIA and EMP reports for each land port should cover construction and operation stage activities, taking into account all of these activities and ancillary works. Also technologies, equipment, manpower, resource use, traffic, existing and future depot activities, etc. as well as the social and environmental baseline conditions and sensitivities in the area of influence need to be considered.

The detailed list of tasks to be completed includes but is not limited to:

1. Review of Relevant Policies and Legislation
    - Review current relevant policies, legislations, EIA procedures/practices and land acquisition procedure of the Government of Bangladesh (GoB) related to the facilities' development, and their applicability and implications for the proposed project;
    - Review the relevant World Bank (WB) environmental and social safeguard policies, Environmental Health and Safety (EHS) Guidelines, guidelines related to inclusion, participation, transparency and social accountability, and their applicability and implications for the proposed project;

2. Project Description and Project Influence Area
    - Describe the project, including all associated or ancillary facilities relevant to both construction and operation stages, such as approach road(s) and bridges, power supply and transmission line(s), water supply and sanitation infrastructure, worker camps during construction, drainage infrastructure, etc.
    - Describe the steps to define the project influence area (PIA) ;
    - Determine the PIA and identify the Important Environmental Features within the PIA;

3. Baseline studies
    - Characterize the baseline conditions within the project area of influence. Key baseline aspects should include:

        Physical baseline, including:

- geological conditions, seismicity and associated hazards
- climate (rainfall, humidity, temperature and visibility), and projected climate change over the lifespan of the proposed infrastructure,
- chemical parameters of surface and ground water in the adjacent area;
- air quality;
- noise.

Biological baseline, including:

- Aquatic and terrestrial flora and fauna, including especially any endangered species or others with protective status

Socioeconomic baseline, including:

- Presence and proximity of nearest houses or other dwellings, and demographic characterization of nearest communities
- Presence and proximity of nearby economic activities (formal and informal), including both land- and water-based (such as fishing)

4. Stakeholder Identification and Consultation:
    - Consultation with the stakeholders shall be used to improve the plan and design of the project rather than merely having project information dissemination sessions. The consultants shall carry out consultations with Experts, NGOs, concerned Government Agencies and other stakeholders to: (a) collect baseline information; (b) obtain a better understanding of the potential impacts; (c) appreciate the perspectives/concerns of the stakeholders; and (d) secure their active involvement during subsequent stages of the project.
    - Consultations shall be preceded by a systematic stakeholder analysis, which would: (a) identify the individual or stakeholder groups relevant to the project and to environmental issues; (b) include expert opinion and inputs; (c) determine the nature and scope of consultation with each type of stakeholders; and (d) determine the tools to be used in contacting and consulting each type of stakeholder group. A systematic consultation plan with attendant schedules will be prepared for subsequent stages of project preparation as well as implementation and operation, as required.

5. Impact Assessment*:*
    - The Consultant shall undertake necessary impact analysis, on the basis of primary and secondary information and outputs from the stakeholder consultation process. The Consultant shall determine the sensitive environmental receptors considering the baseline information (from both secondary and primary sources), the activities proposed in the project and the stakeholder (and expert) consultations, which would need to be carefully documented.

    - The Consultant shall analyze the nature, scale and magnitude of the impacts and risks that the project is likely to cause on the environment, the facilities' workforce, and surrounding communities, especially on the identified sensitive receptors, and classify the same using established methods. The assessment should cover direct as well as indirect, induced and cumulative environmental, health and safety impacts and risks during all phases and activities of the project. For the negative impacts and risks identified, alternative mitigation/management options shall be examined, and the most appropriate strategy/technique should be suggested. For the positive measures identified, alternative and preferred enhancement measures shall be proposed.

- Wherever the impacts cannot be avoided, the Consultant shall make recommendations to minimize, mitigate, compensate or manage such impacts.

- Alternative Analysis: document alternatives considered for location, design, construction methods, and operational aspects (as applicable) and analyze them from a technical, environmental, aesthetics, social and economic perspective, to justify the selection of the preferred alternative.

6. Environmental Management Plan
    - Prepare an EMP to address identified design, construction and operation stage issues. The EMP shall include:
        - Appropriate avoidance, mitigation, compensation, enhancement and/or mitigation measures for each identified impact.
        - Occupational Health and Safety plan for both construction and operation phases, including training requirements.
        - Community health and safety plan, including traffic safety, for both construction and operation phases.
        - A detailed monitoring plan, including indicators for monitoring of all included measures, as well as methodologies, frequencies, locations, and responsibilities for monitoring against the indicators
        - Overall institutional responsibilities for environmental, health and safety management, reporting arrangements and requirements.
        - Grievance redress mechanism.
        - Site-specific Environmental enhancement measures.
        - Detailed Environmental Codes of Practice (ECOPs) for contractors covering all construction management aspects of a standardized nature, including but not limited to: hazardous materials storage and management, waste management, traffic safety and management, occupational health and safety, air and noise emissions management and monitoring.

        - Additional Special Environmental Clauses to be included in the technical specification of the bid document, describing site-specific environmental, social and health and safety mitigation, management, and reporting requirements of the contractor.

        - Specific cost estimate for EMP measures required of the contractor, to be incorporated as a line item in the BOQ of the bid document.

The Consultant shall ensure that the EIA team is fully interfaced with the design team so that design recommendations related to the ports plus associated infrastructure (such as approach roads or bridges, connecting transmission lines, worker housing or facilities, drainage infrastructure, etc.), construction materials and technologies, ,as well as all mitigation and enhancement measures, are fully reflected in detailed designs, construction plans and BOQs.

Capacity Building and Training Plan: Based on the analysis of the project sponsor's capacity to manage environmental issues, the Consultant shall prepare a Capacity Building Plan (including requirement of additional technical staff and facilities) to ensure effective implementation of the EMP.. The plan shall also detail required training activities to develop and strengthen environmental capacities of the project sponsor. The Consultant shall interact regularly with the project sponsor throughout project

preparation to ensure that the knowledge, skills and perspectives gained during the EIA assignment are transferred to the sponsor and are utilized effectively during project implementation.

Public Disclosure: The Consultant shall prepare a non-technical EIA summary report for public disclosure and will provide support to the project sponsor in meeting the disclosure requirements, which at the minimum shall meet the World Bank's requirements on Public Disclosure. The consultants will prepare a plan for in-country disclosure, specifying the timing and locations; translate the executive summary of EIA in local language; draft the newspaper announcements for disclosure; and help to place all the EIA reports in the BLPA's website.

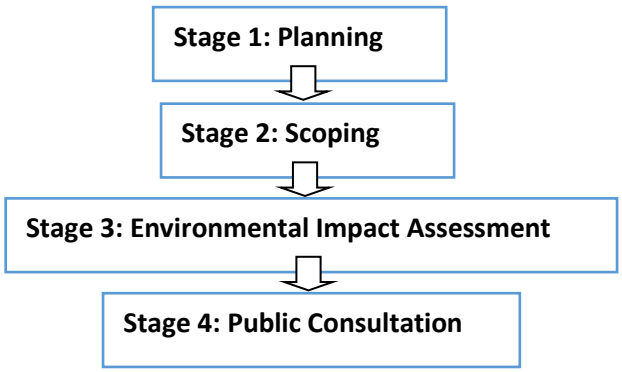
Consultant's Inputs: The Consultant is free to employ resources as they see fit. The Consultant will allocate adequate number of field surveyors, distinct from the technical support staff, to complete the study in time. Timing is an important essence for any EIA study, which shall be closely coordinated with the works of the engineering and social teams, simultaneously involved in preparation of the project.

The Consultant shall make formal presentations, coordinated by the BLPA, at key milestones, including on the (a) proposed work plan after submitting the Inception Report; and (b) EIA findings, design and EMP recommendations. All supporting information gathered by the Consultant in undertaking these terms of reference would be made available to the Employer.

ANNEX 6: Scope of Work for EIA studies for Land Ports

1.1. Environmental Assessment Process

The environmental assessment will be conducted using major stages as shown in the following diagram.



Stage 1: Planning

Soon after the commencement of planning and design process, based on desk study, reconnaissance survey and experience of earlier projects, detailed methodology and schedule should be prepared for the effective and timely execution of the Environmental Assessment.

Desk Study: To collect the secondary information and checking out the methodology for carrying out the EA study and fixing of responsibilities of the EA team members for preparing a complete, addressing all issues, Environmental Management Plan.

Reconnaissance survey: To collect the first hand information about the project area and develop a perspective of the entire team and revise the methodology and work program.

Experience from Earlier Project:

Focus on the main issues: It is important that the EA does not try to cover too many topics in too much detail. Effective scoping can save both time and money by focusing the EA studies on the key issues.

EA requires the formation of a multidisciplinary team and the leadership of a strong EA coordinator. The range of effects considered in the EA requires the skills of technical experts to be employed on an assessment team, led by a Team Leader. It is important to involve the right people (e.g., scientists, engineers, policymakers, government representatives, representatives of public interest groups and the local community) and agencies (e.g., the developer, the aid agency, regulatory authorities and politicians) in the EA process. Selection will be made through consultation at different stages.

Make maximum use of existing information before engaging expensive field studies.

Determination of Project influence Area. Based on reconnaissance survey and desk study and modeling, project influence area will be finalized.

Present clear and appropriate options for mitigation of impacts and for sound environmental management. Mitigation is an integral part of impacts assessment. Application of appropriate mitigation can eliminate or reduce negative impacts, and improve the net overall environmental performance of a project. Hence public consent, practical viability will be considered in proposing the mitigation measures.

Post-EIA audits and monitoring programs are essential to ensuring that EA commitments are carried out and that future EA improve. An effective monitoring plan will be proposed in consultation with the client and the World Bank. Proper budgeting will be ensured for smooth functioning of monitoring plan proposed.

Stage 2: Scoping

Scoping will identifies which of the activities has a potential to interact with the environment. Scoping will be conducted early in the EA process so that a focus on the priority issues (i.e. those that have the greatest potential to affect the natural and/or environment) can be established for the rest of the EA process. Necessary consultation with stakeholders will be made after scoping to incorporate any unattended issues. Key elements/inputs to the scoping exercise will be as follows:

- Gathering and reviewing existing environmental data like atmosphere, climate, topography, congestion area, alternative requirement, land use pattern, hydrology and drainage pattern, major River and waterways, religious, cultural and archaeological sites and sensitive areas.
- Identifying project stakeholders; including PAPs, Government and non-government agencies (utilities), Bangladesh Water Development Board, Department of Fisheries, Agricultural Department, Department of Environment (DOE) etc.
- Assemble and review relevant legislative requirements, environmental standards and guidelines (national and international) associated with the proposed development as well as the World Bank's operational policies and standards.
- Gathering existing information sources and local knowledge;
- Informing stakeholders of the project and its objectives and get input on the EA;
- Identifying the key environmental concerns (community and scientific) related to a project and the relative importance of issues;
- Defining/preparing the EA work program, including a plan for public and stakeholder involvement;
- Carrying out monitoring of natural environment including air, water, soil, noise etc.
- Defining the range of project alternatives to be considered.
- Obtaining agreement/consensus on the methods and techniques to be used in EA studies and document preparation;
- Determining/freezing the spatial and temporal boundaries for the EA studies.

The following issues will be addressed through scoping, but will not be limited to.

- To improve the quality of EA information by focusing scientific efforts and EA analysis on truly significant issues;
- To ensure environmental concerns identified and incorporated early in the project planning process, at the same time as cost and design factors are considered;
- Reducing the likelihood of overlooking important environmental issues;
- Thinning the chance of prolonged delays and conflicts later in the EA process by engaging stakeholders in a constructive participatory process early in the EA process.

Stage 3: Environmental Impact Assessment

The process of EIA study is briefly described below.

Analysis of the Project Design and Components: All the components and design specifications will be analyzed to get insight of the project interventions. This will guide detail environmental baseline survey and particular investigations.

Data collection on Environmental and social baseline: Environmental and social baseline condition of the proposed subprojects has already been collected through several field visits, surveys and intensive

consultation with local people. Intensive consultation with the stakeholders should be carried out for updating the baseline condition to obtain their perceptions on the proposed interventions and the possible impacts.

Major Field investigations: At this stage, detailed field survey (social and environmental) will be carried out to obtain information on the possible impact of the interventions on the environmental parameter.

Assessment of Environmental and social Impacts: The impacts of the proposed subprojects on the environmental and social components will be identified through consultation with experts and local community. The impacts will be analyzed and graded qualitatively (e.g. high, medium, low) in order to identify the major impacts. The future-without-project condition will be generated through trend analysis using information collected. The future-with-project condition will be predicted using professional judgment of the multi-disciplinary team members based on information collected. Difference between the two (with and without project) conditions will be taken as impact of the proposed interventions. The impact of the priority reach will also be monitored. Moreover, cumulative impacts of the project inside or outside the project area will be analyzed. Possible mitigation measures for alternatives of the project will be identified in this stage. For true impacts prediction following questionnaire will be attempted to answer:

- How will a particular project activity give rise to an impact?
- How likely is it that an impact will occur?
- What will be the consequence of each impact?
- What will be the spatial and temporal extent of each impact?

Analysis of Alternatives: The various criterial to be considered in evaluating various alternatives are given below

- Technical Aspects: Robustness, constructability, geology, maintenance requirements, history of performance, etc.
- Financial Aspects: Construction cost and maintenance cost
- Environmental Aspects: project footprints, material requirements, impact on river flows and channels, impact on flood plains and erosion, impact on chars, impact on aquatic and terrestrial habitats, impact on river banks, safety, etc.
- Social Aspects: Land acquisition, Resettlement, and socioeconomic impacts, etc.

Preparation of environmental management plan: The EMP will be prepared suggesting mitigation measures for minimizing the effect of the negative impacts, compensation measures for the negative impacts which cannot be mitigated, enhancement measures for increasing the benefits of the positive impacts, emergency plan for taking care of natural hazards and accidental events. An environmental monitoring plan will also be suggested in the EMP. Each component of the EMP will be divided into pre-construction, during construction, post construction and operation and maintenance phases. Responsibilities of the institutions in the implementation of the EMP will be suggested to ensure efficient utilization of all the parties involved. The EMP should also include institutional capacity assessment and capacity building plan.

EIA Report Preparation: All the findings would be presented in the EIA reports.

Stage 4: Public Consultation

"Public consultation" refers to the process by which the concerns of local affected persons and others who have plausible stake in the environmental impacts of the project or activity are ascertained with a view to taking into account all the material concerns in the project or activity design as appropriate. All World Bank financed projects or activities shall undertake public consultation. The key points of public consultation are given below:

Stakeholder Consultation at all Stages of Project

- Identification of primary and secondary stakeholders.

  - Primary stakeholders include people having direct impact.

  - Secondary stakeholders include village representatives, women's group, voluntary organizations NGOs, field level officers and staff, other government officials.

- Structured Consultation at the subproject sties, district and divisional levels

Consultation at Village Level

- Along with preliminary inventory and survey information dissemination will be done along the bank and the affected villages included in the project influence area canvassing about the project. Date and venue for detailed consultation will be fixed.
- Pictorial method (Pamphlet) will be adopted to explain proposed improvements and possible environmental impact in the concerned villages.
- Public consensus would try to be arrived for and mitigation proposed.
- Public suggestion and graveness will be addressed at appropriate level.

Consultation at Upazila and District Level

- Consultation with officers of Agricultural Department, Forest Department, Soil Department, Fisheries Department, Department of Public Health Engineering (DPHE), etc.
- Consultation with the elected representatives and other stakeholders.

Consultation at National level

- Consultation with national level stakeholders.

After completion of the public consultation, the design consultant shall address all the material environmental concerns expressed during this process, and make appropriate changes in the draft EIA and EMP. The final EIA report, so prepared, shall be submitted by the client to the concerned regulatory authority for appraisal.

ANNEX 7: Environmental Screening Checklist[7]

INSTRUCTIONS

This checklist is designed to help users decide whether EIA is required based on the characteristics of a project and its environment.

Start by providing a brief description of the project.

Then using available information about the project answer each question in Column 2:

- Yes - if the answer is yes
- No - if the answer is no
- ? - if the answer is don't know

Briefly describe the relevant characteristic of the project or its environment and then consider whether any effect that is likely to result is likely to be significant and enter the response in Column 3 with a note of the reasons why. Use the next Checklist on Criteria for Evaluating Significance to help answer the question "Is this likely to result in a significant effect?".

Some examples illustrating how to use the checklist are given below.

Questions to be Considered	Yes / No / ? . Briefly describe	Is this likely to result in a significant effect? Yes/No/? - Why?
Brief Project Description: Development of 500 houses adjacent to an existing rural settlement at ABCville.		
1. Will construction, operation or decommissioning of the Project involve actions which will cause physical changes in the locality (topography, land use, changes in waterbodies, etc)?	Yes. The project will involve development of a large site currently in agricultural use and crossed by a small river.	Yes. Loss of agricultural land and diversion of river
3. Will the Project involve use, storage, transport, handling or production of substances or materials which could be harmful to human health or the environment or raise concerns about actual or perceived risks to human health?	No except in the small amounts typically used by householders	No
4. Will the Project produce solid wastes during construction or operation or decommissioning?	Yes. Construction will require excavation of a small hill and transport and disposal or re-use of a large quantity of spoil.	Yes. Transport could have significant impact on neighbouring village
9. Will the Project result in social changes, for example, in demography, traditional lifestyles, employment?	No. The existing village was mainly built in the 1950s.	No
10. Are there any other factors which should be considered such as consequential development which could lead to environmental effects or the potential for cumulative impacts with other existing or planned activities in the locality?	Yes. The project will require extension of the village sewage works which is already overloaded.	Yes. There is not much space to extend the works and it already causes odour problems in the village
19. Are there any areas or features of historic or cultural importance on or around the location which could be affected by the project?	? No information available about the area	? requires further investigation

[7] The screening checklist is developed by European Commission and is available at http://ec.europa.eu/environment/archives/eia/eia-guidelines/g-screening-full-text.pdf

THE SCREENING CHECKLIST

Screening Questions	Yes / No /?. Briefly describe	Is this likely to result in a significant effect? Yes/No/? – Why?
1. Will construction, operation or decommissioning of the Project involve actions which will cause physical changes in the locality (topography, land use, changes in water bodies, etc.)?		
2. Will construction or operation of the Project use natural resources such as land, water, materials or energy, especially any resources which are non-renewable or in short supply?		
3. Will the Project involve use, storage, transport, handling or production of substances or materials which could be harmful to human health or the environment or raise concerns about actual or perceived risks to human health?		
4. Will the Project produce solid wastes during construction or operation or decommissioning?		
5. Will the Project release pollutants or any hazardous, toxic or noxious substances to air?		
6. Will the Project cause noise and vibration or release of light, heat energy or electromagnetic radiation?		
7. Will the Project lead to risks of contamination of land or water from releases of pollutants onto the ground or into surface waters, groundwater, coastal wasters or the sea?		
8. Will there be any risk of accidents during construction or operation of the Project which could affect human health or the environment?		
9. Will the Project result in social changes, for example, in demography, traditional lifestyles, employment?		
10. Are there any other factors which should be considered such as consequential development which could lead to environmental effects or the potential for cumulative impacts with other existing or planned activities in the locality?		
11. Are there any areas on or around the location which are protected under international or national or local legislation for their ecological, landscape, cultural or other value, which could be affected by the project?		
12. Are there any other areas on or around the location which are important or sensitive for reasons of their ecology e.g. wetlands, watercourses or other waterbodies, the coastal zone, mountains, forests or woodlands, which could be affected by the project?		
13. Are there any areas on or around the location which are used by protected, important or sensitive species of fauna or flora e.g. for breeding, nesting, foraging, resting, overwintering, migration, which could be affected by the project?		
14. Are there any inland, coastal, marine or underground waters on or around the location which could be affected by the project?		
15. Are there any areas or features of high landscape or scenic value on or around the location which could be affected by the project?		
16. Are there any routes or facilities on or around the location which are used by the public for access to recreation or other facilities, which could be affected by the project?		
17. Are there any transport routes on or around the location which		

Screening Questions	Yes / No /?. Briefly describe	Is this likely to result in a significant effect? Yes/No/? – Why?
are susceptible to congestion or which cause environmental problems, which could be affected by the project?		
18. Is the project in a location where it is likely to be highly visible to many people?		
19. Are there any areas or features of historic or cultural importance on or around the location which could be affected by the project?		
20. Is the project located in a previously undeveloped area where there will be loss of greenfield land?		
21. Are there existing land uses on or around the location e.g. homes, gardens, other private property, industry, commerce, recreation, public open space, community facilities, agriculture, forestry, tourism, mining or quarrying which could be affected by the project?		
22. Are there any plans for future land uses on or around the location which could be affected by the project?		
23. Are there any areas on or around the location which are densely populated or built-up, which could be affected by the project?		
24. Are there any areas on or around the location which are occupied by sensitive land uses e.g. hospitals, schools, places of worship, community facilities, which could be affected by the project?		
25. Are there any areas on or around the location which contain important, high quality or scarce resources e.g. groundwater, surface waters, forestry, agriculture, fisheries, tourism, minerals, which could be affected by the project?		
26. Are there any areas on or around the location which are already subject to pollution or environmental damage e.g. where existing legal environmental standards are exceeded, which could be affected by the project?		
27. Is the project location susceptible to earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions e.g. temperature inversions, fogs, severe winds, which could cause the project to present environmental problems?		
28.Will pesticides, rodenticides or any other vector control products will be used during any stage of project implementation and operation?		

ANNEX 8: List of Participants in National Public Consultation

Sl. No	Name & Designation	Name of Organization
1	Shakila Sultana Polly Assistant Director	BLPA
2	MosammatFaizunnahar Assistant Director	BLPA
3	Bashir Ahmed	ASL
4	Kamal Chandra Shil	BLPA
5	AbulKalam Azad	Yoosin-Vitti - JV
6	Md. Jamal Uddin Jibon	BLPA
7	Dr. J.C. Saha	Yoosin-Vitti - JV
8	Md. Shahadat Hossain	
9	Maj. Said Hasan Tapash	Yoosin-Vitti - JV
10	Mohammed Mohsin	Yoosin-Vitti - JV
11	Md. Monir Hossain	BLPA
12	Md. Mahbubur Rahman	BLPA
13	Benjamin p.	Retired M/O
14	Dr. Probhat Sh.	SarSystra, India
15	Md. Shahdatullah	BLPA
16	Rokanuddin	BLPA
17	AshikulAlam	RTV
18	Meher Moni	Boishakhi TV
19	Faridur Reza	Boishakhi TV
20	RanjitBabu	M/O Shipping
21	Jahangir Alam	M/O Shipping
22	Emdad	M/O Shipping
23	Jasim	M/O Shipping
24	RuhulAlam	MOS
25	Qazi Md. Ali Akbar	BLPA
26	Md. Ismail	
27	AbulKalam Azad	BLPA
28	Masum Amen	
29	Ataur Rahman Khan	Chairman Upazila, Parisad Beanibazar
30	Amir Ali	PAP, Sutarkandi
31	KirtiNishan Chakma	World Bank
32	Md. Shofiqul Islam	Office, Branch
33	Ajoy Kumar Sarkar	P O
34	Kabir Khan	PS
35	Abdul Mayen	EPOS
36	Mamun Ahmed	
37	Asaduzzaman	BN
38	Anwar	
39	Partho Gosh	Bhomra Land Port Bangladesh Land Port Authority
40	Nazrul Islam	Bhomra Land Port Bangladesh Land Port Authority
41	Md. Isom Hosen	General Secretary Reg no. 1149

Sl. No	Name & Designation	Name of Organization
42	Md. Rezaul Islam	President Reg no. 1155
43	Md. Nazrul Islam	P.O to Minister
44	Akash Kumar	
45	Md. Mazharul Islam	Protocol ministry
46	Md. Masud Rana	
47	Md. Shoel Rana	
48	Md. Mirazul Islam	SI SB Dhaka
49	Md. Rajjak	
50	Md. Nasim	Bhomra C/F Agent Association General, Secretary
51	Binu	BTV
52	Md. Shafiqul Islam	Senior Staff Reporter 24.com
53	Shohelmamun	Dhaka Tribune
54	SiyamSarker	BLPA
55	Shorif	BLPA
56	Ratan Roy	BLPA
57	Md. Selim	Vitti, S.B
58	Md. SarwarHosaain	BLPA
59	ADV. Durjoy Das	MOS
60	Md. Sohel	
61	ZisahWalid	Enviro Consultant
62	M.F Reza Sumon	Bangladesh Institute of Planning (BIP)
63	Shamim Ahmed	Tejgaon PS
64	Kazy Abdul Kalam	Tejgaon PS
65	Habibur	Tejgaon PS
67	KaziRubel	P.O to MOS, Ministry of Shipping
68	Aftab Uddin	BLPA
69	Engr. Md. RabiulAlam	JGT DSL
70	M.A Hossain	BLPA
71	Md. Shah Alam	TCB
72	Ruhul Amin	BLPA
73	Anwar Hossain	TCB
74	Zoaherlal	TCB
75	Akhtar Zaman	World Bank
76	Md. Monir Hossain	T.I
77	Jahangir Alam	
78	Dr. B.K.D. Raja	International social consultant Ministry of shipping - Bangladesh
79	Dr. Venkata Nukala	Environment Consultant, Ministry of shipping - Bangladesh
80	Anis Ahmad	Director (Traffic), BLPA
81	Ar. IshtiaqueZahir	Deputy team leader. Yooshin -Vitti
82	Iqbal Hossin	Project Engineer, Yooshin -Vitti
83	Abu Salek	Public Relation Officer, BLPA
84	RashadulShajib	BSBK
85	Md. Sikuzzaman	BSBK
86	Shahana Akhtar	BAPL
87	Md. Aslam Kazi	BLPA

Sl. No	Name & Designation	Name of Organization
88	Mb. A L Mamun	BLPA
89	Md.Rafiqul Islam	BLPA
90	Md. Iqbal Kabir	BSBK
91	S.M Mehedi Hasan	BSBK
92	Masuda Akter	BSBK
93	Md.Magedur Rahman	BSBK
94	Ripan Chandra Som	Accountant, BSBK
95	Sonia Kamal Emmy	Yooshin -Vitti
96	Md.Suhel Rana	Bets Consulting
97	Lee Senng Woo	Yooshin -Vitti
98	Md. Kabir Hossain	BLPA
99	Md. Zahidul Islam	BLPA
100	Md. Jasim Uddin	BLPA
101	AbulHasnat Mahmud	BLPA
102	Salah Uddin, Accountant	BLPA
103	Suman Datta	BLPA
104	Mohammad Ibrahim	BLPA
105	Mohammad Ali	BLPA
106	SeongYil Bae	Yooshin -Vitti
107	ZahirulDowlah	SAI
108	Morshed Hossain	Channel 24
109	Naser Baba	
110	FatemaAkter	BLPA
111	Monira Begum	W.S, BLPA
112	ShamimShohana	Deputy Director (Traffic), BLPA
113	Farjana	BLPA
114	Ma. Imran Hassain	Cashier BLPA
115	Md. Abul Hossain	BLPA
116	Ma. Aminul Islam	BLPA
117	Md. Jasimuuddin	BLPA
118	MdShopan	SOMOY TV
119	Md. Abdul Hannan	Po
120	MdJamanHossian	BLPA
121	Md. Alamin	
122	A.Z.M Sakhawat Hossain	Managing Director.SDF
123	Iqbal Khair	Reproter,Bctar
124	Runa Akter	BLPA
125	Md. Kalm Miah	BLPA
126	Md. Shafiqul	Tcr
127	Md. Mahfuzul Islam	BLPA
128	Md. Abdus Salam	Chairman Doubag
129	Ruhal Ahmed Chowdury	Sefl
130	Md. Jasimuddin	Ministry of shipping
131	Kamrul Hasan Jr Engineer CHT Connectivity Project	SAI and BETS ConsultingServkc Ltd.
132	Kamrul Islam	O A, Land Port
133	Ronjit Das	BLPA
134	Q. S. I Hashmi	ADG, DOE

Sl. No	Name & Designation	Name of Organization
135	GoziSarowar	Press Information Dept
136	Md. Mazharul Islam Talukder	LGED
137	Ahmede Ali	World Bank
138	Aminul IslamAsst. Engineer	BLPA
139	KaziNawshedDilwar	Bhomra President of C&F, Agent Association
140	S.A. Motin	Visitor
141	Md. AbidHossian	General Secretary Bhomra Handling labour Union, Reg - 1722
142	Md. Shajahan Ali	Office Assistant
143	Md. KibriaJolil	Visitor of traffic, President – Director
144	Md. Ali	Secretary
145	Md. Shohel	Police
146	Md. Mosiul Islam	Police
147	Md. RaselMhamud	Police
148	Md.A. Salam	BIWTC
149	Kh. Shajahan	
150	Topan Dev Nath	BLPA
151	Md. Jhangir	BIWTA
152	C H Ali	
153	Mafaz	TCB
154	Younus	MOS
155	KaziMahfuzur Rahman	TCB
156	Md. Nur Hossain	TCD
157	SumonaParvin	BRAC
158	Saif Reza	
159	Jhangir	BANK
160	Nur Hossain	BANK
161	BijonDus	My TV
162	Sqbliz	My TV
163	Md. Shohel Rana	
164	Md. Musta Uddin	Custom
165	MominMojibul 226	LGED
166	Josim Uddin	
167	Rohman	
168	Billal Hossain	
169	Habib Rohman	71 TV
170	Pias	71 TV
171	Josim	71 TV
172	Md. Shoyb Hossain	Bangladesh Media Institute&Somotol
173	Q Shahin	DBC News