FINAL

ENVIROMENTAL IMPACT ASSESSMENT OF SHEOLA LANDPORT

Bangladesh Trade and Transport Facilitation Studies RETF Project (BLPA Component)

Bangladesh Land Port Authority (BLPA)
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15th October 2016

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List of Acronyms

BLPA	Bangladesh Land Port Authority
CSC	Construction Supervision Consultant
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
IDA	International Development Association
IEE	Initial Environmental Examination
IUCN	International Union for Conservation of Nature
LC	Land Customs
MOEF	Ministry of Environment and Forest
MoS	Ministry of Shipping
NOC	No Objection Certificate
NGO	Nongovernmental Organization
OP	Operational Policy
O&M	Operation and Maintenance
PD	Project Director
PIU	Project Implementation Unit
PM	Particulate Matter
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

Executive Summary

A. Introduction

The Bangladesh Regional Connectivity Project 1 (the Project) 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. One of the component of the Project includes investments to develop key land ports essential for trade with India and Bhutan. These include development of a new land port in Sheola, land port at Beanibazar, Sylhet. This Environmental Impact Assessment Report (EIA) presents the environmental assessment of the proposed Sheola Land Port (the Subproject). A Social Impact Assessment (SIA) and Resettlement Action Plan (RAP) have also been prepared for the Sheola Land Port and are presented in separate covers.

The above mentioned project activities will impact environment. The project authority intended to develop and implement the project with sustainable manner as per DoE and WB guideline.

B. Policy, Legal Administrative and Regulatory Framework

The Environmental Conservation Act (ECA, 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. 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 amended on 2010. ECR classify the projects in to various categories (Green, Orange A, Orange B and Red) for the purpose of environmental clearances. Construction of land port is not included in the classification of different industrial units or projects list in ECR.

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 port or up gradation of existing land ports will also fall in to ‘Orange B’ category. The Project is expected to be categorized as “Orange” and hence BLPA will submit the following documents to DOE: An Initial Environmental Examination (IEE) with Environmental Management Plan (EMP).

Among the World Bank Safeguards, from an environmental perspective, the Environmental Assessment (OP/BP 4.01) is triggered. Since most of these impacts are site specific and can be mitigated with standard mitigation measures, hence the proposed project falls under category B. Environmental Impact Assessment (EIA) report prepared for Sheola land port in compliance with the WB policy. Stakeholder and Public consultation and disclosure requirements are performed duly on 7th June 16 as per the World Bank policy.

C. Project Description

Overall Project and Components

Sheola Land Customs Station (LCS) started its operation the export and import activities were conducted with the Kushiyara river route since 1948. In 1996, this Sheola LC

station was transferred to the Sutarkandi under Dubagh union near border line 2km away to the South East location and started its activities as LC station depending of the road network only. But the name of this LC station remains named Sheola LC Station. Recently the number of vehicle using Sheola LC is increasing over time and the importance of the location considering, the Government has already declared the Sheola LC station as Sheola Land Port on 30.06.2015.

The proposed facilities to be built are:

- **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, internal road network, drains, footpath, parking, and landscaping, tree plantation along the boundary wall
- **Electrification Works**: area lighting, boundary wall lighting, footpath lighting, road lighting, substation equipment and diesel generators, and solar power;
- **Water Supply and Sanitation Works**: water supply and sanitation facilities
- **Safety and Security**: fire protection and detection, first aid facilities, CCTV system, intruder alarm system, car park management, access control system, physical security, and watch towers.

Other facilities like as toilet facilities for women, women-only waiting rooms and differently abled users, and address safety-related issues for all users. All terminals will be provided with separate women counters, waiting rooms and toilets for women passengers, and ramps for movement of differently abled people and need to be provided with drinking water facilities.

Associated Activities

Road Connectivity: The road from Sylhet to Sheola L.C Station is constructed by the LGED and Paved. But the road connectivity needs to be strengthened and widened for heavy vehicles. The existing road condition is adequate for five years initially for operation of the land port, but during later stages, the road needs to be improved.

Power Line: For operation of the port facilities, an existing power line from Beanibazar to the proposed land port needs to be extended. The length of this power line will be 13 km. In addition to the power line, a solar power of 25 kW and two generators will be installed as a backup power source.

During construction, the site for the proposed construction will be used for establishing construction camps and material storage facilities. About 200,000 cubic meters of the borrow material would be required for filling of the land above the flood levels. The borrow material will be extracted from the abandon fallow land and pond of the area within 10 km. The location of borrow land is primarily identified Naya Dubagh, Uttar Dubagh, and un-utilized, non agricultural land nearby Beanibazar area.

D. Initial Screening and Scoping of Environmental Impacts

The Sheola land port is to be established around the existing port areas currently is 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 in the South side of the project. A summary of the potential impacts associated with the proposed land port development are given below along with potential mitigation measures:

- Some part of the proposed site is located in a flood plain land named Dubagh bee land hence filled with water during rainy season. An inland water basin, Muriha Haour, is located1.5 km South of Sheola land port. Generally, flood plains are fish spawning areas and haors are the fish habitats. Care should be taken to avoid waste water runoff from proposed port facilities to adjacent Dubagh beel and Muriha Haour.
- Fill material for land port land development will be collected from the abandon and unused land, silted pond and non-agricultural land near by the area. During carrying of earth truck should be cover with triple and dust suppression through water sprays should be done.
- The major import item is coal about 97% of total import per year. Loading and unloading operation, store on the open stack yard and management of coal dust and coal wash water during rainy season should be control through filter and this should be considered during design of the facilities.
- Few residences are located near the South side of the proposed port site. Hence noise would be a major concern during the operation phase and dust will be less concern due to general wind flow from South to North. Major part of the port will be constructed in North side. Adequate noise control measures such as developing buffer zones and tree plantation around the port facilities should be considered during the design of the port. Dust control measures, cover storage areas, sweeping and vacuum collecting equipment should be considered during design of the facilities.
- No waste collection system, rotten and rejected goods and disposal facilities are not available. Waste collection and location of disposal facilities should be considered during design.
- Separate facilities like toilets and waiting room in custom office and immigration counter for women traveller and traders should be design in the port facilities. Ramp facilities should be provided for disable people.
- A rainwater drain (canal) passes through the North side of project site, which carries rain water during monsoon and has a limited catchment area. The canal alignment is not straight, and has a mender and therefore canal erosion is noticed along the banks. Bank protection measures are required to control the erosion. The port site developed above the 100-year flood level data and also considered the climate change impacts.

E. Environmental Assessment

Environmental assessment (EA) of the Project has been carried out using Environmental Management Framework (EMF) provided by the World Bank Consultant. In the studies ensured all relevant environmental issues are mainstreamed into the design and implementation of the proposed project, ensure compliance of the Project with national and World Bank requirements, and conducting EIA for the Sheola Land Port project.

The following environmental issues were considered baseline survey of during EIA study.

i. Source of land fill material and land development
ii. Hydrology of the project area
iii. Biological species study (Flora and fauna, endangered species)
iv. Climatic condition (Temperature, rainfall, humidity)
v. Environmental quality (Air, water, noise)
vi. Socio economic condition (Population, demography, archeology, economy and culture, indigenous people, water supply and sanitation and affected person)

Mitigation measure developed as per impact identified.

F. Alternative Analysis

There are three potential options for multimodal transport, one through Kushiara river, which is located about 3 km north of the current Sheola LCS, and the second one is through railway line, which is located about 8 km south of the Sheola LCS, and third option is the Sheola LCS itself. Before partition of India in 1947, both the Kushiara River and railway line were used for transport of passengers and good. The current Sheola LCS location has been considered for further development, since India has already built huge land port infrastructure on the other side of the border.

Three options have been considered for finalizing the location of the port site. Analyzing all the options, Traditional design has been selected as it will give most of the benefit. The pros and cons of options that are analyzed for Traditional, Co-located or Juxtaposed, staggered are given detail EIA report.

Three options have been considered for finalizing the location of the port site. Analyzing all the options, final selection of alternative should be considered maximum benefit in design phase. The pros and cons of options should be analyzed during design phase.

Three layouts have been considered for the site development. The layout 1 is spread over 43.3 acres of land and includes facilities for private warehouses and traders. The Layout 2 is spread out 22.1 acres of land. The third layout is the selected option spread over in 22.1 acres of land and will not cover any facilities for the private traders. The option 1, 2 and 3 is given in Figure 3.3. The selected better option should be considered for design in the design phase.

G. Stakeholder and Public Consultation

The stakeholder and public consultation program is an essential part of the environmental assessment process and has been undertaken both formally and informally throughout the study to ensure that the knowledge, experience and views of stakeholders and the general public are taken into account during the study. The information shared and recorded where relevant, been applied to justify design, construction methodology and timing changes, in order to reduce predicted negative effects. This approach satisfies statutory consultation requirements of the DoE.

The primary methods followed in the consultation process are:

- Individual level consultation/discussion;

- Key Informant Interview
- Focus group discussion;
- Free prior informed Public Consultation

In April 2016, meet Sheola Union Parishad Chairman requesting them to assist the Consultant with the organization of public meetings and FGD at a number of locations in the Project area. The Union Parishad Chairman were also asked to actively participate in, and in most cases chair the consultations.

Free prior informed public consultation meetings were held at Sheola during project preparation and to share the draft EIA report. A public consultation meeting was held on 7th May 2016 with the local communities. Notices about the consultation meeting were circulated to the local communities through leaflets one week in advance of the meeting. Posters were also displayed at public places (at Union Parishad Bhabon, market). All types of stakeholder Upazila Chairman, UP chairman, Business leader, local elites, Imam of Mosque, Hotel owner, truck driver, C&F agent including project affected person (PAPs) were present and participated in the exchange view session. Additionally, meetings were also held with local government officials and customs officials. They are happy to know the implementation of the Sheola land port project. They want proper compensation for their land acquisition, loss of structure and livelihood and proper environmental mitigation measure during pre-construction, construction and operation period. They will cooperation in the project since their socio economic condition will improve after implementation of the project.

A national consultation on draft environmental and social assessment study was held on 10th August, 2016 at BLPA auditorium in Dhaka. Photographs of these consultations are given at the end of report for local and national consultations, respectively. During these consultations, leaflets on key environmental and social issues were distributed to the participants (these were prepared in local language in Bangla) and big size posters were also displayed at the venue. Power point presentations were made by the environmental and social experts. Participants were encouraged to ask questions on the social and environmental issues.

Before the commencement of the EMP meetings the following materials were disseminated and invite all stakeholder and affected person, fostering in important plan one day before the consultation meeting, with the aim of developing positive and constructive relationships with stakeholders and improving their knowledge about the project and therefore enhance their ability to ask informed questions and to provide useful input and advice.

These materials were:

- Summary of the mitigations proposed during Project Disclosure meetings
- Written and visual information, including leaflet/brochure in Bangla, maps, drawings and diagrams, detailing the Project activities; and
- Identification of environmental impact including land fill
- The draft EMP
- Grievance Redress Mechanism (GRM)

General findings of the public consultation: Some issues, as described by those who attended in the consultation are summarized below:

Sands/earth used for filling the lowland, Acquisition of low land, small part of agricultural land and structure, Socio-Economic Benefit, Job facility and Communication, Accident, Noise pollution, Air pollution, Traffic congestion, Contribution of improvement of traffic communication system

H. Environmental Management and Monitoring Plan

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.

I. 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 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. 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.

Chapter -1: Introduction

1. INTRODUCTION

The Bangladesh Regional Connectivity Project 1 (the Project) 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. One of the component of the Project includes investments to develop key land ports essential for trade with India and Bhutan. These include development of a new land port in Sheola, land port at Beanibazar, Sylhet. This Environmental Impact Assessment Report (EIA) presents the environmental assessment of the proposed Sheola Land Port (the Subproject). A Social Impact Assessment (SIA) and Resettlement Action Plan (RAP) have also been prepared for the Sheola Land Port and are presented in separate covers.

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 tons 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 tons 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 tons 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 1.2: Major Regional Trade Flows in the NE Region of South Asia Region

Trade flow	Volume (million tons)
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

1.2 The Proposed Subproject

The proposed Sheola Land Port (the Subproject), located on the Assam border, is one such potential land port that could be benefitted from enormous trade potential from mainland India to north eastern parts of India. A Land Customs station (LCS) is already existing in Sheola since 1948, however in the current location since 1996 along with an immigration check post. The land port will be developed around these facilities in an about 22 acres. The proposed subproject is located in the village of Borogram of

Beanibazar Upazila of Sylhet district. The distance of Sheola from Beanibazar 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. The distance from Sutarkandi to Guwahati, capital of Assam is 341 km Location of Sheola Land Port is shown in Figure 1.1.

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 overall 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. While, the expected outcomes of the subproject are: (i) reduction in border crossing time at Sheola, (ii) increased cross-border trade flows, (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.

1.3 Environmental Assessment of the Project

Environmental Assessment of Sheola Land Port has been carried out in accordance with the EMF and RPF of the Project with an objective to:

(i) ensure all relevant environmental and social issues are mainstreamed into the feasibility study 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, and
(iii) ensure compliance with national and World Bank requirements, and

1.4 EIA Study Methodology

This EIA has been prepared by the BLPA[1] and submitted to the World Bank for the project.

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

- Review of available details of the Sheola land port and meeting/discussions with various stakeholders including local communities
- Review of the policy and regulatory requirements; and EMF
- 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.
- Field investigations to collect baseline data using structured questionnaires in Annex I, and sampling and analysis for air, water and noise
- A detailed assessment of potential impacts of the Project activities and prepare detailed mitigation measures.
- Consultations at both local and national level with various stakeholders including affected communities

[1]BLPA engaged services of Yooshin and Vitti JV to prepare feasibility and detailed design of Sheola Land Port. The EIA team is led by Dr. Jagadish Chandra Saha with the support of Dr. Venkata Nukala, an individual environmental consultant of Ministry of Shipping of GoB.

1.5 Contents of the EIA Report

Chapter 2 reviews the prevailing WB policies and national regulatory requirements relevant to environmental assessment. Chapter 3 presents description of the project and other salient information relevant for environmental assessment. Description of the baseline environmental conditions is presented in Chapter 4. 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 environmental management plan (EMP). Finally, Chapter 7 describes the consultations that have been carried out with the stakeholders and details of disclosure.

Figure 1.1: Locations of Proposed Sheola Land Port

Chapter -2: Policy and Regulatory Framework

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 Wild life (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 Wild life (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 Labour 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 also fall in to 'Orange B' category. However final decision on categorization will solely depend on the DOE based on their review of EA documents.

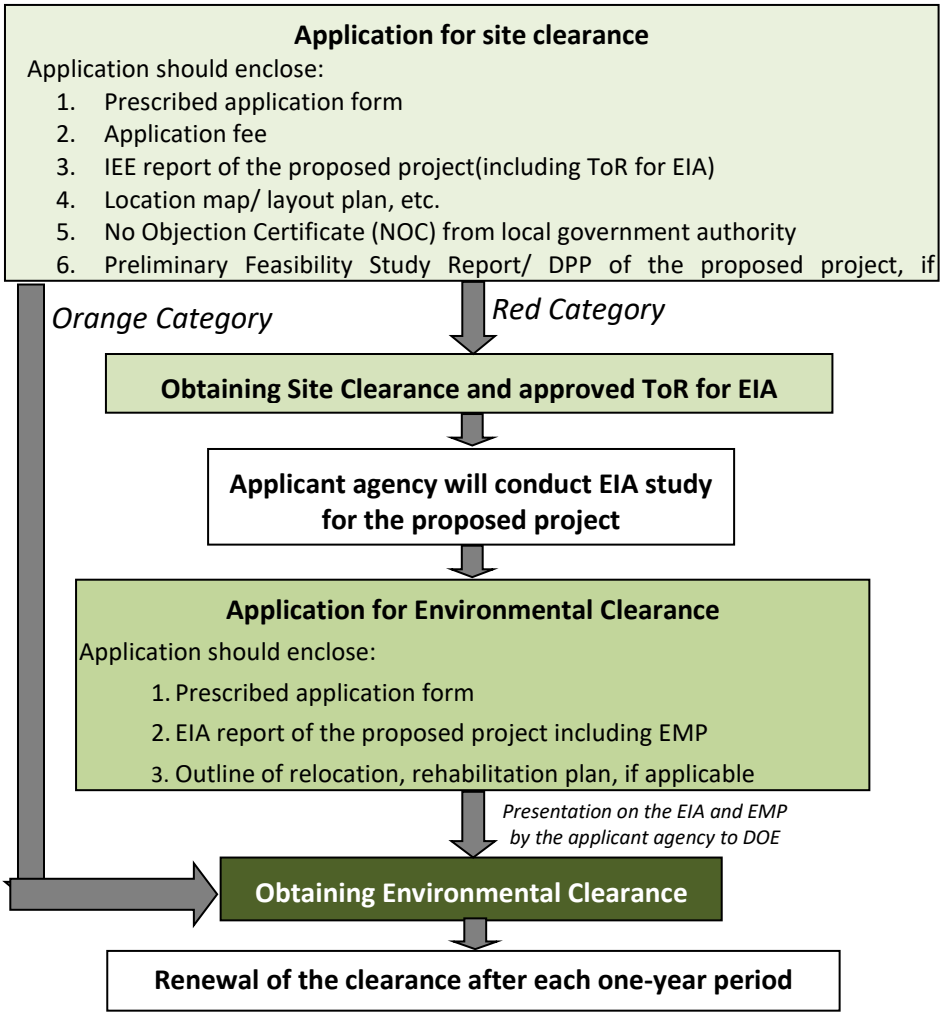
It is the responsibility of the BLPA as a proponent to conduct an environmental assessment of development proposal, the responsibility to review this assessment for the purpose of issuing Environmental Clearance Certificate rests on DoE. Based on the consultations with the DOE, the development of Sheola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

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

The IEE will be a checklist on the proposed activities involved in subproject development. On review of the above documents, the DOE will give the environmental clearance for the Project.

For "Red Category' Projects, the documents to be submitted to DOE are: (i) an Environmental Impact Assessment (EIA) and (ii) 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, sitting, planning, feasibility study, 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 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.[2]

The overall objectives of the Policy are given below.

- Involuntary resettlement should be avoided where feasible, or minimized, exploring all viable alternative project feasibility.

- 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.

2.3.3 Environment, Health and Safety Guide lines

The Environment, Health, and Safety (EHS) Guidelines[3]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 guide lines that are relevant to the Project are: EHS Guidelines for Ports, Harbors, and Terminals.

2.3.4 Applicable World Bank Policies to the Subproject

The applicable World Bank policies for the development of Sheola Land Port are given in Table 2.1.

[2] Excerpts from WB OP 4.12 WB Operational Manual. December 2001.

[3] 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 Sub projects

Directive	Policy	Applicability for the Subproject	Explanation
Environmental Assessment	OP/BP 4.01	Triggered.	Construction and operation of land ports expected to cause impact on natural environment (air and noise quality) and health and safety of local community and workforce. This subproject falls into Category B since most of these impacts are site specific and can be mitigated with standard mitigation measures.
Natural Habitats	OP/BP 4.04	Not Triggered.	No natural habitats are located in near the subproject
Pest Management	OP 4.09	Not triggered.	The subproject will not procure any pesticides, nor will they induce an increased use of pesticides.
Physical Cultural Resources (PCR)	OP 4.11	Not triggered.	No PCRs located in the proposed subproject
Indigenous Peoples	OP/BP 4.10	Not triggered	There are no indigenous people near the project
Involuntary Resettlement	OP/BP 4.37	Triggered	22.1 acres of Land is required for project infrastructure facilities. A Resettlement Action Plan (RAP) has been prepared under separate cover, detailing the relevant requirements to ensure compliance with this policy.
Forests	OP/BP 4.36	Not triggered.	No forests are located in the proposed port area
Safety of Dams	OP/BP 4.37	Not triggered	No dam are located near the project.
Projects in International Waterways	OP/BP/ GP 7.50	Not triggered	No international waterways are located near the project. The Kushiara river is located about 3 km from the project site.
Projects in Disputed Areas	OP/BP 7.60	Not triggered	The subproject is not located in a disputed area
Access to Information		Applicable to the project.	EIA will be disclosed in country (on BLPA website) and will be sent to WB Info Shop. Public consultations with local community were held at Dubagh on 7th May 2016. A national level public consultation was carried out on August 10, 2016. The executive summary of the EIA will be translated in to Bangla will be made available in hard copy in locally accessible locations in the project area, including BLPA/Customs offices.

2.4 Compliance Status with Bangladesh and World Bank Requirements

The present compliance status of the project with Bangladesh legislation and World Bank safeguard policies is indicated in Table 2.2.

Table 2.2: Compliance of the Project with GOB Legislation and World Bank Safeguard Policies

Policy	Legislation/Policy	Actions Taken to Comply
GoB requirements	Environmental Conservation Rules	BLPA will submit IEE with EMP to DoE for environmental clearance certificate
	International treaties	Verification of protected sites, Red List and protection of vulnerable habitats in environmental screenings and assessments of the Sheola land port. No such protected or vulnerable sites are noticed in the project area.
	Public information and disclosure	The draft EIA report will be disclosed on BLPA's website. Public consultations meetings were held on Dubagh Union Parishad Bhavan (2km from the Shula land port site), on 7th May 2016, at Sheola and to solicit stakeholder feedback. National public consultation workshop was held on 10th August 2016 at Dhaka.
World Bank requirements	Early Screening and Scoping	Screening using structured questionnaires was carried out during the feasibility study of the Project.
	Participatory approach	Key informant interviews, participatory rural appraisals, consultation meetings and focus group discussions were held between March and May 2016.
	Integrate environmental and social assessment	Natural environment, public health, and social aspects are incorporated into EIA.
	Natural Habitats	Verification of protected sites and ecosystems, Red List and endangered flora and fauna has been done Sheola Land Port. No protected and ecosystems are located in the project area.
	Risk assessment	Health and safety risks for population and workers are identified in the EIA and management measures will be included in tender documents. BLPA capacity will also be strengthened on health and safety risk management.
	Climate Change and Floods	Impact of floods and climate change effects are considered for feasibility study of the Sheola land port.
	Alternatives	Alternatives have been considered for location of proposed land port including multimodal transport alternatives; and various layouts for sitting of required facilities in the selected area.
	Pollution	Baseline survey of air, noise and water quality has been carried out. Environmental Code of Practices (ECoPs) are included in contractors" bidding documents
	Physical Cultural Resources	No physical, cultural resources which warrant special treatment under the World Bank OP 4.11 were identified in the proposed land port area. No mosques or graveyards are located in the proposed land port area.
	Social impacts	For negative social impacts on land/assets/livelihood/access to resources etc. mitigation plans will be prepared in keeping with the Bank's Operational policies triggered.
	Gender	Women participated in the consultation meetings in the project feasibility study, Women only waiting rooms and toilets should

Policy	Legislation/Policy	Actions Taken to Comply
		be included during design period.
	Public Health	Public health aspects were studied and public health impacts are covered in EIA
	Consultation and access to information	The EIA will be disclosed on BLPA website and also will be sent to WB Info Shop. The executive summary of the EIA has been translated in to Bangla and was circulated to local community. Public consultations were held in held on 7th May, 2016 at Dubagh Union Parishad Bhaban near the subproject area. A national public consultation workshop was held in Dhaka on 10th August 2016.

Chapter -3: Project Description

3 PROJECT DESCRIPTION

3.1 Proposed Developments in Sheola Land Port

Details of the facilities to be built in the proposed Sheola land port are given in Table 3.1. Layout drawing of the proposed facilities are given in Figure 3.1 and a rough aerial view of the facilities is given in Figure 3.2. The proposed facilities to be built are:

- **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, internal road network, drains, footpath, parking, and landscaping, tree plantation along the boundary wall
- **Electrification Works**: area lighting, boundary wall lighting, footpath lighting, road lighting, substation equipment and diesel generators, and solar power;
- **Water Supply and Sanitation Works**: water supply and sanitation facilities
- **Safety and Security**: fire protection and detection, first aid facilities, CCTV system, intruder alarm system, car park management, access control system, physical security, and watch towers.

Table3.1: Compliance of the Project with GOB Legislation and World Bank Safeguard Policies

A. Land Development		
Land Development (filling of the land above flood level)	-	89,468 m^2(≒ 3.66 m depth filling)
Boundary Wall	-	2,508 m long &1.50 m height
Internal Road Network	-	13.5 m wide ~ 196 m long 10.5 m wide ~ 774.0 m long 7.0 m wide ~ 125.0 m long
Footpath	-	1.5 m wide ~ 2,200.0 m long
Parking Bridge	~ ~	3.0 m wide ~ 1100.0 m long 840.0 m^2 12.00.mwide 42.0 m long
Landscaping	-	Plantation, Greenery, soft & hard landscaping
B. Building and Other Infrastructure		
Port Facilities		
Administrative Building(4-Storied),	-	2,397.70 m^2
Ware house1 no's	-	2,792.00 m^2
Transshipment Yard Shed 2 no's	-	2,800.00 m^2
Open Stack yard	-	6,000.00 m^2
Bangladesh & India Truck terminal	-	15,344.00 m^2
Inspection Building	-	304.00 m^2
Service Area		
Barrack (Border)	-	720.00 m^2
Dormitory-2 Storied	-	720.00 m^2
Guesthouse	-	720.00 m^2

Pump House &sub station	-	470.00 m^2
Store Building	-	470.00 m^2
Sand filtration	-	1130.00 m^2
C. Basic Services		
Area Lighting	-	85058.0 m^2
Boundary wall lighting	-	2,508.0 m
Footpath lighting	-	3,300.0 m
Road Lighting	-	1,005.0 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	~	25,000 W
Underground Water Reservoir	-	100 m^3
External Drainage	-	2,800 m
Deep tube-well 2 nos.	-	150 mm dia 230 M long
D. Equipment and Plants		
	~	
Weighing Bridge	-	100 metric ton capacity 2 no's
IT Solution	-	Networking & Cabling, Server, Internet Uplink
E. Safety & Security		
Fire Protection, Fire detection CCTV System, Alarm, PA, BMS, Watch Tower, Gate etc.		

Figure 3.1: Details of Proposed Facilities at Sheola Land Port

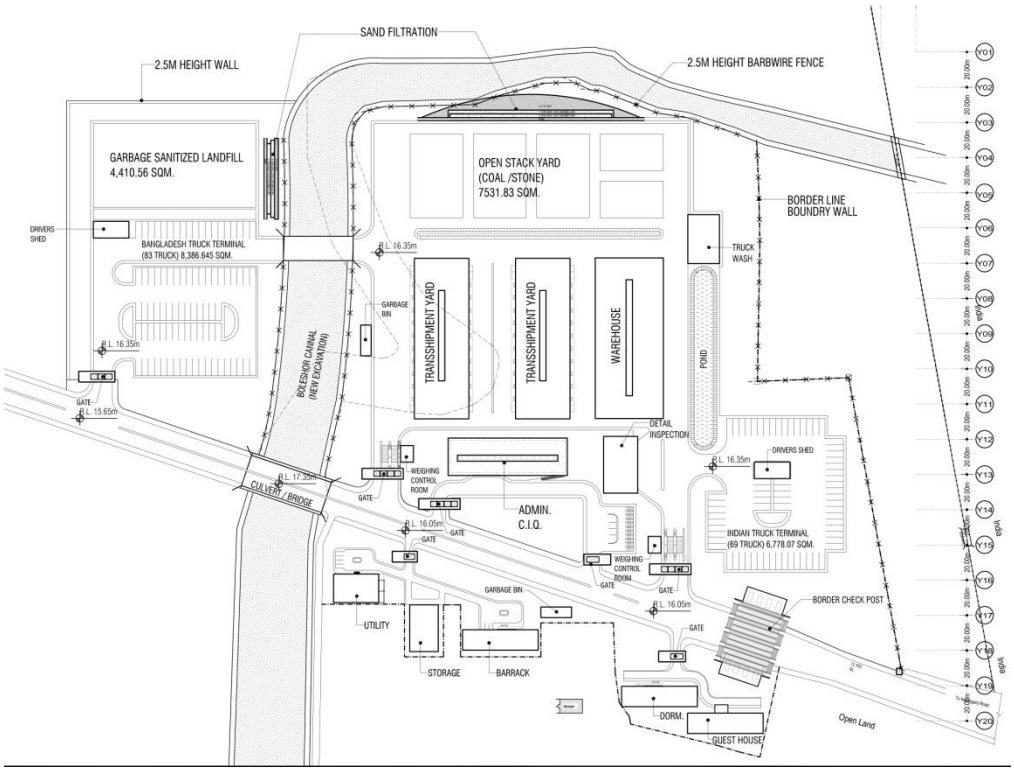


Figure 3.2: A rough aerial view of the proposed Sheola Land Port

3.2 Associated Activities

Road Connectivity: The road from Sylhet to Sheola L.C Station is constructed by the RHD and Paved. But the road connectivity needs to be strengthened and widened for heavy vehicles. The existing road condition is adequate for initial five years of operation of the land port, but during later stages, the road needs to be strengthened.

Power Line: For operation of the port facilities, an existing power line from Beanibazar to the proposed land port needs to be extended. The length of this power line will be 13 km. In addition to the power line, a solar power of 25 kW and two generators will be installed as a backup power source.

During construction, the site for the proposed construction will be used for establishing construction camps and material storage facilities. About 200,000 cubic meters of the borrow material would be required for filling of the land above the flood levels. The borrow material will be extracted from the abandon fallow land and pond of the area within 10 km. The location of borrow land is primarily identified Naya Dubagh, Uttar Dubagh, and un-utilized, nonagricultural land nearby Beanibazar area.

3.3 Current and Future Trade

Details of current imports and exports at Sheola land customs station are given in Table 3.2 and 3.3 respectively. Major imports are coal which accounts for nearly 97% of the imports. These coal is mainly used in the Sylhet and surrounding areas for brick kilns. The goods that are generally imported and exported at Sheola port are given below:

Import Item: Coal, stone, orange, ginger, Satkara, onion, apple, mango and cement clinker, scrap, sitrus, Tomato.

Export Item: Chips, chanachur, lollipop, ice pop, milk candy chocolate, catchup, energy drinks, mango drinks, power drinks, paran up, DOC fatty acid, cement, plastic products, cotton, lacca vermicelli, mobile pop, litchi drinks, melamine products, ceramic

products, brick breaking machine, tissue paper, caustic Soda, soap, liquid chlorine gas, tube well, Otobi furniture, different types of fishes, dry cell battery, liquid chlorine gas, hydrogen peroxide, D.C & fatty Acid, Citagur (Molasses), Business Materials, C.I Sheet,

Table 3.2: Imports of Sheola LCS (2014-2015)

Sl. No.	Description	Quantity (M.Ton)
1	Coal	96458
2	Mango	3
3	Augor Deck	3.53
4	Tomato	8.00
5	Scarp	30
6	Orange	1163
7	Sitrus	14
8	Zinger	1615
9	Apple	26.114
10	Pan	1.64
11	Banana	2.050
Total		**99,324.94**

Table 3.3: Exports of Sheola LCS (2014-2015)

Sl. No.	Description	Quantity (M. Ton)
1	Food (Pran, Bangle)	10978.52
2	Cement	18025
3	Caustic Soda	1730
4	Waste Cotton	851
5	Liquid Chlorine Gas	1603.80
6	D.C & fatty Acid	466.625
7	Brick broken machine	6.00
8	Plastic Materials	637.841
9	Readymade wear	60.187
10	Net	8.00
11	Fish	171.75
12	Tissue Paper	32.351
13	Soap	58.225
14	Tube well	54.447
15	Water Tank	0.667
16	Melamine	27.073
17	Ceramic	20.529
18	Otobi furniture	6.308
19	Hydrogen Per Oxide	45
20	Citagur (Molasses)	14
21	Garments Materials	5.275
22	Business Materials	0.677
23	Football	0.178
24	C.I Sheet	33.55.5
Total		**34803.45**

Table 3.4: Predicted Trade Volume at Sheola Land Port

Items	2020	2025	2030	2035	2040
Import	228,191	445,625	789,250	1,221,419	1,724,668
Export	66,617	134,695	251,203	412,871	633,822
Total	294,808	580,320	1,040,454	1,634,290	2,358,490

3.4 Analysis of Alternatives Considered during Project Planning

3.4.1 Alternatives for Single Modal and Multi Modal Transport

There are three potential options for multimodal transport, one through Kushiara river, which is located about 3 km north of the current Sheola LCS, and the second one is through railway line, which is located about 8 km south of the Sheola LCS, and third option is the Sheola LCS itself. Before partition of India in 1947, both the Kushiara river and railway line were used for transport of passengers and good. The current Sheola LCS location has been considered for further development, since India has already built huge land port infrastructure on the other side of the border.

3.4.2 Alternatives for Location of the Land Port

Three options have been considered for finalizing the location of the port site. Analyzing all the options, final selection of alternative should be considered maximum benefit in design phase. The pros and cons of options should be analyzed during design phase. The alternatives are given here, for an instance.

Traditional

- This type of LP has a wide level of acceptability because both has a long history of using such method of border management
- Infrastructure like Road and Truck Terminal has been set up already in Indian side
- Handling of goods/vehicles/labours is more effective and easy in this method
- Cross border coordination is required at a reduced level
- Inter ministerial correspondence is required at a limited level that will increase the speed of operation at any level
- Only road development is required to get maximum benefit from this type of management
- LC stations of both of the countries will enjoy absolute independence functionally and operationally
- Land port authority will be able to execute and exercise their command at a highest level
- Above all, all of these facilities and advantages would be made possible only with this option
- An option for transporting freights via railway is still there with construction of only 9 km railway line

Co-located or Juxtaposed

- In India, a truck terminal has been constructed already at a distance of 850 meters from the LC station of Bangladesh
- BSF Camp is at a distance of 350 meters from the part.
- The Reduced Level (RL) of Land in Indian part is less, that will increase the cost of any kind of construction including land filling, pre-cast piling etc.
- Coordinated effort for transhipment will not be very effective in this pattern due to difference in language, religion, social, nature and behaviour of people and truck driver is different of diversity.
- Infrastructure within no man's land is highly restricted by both of the neighbouring government

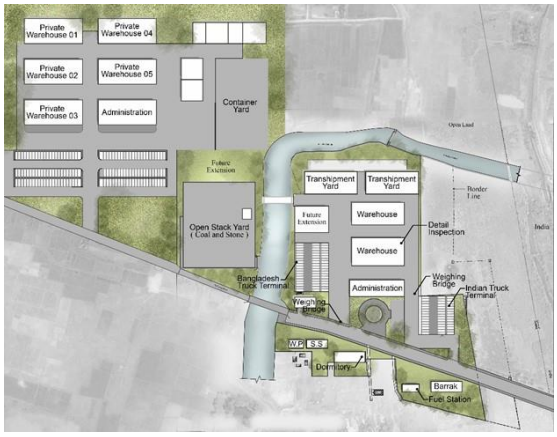
Staggered

- Coordination will not be very strong in LP due to the composed team of different countries
- Such type of poor coordination may result in mismanagement of the LP area

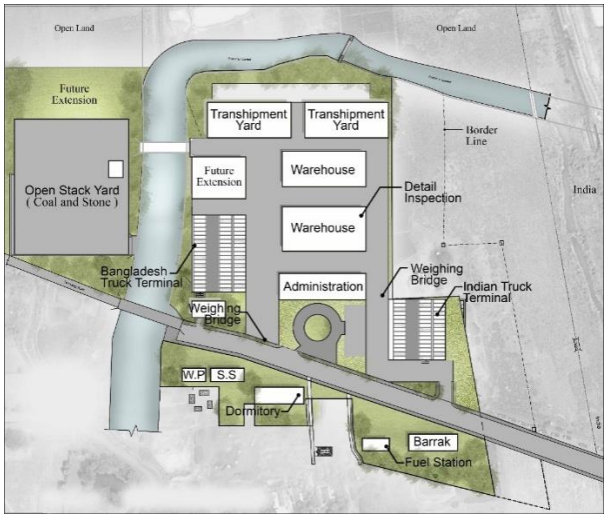
3.4.3 Alternatives Layouts for the Land Port

Three layouts have been considered for the site development. The layout 1 is spread over 43.3 acres of land and includes facilities for private warehouses and traders. The Layout 2 is spread out 22.1 acres of land. The third layout is the selected option spread over in 22.1 acres of land and will not cover any facilities for the private traders. The option 1, 2 and 3 is given in Figure 3.3. The selected better option should be considered for design in the design phase.

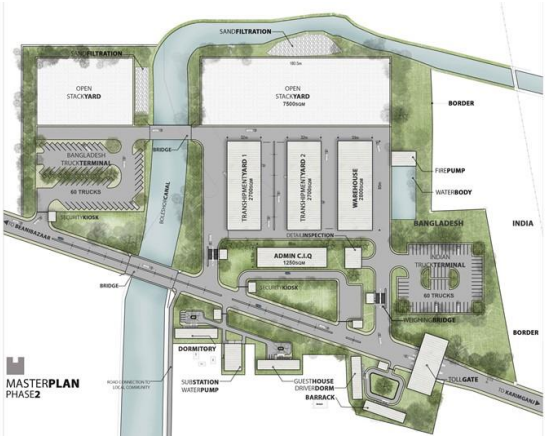
Figure 3.3: Option 1, 2 and 3: Proposed Layout for Sheola Land Port



Option -1



Option -2



Option -3

A comparative analysis of both the options are given in Table 3.5

Table 3.5: Comparison of the Proposed Layout Options

Description	Option 1	Option 2	Option 3(selected)
Area of Land Port	Total site area 43.3 acre The purpose of this option is to include private truck terminals in the land port. The port can rent the facilities to private people. Also can be used for future expansion	Total Site Area: 22.1 Acre Land Port Area:18.42 Acre Service Area: 3.682 Acre	Total Site Area: 22.1 Acre This option is to develop the land port facilities for next 20 years.
Land acquisition	More land acquisition cost	Less land acquisition cost	Less land acquisition cost
Tree cut	10 no's	5 nos	5 no's
Ffuture extension	Opportunity of future extension and construction of new infrastructures.	no opportunity of future extension and construction of new infrastructure.	no opportunity of future extension and construction of new infrastructure.
Private warehouse for storage facilities	This proposed land port includes private warehouse for storage facilities and container yards.	No private warehouse and storage facilities	No private warehouse and storage facilities. There will be possibility of haphazard development and construction
Land Use	22.1 acres are similar to Option 3. The rest of the is not currently being used for any purposes (flood plain land)	The 22.1 acres of land is under flood plain land, only structure placement arrangement is different.	The 22.1 acres of land is under flood plain land, except some areas where structures were already built
Environmental	More land filling more negative impact	Less land filling, less impacts	Less land filling, less impacts
Project cost	More primarily due to additional land acquisition	Less due to less land acquisition	Less due to less land acquisition
Conclusion	Not selected	Not selected	Selected because of less land and the future trade volumes beyond 20 years are not known.

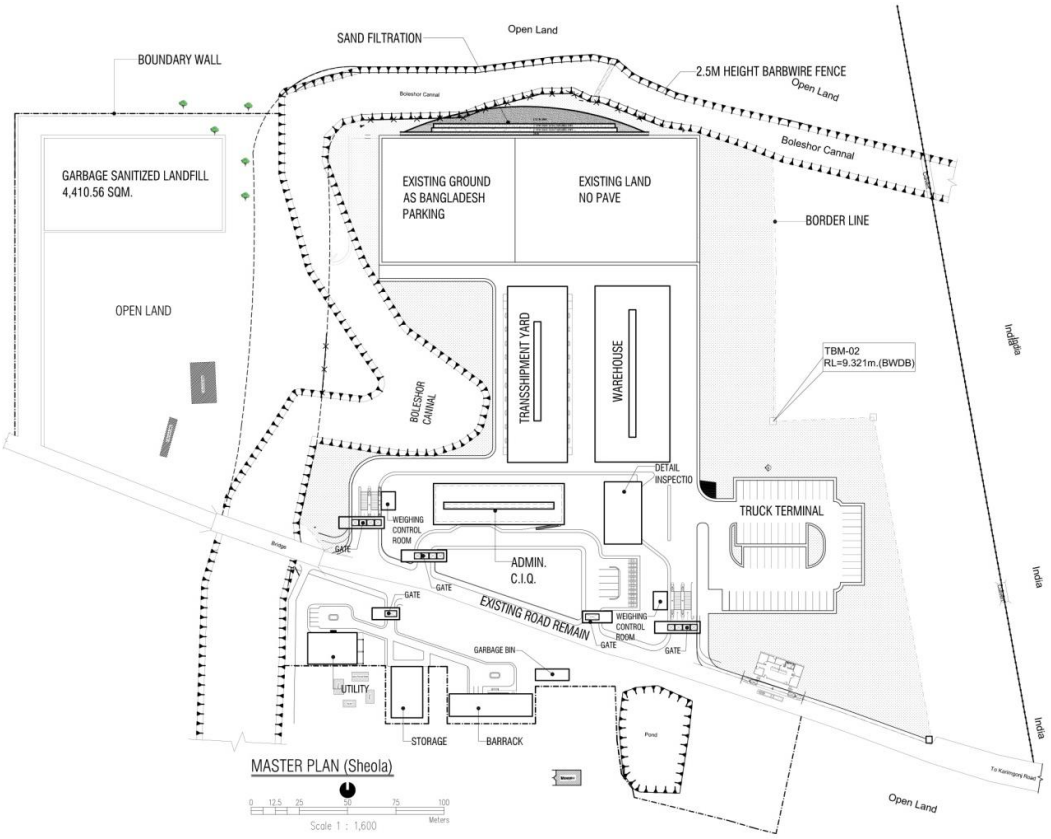
3.5 Phase Wise Development

A. Phase 1

Sheola Land Port will be developed into two phases. Phase 1 development year is 2016-2019 and operational from 2010 to 2030. For phase 1, the essential facilities that needs to be operated for the land port are

- Administration building
- Admin(CIQ),
- Transhipment Shed 1nos
- Warehouse 1nos
- Open Stack Yard 4000 sqm
- Temporarily Bangladesh Truck Terminal
- Indian Truck Terminal
- Dormitory
- Guest House
- Substation
- Water Pump
- Sand Filtration
- Temporarily Border Check post
- Fire pump and Truck Wash

Figure 3.4: Operational Plan for the First Phase



Source: Developed by the Consultants

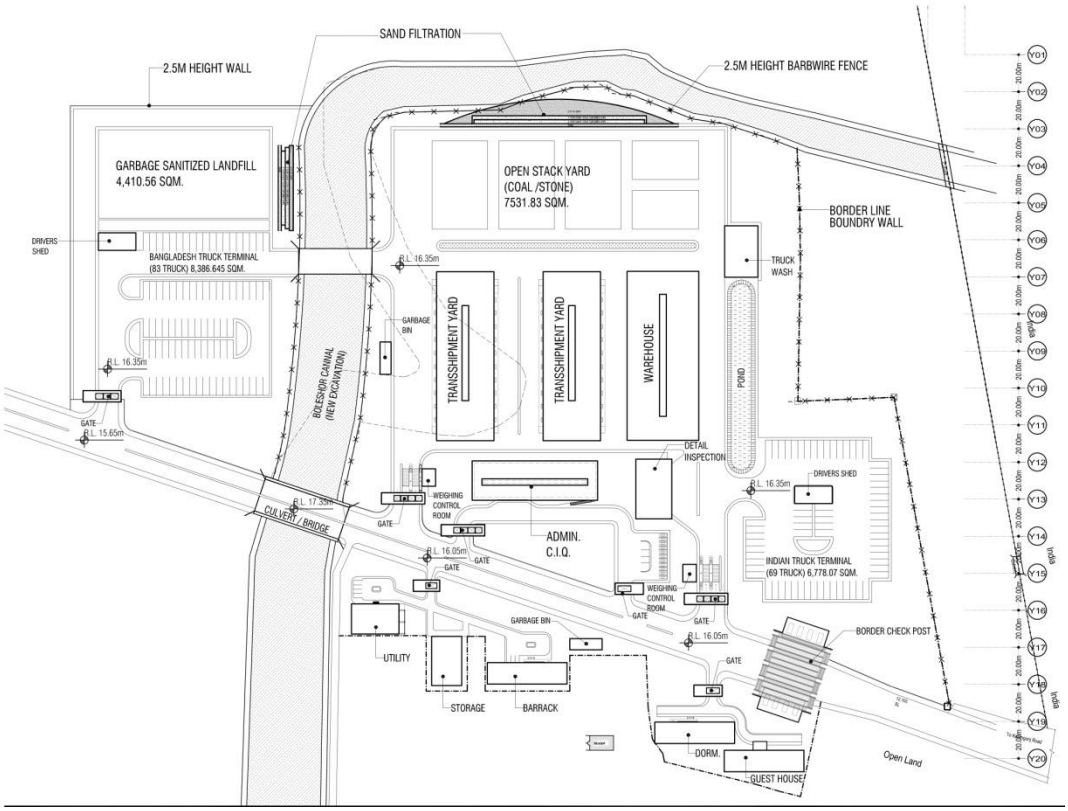
B. Phase 2

Phase 2 development year 2027-2029 and operational year is from 2030 to 2040. For phase 2 all facilities that needs to be operated for the land port has to be build are shown in below and in Figure 3.4.

Function in Phase 2

- Transhipment Shed 1nos
- Bangladesh Truck Terminal
- Border Check Post
- Driver Dormitory
- Barrack
- Open Stack Yard Extension
- Bridge
- Road Widening

Figure 3.5: Operational Plan for the Second Phase

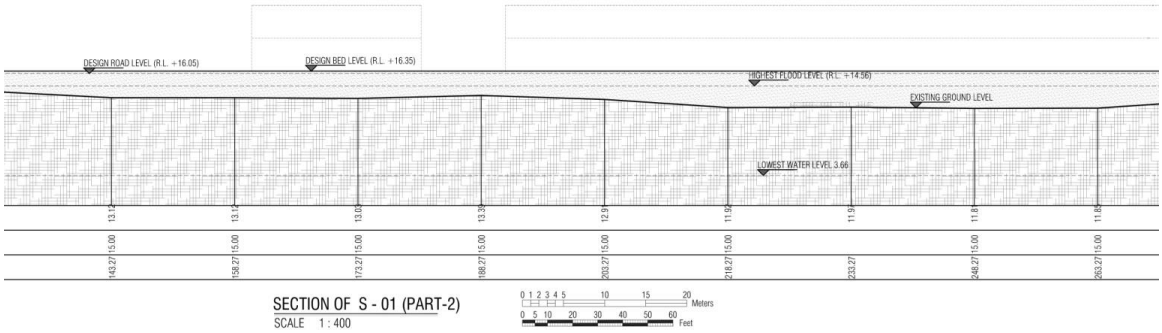


Source: Developed by the Consultants

3.6 Climate Change Adaptation in Project Design

The proposed site for port development is located in a floodplain land which will be submerged during rainy season. A rainwater drain is also located in the site, which also carry flood waters during rainy season. A 100 year flood level is estimated as 16.384 m PWD. For climate change and other uncertainties another 0.5 m is added to the 100 year flood level for raising of the ground level. Thus, the land will be filled up to an elevation of 15.87m MSL. The analysis is shown in Figure 3.6.

Figure 3.6: Flood Level Design



3.7 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.

3.8 Implementation Schedule

Development of Sheola land port is expected to take about 7 years. The construction is expected to start in construction is expected to start in early 2017.

Chapter -4: Baseline Environment

4 Baseline Environment

4.1 Physical Environment

Definition of the study area or project influence area: The influence area of the overall Project is defined as areas that are likely to be directly or indirectly affected by the proposed land filling and construction activities. This includes 1 km surrounding the proposed port facilities.

4.1.1 Physiography

The general physiography of the area is shown in Figure 4.1, The area is mostly plain and floodplain land. Most of the proposed area for Sheola land port is located in the catchment area of Kushiara river. A rainwater drain flowing through the area carries the flood waters to the Kushiara river. The areas south of the land port will drain to the in land drainage basin, Murihahaor.

Figure 4.1: Satellite of Sheola Land Port and the region

4.1.2 Climate

The climate of Bangladesh is sub-tropical with three seasons; namely summer from March to May, monsoon from June to October, and winter season from November to February. The average monthly temperature at Sylhet varies from 16.8°C to 29.2°C. Maximum temperature occurs in the month of April and minimum temperature in January. Mean annual rainfall in this region is about 3,851 mm at Sylhet. About 70 percent of annual rainfall occurs during May to August. The average wind speed varies from 2.36 m/s to 3.5 m/s. Mean monthly data of temperature, rainfall, humidity and wind

speed measured at the Sylhet meteorological station are given in Table 4.1, Table 4.2, Table 4.3 and Table 4.4, respectively.

Table 4.1: Monthly Temperature Data at Sylhet (degrees centigrade)

Year	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
2005	18.1	21.7	24	26.5	25.3	28.3	28	28.1	28.7	26.8	23.2	21
2006	18.8	23.2	25.8	26.1	27.3	27.2	28.8	29.1	28.1	27.3	23.4	19.9
2007	17.6	20.5	23.8	25.4	27.7	27.3	27.6	28.5	27.9	26.3	23.7	19.3
2008	18.4	19	24	27.4	27.6	27.4	27.7	27.5	28.2	26.4	23	20.7
2009	19.3	21.9	25.1	27	27.5	27.9	28.7	28.1	28.6	26.9	23.6	19.5
2010	18.5	21	25.9	25.8	26.8	26.9	28.5	28.4	27.7	27.6	24	19.7
2011	16.8	21.3	24.5	26.7	26.9	28.1	28.1	28.1	28.5	27.5	22.6	20
2012	17.7	20.6	25.2	24.7	27.8	27.1	28.4	28.6	28.2	26.4	22.9	18.3
2013	17.3	22.2	25.9	26.8	25.9	29.2	28.5	28	28.2	26.3	22.4	19
2014	18.7	19.7	24.5	27.7	27.3	28	29.1	27.9	27.7	26.9	23.7	19.9
Mean Temp (°C)	18.12	21.11	24.87	26.41	27.01	27.74	28.34	28.23	28.18	26.84	23.25	19.73
Max Temp (°C)	19.3	23.2	25.9	27.7	27.8	29.2	29.1	29.1	28.7	27.6	24	21
Min Temp (°C)	16.8	19	23.8	24.7	25.3	26.9	27.6	27.5	27.7	26.3	22.4	18.3

Table 4.2: Monthly Rainfall Data at Sylhet (mm)

Year	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Annual
2005	0	48	388	296	895	354	978	626	319	259	0	0	4163
2006	0	62	16	353	572	1288	436	424	288	72	12	3	3526
2007	0	34	41	481	669	869	786	578	594	142	144	0	4338
2008	19	35	165	162	501	648	604	761	264	192	0	0	3351
2009	0	20	63	427	576	469	599	674	323	136	0	0	3287
2010	0	1	147	804	728	946	528	767	732	231	10	45	4939
2011	0	3	99	78	403	578	673	722	490	55	0	0	3101
2012	10	0	101	659	406	1185	700	738	261	502	48	0	4610
2013	0	7	16	229	959	729	567	520	347	451	0	0	3825
2014	0	34	78	118	540	724	316	797	732	33	0	0	3372
Ave.	2.9	24.4	111.4	360.7	624.9	779	618.7	660.7	435	207.3	21.4	4.8	3851.2

Table 4.3: Monthly Humidity Data at Sylhet (mm)

Year	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
2005	74	70	75	72	81	83	85	87	81	82	75	69
2006	73	70	60	73	77	86	82	80	83	78	76	72
2007	72	69	59	76	79	86	87	84	83	80	78	77
2008	77	68	73	71	77	86	87	88	82	81	71	79
2009	74	64	59	74	78	84	83	87	82	80	76	76
2010	73	59	61	79	82	89	85	86	87	79	75	74
2011	77	64	64	69	80	85	86	85	82	77	72	75
2012	76	60	63	77	77	88	84	84	84	81	77	82
2013	74	62	60	69	83	81	83	85	83	81	74	75
2014	75	73	62	63	79	86	81	86	85	77	74	77
Ave.	74.5	65.9	63.6	72.3	79.3	85.4	84.3	85.2	83.2	79.6	74.8	75.6

Table 4.4: Monthly Wind Speed Data at Sylhet (m/h)

Year	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
2005	2.4	2.6	3.4	3.6	3.9	3	4.3	3.6	2.9	2.5	2.3	2.5
2006	2.4	3.3	2.5	3.4	3.1	3.1	3.5	2.9	2.3	2.1	2.2	2.2
2007	2.5	4.1	6.2	3.1	3.9	2.6	3.7	2.2	2.9	2.2	3.8	2.5
2008	2.7	3.1	3	2.8	2.6	2.5	2.3	2.3	2.3	2.8	2.5	2.2
2009	2.8	5.6	2.8	2.6	2.3	2.9	3.3	3.4	2.9	2.4	2.2	2.1
2010	4.2	2.5	3.1	3.7	2.6	2.4	2.5	2.6	2	2.6	2.4	3.1
2011	2.8	2.8	3.9	3.3	3.3	2.6	3	2.8	2.6	2.1	2.2	2.4
2012	2.6	4.3	2.8	3.5	2.7	2.5	4.8	2.9	2.5	2.3	2.1	2.1
2013	4.2	2.8	2.5	3	3.2	2.8	3.2	2.6	2.7	2.4	2.3	2.2
2014	3.2	3.9	4.3	3	3.7	2.9	3.2	2.9	2.2	2.2	2.1	3.1
Ave.	2.98	3.5	3.45	3.2	3.13	2.73	3.38	2.82	2.53	2.36	2.41	2.44

4.1.3 Hydrology

The project area is located in the floodplain land. A rainwater canal, with a catchment area of about 10 sq.km is passing through the proposed land port. The location of the canal is shown in Figure 4.2. The current alignment of the drain has a bend, and erosion is noticed along the bends. The canal alignment will be straightened, as part of the port development, to reduce the erosion of the bank and to efficiently drain the flood water. The drain carries the flood waters to the Kushiara river, which is located about 3 km on the downstream of western side. On the southern side of the drain, the drainage is towards the inland Murihahaor. Sheola is a BWDB hydrological data station on the Kuishyara River and very near to the project. As such, the station represents the project. Both water level as well as discharge data has been collected from BWDB for 100 years.

The collected hydrological data of Sheola on the Kuishyara River has been used for the frequency analysis.

The representative water level hydrograph for Sheola on the River Kuishyara developed by FFWC, BWDB for the year (having highest ever recorded water level), 1988, 1998 and 2007 (three remarkable wet season) This gives an understanding of the water level profile of the River Kuishyara at Sheola. Frequency analysis for extreme Water Level of Sheola has been performed using HYMOS tool a hydrological analytical tool developed by DHI, The Netherlands. Three different probability distributions (Gumbel-EV1, Log Pearson-3 and Log Normal) have been used to find the best fit one for the dataset of Kuishyara River, and finally Log –Normal distributions was considered to fit the best among the three distributions.

So, considering the 100 years Return period the flood level would be 14.884mPWD. For planning and designing or establishing a project to with stand against 100 years return period the R.L for the project should be provided at 14.884 + 1 (free board) + 0.5 (for anticipating climate change effect) =16.384 m PWD eequivalent to 15.87mMSL. Now consider the final design land port R.L. at 16.35 m PWD equivalent to R.L. 15.87 m MSL.

The detail of hydrology study is presented in detail EIA report. The design ground level of Port, is higher than the highest water level.

Figure 4.2: Rainwater Drain in the Proposed Sheola Land Port Area

4.1.4 Geology

The geology of northern Bangladesh is dominated by alluvial sediments deposited by numerous streams. The port area is underlain by thick deposits of alluvial sediments. The surface soils are usually grey silt loams and silty clay loams.

According to Bangladesh National Building Code, the Project area is located in Zone 1, which corresponds to a maximum earthquake of 6.5 g magnitude (for 2500 years return period) and an intensity of VII to VIII on the Modified Mercalli Scale. According to this

code, all the buildings in this zone are to be designed for a 0.08 g magnitude seismic coefficient.

Groundwater level occurs at shallow depths of 5 to 10m and groundwater is extensively used for drinking water purposes.

4.2 Chemical Environment

4.2.1 Sampling and analysis

Sampling and analysis is carried out for air, noise and water quality. The locations of sampling sites are shown in Figure 4.3. Photographs of sampling locations are shown in Figure 4.4. The sampling was carried out in March 2016.

Figure 4.3: Locations of the Sampling Sites

Figure 4.4: Photographs of the Sampling Sites

Air Sampling

Noise Sampling

4.2.2 Ambient Air Quality

Ambient air quality in the project area is within the DOE standards. Concentrations of PM10 is about 50 µg/m^3 and suspended particulate matter is about 79 µg/m^3. The ambient air quality and the DOE standards are given in Table 4.5.

Table 4.5: Ambient Air Quality

SN	Location	Ambient Air Quality **in µg/m^3**					CO mg/m^3
		SPM	**PM_{10}**	**$PM_{2.5}$**	**SO_2**	**NO_X**	
01	Sheola Immigration Check Post	79.33	50.66	38.85	0.0	66.39	Nil
Duration (hrs)		8	8		8	8	1
DoE (Bangladesh) Standard (Schedule – 2)		**200**	**150**		**365**	**100**	**10**
Method of Analysis		**Gravimetric**	**Gravimetric**		**West-Geake**	**Jacob & Hochheiser**	**CO Meter**

Legend

1. SPM Suspended Particulate Matter
2 PM_{10} Particulate Matter of a diameter of 10 micron or less
3 $PM_{2.5}$ Particulate Matter of a diameter of 2.5 micron or less
4. NO_X Oxides of Nitrogen
5. SO_2 Sulphur Di-Oxide
6 CO Carbon Monoxide

4.2.3 Noise Quality

Noise quality results are given in Table 4.5. The day time and noise time levels have exceeded the national and World Bank standards (national and WBG standards for residential areas are 45 and 55 dBA respectively).

Table 4.6: Noise Quality

SN	Location	Results in dB-A (Leq)		DoE (Bangladesh) Noise Standard for Mixed Area (Schedule-1)	
		Day (6 AM-9 PM)	Night (9 PM-6 PM)	Day Time (6 AM-9 PM)	Night Time (9 PM- 6 AM)
01	Place No 1	58.5	42.4	60	50
02	Place no 2	64.4	44.3	60	50
Method/Instrument				Sound Level Meter Model: SL - 4033SD	

4.2.4 Groundwater

In general, the groundwater is suitable for drinking purposes with a TDS of mg/l. Arsenic is not detected in the groundwater. The results of groundwater quality are given in Table 4.7

Table 4.7: Groundwater Quality

SN	Parameter	Unit	Concentration of Ground Water	Bangladesh (DoE) Standard for Ground Water (Schedule-3-B)
01	pH		7.4	6.5 – 8.5
02	DO	mg/l	6.2	6
03	COD	mg/l	0.0	4
04	EC	µS/cm	268	
05	TDS	mg/l	135	1000
06	Iron	mg/l	1.1	0.3-1.0
07	Arsenic	mg/l	< BDL	0.05

4.2.5 Surface Water

The surface water quality is analyzed for the nearby rainwater drain. The water contains very low total dissolved and suspended solids. The results are shown in Table 4.8.

Table 4.8: Surface Water Quality

SN	Parameter	Unit	Concentration of Surface Water	Bangladesh (DoE) Standard for Surface Water (Schedule- 3-A)
01	pH		7.6	6.5 – 8.5
02	DO	mg/l	6.5	≥5
03	BOD_5	mg/l	6.1	≤10
04	COD	mg/l	26.66	
05	EC	µS/cm	55	2250
06	TDS	mg/l	29	
07	TSS	mg/l	50.6	

4.2.6 Traffic

The daily traffic data at Sheola LCS on 25 April 2006 is shown in Table 4.9.About 200 vehicles per day ply along this border, on both sides.

Table 4.9: Traffic Data at Sheola LCS on April 25, 2016

Time	Truck		Pickup		Car		Microbus		CNG		Motor Cycle		Total
	Incoming	Outgoing	Incoming	Outgoing	Incoming	Outgoing	Incoming	Outgoing	Incoming	Outgoing	Incoming	Outgoing	
8.00am-9.00am	1	1	2	1	1	1	1	1	3	2	4	3	21
10.00am-11.00am	7	2	1	2	0	1	2	1	5	1	5	3	30
1.00pm-2.00pm	2	1	2	1	3	1	2	1	5	5	3	2	28
3.00pm-4.00pm	8	8	0	1	3	1	1	1	7	5	6	5	46
5.00pm-6.00pm	6	6	2	2	3	1	1	1	7	5	6	5	45
6.00pm-7.00pm	3	2	2	3	1	2	1	1	5	5	6	6	37
	27	20	9	10	11	7	8	6	32	23	30	24	207

Forecast Results for Traffic Volumes within Sheola Land Port

Forecast of traffic volumes within Sheola Land Port are estimated in Table 4.10 if all the trucks utilized for delivering export goods are coming back without carrying out anything from the land port and all the empty trucks are coming to the land port to carry out import goods, traffic volumes on the access road will be double of the numbers above. The truck volume for both directions on the access road will be 68 trucks/hour in 2030. If a half of the truck coming in to and going out from the land port will be empty, the truck volume on the access road 51 trucks/hour. (68 – 34/2 = 51)

- This generated traffic volume, 51 trucks/hour (around 75 pcu/hour), will not impact so much when compared to the road capacity[4]. The road capacity point of view, there will not be traffic congestion on the access road if the road will be improved to two lanes (for both directions) road.

- On the other hand, traffic volumes within the land port will be 180 trucks/day in 2030 and 418 trucks/day in 2040 for both directions at the gates. If calculated in hourly traffic volume, the traffic volumes will be 32 trucks/hour in 2030 and 75 trucks/hour in 2040.

- These traffic volumes in the land port are closely related to capacities of each land port facilities, especially the gates and parking spaces.

[4]Traffic capacity of two lanes for both directions is around 3,000 PCU/hour. Here, PCU stands for passenger car unit.

Table 4.10 Forecast Results for Traffic Volumes within Sheola Land Port

Items		Unit	2016	2020	2025	2030	2035	2040
Export		1,000 ton	43	67	141	263	434	668
Import		1,000 ton	131	228	443	785	1,215	1,716
Total		1,000 ton	174	295	584	1,048	1,649	2,384
Truck numbers in Sheola land port (used for planning & Design : **land port**)	Export	Trucks/year	4,324	6,662	14,074	26,326	43,396	66,762
	Import	Trucks/year	6,553	11,410	22,153	39,246	60,754	85,814
	Total	Trucks/year	10,877	18,071	36,228	65,572	104,150	152,577
	Export	Trucks/day	12	18	39	72	119	183
	Import	Trucks/day	18	31	61	108	166	235
	Total	Trucks/day	30	50	99	180	285	418
	Export	Trucks/hour	2	3	7	13	21	33
	Import	Trucks/hour	3	6	11	19	30	42
	Total	Trucks/hour	5	9	18	32	51	75

Note: Deployed calculation values for planning of land port facilities are:
-Trucks for export = 10 ton/vehicle, Trucks for import = 20 ton/vehicle
- Hourly traffic volume ~ 18% of daily traffic volume in consideration of port operation hours

4.3 Biological Environment

4.3.1 General biodiversity

The biodiversity in the project area is influenced by human activities and most of the current land use is agriculture with cultivated paddies and grasses. The project area is a floodplain land and hence is habitat of fish species during rainy season. The Murihahaor which is located about 3 km downstream of the proposed land port site is an inland drainage basin and can be considered as a good fish habitat. No flora and fauna species of red listed status are located in the project area.

4.3.2 Flora

The project area and surrounding areas consist of different fruit and fuel wood trees. Among the trees, the most widely available ones are Shal, Shilkoroi, Mehagani, Eucalyptus, etc. Also, there are some fruit trees such as Mango, Coconut, Jackfruit, Battle nut, guava, etc. The shrub consists of species like Leeacrispa, Glycosmisarborea, Thespesialampa, and Urenalobata. It also has climbers such as *Mucunapruriens*, *Fucusscandens, Pothasscandens*, and *Smilax macrophilia*, and herbs like *Ageratumconicoid*'s, Desmodiumgangeticum, Cleome viscose, and Clerodendrumviscosum.

4.3.3 Fauna

The fauna species reported in the project area and surroundings are given in Table 4.10. Small Asian mongoose (Herpestesauropunctatus) is vulnerable species, and though there is no suitable habitat for this species in the project area, it was reported to visit the project area.

Table 4.11: List of Fauna species reported in the Project area

Mammals			
Local name	**Scientific name**	**Habitat**	**IUCN Status**
Chicka (house shrew)	*Suncusmurinus*	paddy field	Not threatened
Benji (mongoose)	*Herpestesauropunctatus*	Bush	Vulnerable
Avian fauna			
Ghugu	*Streptopeliaorientalis*	Tree branches	Vulnerable
Kak	*Corvussplendens*	Tree branches/ Bush	Not threatened
Myna	*Sturnus contra*	Tree branches/ Bush	Not threatened
Bhatshalik	*Acridotherestristis*	Tree branches/ Bush	Not threatened
Reptiles			
Raktochosha	*Calotesversicolor*	Bush	Not threatened
Amphibians			
Kuno bang	*Bufomelanostictus*	House corner/ damp places	Not threatened

4.3.4 Fishes

The common fish species in the project area in the flood plains, haors, rain water drain and Kushiara river are catfishes (Magur and Shing), major carps (Katla, Rui, and Mrigal), minor carps (Puti), Tilapia, other (Tengra, Boal, Mola, Taki, Shol). No aquatic species of conservation importance are recorded in the Kushiara river. Commercially very valuable fish species such as hilsa also not found in the Kushiara river.

4.4 Brief Socio-Economic Baseline.

4.4.1 Population and Demography

The proposed land port is located in Dubhag Union of Beanibazar Upazila. According to government statistics, total Population-22,203; Male population is 10,746, Female population is 11,457; Total Household is 3, 619; Literacy- 53.9%, male-55.4% and female-52.6%, Family size of the is 6.1. 88% people are Muslims and remaining are mostly Hindus. No indigenous people are located in and around the project area.

4.4.2 Income and Occupation

The Socio- Economic condition of the project area is given below. The project area has diversified character and income level.

Main crops are Paddy, pulses and winter vegetables and Boro are the main rice varieties. So, other than agriculture, farm laboring most depends on the business. Around the project site around 75% households rely on the firm.

Main fruits are Jackfruit, orange, litchi, guava, satkora, etc

Fisheries, dairies, and poultries This Upazila has some fishing, dairies, and poultries.

The area is mainly remittance earning zone. A good number of the people are living in the abroad, especially in Britain. So, rich people are accustomed to western living standard. Though the fact, ordinary citizens are very conservative in belief.

Main sources of income Agriculture 26.39%, non-agricultural laborer 6.80%, industry 0.78%, commerce 12.20%, transport and communication 3.09%, service 4.16%, construction 3.74%, religious service 0.51%, rent and remittance 28.37% and others 13.96%.

4.4.3 Literacy

The rate of education and significant educational in the Beanibazar Upazila are as follows. Literacy rate and educational institutions Average literacy 52.52%; male 55.60%, female 49.60%. Educational institutions: college 4, secondary school 34, primary school 134, community school 6, kindergarten 4, madrasa 345. Noted educational institutions: Lauta High School (1871), Panchakandha Hargovinda High School (1917), Khasa Government Primary School (1895), Jaldhup Government Primary School (1909). (Source: Banglapedia).

4.4.4 Health Facilities and Sanitation

In Beanibazar Upazila people mainly depend on government hospital. Some charity health clinics with limited facilities are available in the Upazila. Typical health services are available in the hospital and no specialized doctors and facilities. No significant and critical treatment are available there. The local people urged the plant authority should have support or build a hospital with modern health facilities.

Sources of drinking water Tube-well 79.79%, tap 2.37%, pond 13.28%, and others 3.70%.

Sanitation 60.46% (urban 74.46% and rural 59.13%) of dwelling households of the Upazila use sanitary latrines, and 36.08% (urban 24.41% and rural 37.19%) of dwelling houses use non-sanitary latrines; 3.45% of households do not have latrine facilities.' (Source: Banglapedia)

Sanitation facilities in the area are medium. At the project site 60% households are using sanitary latrines, 20% kutcha latrine and 20% household have pucca latrine but not these always sterile (Source: Public consultation and FGD meeting).

Number of affected person with title holder is shown in Table 4.11 and non-titleholder is shown in 4.12.

Table 4.12: List of Title Affected Person

Sl. No.	Name of the Project Affected Person's (PAP's)	Category	Area (ft x ft) of Structure (Sft.)		Type of Structure
1	Md. Abul Khair	Title holder- Commercial	15ftx12ft	180	Semi Paca
2	Mohir Uddin	Title holder- Commercial	10ftx8ft	80	Semi Paca
3	Gias Uddin Hira	Title holder- Commercial	30ftx14ft	420	Semi Paca
4	Jalal Uddin	Title holder- Commercial	30ftx14ft	420	Semi Paca
5	Jamir Ali	Title holder- Commercial	35ftx15ft	525	1-storied Building
6	Syed Mosadek Ali	Title holder- Commercial	71ft x17ft x2	2414	2-storied Building
7	Fayez Ahmed	Title holder- Commercial	36ftx18ft	648	2-storied Building
			24ftx16ft	384	1-Storied Building
		Title holder-Agricultural			
8	Abdur Razzak	Land loser & Structure	75ftx40ft	3000	1-Storied Building
9	Abdul Karim	Land loser & Structure	95ftx65ft	3175	Semi Paca
10	Salim Uddin Pervez	Title holder- Commercial	30ftx15ft	450	Semi Paca
			30ftx18ft	540	Semi Paca
			30ftx13ft	390	Semi Paca

Sl.	Name of the Project	Category	Area (ft x ft) of		Type of
11	MA Hashem	Title holder- Commercial	25ft×20ft	500	1-Storied Building
			75 ftx30ft	2250	Semi Paca
			75 ftx22ft	1650	1-Storied Building
12	Md. Ramiz Ali,	Title holder- Commercial	30ftx13ft	450	Semi Paca
13	Abdul Kuddus	Title holder- Commercial	20ftx8ft	160	Tin shed shop
14	Abdur Rahim	Title holder- Commercial	10ftx8 ft	80	Tin shed, tea stall
15	Mahtab Uddin	Title holder- Commercial	10ftx7ft	70	Tin shed shop
16	Abul Basit	Title holder- Commercial	18ft x12ft	216	Semi pacca
17	Amir Ali	Title holder- Commercial	10ftx10ft	100	Tin shed shop
18	Idris Ali	Title holder- Commercial	12ft x 8 ft	96	Tin shed shop
19	Abdul Quium	Title holder- Commercial	10ftx 8ft	80	Tin shed shop
20	Hazi Abdus salam	Title holder- Commercial	20ftx10ft	200	1-Storied Bld.
21	Islam Uddin	Title holder- Commercial	20ftx14ft	280	Tin shed shop
22	Hazi Md. Abdus Salam	Title holder			
23	Munir Uddin,	Title holder			
24	Nazrul Islam	Title holder			
25	Hira Gong	Title holder			
26	SelimParvez	Title holder			
27	Alauddin	Title holder			
28	Amiruddin	Title holder			
29	Majir Uddin	Title holder			
30	Azim Uddin	Title holder			
31	Moktadir and his brothers	Title holder			
32	MoynulHoq	Title holder			
33	Maruf Ahmed	Title holder			
34	Foyez Ahmed	Title holder			
35	Mashuk Ahmed	Title holder			
36	Fakaruddin	Title holder			

Table 4.13: Non-title affected 12 Persons

	Name of Tenant and Employee	Category
1	Swapon Das	Tenant of Selim Parvez- Commercial
	Joy Das	Employee
	Hossain	Employee
2	Nayan Pal	Tenant of Abdul Karim- Commercial
	Rawshan Mia	Employee
	Uttam Pal	Employee
	Chan Pal	Employee
	Sagar Pal	Employee
3	Kazol Pal	Tenant of Hira Gang -Commercial
	Shankar Das	Employee
	Midhu Pal	Employee
4	Md. Azad	Tenant of Idris Ali- Commercial

Chapter -5: Screening of Potential Impacts

5 Screening of Potential Impacts

An environmental screening checklist[5] was used to assess the potential environmental impacts in construction and operation period of the propose project. The screening of potential impact is given in Table 5.1

Table 5.1: Environmental Screening Checklist of Proposed 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. Petroleum products may need to be stored at the port facilities for the operation of standby generators.	No, since closed storage yards will be 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 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, the risk contamination is more due to changes in the drainage pattern in the project area.
8. Will there be any risk of	Yes. Construction works	Yes. There are risks 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?
accidents during construction or operation of the Project which could affect human health or the environment?	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.	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 Shaula 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 water bodies, the coastal zone, mountains, forests or woodlands, which could be affected by the project?	Yes, an haour (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 breeding, nesting, foraging, resting,	No.	No

Screening Questions	Yes / No /?. Briefly describe	Is this likely to result in a significant effect? Yes/No/? – Why?
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 green field 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 the location which are occupied by sensitive land uses	No	No

Screening Questions	**Yes / No /?. Briefly describe**	**Is this likely to result in a significant effect? Yes/No/? – Why?**
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?	No	No.
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.

Chapter -6: Environmental Management Plans

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 should 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

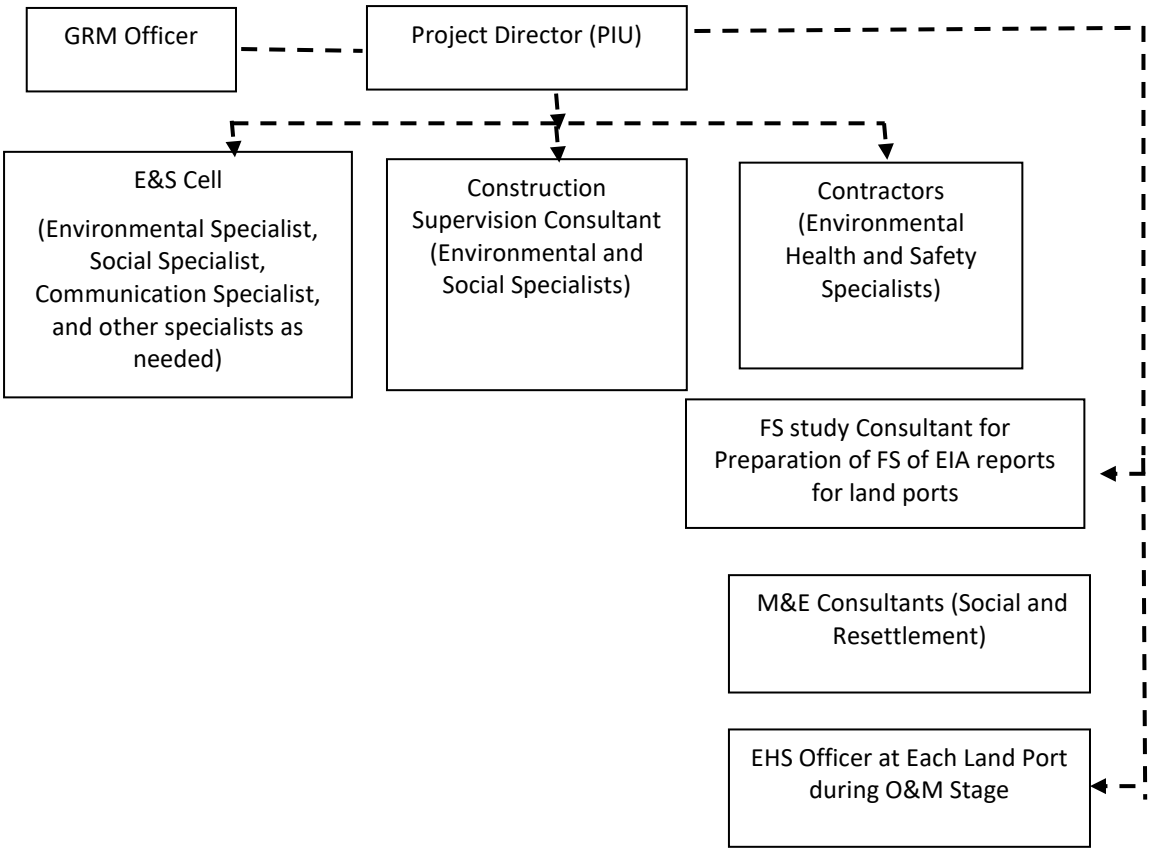
The Project implementation will be led by the Project Implementation Unit (PIU) that will be established within BLPA. The PIU will be responsible for procurement of consultants for carrying out the EIA and engineering designs for the proposed sub components. The PIU will be headed by the Project Director (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 E&S Cell will have adequate numbers of environmental and social scientists/specialists and maintain coordination and liaison with CSC for effective EMP implementation. 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 EMP 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 • Carry out environmental assessment of sub projects in Component 1A

Organizations	Responsibilities
	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.)
EIA Consultant	• 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 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 during the course of implementation and operation of the subproject are given in the Table 2.

Table 6.2: Management Plans/ Additional Tasks for the Project

	Plan/Task	Responsibility			Timing
		Plan Preparation	Plan Approval	Review/ Implementation	
1.	Inclusion of environmental clauses in bid documents for various contracts	ESIA Consultants	BLPA /WB	BLPA through contractors	2017-2020
	Plans to be prepared by contractors				
2.	OHS Plan	All contractors	CSC and PIU	All contractors	Before mobilization of each contractor
3.	Pollution Prevention Plans (related to air, noise, soil, water resources)	All contractors	CSC and PIU	All contractors	Before mobilization of each contractor
4.	Waste Disposal and Effluent Management Plan	All contractors	CSC and PIU	All contractors	Before mobilization of each contractor
5.	Drinking Water Supply and Sanitation Plan	All contractors	CSC and PIU	All contractors	Before mobilization of each contractor
6.	Traffic Management Plan	All Contractors	CSC and PIU	All contractors	Before mobilization of each contractor
7.	Construction Camp Management Plan	All contractors	CSC and PIU	All contractors	Before mobilization of each contractor
8.	Fuels and hazardous substances management plan	All contractors	CSC and PIU	All contractors	Before mobilization of each contractor
9.	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				
10.	O&M Phase Environmental Code of Practices	CSC	BLPA/WB	BLPA	Prior to completion of construction
11.	Environmental Management System (waste disposal, air and noise quality, etc.)	BLPA (through consultants)	-	BLPA	Prior to completion of construction
12.	Safety Management Systems (OHS Management)	BLPA (through consultants)	-	BLPA	Prior to completion of construction
13.	Land use planning around the port facilities	Local government (Union Parishad&U pazila		Local government with the support of BLPA	Prior to completion of construction

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. The detail of environmental codes of practice (ECoPs) will be provided in the design phase study.

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 given in and Table 6.3.

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 – Construction Phase

Environmental and sustainability issue	Issues/Impacts/impact sources	Mitigation Measures	Responsibility	
			Execution	Monitoring
Land development	• Dust pollution • Create nuisance • Road damage • Nutrient loss due to top soil remove	• Fill the land in dry season • If transported by truck, then Cover the soil by tipple of the truck during transportation • Spray of water is suggested in the road and construction sites • As per capacity of road use the below capacity of truck load • Replace the top soil as nutrient content on the same land	Contractor	CSC, PIU
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
Coal wash water	• May pollute surface and ground water	• After sedimentation in the drain then neutralize the coal wash water in equalization tank followed by pass through multi-grade bed filter and the filtrate discharge to the Boleshor canal after comply the DoE standard. • Open stack yard should be paved or any other type of impermeable liner installed to minimize risk of groundwater and soil contamination.	Contractor	CSC, PIU
Surface Water and Sediment Quality	• Increase in water turbidity from construction works near natural water channels. • Waste water from construction camps,	• 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	Contractor	CSC, PIU

Environmental and sustainability issue	Issues/Impacts/impact sources	Mitigation Measures	Responsibility	
			Execution	Monitoring
	offices and warehouses. • Spillage of fuels, oils, and other chemicals, and waste effluents from workshops and washing bays. • Erosion from construction works	from reaching the surface water.		
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 • The soil contaminated with coal dust at Sheola land port will be excavated and transported to nearest brick kilns • 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.	Contractor	CSC, PIU
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

Table 6.4: 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 backup generators.	• Oil and chemical-handling facilities should be located with consideration of natural drainage systems; • Port should include secondary containment for above ground liquid storage tanks and tanker truck loading and unloading areas; • Hazardous materials storage and handling facilities should be constructed away from active traffic and protect storage areas from vehicle accidents • Fuel dispensing equipment should be equipped with “breakaway” hose connections that provide emergency shutdown of flow should the fueling connection be broken by movement. • Fueling equipment should be inspected daily to ensure all components are in satisfactory condition. • Preparation of spill prevention, control and countermeasure plan by the BLPA	Port Operator	BLPA
Noise	• Noise sources in port operations include cargo handling, vehicular traffic, and	• Consideration should also be given in the planning stage for developing vegetation and walls around the	E&S Cell	BLPA

Environmental and sustainability issue	Issues/Impacts/impact sources	Mitigation Measures	Responsibility	
			Execution	Monitoring
	loading / unloading containers and ships.	port facilities to reduce noise levels. • Alter operations schedules to avoid noise pollution during nights and weekends [this may conflict with BMPs implemented to reduce traffic congestion and truck/train idling emissions during weekdays];		
Solid waste (Rejected item, food waste,	• May create rats, mice, pest and create odor if not manage and dispose properly	• Collected in a garbage bin and dispose every day to the Dubagh Union Parishad dumping ground • Paper, cartoon, wastes from offices and liter from office and will be sale to the, local trader.	E&S Cell	BLPA
Dust	•Dust from dry bulk storage piles, cargo loading/unloading and maintenance/use of dirt/gravel roads on port and tenant property; • Generation of dust from handling dry bulk materials and blowing of dust from piles.	•Implement a dust suppression program for unpaved roads on port/tenant property, including spraying water (not chemical or petroleum products) at frequent intervals during use and regulating road use (hours and types of vehicles/equipment permitted); • Request results of periodic air monitoring by local or government agencies to evaluate the effectiveness of the dust suppression program; • Controlling storm water run-off: the size and shape of the storage pile will dictate the amount of run-off and resulting concentration of pollutants. • constructing impermeable storage platform or impervious surfaces or concrete platform. Platform is preferred over either concrete or asphalt as it is less likely to crack, which allows groundwater infiltration; • installing screens in drainage channels to filter suspended solids and attached heavy material. Periodically clean the screens and properly dispose of the sediment; • covering the coal pile with an impervious tarpaulin as soon as possible after unloading and adjusting the		

Environmental and sustainability issue	Issues/Impacts/impact sources	Mitigation Measures	Responsibility	
			Execution	Monitoring
		cover as material is removed form the pile; • maintaining the working face on the shore side of the pile, to continually increase the distance that storm water run-off must migrate to reach the water • inspecting storage areas after rainfall to observe run-off or storm water migration and implement preventive measures, if required; • maintaining an accurate, up-to-date inventory of materials delivered and stored on-site. • suspending unloading and handling operations during unfavourable weather conditions (precipitation, wind) that could, otherwise, increase run-off or blowing dust; • regularly inspecting dry bulk storage piles, facilities and handling equipment to ensure proper operation is maintained; • scheduling regular mechanized sweeping of the bulk storage and access/egress areas. [Note: relatively "clean," sweepings should be "returned" to the storage pile; otherwise, sweepings should be screened to remove "trash" and the remainder stored under cover in a bermed area for future use as fill, but only at a distance from waterways necessary to prevent any environmental impacts from storm water runoff.] • wash down or spray the underside and tires of trucks transporting dry bulk materials on to public roads to reduce dust and "track out."		
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	• 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	Terminal Operator	BLPA

Environmental and sustainability issue	Issues/Impacts/impact sources	Mitigation Measures	Responsibility	
			Execution	Monitoring
	(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.	• Materials handling operations should follow a simple, linear layout to reduce the need for multiple transfer points. • Development of Safety System. This safety system should 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 should include comprehensive emergency 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	• Risk of accidents with activities associated with cargo traffic, • Visual concerns from cargo operations are uncontrolled dumping, debris, derelict warehouses and broken machinery	• Separation of people from vehicles and making vehicle passageways one-way, to the extent practical • 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
Odor	• Odor from diesel exhaust emitted by land-based equipment and vessels and vapors from transfer of liquid bulk products;	Diesel Engines" and "Liquid Bulk Storage and Transfer (Loading/Unloading") for BMPs); • Adopt a policy requiring port/tenant employees to report odors they detect to a port manager (odors detected on port/tenant property will be detected on adjacent property);	Port Operator	BLPA
Trash	• Trash from port/tenant activities "deposited" outside port/tenant property by visitors, service providers, employees, others;	• Conduct a reduce/recycle/reuse (waste minimization) study to identify sources of current waste streams and alternatives to disposal; include a perimeter (and beyond) survey of trash to identify its origins;		

Environmental and sustainability issue	Issues/Impacts/impact sources	Mitigation Measures	Responsibility	
			Execution	Monitoring
		• Place marked trash containers at locations convenient to visitors, truck operators and employees; • Cover and berm trash collection areas and containers (e.g., roll-offs, barrels) to avoid dispersion by wind and storm water; Ensure proper management of ship waste, if deposited on port property		
Light	• Light from equipment, vessel operation and parking lots, work areas, buildings.	• Conduct light distribution study, including locations outside the perimeter of port/tenant property; • Incorporate energy efficiency study in lighting study to reduce/eliminate unnecessary lighting and change fixtures to more cost-efficient ones; • If study results or complaints warrant, replace overhead (pole) lighting fixtures with “sharp-cutoff” or “down-shoot” fixtures that focus illumination on the ground; • Issue a policy restricting truck lights from illuminating areas outside the port/tenant property perimeter when they are not moving;		
Traffic congestion	• Traffic congestion from truck queuing, security checks, service deliveries, etc	• Direct truck traffic to queue on port/tenant property, only; if necessary, remind rail operators of local/state laws restricting street blocking at railroad crossings; • Survey port/tenant employees’ interest in carpooling, to reduce congestion and vehicle emissions; • Cooperate with local officials in preparing plans to alleviate congestion in the port area; Ensure that signage, traffic controls and pavement markings on streets/roads near the port and at its entrances conform to state and federal requirements.	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 6.5; 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 6.5: Effects Monitoring Plan

Parameter/ Activity	Location	Means of Monitoring	Compliance indicator/ threshold limits	Frequency	Responsible Agency	
					Implementation	Supervision
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 of waters) are in place.	No dust generation from the construction activities	Daily	Contractor	CSC

Parameter/ Activity	Location	Means of Monitoring	Compliance indicator/ threshold limits	Frequency	Responsible Agency	
					Implementation	Super-vision
	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, SOx, 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 construction 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	Monthly	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 development of wells	Contractor trough a nationally recognized laboratory	CSC
Waste Management	Construction camps and construction sites	Visual inspection that solid waste collection facilities are in place and waste is disposed at designated site	Facilities are clean and waste collection and disposal facilities are in place	Monthly	Contractor	CSC
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
Restoration of Work Sites	All Work Sites	Visual Inspection	The facilities are clean with no waste at the	After completion of all	Contractor	CSC, M&E Consul

Parameter/ Activity	Location	Means of Monitoring	Compliance indicator/ threshold limits	Frequency	Responsible Agency	
					Implementation	Supervision
			works sties	works		tant, BLPA
Safety of workers Monitoring and reporting accidents	At work sites	Usage of Personal Protective equipment and implementation 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
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
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.

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

Table 6.6: 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. (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, ESIA and RAP will be submitted by the BLPA for World Bank review and clearance.

6.9 EMP Implementation Cost

The mitigation measures should be such as drainage, and filter media for storm water from the coal wash water from coal storage areas. The cost of establishing E&S Cell in the PMU and environmental staff of the CSC consultants should be included the overall Project's

EMF. Detailed cost estimates for environmental mitigation is given in Table 6.7, costs for monitoring during construction are given in Table 6.8 and costs for monitoring during operation and maintenance are given in Table 6.9. Total costs of EMP implementation for Sheola Land Port will be BDT 6.41 million (USD 0.80 million)

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Table 6.7: Environmental Mitigation Costs during Construction of Sheola Land Port

Sl. No.	Description of Item	Unit	Quantity	Unite Rate (BDT)	Item Total (BDT)
01	During soil carrying for land filling and during construction period dust management by water sprayer	LS	-	-	600,000
02	Maintenance and protection of traffic including construction of diversion road, warning signs, posting of signboard detaining project activities	LS	-	-	200,000
03	Campsite waste disposal facilities	Nos.	1	50,000	50,000
04	First aid box for treatment of injuries on emergency situations	Nos.	1	25,000	25,000
05	Water supply Tube wells	Nos.	1	25,000	25,000
06	Sanitary Facilities	Nos.	2	25,000	50,000
07	Tree plantation and green area development plan	LS	-	-	200,000
08	Water quality protection measures: soil erosion and sedimentation control at the construction site, and prevention of spillages, leakages of polluting materials, etc. to be satisfaction of the engineer.	LS	-	-	100,000
09	Stripping topsoil from borrowed agricultural lands, stockpiling and replacing the same to rehabilitate the land to the entire satisfaction of the owner and the engineer.	LS	-	-	500,000
10	Rehabilitation of ancillary sites including stockpile sites, brick crushing sites, borrow areas, work force camps/ site office, etc and turfing to the entire satisfaction of	Sq. m	1000	50	300,000
11	Orientation to the technical personnel/ construction worker associated with the port about the key issues of EMP & Environmental Monitoring				100,000
12	Capacity building of BLPA staff for general and cumulative impact mitigation				300,000
	Total in Tk. Twenty four lac fifty thousand only				**2,450,000**

Table 6.8: Environmental Monitoring Costs during Construction of Sheola Land Port

Component	Stage	Item	Unit Cost (BDT)	Quantity (Yearly)	Total Costs (BDT)
Awareness, Warning signs, labels and signals Accident	During Construction	Ensuring that HSMP works right on the track	**--**	**--**	100,000
Campsite waste disposal facilities	During Construction	Avoid disease	25,000	4	100,000
Air Pollution	During Construction	Measurement of SPM, PM_{10}, $PM_{2.5}$, NO_X, SO_2, CO. (2 locations)	100,000	4	400,000
Water Pollution	During Construction	Measurement of pH, EC, Turbidity, DO, Coli form, BOD, NH_4N Oil and Grease	20,000	4	80,000
Waste	During Construction	Collection, transportation and dumping of waste at authorized dumping sites. Minimization of volume and recycling.	--	--	60,000
Noise	During Construction	Periodical maintenance of construction vehicles and installation of sound insulation cover	5,000	12	60,000
Drinking Water supply and sanitation	During Construction	Arsenic free water/ Treatment and test cost	25,000	12	300,000
Reporting on Environmental Monitoring	During Construction	Quarterly Monitoring Report	250,000	4	1,000,000
Grand Total	**In Word Tk. Twenty-one lac only**				**2,100,000**

Table 6.9: Environmental Monitoring Costs during O&M Phase of Sheola Land Port

Component	**Stage**	**Item**	**Unit Cost (BDT)**	**Quantity (Yearly)**	**Total Costs (BDT)**
Air Pollution	During operation	Measurement of PM_{10}, $PM_{2.5}$, NO_X, SO_2, CO.	75,000	4	300,000
Water Pollution	During operation	Measurement of pH, EC, Turbidity, DO, Coli form, BOD, NH_4N Oil and Grease	25,000	4	100,000
Solid Waste Management	During operation	Collection, transportation and dumping of waste at authorized dumping sites. Minimization of volume and recycling.	25,000	12	300,000
Noise	During operation	Securement of buffer zone around 100m as noise decay distance	5000	12	60,000
Drinking Water supply and sanitation	During operation	Water Treatment and test cost	25,000	12	300,000
Reporting on Environmental Monitoring	During Operation	Quarterly Monitoring Report	200,000	4	800,000
Grand Total	**In Word Tk. Eighteen Lac Sixty Thousand Only**				**1,860,000**

Chapter -7: Consultations and Disclosure

7 Consultations and Disclosure

Field surveys and consultations with different stake holders including affected communities were carried out to throughout EIA studies. Consultation meetings were held through focus group discussions, individual meetings and public consultations. Details of stakeholders relevant to the Sheola Land Port are given in Table 7.1.

Table 7.1:**: Details of Stakeholders**

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 Upazila; Local Government Engineering (LGED), Department of Environment, Department of Social Welfare, Roads and Highways Department

7.1 Consultation Meetings

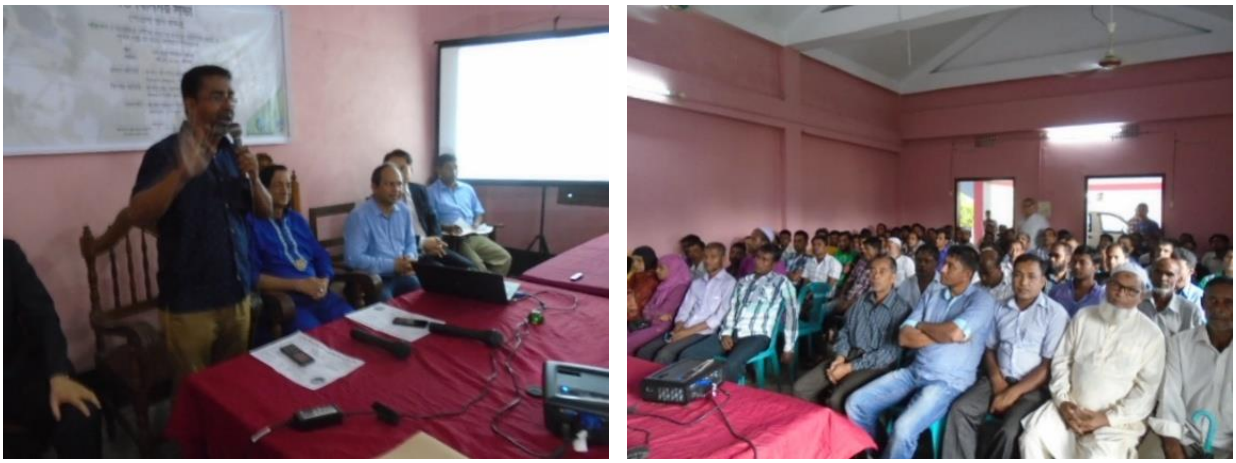
Consultation meetings were held at Sheola during project preparation and to share the draft EIA reports. A public consultation meeting was held on 7th May 2016 with the local communities. Notices about the consultation meeting were circulated to the local communities through leaflets one week in advance of the meeting. Posters were also displayed at public places (at Union Parishad Bhabon, market). Additionally, meetings were also held with local government officials and customs officials. Photographs of these consultations are given in Figure 7.1 and Figure 7.2 for local consultations, respectively. During these consultations, leaflets on key environmental and social issues were distributed to the participants (these were prepared in local language) and big size posters were also displayed at the venue. Power point presentations were made by the environmental and social experts. Participants were encouraged to ask questions on the environmental and social issues. Details of Public Consultations is shown in Annex III.

Table 7.2: Details of Consultation Meetings

Date	Meeting	Male	Female	Total
26th April 2016	Focus group discussions	33		33
7th May 2016	Public consultation Dubagh Union Parishad	75	4	79
Total		**108**	**4**	**112**

Figure 7.1: Photographs of Focus Group Discussions at Sheola

Figure 7.2: Photographs of Public Consultations at Sheola



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 in these consultation meetings are given in Table 7.1.

Table 7.3: Summary of Local Public Consultations

Sl. No.	Feedback /Comment from Participant	Action/Response
1	Happy for this project. Will benefit the transport. Communication will develop. Lot of development in the region will improve the socioeconomic condition.	
2	We want proper compensation for the land acquisition, removal of structures, rent of open land loss, business loss, daily income loss, employee income loss and affected families.	Proper compensation will be paid to all affectees
3	Some of the tenants of the shops want compensation for their loss	Proper compensation will be paid to all the affectees including tenants and also employees
4	Dust and noise will generate and create problem during construction. Take care of noise and dust.	Dust and noise control measures are included in the EMP
5	Labour should be recruited from nearby area. Local people should get priority in employment opportunities	Labour will be employed from the local area.
6	Job facility for local people during operation	Preference will be given for the local people.

7.3 Access to Information

The EIA, SIA and RAP reports will be disclosed in the BLPA website. Consultation workshop were held at local level to share the results of the draft FS report. Further, invitations were also be sent to relevant stakeholders including local government officials and local community. The documents will also be sent to the World Bank info shop. The detail ToR for EIA study is provided in Annex IV.

Annexure

Annex I: Structure Questionnaire Survey

for

Bangladesh Trade and Transport Studies RETF NLTA Project and Bangladesh Regional Connectivity Project at Sheola Land Port

Sutarkandi, Beanibazar, Sylhet

Date:

1. Name of Respondent :
2. Profession :
3. Address :
4. Do you feel if here is a Land Port construct at Sheola Land border area will helpful for you?

   What are the advantages ? (Y/N)

   Social life will improve? (Y/N)

   Income will increase ? (Y/N)

   Economic Benefit will occur ? (Y/N)

   Every day there will no loss of time for reaching distance place ? (Y/N)

   Communication with other place will easy ? (Y/N)

   Land value will increase ? (Y/N)

   Job facility will increase ? (Y/N)

   Business will increase due to land port delivery of goods to the cities. (Y/N)

   Cultural communication will improve ? (Y/N)
5. Is there any flood of water logging problem for proposed land port location?
6. What are the negative impacts (if any)?

   Increase of traffic volume ?

   Accident frequency will increase

   Increase of air and noise pollution
7. During construction is there any problem?

   Traffic congestion?

   Air pollution

   Noise pollution
8. Change of bio diversity? Lack of alternate or inadequate road for movement
9. If your land will acquire by Government what will you with the compensation money
10. If your house/shop needs to displace then how will you survive with your family.

Name & Signature of Respondent **Name & Signature of Surveyor**

Date **Date**

Annex II: Details of Public Consultations

Participants at Public Consultations at Sheola

Place: 3 No Dubagh Union Parishad
Date: 7th May, 2016 Saturday
Time: 3:30 PM

Sl No.	Name	Address
1	Ataur Rahman Khan	Upazila Chairman
2	Md. Abdus Salam	Dubagh UP Chairman
3	Jakaria Chowdhury	Borogram, Sutarkandi
4	Nazrul Islam	Gara Dubagh
5	Md. Jamal Uddin	
6	Md. Jewel Ahmed (Bilash)	Dubagh Uttar
7	Bimol Das	Noya Dubagh
8	Sabul Ahmmed	Noya Dubagh
9	Kamil Ahmmed	Goynapur
10	Akter Ahmed Chowdhury	Borogram, Present- Beside of Land port
11	Md. Bibnor Ahmed	Dubagh
12	Md. Tattafaq Mahmud	Dubagh Uttar
13	Harunur Rashid	
14	Babul Hossain, Ashim Enterprise	
15	Md. Matasim Ahmmed	
16	Moyna Mia	NoyaDubagh
17	Binit Chanda	DakkhinDubagh
18	Abul Kalam	Uttar Dubagh
19	Jamil Hossain	
20	Naman Ali	
21	Mst. Dilara Begum	
22	Jyotsna Begum	
23	Sultana Begum	
24	Parul Begum	Women Member
25	Md. Abul Kashem	3 No. Dubagh U.P
26	Parvez Ahmmed Chowdhury	Boro Gram
27	Shams Ahmed	Uttar Dubagh
28	Kamal Ahmmed	Bangal Huda
29	Abdul Jalil	Uttar Dubagh
30	Liakat Choudhury	Boro Gram
31	Md. Misbahuddin Choudhury	Boro Gram
32	Tajel Ahmed	
33	Ruhel Ahmed	Uttar Dubagh
34	Foyez ahmed	Ratna Huda
35	Rushan Ahmed	Uttar Dubagh
36	Zamil	Uttar Dubagh
37	Solimuddin Parvez	Uttar Dubagh
38	Kamal Ahmmed	Boro Gram Sadimapur
39	Nazmul Islam	Dubagh/Dubaghbazar
40	Md. Kamrul Islam	Sadimapur, Sylhetipara
41	Md. Nizam Uddin	Konagram, Satarkandi
42	Md. Abdul Quiyum	Konagram, Satarkandi
43	Rakib Chowdhury Rizlu	
44	Md. Mafizuddin Chowdhury	
45	Ruhel Ahmed Chowdhury	
46	Md. Monir Hossain	Sylheti Para
47	Md. Jakaria	
48	Sree Gonesh Chandra	Borogram
49	Sang Sattar	Maoya

Sl No.	Name	Address
50	Md. Abdullah	NoyaDubagh
51	Md. Alamgir	Uttar Dubagh
52	Md. Ihassain	Uttar Dubagh
53	Md. Abdul Mannan	Uttar Dubagh
54	Md. Sidul Islam	NoyaDubagh, Dubaghbazar Beanibazar
55	Md. Aman Uddin	NoyaDubagh, Dubaghbazar Beanibazar
56	Pinku Chanda	Dubagh
57	M. A Hasem	Sylheti Para
58	SelimAhmmed	Sutar Kandi
59	Md. Amir Ali	Sutar Kandi
60	Abdul Razzak	Sutar Kandi
61	MasukAhmmed	Sutar Kandi
62	Abdul Hannan Member	
63	Lee Seung Woo	
64	You SeungYeng	Architect
65	Major Said Hossain Taposh (Retd.)	Border Specialist
66	Ishtiaq Zahir	Deputy Team Leader
67	SeongYil Bae	Team Leader
68	Dhirendro Nath Sarkar	BLPA
69	Md. Shahjahan Khandker	Social Consultant
70	Dr. Jagadish Chandra Saha	Environmental Specialist

Annex III: ToR for EIA Study

Term of Reference for Sheola Land Port

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 proposed Sheola land port

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 sheola 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, climate (rainfall, humidity, temperature and projected climate change over the lifespan of the proposed infrastructure,
   - chemical parameters of surface and ground water in the adjacent area; oair quality; onoise.

     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.

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 Valued Environment Components (VECs) 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 VECs, 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.

- 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.
        - Site-specific emergency prevention and response plan, 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 (SECs) 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.

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 key documents (including executive summary of EIA/EMP) in local language; draft the newspaper announcements for disclosure; and help the sponsor to place all the EIA reports in the sponsor's website.

The Table of content of EIA Report is as follows.

Annexures :

List of Tables :

List of Figure :