



BANGLADESH LAND PORT AUTHORITY

**Accelerating Transport and Trade Connectivity in Eastern South
Asia (ACCESS)- Project**

Bangladesh

**Environmental and Social Impact Assessment
(ESIA)**

for

**The Development of Benapole and Bhomra
Land Port**

FINAL REPORT

January 2024

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Abbreviations and Acronyms

AOI	Area of Influence
BLPA	Bangladesh Land Port Authority
CSC	Construction Supervision Consultant
DoE	Department of Environment
E&S	Environmental and Social
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
ESS	Environmental and Social Standard
ESCP	Environmental and Social Commitment Plan
ESMoP	Environmental and Social Monitoring Plan
ESIA	Environmental and Social Impact Assessment
FGD	Focus Group Discussions
GoB	Government of Bangladesh
GRC	Grievances Redress Committee
GRM	Grievances Redress Mechanism
IDA	International Development Association
IEE	Initial Environmental Examination
IUCN	International Union for Conservation of Nature
LC	Land Customs
MOEFCC	Ministry of Environment, Forest and Climate Change
MoS	Ministry of Shipping
MT	Metric ton or tones
NBR	National Board of Revenue
NGO	Nongovernmental Organization
NOC	No Objection Certificate
OHS	Occupational Health and Safety
O&M	Operation and Maintenance
PD	Project Director
PID	Project Information Documents
PIU	Project Implementation Unit
PM	Particulate Matter
PWD	Public Works Datum
RPF	Resettlement Policy Framework
SIA	Social Impact Assessment
ToR	Terms of Reference
USD	US Dollars
BLPA	Bangladesh Land Port Authority
CSC	Construction Supervision Consultant
VOC	Volatile Organic Compounds
WB	World Bank
WBG	World Bank Group
WHO	World Health Organization
BGB	Border Guard Bangladesh

Executive Summary

Introduction

1. The proposed World Bank-financed Accelerating Transport and Trade Connectivity in Eastern South Asia (ACCESS) project will seek to address the main drivers of the high cost of trade and transport in the sub-region, namely low levels of technology adoption in trade facilitation, inadequate transport, and logistics infrastructure, and regulatory and procedural impediments to the cross-border movement of freight. The Program Development Objective is to develop efficient and resilient regional trade and transport in the Eastern South Asian countries.
2. This ESIA outlines the potential environmental and social impacts and mitigation actions for the Benapole and Bhomra Land Port development work under Components 1, 2, 3 and 4 of the Program, i.e., Land Port Development and Border Management Improvement. They are: (1a) Automated border management system, (2a) Resilient land port infrastructure at Benapole, Bhomra and Burimari Land Ports, (3f) Technical assistance to foster contemporary border management, and (4) Contingency Emergency Response. However, a Combined RAP has been prepared for 3 Land Ports (Benapole, Bhomra and Burimari) as the legal framework (GoB law and World Bank ESS) is common for all 3 land ports. Although, all the impacts and mitigation measures with compensation procedures are site-specifically described in respective chapters.

Sub-project Components of Benapole and Bhomra Land Port

3. The objective of the overall sub-projects is:
 - To lower trade transaction costs associated with complying government regulatory requirements for import and export activities;
 - To reduce border crossing times at selected border crossing points; and enhance connectivity for trade along strategically important regional transport corridors.
4. The expected outcomes of the project are:
 - Reduction in border crossing time at Benapole and Bhomra;
 - Increased cross- border trade flows;
 - Enhanced connectivity between economic centers in Bangladesh and NE India states; and
 - Reduction in the time required to comply with regulatory requirements associated with import/export activities.
 - Enhanced access to climate-resilient roads for people along selected regional routes.
5. The sub-project will increase the port's capacity to approximately 100.68 acres (RDPP) in Benapole Land Port and 61.20 acres (RDPP) in Bhomra Land Port as well as contribute to the national economy. Furthermore, the development effort will enhance the export experience and boost production. The project affects a significant number of individuals, making relocation unviable. Nevertheless, the RAP has allocated budget provisions for compensating individuals regarding land and structures with premium (top-up), stamp duty, reconstruction etc.

Policy, Legal & Administrative Framework

6. The key legislations relevant for the environmental and social assessment for ACCESS program components are the ECA 1995 and the ECR 1997, along with the Labour Act 2006 and Rules 2015, with subsequent amendments and other relevant environmental and social-related policies and laws in 2023. To set an illustrative directive for abiding by the act, Bangladesh Government, through the ECR 2023 and its subsequent amendments, as specified in Schedule-1, lists the different types of industrial projects into four categories, namely, Green, Yellow, Orange, or Red, based on the severity of its potential environmental impacts. This ESIA report is prepared following the national laws and environmental and social standards of WB.

Project Description

7. This Environmental & Social Impact Assessment (ESIA) summary document summarizes the environmental and social implications of the land port construction/reconstruction and accompanying activities, necessitating land acquisition and resettlement effort. The existing land port area cannot meet all the necessary facilities and pressure on traffic. Expansion of the existing land port area will require additional land, major portions of the land need land acquisition, which comprises agricultural land, trees, ponds, and some structures. A small portion of land is occupied by Border Guard Bangladesh (BGB). There are only a few khash lands¹ in the proposed area. Some economic displacement may occur as there are some traders and informal land users who need to be restated, that's why efforts have been made to assess and create mitigating methods to counteract these effects.

Natural and Socio-Economic Features of the Project

8. The sub-project Areas are situated in the extreme South-Western coastal region of Bangladesh. This is a region characterized by extremes. In Jashore, the mean maximum temperature in the summer is as high as 39°C, while the mean lowest temperature in the winter is below 15°C. While the rainy season is 250 mm - 400 mm of rainfall. In Satkhira, the mean maximum temperature in the summer is as high as 43°C, while the mean lowest temperature in the winter is below 17°C. During the rainy season is 300 mm - 400 mm of rainfall. The Betna river is situated within 1km of the sub-projected area of Benapole Land Port. Besides, Noadnaga khal is situated beside the India -Bangladesh border. On average, it is 192 km long and 125m width.

9. The baseline environmental quality was determined by conducting field investigations inside the effect zone in January and February 2022 and analyzing data for several environmental components such as air and noise, water, and soil. In Bhomra Land Port, the air and noise quality standard are within national standards. In Bhomra Purba para pond, the pH parameter exceeded the standards. The BOD for all locations also exceeded the national standards. From the ground water quality test, it is seen that the pH parameter of the GW_03 which is collected from the Near BGB camp exceeded the national standards. Moreover, the Manganese parameter also exceeded the national standards for all locations.

10. The proposed regions mostly comprise agricultural lands, ponds, trees, vegetation cover, primarily bushes and grasses, and a few structures. There may be negative impacts on ditches and culture fisheries activity in the sub-project AOI (Area of Influence). There are no archaeological sites around the identified proposed sites or along the alignments, sensitive cultural or biodiversity receptors of international, national, state, or district importance, such as protected areas, key biodiversity areas, forest areas, sacred groves, or historical/cultural monuments. Figure 4.41 and Figure 4.42 of the ESIA report illustrate no protected area within the 10 km buffer zone.

11. In Sharsha Upazila, the population is approximately 36,524, while in Satkhira Sadar Upazila, the population is around 26,020. According to a conducted field survey, a total of 376 households, with a population of about 1,591, will be impacted by the project activities in the Benapole area. Similarly, in the neighboring Bhomra Land port vicinity, 251 households, with a population of about 1,007, will also be affected. The residents in the Benapole sub-project region primarily rely on services such as the district hospital, community health clinics, and private health facilities with limited capabilities. In contrast, Bhomra lacks significant and critical medical services. The local people in both Benapole and Bhomra sub-projects are predominantly engaged in agricultural activities, along with occupations like labor, farming, fishing, business, and teaching. The survey identified twenty-three (23) sensitive areas within the Benapole Land Port area and twenty (20) sensitive areas within the Bhomra Land Port area.

12. In the year 2020-2021, the average cargo load carried by trucks from Bangladesh was about 2,066,701 metric tons, while Indian trucks transported around 2,074,727 metric tons. Over the five-year period from 2014 to 2019, a total of 5,897,867 passengers traveled from Bangladesh to India, whereas

¹ Khas land means government owned fallow land, where nobody has property rights. It is land which is deemed to be owned by government and available for allocation according to government priorities.

5,351,255 passengers moved from India to Bangladesh during the same period. Significant imports through the Benapole land port include commodities like Yarn, Jute Yarn, Dry Fish, Onion, Garlic, Oil, Turmeric, Betel Leaf, and Stone Chips. On the export side, items such as Fuel, Yarn Waste, Coconut Tree Broom, Cotton Waste, Biscuits, Juice, Chocolate Bins, Honey, Burnt Khoil, Black Cumin, and Cotton Rags are prominent. In the Bhomra subproject area, the average load per Bangladeshi truck between 2014 and 2019 was 20 tons, while Indian trucks carried around 33 tons on average. The port witnessed the entry of about 132,000 Bangladeshi trucks and 82,000 Indian trucks annually, summing up to 214,000 trucks per year. The average number of passengers traveling from Bangladesh to India was 98,000 between 2014 and 2019. From India to Bangladesh, an average of 137,000 passengers per year made the journey, with a yearly growth rate of 33 percent. Noteworthy imports in the Bhomra Land port encompass items like Fruits, Tomatoes, Dry Fish, Onions, Garlic, Oil Cake, Turmeric, Quartz, Feldspar, China Clay, Betel Leaf, and Marble Chips. Export items include Burnt Khoil, Black Cumin, Cotton Rags, Chili, Leather, Reprocessed Plastic, Knit Fabric, Earth Clay, Fishing Nets, Coconuts, Yarn Waste, Cotton Waste, Jute Yarn, Juices, Biscuits, Potato Chips, Honey, Handloom Sarees, and more.

Stakeholder Engagement and Public Consultations

13. A total of four (04) focus group discussions (FGDs) were held with community male, female, C&F agents, labours, and the elite persons in the community between 24th January 2021 to 27th January 2021 in Bhomra Land Port, Bhomra, Lakshmidari, Satkhira and three (03) focus group discussion (FGDs) were held with the community male, female, port labor union representative, BGB, CNG agents and the elite persons in the community between 6th February 2022 to 9th February 2022 in Benapole Land Port, Benapole, Sharsha, Jashore.

14. During the discussion and consultations, most of the participants showed a positive response towards implementing the project and urged to implement the project as soon as possible. In Benapole sub project area, most of the residents reported that if their land is not included in the acquisition process, then they will be impacted in several different ways by different port activities. In the case of the Bhomra Land Port, the landowners are unwilling to sell their lands unless they receive compensation based on the replacement cost. Also, they suggested providing a better relocation and job opportunities to recover their loss.

Environmental and Social Risks and Impacts

15. The proposed project activities are assessed to have “Substantial” environmental risk in Benapole and Bhomra Land Port and “High” social risks in both land ports. In terms of environmental and social risks, the assessment identifies substantial impacts on vulnerable groups due to physical and economic displacement, particularly among farmers and landowners. It also highlights concerns about laborer accommodation, working conditions, and potential hazards during construction. Environmental concerns include landscape aesthetics degradation, land use changes involving acquisition of agricultural land and water bodies, air and noise pollution, hazardous material handling, solid waste management, water resource pollution, and impacts on ecosystem services. Community health and safety risks include traffic management challenges, exposure to health issues due to labor influx, and potential hazardous materials handling risks. The assessment also notes the risk of economic and physical displacement due to land acquisition. Additionally, impacts on flora and fauna, protected areas, and tangible heritage are outlined. The assessment concludes that stakeholder engagement and information disclosure need improvement, especially regarding compensation, labor issues, and community health and safety. There may be risk on SEA/SH as many labor from outside of the project areas will be engaged. Impact on livelihood will be permanent but beneficial. New job opportunities will be created due to the project, and the livelihoods of local people should be improved.

16. The implementation of the project for Benapole Port requires the acquisition of 100.68 acres of land, while the Bhomra Port necessitates the acquisition of 61.20 acres. This acquisition will directly impact various households (HHs) within these areas, which is given in the table for both land ports. Type of effects are losing only land due to acquisition, loss of land and structures, loss of land, structures, and

business, losing structures and business, losing only structures, losing land and business, and finally losing only business. Types of land for acquisition span various categories including Dunga, Dhani, Bilan, Godown, Noyonjuli, Homestead, roadways, fallow land, low land, and bamboo bush. Detail assessment and compensation procedure are described in detail in RAP included in the Entitlement Matrix in the RAP. The RAP Implementing Agency will be engaged by BLPA, they will assist the BLPA in preparing necessary papers for payment of additional compensation and resettlement benefits to affected persons. The Entitlements Matrix follows national law and WB ESS5 and has been informed by good practice examples in Bangladesh.

Impacts/Types of losses	Benapole	Bhomra	Total
Total land required for the project in acre	100.68	61.2	161.88
Number of Affected HHs			
HHs losing only land	341	182	523
HHs losing land and structure	75	97	172
HHs losing land, structure, and business	2	22	24
HHs losing structure and business	0	4	4
HHs losing only structure	4	24	28
HHs losing land and business	0	9	9
HHs losing only business	0	75	75
Tota Affected HHs	422	413	835

Mitigation Measures

17. To mitigate the impacts, BLPA has prepared an Environmental and Social Management Plan (ESMP) as part of this ESIA, and Resettlement Action Plan (RAP) is under preparation. Once the contractor, ESMP and RAP implementing agency will be recruited, Stakeholder Engagement Plan (SEP), labor management procedure (LMP), the Occupational Health & Safety and Social (OHSS) plan etc. will be followed as part of the implementation tools. Mitigation measures for the impacts of land acquisition (ESS 5) involve a multi-faceted approach to address the challenges faced by vulnerable and disadvantaged groups. To mitigate the impacts of land acquisition, it's imperative to implement fair compensation and resettlement plans that consider the unique needs of vulnerable groups like individuals with disabilities, widows, senior citizens, and marginalized farmers. Additionally, fostering community cohesion, ensuring legal protections, and establishing effective monitoring and grievance mechanisms are essential components to alleviate the disproportionate effects of land acquisition on these vulnerable populations. To ensure responsible management of labor-related impacts (ESS2), the project will clearly define the contractor's obligations through contractual agreements and incorporate comprehensive environmental, social, health, and safety requirements in bid documents. Additionally, the project will focus on minimizing labor influx, enhancing worker conditions through a well-structured camp management plan, providing health education programs, establishing a grievance handling system, and implementing a plan to address sexual exploitation, harassment, and gender-based violence, promoting worker welfare and safety. A SEA/SH Risk Assessment and Mitigation Plan is prepared which is under implementation.

18. To address impacts on Resource Efficiency and Pollution Prevention and Management (ESS3), the project will employ measures aimed at minimizing disruption to the region's physical characteristics. In terms of soil impact, efforts will focus on mitigating soil pollution through stringent transportation practices to prevent spillage and dust generation, especially in sensitive areas, along with regular monitoring of dust levels and air quality. Borrow material extraction, which can affect the environment, will be managed through careful site selection in ecologically less sensitive areas, erosion control measures, dust and noise reduction, and comprehensive site reclamation post-extraction. Water resource impacts will be managed by complying with national legislation related to water pollution control and ensuring safe groundwater pumping practices, particularly from deep aquifers free of arsenic and seawater intrusion. The protection of groundwater supplies and surface water quality will be a priority. Regarding the physical environment, the project addresses ambient air quality by controlling

dust emissions during construction activities, maintenance of machinery and equipment to minimize noise levels, and prohibiting nighttime construction near settlements. Additionally, potential transboundary impacts, such as pollution from neighboring brickfields and the Ichamati River, will be considered, with consultation and mitigation steps as necessary. Lastly, the project includes measures to handle various types of waste generated, emphasizing effective waste management practices, recycling, and compliance with environmental regulations to prevent pollution and resource depletion. Mitigation plans are included with the ESMP.

19. To address impacts related to community health and safety (ESS4), the project will implement several mitigation measures. These include ensuring a reliable supply of energy, water, and medical services during the construction phase, minimizing strain on existing infrastructure and natural resources like water. Additionally, a traffic management plan will be implemented to mitigate health and safety risks associated with increased construction-related traffic, especially near sensitive areas like schools and religious institutions. The project will also manage hazardous and non-hazardous waste generated during construction, and a standalone Sexual Exploitation and Abuse/Sexual Harassment (SEA/SH) Management Plan will be put in place to mitigate the potential risks associated with labor influx, ensuring the safety and well-being of workers, particularly women. Efforts to combat child marriage and dowry-related practices will be encouraged to promote a safer and more equitable community environment. To address impacts related to land and assets (ESS5), a Resettlement Action Plan (RAP) will be developed, providing compensation at replacement cost as per the provisions of the Government of Bangladesh and World Bank Environmental and Social Standards (ESS), and potentially offering job opportunities for affected family members. To mitigate the impacts on biodiversity and living natural resources (ESS6), site clearance activities will involve the removal of vegetation and trees, with a commitment to plant local, water-efficient species approved by the forest department as compensatory plantation, and an allocated budget for this purpose, ensuring minimal ecological disruption. Mitigation plans are included with ESMP and LMP.

20. ESS 7 (Tribal/Indigenous Population) is not relevant as there are no tribal or indigenous people within the sub-project area. ESS 8 (Cultural Heritage) involves implementing "chance find" procedures and contract clauses to address any unexpected impacts on sites of social, sacred, religious, or heritage value during construction. ESS 9 (Financial Intermediaries) is not applicable as no financial intermediaries are involved. ESS 10 (Stakeholder Engagement and Information Disclosure) focuses on engaging various stakeholders, including financing agencies, government organizations, and NGOs, throughout the sub-project cycle, particularly concerning activities like land acquisition and labor influx.

21. The estimated cost for the ESMP monitoring activities is BDT. 11,240,000.

Institutional Arrangement

22. The Project Implementation Unit (PIU), established under Bangladesh Land Port Authority (BLPA), will oversee project implementation. The procurement of consultants for the ESIA and engineering designs for the planned sub-components will be the responsibility of the PIU. The Project Director (PD) will oversee the PIU. The overall responsibility of environmental performance including ESMP 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 for the execution of construction related environmental and social management requirements and measures. The CSC will ensure adherence to the design parameters including environmental quality requirements, as well as all ESMP measures related to construction.

1 Introduction and Project Description

1.1 Background

23. The proposed World Bank (WB)-financed Accelerating Transport and Trade Connectivity in Eastern South Asia (ACCESS) – Bangladesh Phase 1 Project; will seek to address the main drivers of the high cost of trade and transport in the sub-region, namely low levels of technology adoption in trade facilitation, inadequate transport, and logistics infrastructure, and regulatory and procedural impediments to the cross-border movement of freight.

24. The project will support the modernization of transport and trade enabling infrastructure, systems, and procedures in Bangladesh. The project will finance infrastructure facilities in Bangladesh at Benapole, Bhomra, and Burimari Land Ports. The infrastructure will be premised on digitalization, contact-free and paper-free processing. This ESIA outlines the potential environmental and social impacts and mitigation actions for Phase 1 of the Benapole and Bhomra Land Port development work under Component 2.

25. Benapole Land Port Project is in the Choto Achra & Bhoarbar village of Sharsha subdistrict under Jashore district. It is situated about 10 km from Sharsha and 44 km from Jashore, and the opposite is Bongaon in North 24 Porganas district of West Bengal in India, which is also approximately 95 km from Kolkata. Finally, the extended land port will be developed around these facilities in an about 100.68 acres (Approved DPP) of land (subject to land acquisition procedures).

26. Bhomra land port has existed in Satkhira Sadar Upazila since May 2013 with limited facilities. The proposed project will extend the existing Bhomra Land Port area and for which 61.20 acres (Approved DPP) of land acquisition is required. This location could be benefitted from enormous trade potential from mainland of India to the northeastern parts of India.

1.2 Scope of the ESIA

27. The scope of the updated ESIA report describes the following most important features:

- A review of the environmental and social, legislative, regulatory and policy guidelines and considerations relating to the implementation of the project.
- A general description of the project and existing physical, biological and socio-economic conditions.
- Analysis of different alternatives to the project in terms of environmental and social perspectives.
- Identification and assessment of the potential impacts on the natural and human environment in the project area, from the construction of the project.
- Consultation with the locals/stakeholder involving concerned people to identify and act on any undocumented or perceived environmental and social issues.
- Identification of mitigation measures including monitoring framework in the form of an Environmental and Social Management Plan (ESMP).

1.3 Approach and Methodology

28. The study has been conducted in accordance with the World Bank Environmental and Social Framework, ESS 01-ESS10, and relevant environmental and social regulations of WB, and is based on both primary and secondary data and information.

29. The primary data includes data collected from field observations, and secondary data includes a review of the Bangladesh statistical and relevant information from Government Departments. For the social baseline, discussions were held with stakeholders from, including government officials, community representatives, and a wide range of land port beneficiaries from 20 January to 6 February 2022. The main purpose of this approach was to obtain a fair impression of the people's perceptions of the project and its environmental and social impacts.

1.3.1 Primary Data Collection and Analysis

1.3.1.1 Field Surveys

30. To establish a comprehensive baseline, sampling and surveys were conducted for aquatic and terrestrial ecosystems. Additional data and samples, where needed, will be collected during the finalization of the ESIA at detailed design phase. The final ESIA will be reviewed and disclosed.

1.3.1.2 Direct Observation

31. The primary core impact area is in the proposed project area. However, as per consultant advice, Direct observation on the occurrence and abundance of flora and fauna was made considering 1km buffer zone. As well as direct sightings, identification of animal presence was also based on identification of tracks, footprints, feeding signs and animal/bird calls. Appropriate field guides and data proformas were used for this activity to record information accurately.

1.3.1.3 Interviews with Local Residents

32. From 20 January 2022 to 6 February 2022, Three-hundred seventy-six (376) extensive interviews with both local peoples, C&F agents, NGO workers, Teachers and beneficiaries of the land port were conducted to collect information on animal and plant presence, including occurrences, behavior, breeding, distribution and seasonal appearance, and the socio-economic profile of the project intervention areas.

1.3.1.4 Socio-economic Field Survey

33. The ESIA study mostly used the socio-economic data collected by the Social and Resettlement Team for social assessment around the Benapole Land Port and Bhomra Land port from 20 January to 6 February 2022. 376 sub-project affected households in Benapole Land Port and 251 sub-project affected households in Bhomra Land Port were conducted during this period. However, during the environmental survey, some consultations were conducted with social conditions being discussed.

1.3.1.5 Stakeholder Consultations

34. Focus Group Discussions (FGD) and Public Consultation were conducted along the sub-project intervention areas during 24th to 27th January 2022 in Bhomra sub project area and 6th February and 9th February 2022 in Benapole Sub project area. Two focus group discussions and one consultant meeting were conducted in Benapole Land Port as well as four (04) consultation meetings were conducted in this period. Respondents' contact information was collected for further verification if required.

1.3.2 Secondary Data Collection and Analysis

- Data and information were collected from various government sources relating to site aspects climate (weather)², groundwater quality³, and soils⁴; secondary ecological data sources were collected and assessed. Primary data for Air, Noise, Groundwater, and Surface water were collected between January 20, 2022, to February 6, 2022.
- An appraisal was made of all legislation having direct and indirect relevance to environmental management within the study area including aspects such as biodiversity conservation⁵, water quality, waste management, natural resource management, and spill response.

² BMD Data 1987 to 2021

³ Bangladesh Environment Conservation Rules, 1997

⁴ Dutch Standards for Soil, Soil Reference Value, 2004;

⁵ a) Red List of Bangladesh, 2015; <https://portals.iucn.org/library/sites/library/files/documents/RL-549.3-003-v.1.pdf>

b) Red List of Bangladesh, Volume -5; <https://portals.iucn.org/library/sites/library/files/documents/RL-549.3-003-v.5.pdf>

- Previous environmental site studies⁶, where available, were reviewed as well as relevant scientific journal articles; and
- After that, an information gap analysis was undertaken to identify the areas where further primary data collection would be required to complete the ESIA.

1.3.3 Geographical Information Systems (GIS)

35. Geographical Information Systems (GIS) was used as a specialized analysis and presentation tool. Before commencing field investigations, spatial analysis of satellite imagery and present administrative areas and other boundaries/constraints were considered for the environmental assessments. For example, the sanctuaries, forest areas, spawning grounds, infrastructures, and the contract package “BLPA-S16” were identified. It also supports a more detailed on-ground survey, particularly spatial features that may directly or indirectly influence project activities.

36. Detailed on-ground validation of spatial information – particularly land use – was undertaken using a hand-held, non-differential GPS. The spatial data acquisition team took detailed transect walks through the Project area to identify various land use types and confirm the findings of the satellite imagery analysis. This extensive ground-truthing exercise both validated the land use mapping and identified additional sensitive areas to include within the environmental fieldwork for sampling.

⁶ Environmental Management Framework of Bangladesh Regional Connectivity Project 1
<https://documents1.worldbank.org/curated/ar/361671482123829758/pdf/SFG2774-REVISED-EA-P154580-Box402890B-PUBLIC-Disclosed-2-27-2017.pdf>

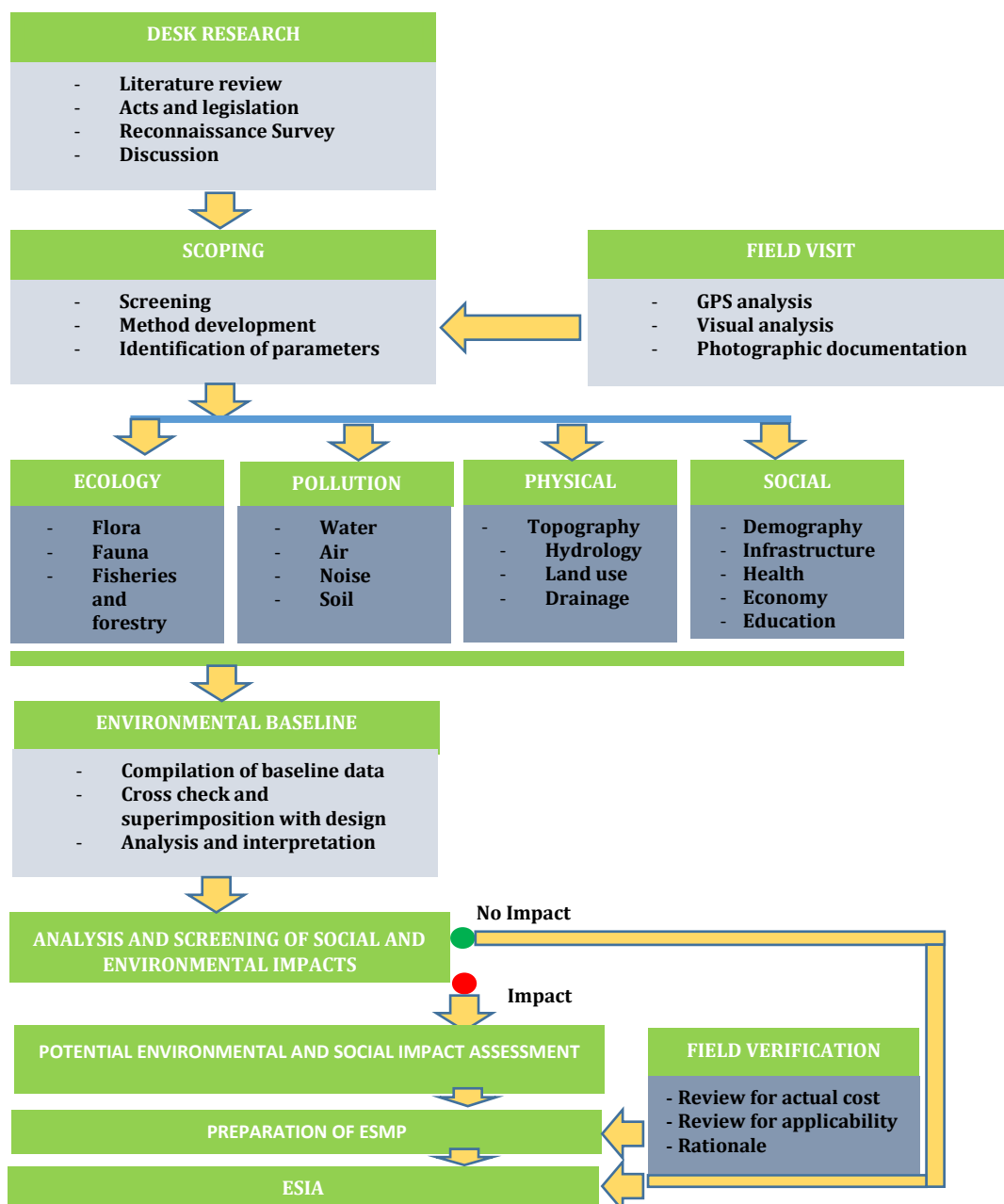


Figure 1-1: Route map of Environmental & Social Impact Assessment (ESIA)

1.3.4 Impact Assessment Methods

37. The ESIA process identifies the potential environmental and social impacts that may result from implementing the sub-projects. Both positive and negative potential impacts for the sub-project were identified by applying standardized international best practice methods of environmental impact assessment. Some of the methods of environmental impact assessment utilized include:

- Ad-hoc methods.
- Application of expert judgment.
- Risk-based approach including residual risk assessment.
- Systematic and sequential approaches and
- Spatial analysis methods (including GIS).

Methods for Mitigation and Management

38. Mitigation measures are how potential negative impacts associated with the Project may be avoided or reduced to appropriate levels through modifications to the project's design, construction methods, or context.

1.4 ESIA Team

39. This ESIA report has been prepared with some key professionals. The following table lists the team composition for preparing this ESIA report.

Table 1.1: List of experts in the ESIA Team

SL	Name	Position	Qualification	Year of Experience
1	Monirul L. Khan	Sr. Social Specialist (Team Leader)	Ph. D in Sociology, Delhi School of Economics	39 Years
2	Md. Mamun-Ur-Rashid	Social Development Specialist	M.Sc in Social Science in Anthropology, Jahangirnagar University, Bangladesh	19 Years
3	Raisin Akter Feroz	Environmental Specialist	M.Sc in Environmental Science (Science for Sustainable Development), Linkoping University, (LiU), Sweden	14 Years
4	Md. Shafiqur Rahman	Cumulative Impact Assessment Specialist	M.Sc in Environmental Science, State University of Bangladesh (SUB), Bangladesh	19 Years
5	Abdul Hannan Biswas	Stakeholder Engagement and Communication Expert	Master of Social Science (MSS) in Economics from Jagannath University College, under the University of Dhaka	29 Years
6	Eng. Md. Sohel Mahmud	Labor and Occupational Health and Safety Expert	Master's in environmental science and management, Jahangirnagar University (JU)	15 Years
7	Nadira Khuka	Gender and SEA/SH Expert	M.S.S in Sociology, National University, Bangladesh	24 Years

1.5 Description about ACCESS MPA Program

40. The Phase 1 of the Program (Project) will have 4 components, as following-

COMPONENT 1: Digital Systems for Facilitate Trade

41. This component will support the transformation of the cross-border clearance process through the provision of digital and automated systems.

42. **Subcomponent 1a: Automated border management system (e-ABMS) (BLPA).** This subcomponent will support the development of a multiagency automated border management system platform aimed at increasing the visibility of the trade chain and reducing costs and unnecessary interactions with cargo shipments.

COMPONENT 2: Green and Resilient Regional Transport and Trade Infrastructure

43. This component will support resilient and green infrastructure development along corridors that serve as the backbone of Bangladesh's physical and economic integration with the ACCESS subregion.

44. **Sub component 2a : Résilient land port infrastructure (BLPA).** This subcomponent will finance the upgrading of infrastructure, systems, and processes at Benapole, Bhomra and Burimari land ports, the three largest land ports in Bangladesh, which are critical for trade with India, as well as with Bhutan and Nepal. This ESIA covers Benapole and Bhomra land port as ESIA for the Burimari land port is already prepared and disclosed. The infrastructure will be developed as climate resilient, green, and sustainable with a focus on energy efficiency, waste and pollution reduction, water preservation, renewable energy.

45. **Subcomponent 2b: Green customs infrastructure (NBR).** Activities related to this sub-component are not covered in this ESIA as it will be implemented by a different client - NBR.

COMPONENT 3: Institutional and Policy Strengthening for Transport and Trade

46. **Subcomponent 3a: Technical assistance for customs modernization (NBR).** This sub-component is not covered under this ESIA as the client is different.

47. **Subcomponent 3b: Technical assistance to foster contemporary border management (BLPA).** This sub-component will finance long-term master plans, feasibility design studies, and environmental and social safeguards studies for priority land ports that will be considered for financing in future projects (e.g., Banglabandha, Hili, Sonahat, Bilonia, Tamabil, Bholaganj, Darshana, and other land ports). Support will also be provided to build the capacity of BLPA staff on modern border management practices.

COMPONENT 4: Contingency Emergency Response

1.6 Objectives of the Project

48. The main objective of the project is to develop cost-efficient and resilient trade and transport facilities at the selected 03 land ports of Bangladesh Land Port Authority. The specific objectives are-

- a) To develop resilience infrastructures facilities for goods, vehicles and passengers' movement through Benapole, Bhomra and Burimari Land Ports;
- b) To ensure safe storage facilities for chemical and other valuable goods;
- c) To automate Border Management System by integrating all cross-border agencies; and
- d) To reduce environmental pollution and control greenhouse gas emissions at the Land Ports.

1.7 Description of Benapole and Bhomra Land Port

1.7.1 Existing facilities in Benapole Land Port

49. Benapole land port is situated at Benapole Town of Sarsha Upazila in Jashore District. It is the largest land port of Bangladesh. In 1978 Benapole land port was established at Benapole zero point for import and export goods with India by roadway. It is bounded by India (Petrapole land port) and Benapole land port. The total area of the existing Benapole land port is 93.00 acres.

50. On an average daily 200-250 Nos. of trucks carrying export goods are assembled at Benapole Land Port under Jashore District. But generally, 100-150 Nos. of trucks are cleared by the Indian side leaving the rest trucks tail backed at our end. This causes heavy traffic congestion in the port area.

51. The existing Benapole land port is in a poor state and insufficient to accommodate existing and potential trade volume. The inadequate infrastructure results in transport and clearance delays for traded goods at Bangladesh’s border as the border gets busier day by day. Moreover, the cost of export is increased due to demurrage charges by the transport agencies for the delayed delivery of export cargoes. The sub-project will have substantial environmental and social risks and impacts.

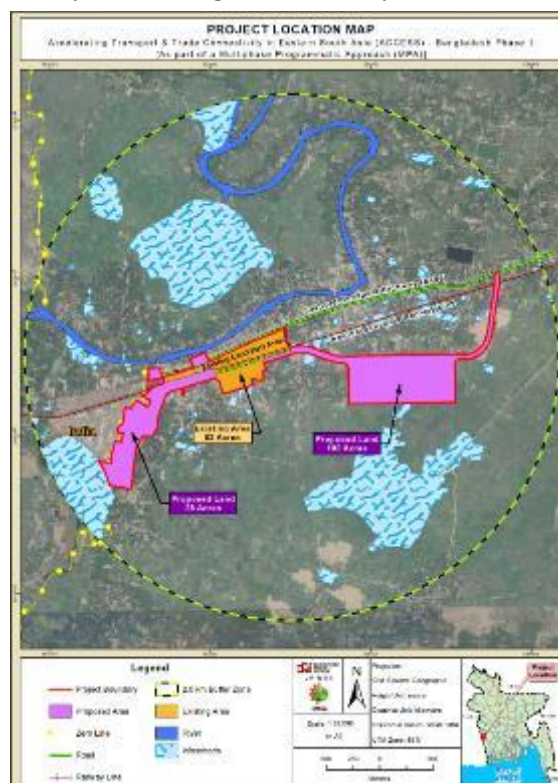


Figure 1-2: Project Location Map (Benapole Land Port)

Table 1.2: Land acquisition plan of Benapole Land Port, Benapole

No.	Land	Land Area	
		SQM	ACRE
01	Existing LP Area	376,357	93.00
02	Proposed LP Area	407,375	100.68
Total		783,732	193.68

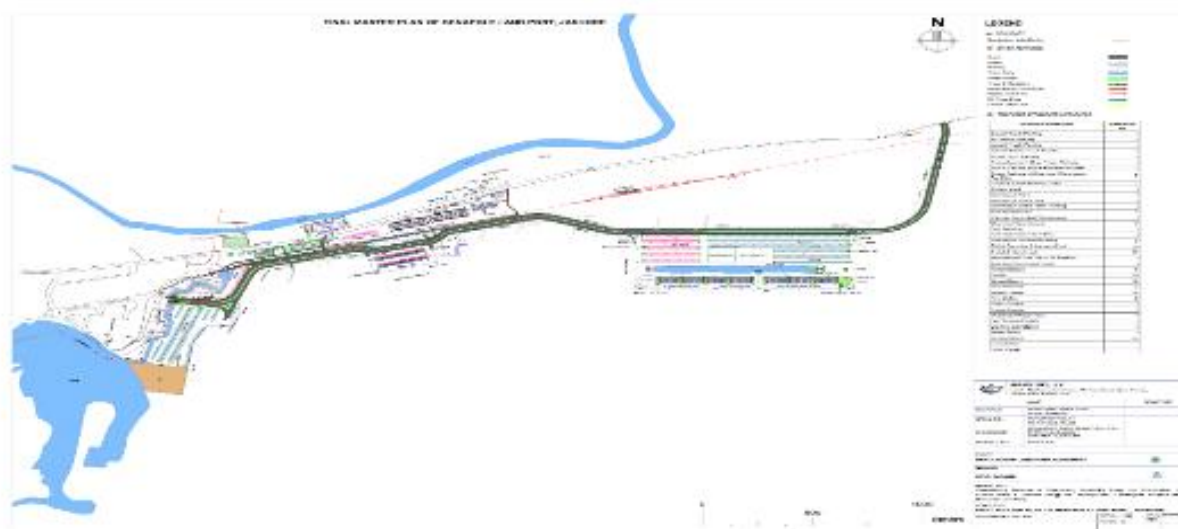


Figure 1-3: Final Master plan of Benapole Land port, Jashore

1.7.2 Existing facilities in Bhomra Land Port

52. Bhomra land port is situated at Lakshmidari village, Bhomra union under Satkhira Sadar Upazila of Satkhira district. It is the 2nd largest land port of Bangladesh. In 2013 Bhomra Land port was established for import and export goods with India, Bhutan, and Nepal by roadway. It is bounded on the west by Ghojadanga India (Bhomra land port), on the north by Satkhira Sadar, on the south by Kaliganj and on the east by Alipur Dhalipara. Ichamati river flows around 3 km far from the land port area, originates from India. The total area of the existing port is 15.67 acres of land.



Figure 1-4: Project Location Map (Bhomra Land Port)

53. The road in front of the site has a carriageway of 15 m. There are facilities like trans-shipment yard, weigh bridges, warehouse/godown, office building, power supply and distribution equipment and residential accommodation. The existing port building (on an area of 1.09 acres) provides for 22 rooms with space for Customs, Immigration, and the land port administration. Basic infrastructure i.e. electricity, telephone (OTD), road, drinking water etc. are available in the port. Power is supplied to the port by Rural Electrification Board (REB). The current transmission line is sufficient to accommodate the additional electricity load resulting from the extension of the land port, additional substation may be installed to fulfil the additional load. There is a generator of 100 KVA as a backup power supply owned by BLPA. Water is supplied using submersible pumps throughout the land port. For drinking a deep tube well is used, which extracts water from a depth of 183 m.

54. The area opposite to Bhomra is Ghojadanga. It has better road connections up to Kolkata with two national highways (four lane) with the distance of 80-85 km right from the zero line of the border. There are several truck terminals 700-900 m from the zero line. This can accommodate 350-370 trucks with weighing bridge and a parking area supported by the transport association office only.

55. The infrastructure at the existing Bhomra land port is in a poor state and insufficient to accommodate existing and potential trade volume.



Figure 1-5: Design Layout of proposed Bhomra sub-project

Table 1.3: Land acquisition plan of Bhomra Land Port, Satkhira

No.	Land	Land Area	
		SQM	ACRE
01	Existing LP Area	63,405	15.67
02	Previously Acquired	40,301	9.96
02	Proposed LP Area (Approved DPP)	247,667	61.20
Total		351,373	86.83

56. The sub-project is expected to include open Stack Yard, passenger Terminal, Warehouse, Parking Area, Transshipment Sheds, Indian Truck Terminal (temporary), Facility for drivers and other necessary-service facilities and buildings. The sub-project will increase the port's capacity to approximately 86.83 acres and contribute to the national economy. Furthermore, the development effort will enhance the export experience and boost production.

57. The project implementation is divided into three phases: (1) Preconstruction Work (2) Site preparation work (3) Construction work. With the development of the proposed project, the master plan of Bhomra Land Port would be completed, and it is predicted to operate with her full facilities from 2028. Proposed facilities are presented in the table below:

Table 1.4: Proposed facilities for the Development

Facilities development			
	<ul style="list-style-type: none"> Open Stack Yard Passenger Terminal Bldg. Warehouse Parking Area Transshipment Sheds Indian Truck Terminal (temporary) Facility for drivers and laborers 	<ul style="list-style-type: none"> Widening of Road One stop Port Service Building Passenger Shed Warehouse Yard for automobile chassis and machinery Transshipment Yard 	<ul style="list-style-type: none"> Passenger Terminal Bldg. (extension) Warehouse Heavy stack yard Transshipment Yard (expansion) Bangladesh Truck Terminal Indian Truck Terminal (relocation) Chemical Warehouse Open Stack Yard

Source: Social Impact Assessment of Ramgar Land Port, October 2020⁷

58. Extending Bhomra land port is to be established around or near the existing port areas currently is being used by land customs station. The land port will be in a plain land, which is a vacant land and during the dry season it 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:

- The project activities will cause land acquisition, resettlement, physical and economic displacement, and impact on livelihood.
- Fill material for land development will be collected from the abandoned and unused land, silted pond and non-agricultural land near the area. Unused and abandoned lands are preferred as these will have the lowest social and environmental impacts. The anticipated source of construction materials are local suppliers who will bring all the materials from local and regional places. Through sieve analysis and compaction test the quality of materials are ensured. During carrying of earth, truck should be covered with triple and dust suppression through water sprays should be done.
- The major import item is mainly stone chips and food item that is more than three fourths of the total imports per year. Loading and unloading operation, storing on the open stack yard and management of stone dust and stone wash water during rainy season should be control through screen and grit chamber and this should be considered during design of the facilities.

⁷http://brcp1.portal.gov.bd/sites/default/files/files/brcp1.portal.gov.bd/download/fe8d890b_da86_4d98_85e7_738a3d714149/2021-03-06-16-50-5d2192fda0c73cdcbf3121382bf8a560.pdf

- Residences, shops, and structures are in the proposed project site. The existing condition in the project site is mainly dust and noise is a major concern along the road. Dust and noise would be a major problem during the construction phase. 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.
- The waste collection system as well as rotten and rejected goods and disposal facilities are not available. Waste collection and location of disposal facilities should be considered during design. The Bay of Bengal is situated about 125 km to the south of the land port project. The nearest ECA is Sundarbans which is about 50 km from the study area.
- Separate facilities like toilets and waiting room in custom office and immigration counter for women traveler and traders should be design in the port facilities. Ramp facilities in the outside and adequate railing/handle inside the toilets should be provided for disabled people.
- The port site development has been considered above the 100-year flood level data and considered the climate change impacts.
- No hill cutting and nor any wetland filling will be needed for developing this land port.

Current and Future Trade in Bhomra Land Port

59. Details of current imports and exports at Bhomra land customs station are given in Table 3.4 and Table 3.5 respectively. The goods that are generally imported and exported at Bhomra port are given below:

- **Import Item:** Stone, onion, apple, mango, Chips, Sugar, Mabel, Motor Parts, Radio, Tobacco, Rice, White, Fish, Cotton, Dried Fish, Dried Chili, Fly Ash, Chain Clay, Ball Clay, Tamarind.
- **Export Item:** Jute, Prawn Juice, Broom Sticks, Cleaning Cloth.

Table 1.5: Import of Bhomra Land Port (2011-2015)

Import				
Year	2011 - 2012	2012 - 13	2013 - 14	2014 - 15
M. Ton	792849	9,41,775.367	14,86,183.828	1809226
Number of Trucks	60,151	59,178	77,370	91,144

Table 1.6: Exports of Bhomra Land Port (2010-2014)

Export					
Year	2010 - 2011	2011 - 12	2012 - 13	2013 - 14	2014 - 15
M. Ton	12159.600	8320.000	35356.057	46683.510	58076.759
Number of Trucks	2,685	1,563	4,036	4,655	

The forecast results of export/import quantities are shown by scenario in Table 3.6. Total trade amount in 2040 is expected to be in the range of 7.5 ~ 8.8 million tons a year.

Table 1.7: Forecast Results of Export/Import Quantities

(Unit: thousand ton)							
Items		2016	2020	2025	2030	2035	2040
Scenario 1	Import	1,929	2,580	3,420	4,461	5,720	7,205
	Export	66	89	130	182	244	319
	Total	1,995	2,669	3,550	4,643	5,964	7,524
Scenario 2	Import	1,929	2,580	3,485	4,635	6,066	7,802
	Export	66	89	130	191	280	412
	Total	1,929	2,669	3,615	4,826	6,346	8,214
Scenario 3	Import	1,929	2,580	3,551	4,817	6,432	8,449
	export	66	89	129	191	268	3667
	Total	1,929	2,669	3,680	5,008	6,700	8,816

1.8 Climate Change Adaptation in Project Design

60. The project outlines climate adaptation and mitigation actions across four development stages: Master Plan Preparation, Location and Design, Materials and Maintenance, and Performance of Output.

61. The proposed measures encompass various aspects like road and parking area, bridges, drainage systems, water and wastewater facilities, power and information technology system, buildings, and site development, including landscaping. These measures involve actions such as raising the elevation of buildings, roads, and bridges, strengthening specific structures, and carefully selecting plants for landscaping to assist with drainage control. Interpolated levels as per 50-years Historical Highest Water Level (HHWL) along the road starting from Bhomra land port section average level is 5.5 mPWD. Recommended top level of the pavement will be 6.75mPWD and considered same for Benapole.

62. Three key initiatives within the project contribute to reducing greenhouse gas emissions: the adoption of solar photovoltaic technology to replace diesel power generation, the creation of green spaces that capture carbon, and the enhancement of truck traffic flow to significantly reduce waiting and idling times. For the three land ports covered in this feasibility report, merely improving traffic flow is estimated to save over 9 million kilograms of CO₂ equivalent annually.

63. To adapt to flood risks during the design phase, the primary approach is to ensure that all critical components of the facilities are situated above the theoretical maximum water level under the most extreme scenarios. This can be achieved by either adding fill or constructing on pilings. Of particular importance is the elevated placement of the laboratory and its external hazardous waste storage structure to mitigate contamination risks and equipment damage caused by flooding. Furthermore, backup generators and their fuel tanks must be positioned well above the highest foreseeable flood level, considering the projections for climate change-related precipitation.

64. To reduce the impact of elevated average temperatures and extreme heat occurrences, minimizing the use of air conditioning can be accomplished by implementing several strategies outlined in the study. These include the installation of green roofs when possible, optimizing the utilization of broad-crowned shade trees in the site's landscaping design, including within parking area medians, and maximizing the promotion of cross-ventilation.

1.9 Design Features

65. Despite of the gap of data, some specific information related to construction activities have been extracted from BLPA which are given below:

Table 1.8: Detail of Civil Works of Benapole Land Port, Jashore

SL No.	Description	Unit	Quantity (Quantity)
1	General & Site Facilities	LS	1
2	Land Development	Cum	1,029,890
3	Boundary Wall and Gate Houses and Electrification Works	Rm	4,770
4	Construction of International Passenger terminal Building	Sqm	6,100
5	Watch Tower	Nos	10
6	Toilet Complex and Labour Shed	Sqm	3,840
7	Transshipment Shed	Sqm	25,760
8	Warehouse	Sqm	22,500
9	Chemical Godown	Sqm	10,000
10	Security and Service Building	Sqm	512
11	Other Building (Residential)	Sqm	220
12	Pavement- Roads & Stack Yards	Sqm	160,750
13	Weigh Bridge Scale 100 MT (6 Nos) and Inspection Room	Nos.	4
14	Culvert/Bridge	Sqm	1,800
15	Pump House	Sqm	48
16	Construction of Drainage System	Rm	5,500
17	Water Supply System	LS	1
18	On-Grid Solar System	LS	1
19	Off-Grid Solar System	LS	1

SL No.	Description	Unit	Quantity (Quantity)
20	External Electrification	LS	1
21	Footpath	Sqm	17,142
22	Landscaping	Sqm	16,700
23	Green Roofs and Other Green Works	Sqm	30,000
24	Rainwater Harvesting Tanks	No	1
25	Industrial Warehouse Racking System	Rm	3,600
26	Fire Detection and Protection System	LS	1
27	Waste water drainage and treatment	Sqm	2,200

Table 1.9: Detail of Civil Works of Bhomra Land Port, Satkhira

SL No.	Description	Unit	Quantity (Quantity)
1	General & Site Facilities	LS	1
2	Land Development	Cum	561,250
3	Boundary Wall and Gate Houses and Electrification Works	Rm	4,600
4	Construction of International Passenger terminal Building	Sqm	6300
5	Watch Tower	Nos	6
6	Toilet Complex and Labour Shed	Sqm	1,920
7	Transshipment Shed	Sqm	12,880
8	Warehouse	Sqm	3,750
9	Security and Service Building	Sqm	1,000
10	Other Buildings	Sqm	1,200
11	Pavement- Roads & Stack Yards	Sqm	266,450
12	Weigh Bridge Scale 100 MT (6 Nos) and Inspection Room	Nos	3
13	Culvert/Bridge	Sqm	309
14	Pump House	Sqm	24
15	Construction of Drainage System	Rm	2,510
16	Water Supply System	LS	1
17	On-Grid Solar System	LS	1
18	Off-Grid Solar System	LS	1
19	External Electrification	LS	1
20	Footpath	Sqm	8,000
21	Landscaping	Sqm	8,000
22	Green Roofs and Other Green Works	Sqm	2,150
23	Rainwater Harvesting Tanks	No	1
24	Industrial Warehouse Racking System	Rm	600
25	Fire Detection and Protection System	LS	1
26	Waste water drainage and treatment	Sqm	1,674

1.10 Implementation Schedule

66. As per the updated and approved RDPP the implementation schedule of the both Benapole and Bhomra Land Port sub-project is from April 2023 to June 2027. According to the approved project implementation period separate time schedule are included in the Table 1.11.

1.11 Estimated Resources and Labor Requirement

67. For similar types of work in each land port, estimated resources and Labor Requirement are provided in the Table 1.10.

Table 1.10: Estimated Resources and Labor Requirement for Each Land Port

Resources	Construction Phase	Operation Phase
Energy	100 KVA	500 KVA
Water	6000 liter/day	1000 liter/day
Raw Materials	Stone chips: 2 lacs cum MS Rod: 6000 MT Sand: 6.5 lac cum Cement: 30,000 MT Brick Chips: 55,000 cum	Fuel: 1500 liter/day Equipment's: 30 nos.
Labors	300 nos.	4000 – 5000 nos.

Table 1.11: Implementation Schedule of both Sub-Project

Benapole Land Port

Item of Works	2023	2024	2025	2026	2027
PRE-CONSTRUCTION	■	■			
Call for Tenders for the Project		■			
Contractor Selection		■			
Detail Design, BoQ and Tender Document Preparation	■	■			
Preparation of Environment and Social Assessment Doc.	■	■			
Land takeover and complete acquisition plan		■	■		
Settlement of social and environmental issues		■	■		
Site preparation work			■		
Land development			■	■	
Construction starts in the existing land port area			■	■	■
Open stack yards and Paved Road (Bulk cargo Terminal)			■	■	■
Boundary wall with Gates Houses			■	■	■
Passenger Terminal Building			■	■	■
Watch Tower				■	■
Toilet Complex and labor Shed				■	■
Transshipment Shed and Warehouse				■	■
Chemical Godown				■	■
Security and service Building				■	■
Residential Building				■	■
Weigh Bridge Scale				■	■
Culvert/Bridge				■	■
Pump House				■	■
Construction of Drainage System				■	■
Water Supply System				■	■
Installation of Solar Plan System					■
External Electrification					■
Footpath and land Scaping with Green Works					■
Rain water Harvesting Tank					■
Waste Management and fire Detection System					■
Site Cleaning and Handover					■

Bhomra Land Port

Item of Works	2023			2024			2025			2026			2027		
PRE-CONSTRUCTION	■	■													
Call for Tenders for the Project			■												
Contractor Selection				■											
Detail Design, BoQ and Tender Document Preparation	■	■													
Preparation of Environment and Social Assessment Doc.	■	■													
Land takeover and complete acquisition plan				■	■	■									
Settlement of social and environmental issues			■	■	■	■									
Site preparation work				■	■										
Land development				■	■	■									
Construction starts in the existing land port area				■	■	■	■	■	■						
Open stack yards and Paved Road (Bulk cargo Terminal)				■	■	■	■	■	■	■	■	■			
Boundary wall with Gates Houses				■	■	■	■	■	■	■	■	■	■	■	■
Passenger Terminal Building				■	■	■	■	■	■	■	■	■	■	■	■
Watch Tower										■	■	■			
Toilet Complex and labor Shed									■	■	■	■			
Transshipment Shed and Warehouse									■	■	■	■			
Chemical Godown									■	■	■	■			
Security and service Building									■	■	■	■			
Residential Building									■	■	■	■			
Weigh Bridge Scale										■	■	■			
Culvert/Bridge									■	■	■	■			
Pump House										■	■	■			
Construction of Drainage System							■	■	■	■	■	■			
Water Supply System									■	■	■	■	■	■	■
Installation of Solar Plan System												■	■	■	■
External Electrification												■	■	■	■
Footpath and land Scaping with Green Works												■	■	■	■
Rain water Harvesting Tank												■	■	■	■
Waste Management and fire Detection System												■	■	■	■
Site Cleaning and Handover													■	■	■

2 Policy, Legal and Administrative Frameworks

2.1 Regulatory Requirements for the Project

68. This chapter presents a review of the existing laws and policies related to the environmental and social dimensions of the project. Along with providing a summary of the relevant laws and policies, this chapter presents the World Bank's Environmental and Social Standards (ESS). Gaps between the relevant government laws and World Bank ESS are presented in this chapter and remedial measures to address the gaps. Detailed regulatory requirements for the project is mentioned in the ESMF. Applicable policy /rules-

1. National Environmental Policy, 2018
2. National Environmental Management Action Plan (NEMAP), 1995
3. Environment Conservation Act (ECA), 1995(Amended in 2000, 2002, 2010 & 2023)
4. The Water Act, 2013
5. Environment Conservation Rules, 1997 (Amended in 2002)
6. Environmental Courts Act, 2000
7. National Land Transport Policy, 2004
8. Wetland Protection Act, 2000
9. The Forest Act (1927) and the Forest (Amendment) Act (2000)
10. National Forest Policy (amendment), 1994
11. The Private Forests Ordinance, 1959
12. Bangladesh Wildlife (Conservation & Security) Act, 2012 (previously known as Bangladesh Wildlife (Preservation) Order, 1973; amended as Bangladesh Wildlife (Preservation) Act 1974)
13. National Water Policy, 1999
14. National Fisheries Policy, 1998
15. Protection and Conservation of Fish Act 1950 (Amended 1982)
16. National Agriculture Policy, 1999
17. National Land Use Policy, 2001
18. Bangladesh Climate Change Strategy and Action Plan (BCCSAP) 2009
19. Constitution of the People's Republic of Bangladesh, 04 November 1972
20. The Acquisition and Requisition of Immovable Property Act 2017 (ARIPA)
21. Vested Property Act, 2001
22. Bangladesh Land Port Authority Law, 2001
23. Labor Related Laws
24. Labor Act 2006
25. Bangladesh Labor Rules 2015
26. Occupational Health and Safety Policies 2013.
27. Community Health and Safety Related Laws
28. Occupational Health and Safety Policies 2013.
29. Cultural Heritage
30. The Antiques Law, 1968
31. The Environment Conservation rules (1997)
32. Stakeholder Engagement and Information Disclosure
33. The Environment Conservation rules (1997)
34. The building Construction Act 1952 (with subsequent amendments)
35. Bangladesh National Building Code 2020
36. Solid Waste Management Rules 2021
37. Hazardous Waste (E-Waste) Management Rules, 2021

2.2 World Bank Environment and Social Framework and Standards (ESS)

69. Through ongoing stakeholder engagement, the ESSs assist borrowers in achieving good international practice in environmental and social sustainability, assisting them in fulfilling their national

and international environmental and social obligations, increasing transparency and accountability, and ensuring a sustainable development outcome⁸.

70. The importance of ESF Policy, each of the ten standards (ESS1 to 10) and the related Directive are discussed in the sections below; their criteria are shown in Table 2.1. It also covers the relevance and requirements of previous World Bank guidance papers. If Bangladeshi law differs from ESF criteria, the more stringent requirements will apply.

Table 2.1: Applicability of the ESSs to the Project

World Bank ESS Policy, Standards, Directive	Objectives	Requirements	Relevance to the sub-project/project and Actions to be taken
ESS-1 Assessment and Management of Environmental and Social Risks and Impacts	Identify, assess, evaluate, and manage environment and social risks and impacts in a manner consistent with the ESF. Adopt differentiated measures so that adverse impacts do not fall disproportionately on the disadvantaged or vulnerable, and they are not disadvantaged in sharing development benefits and opportunities	The types of E&S risk and impacts that should be considered in the environmental and social assessment. The use and strengthening of the Borrower's environmental and social framework for the assessment, development and implementation of World Bank financed projects where appropriate.	(I) Project components will be thoroughly screened to ensure that they are covered by and meet the requirements of ESS and Government laws and regulations. (II) E&S risks and Impacts have been identified in the ESIA based on surveys and consultations with primary stakeholders including communities and implementing agency (III) The ESIA will be disclosed both in the BLPA and Bank's websites.
ESS-2 Labor-and-Working-Conditions	Promote safety and health at work. Promote the fair treatment, non-discrimination, and equal opportunity of project workers. Protect project workers, with particular emphasis on vulnerable workers. Prevent the use of all forms of forced labor and child labor.	Requirements for the Borrower to prepare and adopt labor management procedures. Provisions on the treatment of direct, contracted, community, and primary supply workers, and government civil servants. Requirements on terms and conditions of work, non-discrimination, equal opportunity, and workers organizations. Provisions on child labor and forced labor.	Project will be hiring the following types of workers: (i) Direct workers will include the project managers and supervisors, who are employees of BLPA; ii) All the work force deployed by the Contractors and the Project Management Consultant (for all packages) under the BLPA will be deemed to be contracted workers.
ESS-3 Resource-Efficiency-and-Pollution-Prevention-and-Management	Promote the sustainable use of resources, including energy, water, and raw materials. Avoid or minimize adverse impacts on human health and the environment caused by pollution from project activities. Avoid or minimize project-related emissions of short and long-lived climate pollutants. Avoid or minimize generation of hazardous and non-hazardous waste.	Requires an estimate of gross greenhouse gas emissions resulting from project (unless minor), where technically and financially feasible. Requirements on management of wastes, chemical and hazardous materials, and contains provisions to address historical pollution. ESS-3 refers to national law and Good International Industry Practice, in the first instance the World Bank Groups' EHSs.	Concerning Resource Efficiency, the project preparation and the ESIA process identified feasible measures for efficient (a) energy use; (b) water usage and management to minimize water usage during construction,
ESS-4 Community-Health-and-Safety	Anticipate or avoid adverse impacts on the health and safety of project-affected communities during project life cycle from	Requirements on infrastructure, considering safety and climate change, and applying the concept of universal access, where technically and financially feasible.	Use of vibratory equipment, construction debris handling and disposal etc. during construction; ii) likelihood of direct exposure to increased construction related traffic

⁸ Annex A provides a detailed description of the ESS of the WB.

World Bank ESS Policy, Standards, Directive	Objectives	Requirements	Relevance to the sub-project/project and Actions to be taken
	<p>routine and non-routine circumstances. Promote quality, safety, and climate change considerations in infrastructure design and construction, including dams. Avoid or minimize community exposure to project-related traffic and road safety risks, diseases and hazardous materials. Have in place effective measures to address emergency events. Ensure that safeguarding personnel and property is carried out to avoid or minimize risks to the project-affected communities.</p>	<p>Requirements on traffic and road safety, including road safety assessments and monitoring. Addresses risks arising from impacts on provisioning and regulating ecosystem service. Measures to avoid or minimize the risk of water-related, communicable, and non-communicable diseases. Requirements to assess risks associated with security personnel, and review and report unlawful and abusive acts to relevant authorities.</p>	<p>and equipment sensitive receptors such as schools, religious place, health centre/hospitals; iii) dust levels from earthworks, noise and emission level from traffic congestion and idling of vehicles; and iv) influx of migrant workers could potentially cause local discomfort or potential conflicts including risks of SEA-SH with the local community.</p> <p>BLPA may use direct or contracted workers to provide security to safeguard its personnel and property. When doing so it will assess the risks posed by the arrangements to those inside and outside the project site.</p>
<p>ESS-5 Land-Acquisition-Restrictions-on-Land-Use-and-Involuntary-Resettlement</p>	<p>Avoid or minimize involuntary resettlement by exploring project design alternatives. Avoid forced eviction. Mitigate unavoidable adverse impacts from land acquisition or restrictions on land use by providing compensation at replacement cost and assisting displaced persons in their efforts to improve, or at least restore, livelihoods and living standards to pre-displacement levels or to levels prevailing prior to the beginning of project implementation, whichever is higher.</p>	<p>Applies to permanent or temporary physical and economic displacement resulting from different types of land acquisition and restrictions on access. Does not apply to voluntary market transactions, except where these affects third parties. Provides criteria for “voluntary” land donations, sale of community land, and parties obtaining income from illegal rentals. Prohibits forced eviction (removal against the will of affected people, without legal and other protection including all applicable procedures and principles in ESS5). Requires that acquisition of land and assets is initiated only after payment of compensation and resettlement has occurred.</p>	<p>Relevant as project will cause land acquisition and displacement. Project will prepare RAP.</p>
<p>ESS-6 Biodiversity-Conservation and Sustainable Management of Living Natural Resources</p>	<p>Protect and conserve biodiversity and habitats. Apply the mitigation hierarchy and the precautionary approach in the design and implementation of projects that could impact biodiversity. To promote the sustainable management of living natural resources.</p>	<p>Requirements for projects affecting areas that are legally protected designated for protection or regionally/internationally recognized to be of high biodiversity value. The requirements for sustainable management of living natural resources, including primary production and harvesting, distinguish between small-scale and commercial activities.</p>	<p>These issues have been addressed in the ESIA. A detailed guideline has been given in the ESIA preparation section. [The section on Biological Environment ‘Chapter 4.4’ covers all the aspects related to ESS6].</p>
<p>ESS-7 Indigenous-Peoples/ Historically Underserved</p>	<p>Ensure that the development process fosters full respect for affected parties’ human rights, dignity, aspirations, identity, culture, and</p>	<p>Applies when the Indigenous Peoples are present or have a collective attachment to the land, whether they are affected positively or negatively and</p>	<p>Not relevant as during survey, no IP is identified.</p>

World Bank ESS Policy, Standards, Directive	Objectives	Requirements	Relevance to the sub-project/project and Actions to be taken
Traditional Local Communities	natural resource-based livelihoods. Promote sustainable development benefits and opportunities in an accessible, culturally appropriate	regardless of economic, political or social vulnerability.	
ESS-8 Cultural-Heritage	Protect cultural heritage from the adverse impacts of project activities and support its preservation— Address cultural heritage as an integral aspect of sustainable development. Promote meaningful consultation with stakeholders regarding cultural heritage. Promote the equitable sharing of benefits from the use of cultural heritage.	Requires a chance finds procedure to be established. Recognition of the need to ensure peoples’ continued access to culturally important sites and the need for confidentiality when revealing information about cultural heritage assets that would compromise or jeopardize their safety or integrity. Requirement for fair and equitable sharing of benefits from commercial use of cultural resources. Provisions of archaeological sites and material-built heritage, natural features with cultural significance, and moveable cultural heritage.	The project area does not have any ancient monuments and/or archaeological site(s), protected based on the preliminary assessment. However, in the detailed design stage it will be investigated in detail and will try to avoid the sites, if any is found. i) If they (antiques/cultural heritage) are found, they need to be relocated, and provisions must be made in the RAP. (ii) Chance find procedures will be incorporated in the ESMP, and chance find clauses will also be incorporated in work contracts requiring contractors to stop construction.
ESS-9 Financial-Intermediaries	Sets out how Financial Intermediaries (FI) will assess	Not relevant as there is no financial intermediary involved.	Not relevant as there is no financial intermediary involved.
ESS-10 Stakeholder-Engagement-and-Information-Disclosure	Establish a systematic approach to stakeholder engagement that helps Borrowers identify stakeholders and maintain a constructive relationship with them. Assess stakeholder interest and support for the project and enable stakeholders’ views to be considered in project design.	Requires stakeholder engagement throughout the project life cycle, and preparation and implementation of a Stakeholder Engagement Plan (SEP). Requires early identification of stakeholders, both project-affected parties and other interested parties, and clarification on how effective engagement takes place.	Relevant as the project will involve a wide variety of stakeholders during its project cycle including Police Department that are associated with activities under other components of the project such as Road Safety. The project will ensure: I) Relevant stakeholders for the project are properly identified. II) Stakeholders have been consulted during the preparation of the SEP. (III) Stakeholders’ engagement plan has been prepared to follow during the implementation of the project.

2.3 World Bank Group Environmental, Health and Safety Guidelines

71. The Environmental, Health and Safety (EHS) Guidelines of the World Bank Group (WBG) 2008 contain performance levels and measures that are achievable in new facilities at reasonable costs using existing technologies. The EHS guidelines have been organized into four major categories: (a) Environment, (b) Occupational Health & Safety, (c) Community Health & Safety and (d) Construction & Decommissioning. All the stakeholders of the project (particularly the client BLP and the contractor) can follow the general approach (illustrated in the IFC General EHS guidelines) to the management of EHS issues at the facility or Project level.

72. When host country regulations differ from the levels and measures presented in the EHS Guidelines, projects are expected to achieve whichever is more stringent. If less stringent levels or measures than those provided in these EHS Guidelines are appropriate, in view of specific project

circumstances, a full and detailed justification for any proposed alternatives is needed as part of the site-specific environmental assessment.

2.4 Gap Analysis of World Bank Requirements and National Laws

73. As part of the E&S capacity assessment of IAs, a gap analysis between WB's ESSs and GoB Regulations was performed. The gap analysis revealed that Bangladesh's ES risk assessment and management system for development projects is open-ended and does not cover all the World Bank ESF's ES Standards. The ECA/ECR also does not define the scope of the ESIA study (or the IEE), leaving that to the ESIA preparation to determine through initial assessment/screening.

Table 2.2: Gaps between GoB Laws and World Bank ESSs, and minimization

WB ESF Standard	Gaps in GoB policies and Acts	Equivalent National Environmental Policy and Regulation	Gap Minimization
ESS1: Assessment and Management of Environmental and Social Impacts and Risks	(i) EIA study screening and scoping do not guarantee to cover of all ESS standards in the assessment. (ii) EIA study does not advocate to include both the environment and social impacts at same scale, but the ESF does. (iii) The stakeholder engagement during the conduct of the EIA is limited and the EIA report is not disclosed. (iv) The EIA system in Bangladesh does not require analysis of alternatives. (v) There is no associated facilities for the project.	Environmental Conservation Rules, 1997	ESIA has suggested following the ESS1 requirements, given in the relevant sections of Environmental Management Procedures. This ESIA's scoping is conducted to address WB ESSs in addition to GoB requirements. The basic principle of ESF which is the mitigation hierarchy (avoid, minimize, mitigate, offset) is considered in this ESIA and also in the project design.
ESS2: Labor and Working Conditions	(i) The Labor Act does not specifically require that development be assessed and reviewed in terms of labor and working conditions including OHS requirements before approval. (ii) The Labor Act does not require development projects to prepare Labor Management Plans/Procedure or OHS Plan.	Bangladesh Labor Act, 2006 (amended in 2013, 2015 and 2018) and Bangladesh Labour Rules, 2015.	An OHS plan including traffic safety for the workers should be developed during the project implementation. Guideline for developing Site Specific Management plans including OHS, LMP has been included in this ESIA.
ESS3: Resource Efficiency and Pollution Prevention and Management	Existing energy and water conservation policies, laws and regulations do not require development projects to assess resource efficiency issues and incorporate them into their ES risk management plans.	<ul style="list-style-type: none"> Environment Conservation Act (ECA) 1995 Noise Pollution Rules (2006) 	ESS3 covers all pollution aspects as well, including water, air, dust, noise, etc which are the major environmental aspects for pollution. The WB EHS guideline contain the performance levels and measures that are normally acceptable to the World Bank Group
ESS4: Community Health and Safety	Covered under ESIA but the systems do not provide clear requirements for the development project and implementation. Health issues are within the purview of MHFW, but it is currently not involved in project preparation and oversight.	<ul style="list-style-type: none"> Noise Pollution Rules (2006) Environment Conservation Rules 1997 	Guideline for Community Health Safety will be addressed in LMP and SEA/SH/Gender Action Plan.
ESS5: Land Acquisition, Land Use Restriction and	Bangladesh: ARIPA (i) does not require RAP preparation in the case of non-titled entities.	<ul style="list-style-type: none"> The Land Acquisition/ Requisition of Immovable Property Ordinance, 1982 Act 	A RPF is prepared which will be followed in the project. There will be site specific RAPs as well and both RPF and RAPs will be

WB ESF Standard	Gaps in GoB policies and Acts	Equivalent National Environmental Policy and Regulation	Gap Minimization
Involuntary Resettlement	(ii) does not provide compensation or assistance to those who do not have formal legal claim to the land; (iii) does not provide transitional allowances for restoration of livelihoods for informal settlers; (iv) relies on cash compensation, no developmental objectives; (v) no provision to give special attention to the vulnerable groups (vi) valuation of lost asset is not based on "replacement cost" standard	Acquisition and Requisition of Immovable Property Act 2017 (ARIPA)	consistent with the ESS5 requirements.
ESS6: Biodiversity Conservation and Sustainable Management of Living Natural Resources	No equivalent requirements on: (i) the application of hierarchy of measures; (ii) the preparation of Biodiversity Management Plan; (iii) differentiated measures on types of habitats; (iii) conducting due diligence on primary suppliers.	Biodiversity Conservation Act- 2017 National Land use policy, 2001 National Agriculture Policy, 1999.	These issues have been addressed in the ESIA. Detailed guideline has been given in ESMP preparation section. Besides, site specific management plans will be prepared for each sub-project/activity. The section on Biological Environment 'Chapter 4.4' covers all the aspects related to ESS6. Biodiversity section of this ESIA is prepared to cover all ESS6 aspects
ESS7: Indigenous People	No equivalent requirements on: (i) coverage of IP impacts in the ESIA; (ii) special treatment or differentiated approach to IPs and vulnerable groups; (iii) conduct of FPIC; (iv) development of IP Plan.	Chattogram Hill Tract (CHT) Accord (1997)	No SEC has been identified during the ESIA preparation stage and ESS7 is not relevant to this project.
ESS8: Cultural Heritage	No equivalent requirements on: (i) the application of hierarchy of measures; (ii) the development of Cultural Heritage Management Plan; (iii) the development and adoption of project-specific Chance Find Procedures; and (iv) the engagement of cultural heritage experts.	National Culture Policies 2006 and Antiques Act 1968	Detailed guideline has been included in the ESMP section.
ESS9: Financial Intermediaries	Not applicable to country system.		N/A
ESS10: Stakeholder Engagement and Information Disclosure	The ECA/ECR does not specifically require consultation, but the ESIA guidelines issued by DOE and other agencies recommend public consultations during scoping and the preparation of the ESIA.	Right to Information Act, 2009	Guideline for stakeholder's engagement has been provided in this ESIA and a standalone SEP is also prepared for the Project which will be followed all through the project's life cycle.

3 Natural and Socio-Economic Features of the Sub-project Area

3.1 General

74. Data was collected from secondary sources like BBS 2011, BWDB, BMD, WB Climate change portal, etc., for the macro-environmental setting like climate (temperature, rainfall, humidity, and wind speed), physiography, geology, etc.

3.2 Sub-project Influence Area

75. As the overall risk categorization of the both sub-projects are ‘substantial’ for Environmental and “high” for social, the AOI for the overall sub-project is considered as 1 km area around the proposed land port facilities for primary data collection. In addition, for more intensive study, the area is considered a 5 km buffer zone. Within this buffer zone it was anticipated that the whole area comprises of many markets, educational institutions, religious institutions, etc. The area is always busy for frequent traffic movements, loading and unloading activities and other activities hence noise generation may be expected.

3.3 Physical Environment

3.3.1 Climate

76. Bangladesh can be divided into seven (07) climatic sub-zones based on differences in a range of factors, including rainfall, temperature, evapotranspiration, and local seasonality (Rashid, 1991). Both sub-project areas fall in the Western Part of the Southern Region.

77. In the sub-project location, the extremes of the zones to the north are somewhat tempered in the south-west zone. Rainfall varies from 1,500 mm to 1,800 mm. The mean highest possible summer temperature is less than 35 ° C. Dewfall is more severe than in the western zone.

78. As the nearest weather station to the Benapole sub-project area is Jashore and Bhomra Land Port area is Satkhira, climate data of 33 years has been collected from the weather station.

3.3.1.1 Temperature

79. In Jashore Region, the temperature varies between 39.34°C and 35.59°C during the monsoon (April/May to September/October). The highest temperature is felt during May when the temperature may be as high as 39.34°C. On the other hand, the temperature drops below 9°C in winter which occurs primarily in December and January to November and February. The variation of maximum, average and minimum temperature of Jashore station is shown in Figure 3-3 that can depict the temperature of the study area.

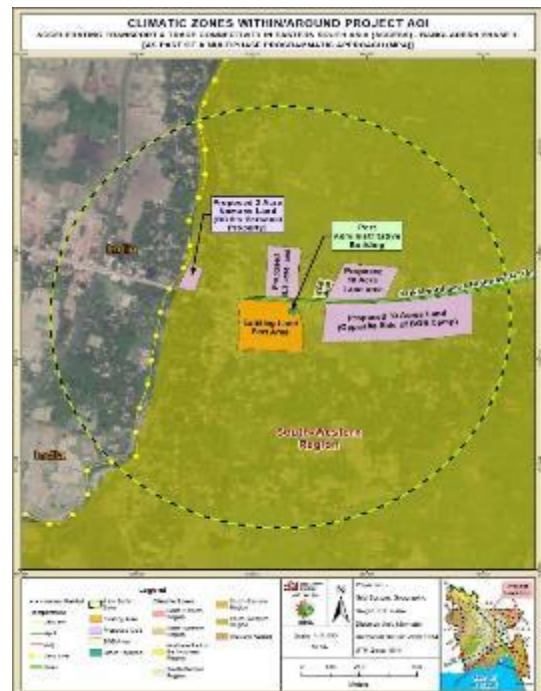


Figure 0-1: Climatic Zone of sub-project AOI (Bhomra Land Port)



Figure 3-2: Climatic Zone of sub-project AOI (Benapole Land Port)

80. In the case of Satkhira Region, the temperature varies between 28°C and 38°C during the monsoon, The temperature falls below 10°C in winter that is spread over December and January and may well include November and February. The highest temperature is felt during May when the temperature may be as high as 43°C. Figure 3-4 shows the variation of maximum, average and minimum temperature of Rangpur station that can represent the temperature of the study area.

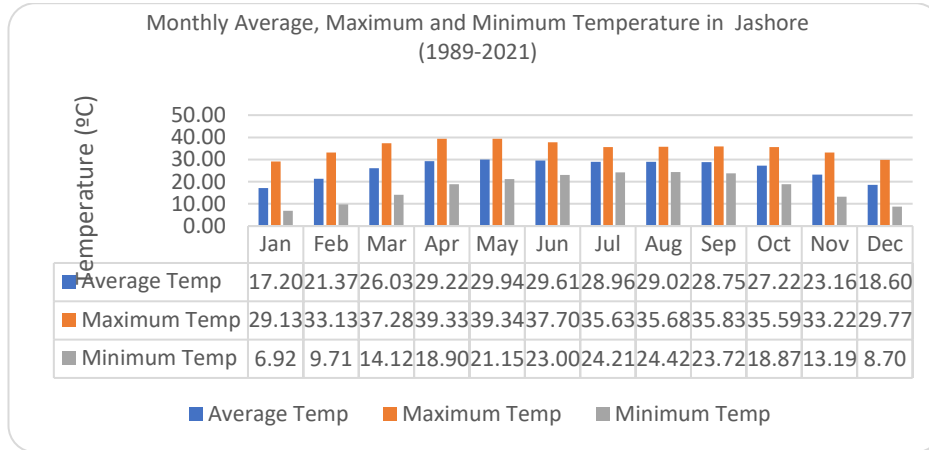


Figure 3-3: Variation of Monthly Surface Air Temperature of Jashore Station (Ref: Bangladesh Meteorological Department)

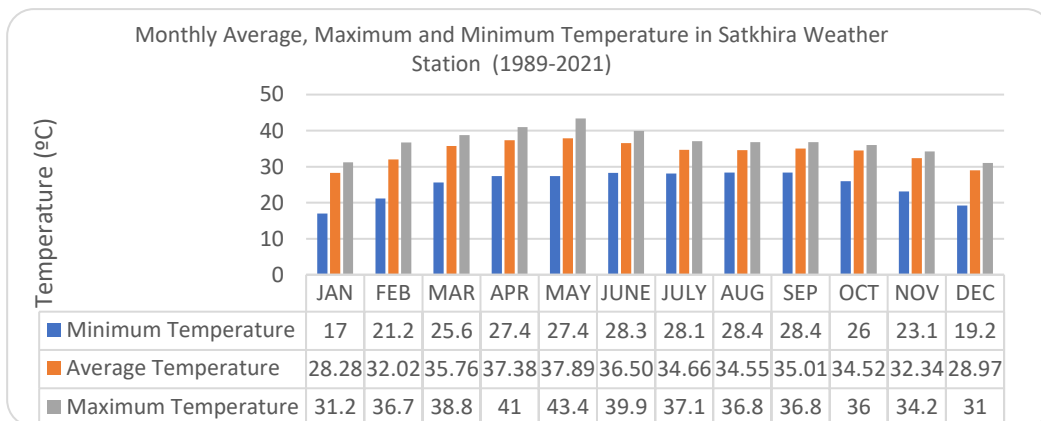


Figure 3-4: Variation of Monthly Surface Air Temperature of Satkhira Station (Ref: BMD)

3.3.1.2 Rainfall

81. Figure 3-5 The rainfall data obtained from the Jashore weather station shows that the highest rainfall occurs in July and the lowest in December during winter. From the figure the highest average recorded rainfall was 378.03 mm in July. The lowest average recorded rainfall was found in December, which was 7.19 mm.

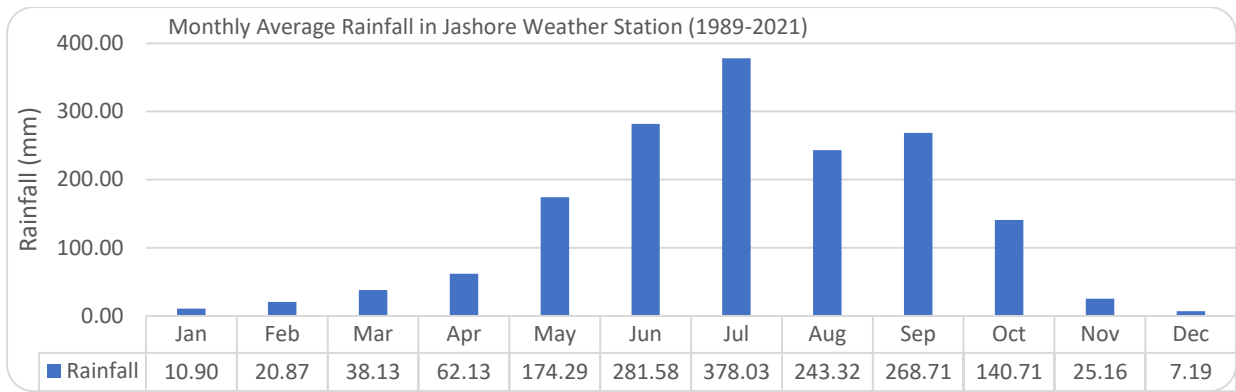


Figure 3-5: Average of Total Monthly Rainfall in mm in Jashore Weather Station (Ref: Bangladesh Meteorological Department)

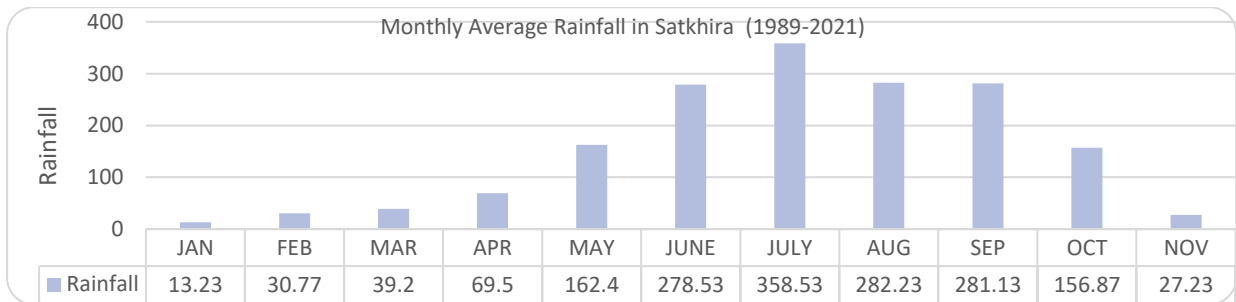


Figure 3-6: Average of Total Monthly Rainfall in mm in Satkhira Weather Station (Ref: BMD)

3.3.1.3 Wind Speed

82. Figure 3-7 shows the average wind speed from 1989 to 2021 at Jashore station. Wind speed in the study area represents seasonal variation between the dry season (October to January) and the monsoon season (April to August) in both stations. During October to January, the wind speed shows lower value. This season shows 4.67 to 5.14 knots wind speed and in the month of April to July the wind speed shows 6.27 to 8.2 knots in Jashore station.

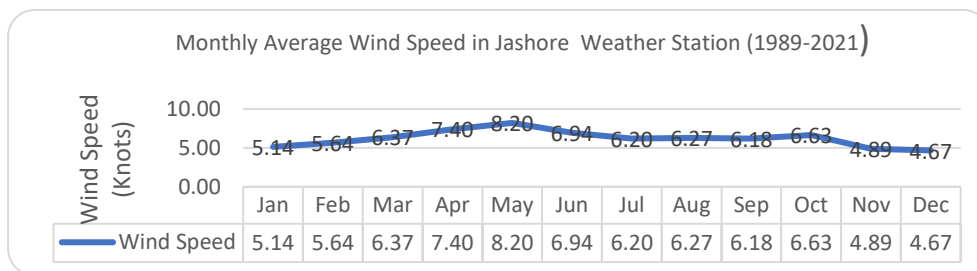


Figure 3-7: Average Monthly Wind Speed of Jashore Weather Station (Ref: BMD)



Figure 3-8: Average Monthly Wind Speed at Jashore Station (Ref: Meteoblue)

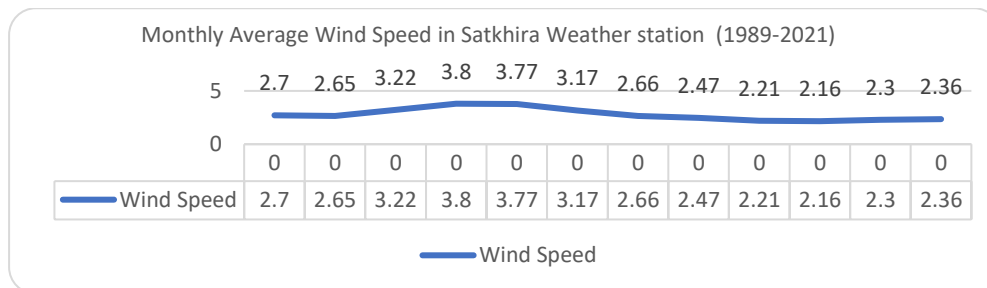


Figure 3-9: Average Monthly Wind Speed of Satkhira Weather Station (Ref: BMD)

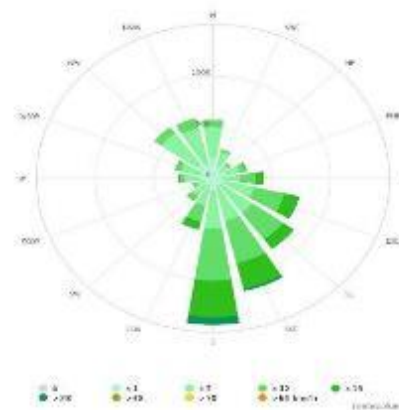


Figure 3-10: Average Monthly Wind Speed at Satkhira Station (Ref: Meteoblue)

3.3.1.4 Humidity

83. In the summer, humidity remains high but low in the winter. The statistical data of humidity at Jashore station from 1989 to 2021 shows that humidity in Jashore station peaks from May to October each year, ranging from 75.42 to 85.19 percent. During the winter months of February, March, and April, humidity in the Jashore Weather station drops by 69 percent. (See Figure 3-11).

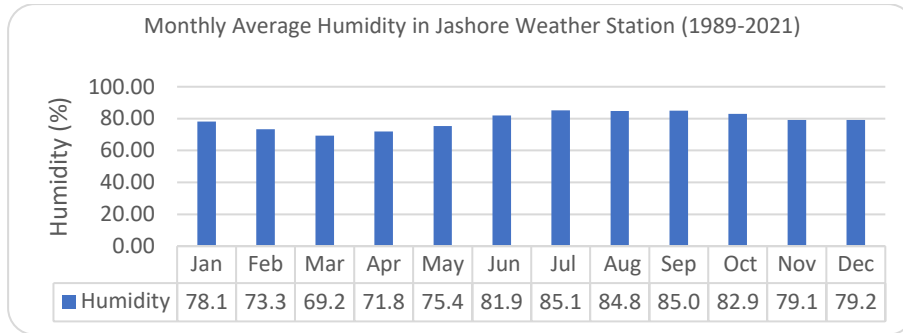


Figure 3-11: Average Monthly Relative Humidity (%) in Jashore Station (Ref: BMD)

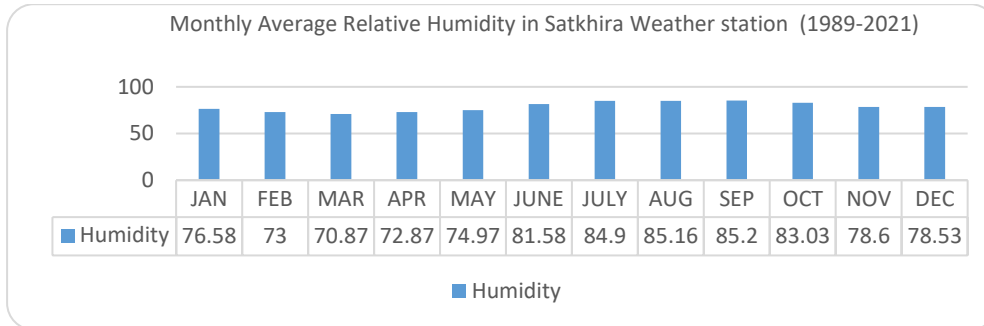


Figure 3-12: Average Monthly Relative Humidity (%) in Satkhira Station (Ref: BMD)

3.3.1.5 Climate Risks and Projections

84. Mean temperatures across Bangladesh are projected to increase between 1.4°C and 2.4°C by 2050 and 2100, respectively. This warming is expected to be more pronounced in the winter months (December-February). Average temperatures are expected to increase between 1°C and 2°C by 2100, with similar rates of warming projected to occur across the country. The details has been provided in the Annex K.

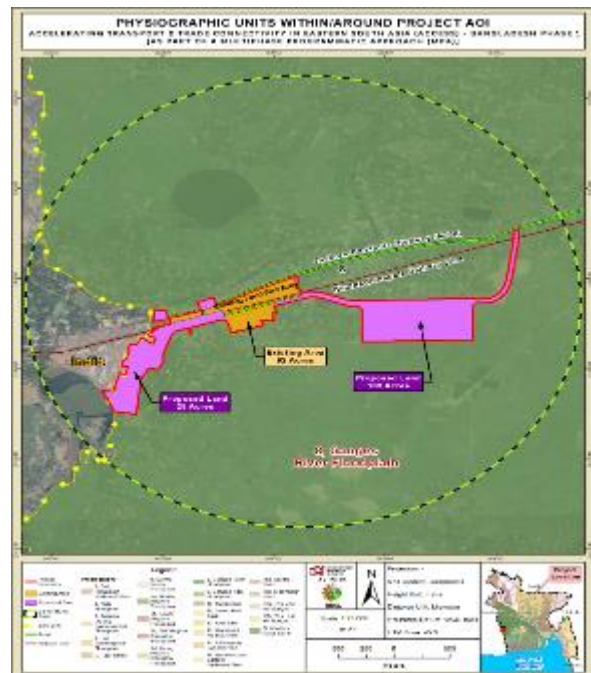


Figure 3-13: Physiographic unit within the project AOI (Benapole Land Port)

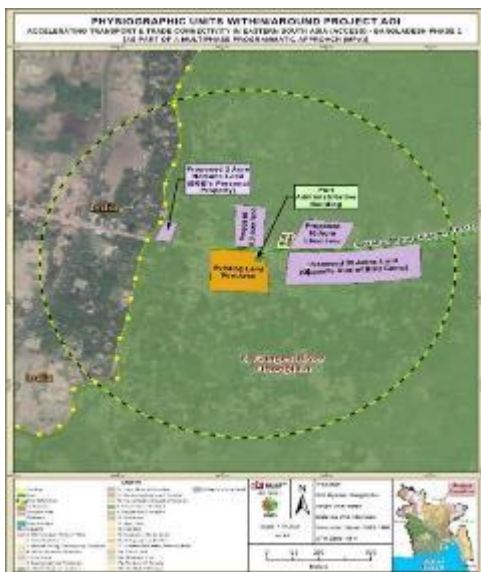


Figure 3-14: Physiographic unit within the project AOI (Bhomra)

3.3.2 Physiography

85. The both sub-project areas are in Ganges Floodplain physiographic unit (Figure 3-13 and Figure 3-14). The Ganges channel is constantly shifting within its active floodplain, eroding, and depositing large areas of new char land each flood season, but it is less braided than that of the Brahmaputra-Jamuna. Ganges alluvium is calcareous when

deposited, but most basin clays and some older ridge soils have been decalcified and acidified in their upper layers.

86. Most of the proposed area for Bhomra land port is in the catchment area of Ichamati River. A canal is now dead located adjacent to the Bhomra land port. The Ichamati River is at the West side of the proposed port. The East side of the land is also low level. During monsoon season this low land goes under water. The study area lies mostly in the south-western part of the country and depends on the Ganges River for freshwater supply.

3.3.3 Hydrology

87. The Betna River and Naodanga Khal is situated within 1 km of the sub-projected Area (Figure 3-15). The river originates in the northeastern section of Jashore and flows south near Sharsha upazila's Navaron. It flows into Khulna district after passing through the Kaloroa upazila of Stakhira district. The river is around 192 kilometres long and 125 metres wide on average.



Figure 3-16: Hydrological Network within/around the sub project AOI (Bhomra Land Port)

88. On the banks of the Betna River, there are important towns such as Navaron, Ulshi, Shankarpur, Kalaroa, Benarpota, and Chapra. In the upstream from Navaron to Kalaroa water is being used for irrigation. The downstream is navigable all year. Due to a lack of flow in the winter, salinity rises from Jashore to Shankarpur, causing agriculture to be affected. The Betna is under tidal influence. However, no updated data available to the



Figure 3-15: Hydrological Network within/around the sub project AOI (Benapole Land Port)

Bangladesh Water Development Board (BWDB) for Betna River. The Nodanga River originates from the Kodalía River in Haridashpur, Bongaon, India, and ends in the Ichamati River in Daulatpur, Bangladesh.

89. Ichamati river is located 3 km far from the Bhomra Land Port (AOI) (Figure 3-16), and majority of the river falls in India, thus, the sub-project has no direct impact on the river. As transboundary impacts are being considered in the study, hydrological analysis of Ichamati river is carried out. The hydrology of the Ichamati River, were collected from Hydrology Department of Bangladesh Water Development Board. The daily data were analyzed and the minimum, average and maximum value of each year identified and tabulated. The minimum, average and maximum water level is found -1.43 m (2016), 2.13 m (2007) and 4.07 (2006) respectively. The yearly minimum, average and maximum detail data with date are presented in Table 3.1.

Table 3.1 : Hydrological Data of Ichamati River

RIVER NAME	Station ID	Station Name	Year	Av. Water Level (m)	Maximum Water Level(m)	Minimum Water Level(m)
Ichamati	SW128	Shakra	2006	2.452	4.07	- 1.17
Ichamati	SW128	Shakra	2007	2.13	2.88	- 1.37
Ichamati	SW128	Shakra	2008	2.56	3.35	- 1.7
Ichamati	SW128	Shakra	2009	-	-	-
Ichamati	SW128	Shakra	2010	2.75	3.45	- 1.37
Ichamati	SW128	Shakra	2011	2.78	3.40	- 1.4
Ichamati	SW128	Shakra	2012	2.90	3.44	- 1.23
Ichamati	SW128	Shakra	2013	2.897	3.30	- 1.18
Ichamati	SW128	Shakra	2014	2.791	3.37	- 1.36

Source: BWDB (Bangladesh Water Development Board)

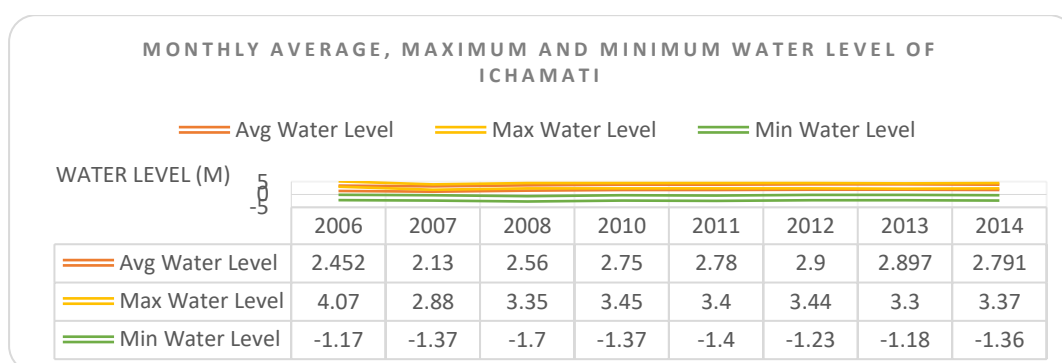


Figure 3-17 : Monthly Average, Maximum and Minimum Water Level in Ichamati River (Ref: BWDB)

3.3.4 Geology & Soil

90. The Jashore and Satkhira region falls within the western part of the Ganges River floodplain, predominantly highland and medium high. The common soil types in this unit are the calcareous dark grey floodplain soils and calcareous brown floodplain soils.

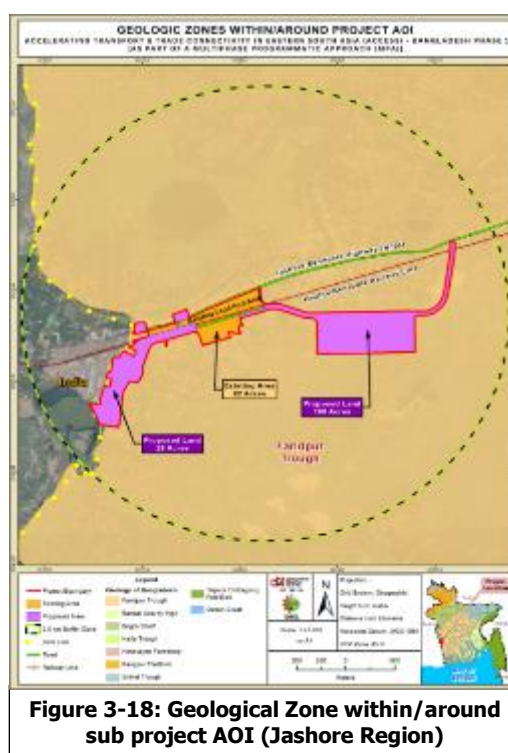


Figure 3-18: Geological Zone within/around sub project AOI (Jashore Region)

91. As the sub project area Benapole lies Jashore district at Khulna division, the soil types are predominantly dark grey floodplain soils and calcareous brown floodplain soils. The brown ridge soils have a low organic matter level, whereas the dark grey soils have a greater amount. The sub project area's soil is relatively heavy and has poor permeability.

92. The soil type at Satkhira Sadar Upazila near the study site is non-calcareous grey flood plain and acid sulphate soils. Texturally the soil of the sub-project site is silty loam. Sediments from early Ganges-Brahmaputra-Meghna River systems were deposited over the northern and eastern parts of the Bengal basin during Pleistocene period. The coastal belt of Khulna-Satkhira is within the Ganges delta. Detailed field test result is further discussed in soil quality section.

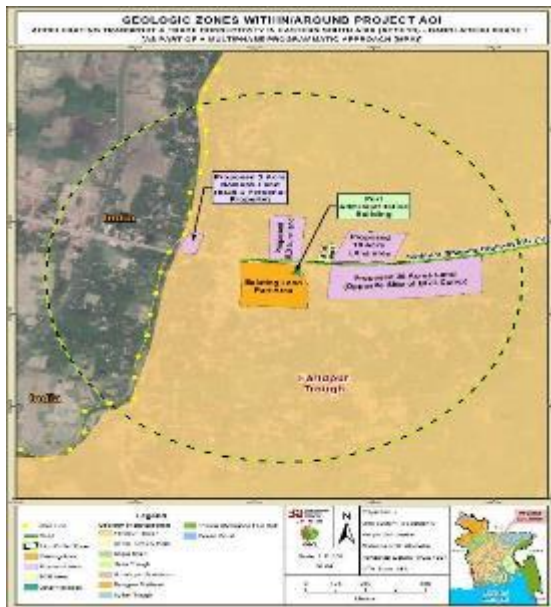


Figure 3-19: Geological Zone within/around project AOI (Bhomra Land Port)

3.3.5 Topography and Seismicity

93. The study areas are in the south-west hydrological zone of the country, which is characterized by low/very low average elevations. Analysis using Digital Elevation Model (DEM) infers that the Reduced Levels (RLs) inside the Benapole and Bhomra Land port site vary from 1.80 to 2.60 m, PWD (from Mean Sea Level), with average RL of around 2.40 m, PWD. From the DEM it is found that around 65% lands of the areas have elevation between 1.8 to 2.1 m, PWD, whereas around 35% have elevations above 2.1 m, PWD.

94. Benapole is a land with mixed topography. From the map (Figure 3-21), the vegetation covers most of the Sub-project area. Then the Homestead and Commercial area take places about 23% and 20%. And barren land covers 1% of the sub project area. The detailed land use type of Benapole is shown in figure 3-20.

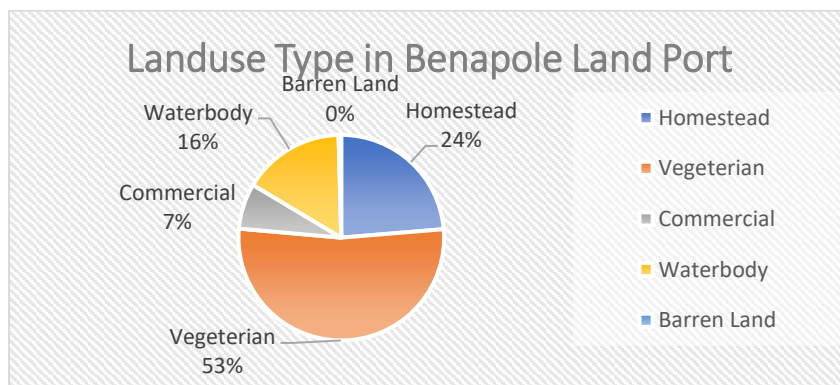


Figure 3-20: Land Use Type in Sub project Area

97. However, due to the location of relevant plates, fault lines and hinge zones, Bangladesh itself is divided into four seismic zones based on the ranges of the seismic coefficient (note: the seismic coefficient is a measure of how strong an earthquake has the potential to be based on a combination of the mass of the plate and the seismic forces acting on it, as well as how frequently these quakes are likely to occur).

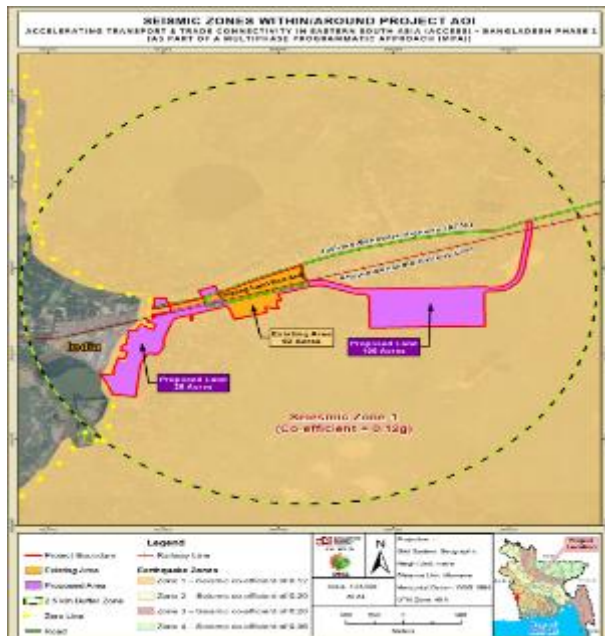


Figure 3-24 : Seismic Zone within/around project AOI (Benapole Land Port)

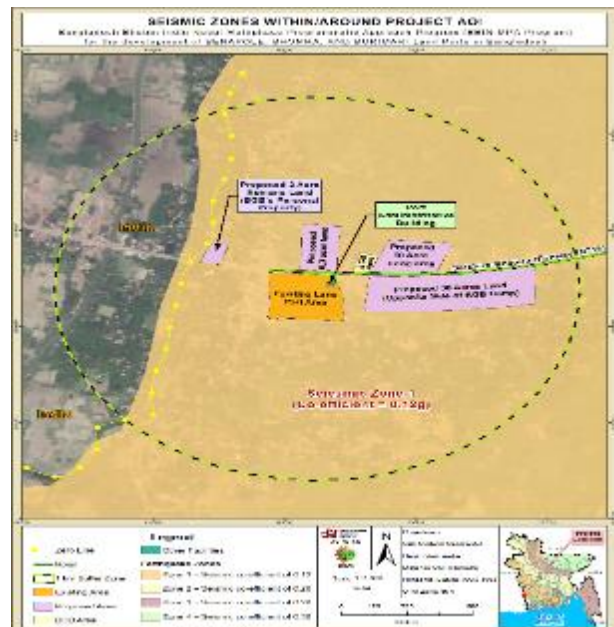


Figure 3-23: Seismic Zone within/around project AOI (Bhomra Land Port)

3.3.6 Environmental Quality Test

98. The existing environmental quality in the sub-project influence area serves as the basis for identifying, predicting, and evaluating the potential environmental impacts of the proposed sub-project interventions. The baseline environmental quality has been assessed through field studies during January and February 2022 within the impact zone and analysis of the information for various components of the environment, viz. air and noise, water, and soil.

3.3.6.1 Environmental Quality Test for Benapole Land Port

2.1.1.1.1 Air Quality

99. The Loading and unloading activities of different products, especially chemical substances, and heavy vehicles, produce severe noise and air pollution in the Benapole land port region of Jashore. The main air pollutants in the sub- project location are PM_{2.5} and PM₁₀, SO₂, NO₂, Carbon Monoxide (CO), O₃, Volatile Organic Carbon (VOC). Motor vehicles are the major source of PM pollution. Most of the PM pollutants (greater than 80%) come from diesel-run vehicles.

100. Heavy vehicle traffic, paved/unpaved roads, and the existing land port's loading / unloading yard are all sources of air pollution in this area. Accidents in Port yard can sometimes lead to extreme situations.

101. The air quality monitoring was performed at selected locations (see Figure 3-26). Some photographs of air quality sampling are shown in Figure 3-25 and Annex F. All locations of air quality sampling are provided in the Annex. Results of the air quality monitoring are given in Table 3.2. Lab results are provided in the Annex D. Analysis of each measured parameter is given in the next paragraphs.



AAQ_01 (Starting Point near Chemical Godown - East Side, Benapole, Jashore)

AAQ_06 (Near Taltola BGB Checkpost, Gatipara, Benapole, Jashore)

Figure 3-25: Air Quality Monitoring in the Sub Project Site (Benapole Land Port)

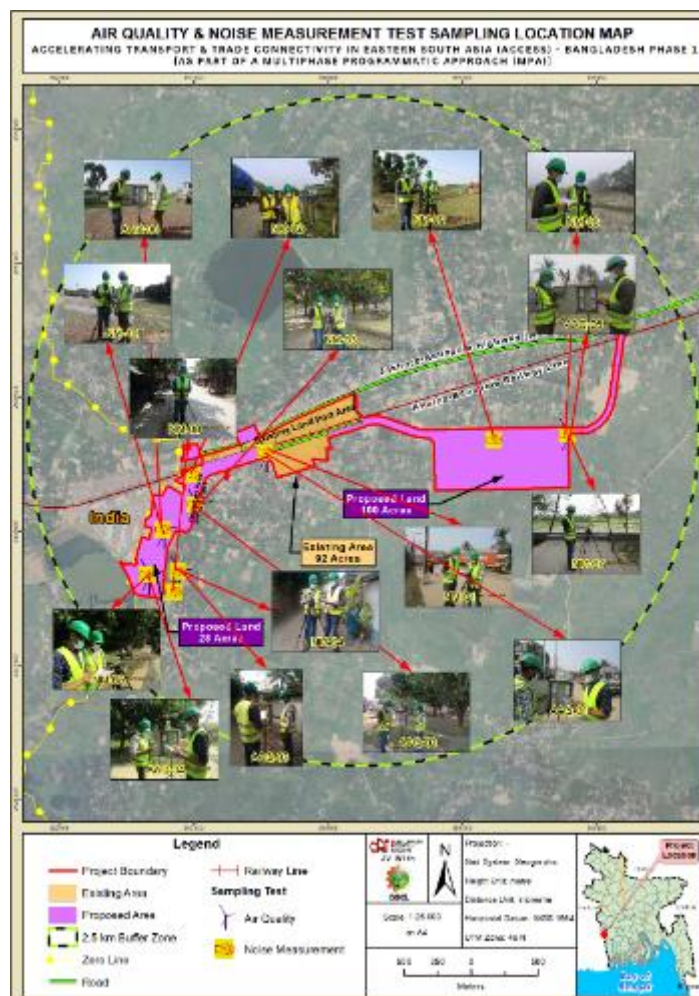


Figure 3-26: Environmental Quality Test Sample (Air Quality and Noise Measurement) Location Map (Benapole Land Port)

Table 3.2: Ambient quality test at the sub project location (Benapole Land Port)

Parameter	Unit	AAQ_01	AAQ_02	AAQ_03	AAQ_04	AAQ_05	AAQ_06	Bangladesh Standard **	WHO Standard***	Duration (hours)	Method of Analysis
		23.039333°N 88.890369°E	23.035920°N 88.885228°E	23.031384°N 88.883885°E	23.031226°N 88.881695°E	23.040277°N 88.912336°E	23.034249°N 88.882853°E				
		Starting Point of (East Side)	Boro Anchra Aaam Bagan	In front of Brac School, Gatipara	Gatipara (West Side)	Purbo Bhavarber (East Side)	Near Taltola BGB Checkpost.				
PM _{2.5}	µg/m ³	69.73	32.84	37.33	35.51	53.76	59.76	65	15	24	AEROQUAL Series 500 Particulate matter monitors Gravimetric
PM ₁₀	µg/m ³	147.69	68.96	81.73	77.30	110.57	93.76	150	45	24	
SO ₂	µg/m ³	85.77	57.37	45.38	37.15	51.57	67.61	80	40	24	AEROQUAL Series 500 SOx monitor
NO _x	µg/m ³	67.11	51.84	36.85	34.71	49.35	68.74	40	10	Annual	AEROQUAL Series 500 NOx monitor
CO	ppm	2	<1	<1	<1	1	2	5	4	8*	CO Meter
O ₃	µg/m ³	63.26	45.38	29.68	28.71	43.61	49.66	157	100	8*	AEROQUAL Series 500 O3 monitor
VOC	ppm	57.36	47.53	31.92	27.98	43.42	49.72	NYS	NYS	8*	AEROQUAL Series 500 VOC monitor
Weather Conditions		Sunny	Sunny	Sunny	Sunny	Cloudy	Sunny	-	-	-	-

NYS – Not Yet Standardized

** SRO NO. 255-LAW/2022(Bangladesh Air Pollution Control Rules, 2022)). <https://mccibd.org/wp-content/uploads/2022/07/Air-Pollution-Control-Rules-2022.pdf>

* CO, TVOC & O3 concentrations and standards are 8 hours only

*** WHO. 2021. WHO global air quality guidelines

102. From the test result, it is seen that the PM_{2.5} exceeded the national standard in the starting point near 9 no terminal gate. It is due to the high movement of heavy vehicles in that area. The other parameters are within national standard for other locations. According to WHO standards, the PM_{2.5}, PM₁₀ were exceeded all locations. Additionally, SO₂ level surpassed the standards at all locations except in Gatipara West Side (AAQ_04). The NO_x parameter exceeded the standard) in all locations. Other parameters are within standards as per WHO standards.

2.1.1.1.1 Noise Level Measurement

103. Noise Levels were measured at ten project influenced locations from 30 January 2022 to 06 February 2022 (Figure 3-27 and Annex F). Table 3.3 shows the results of the noise level monitoring at the sub project areas. Lab results are provided in the Annex D.

104. From the site visit at Benapole Land Port, the baseline noise level is high in some areas due to the high volume of traffic. Again, people’s movement is high due to regular loading and unloading activities.



Figure 3-27: Noise Level Monitoring in the sub-Project Site (Benapole Land Port)

Table 3.3: Noise level measurement at the sub project location (Benapole Land Port)

Sample ID	Sample Location	GPS Location	Land Use Category	Day Time		Noise Level (dBA) (LAeq)	Night Time		Noise Level (dBA) (LAeq)
				Start	End		Start	End	
NM_01	Starting Point (East Side)	23.039333°N 88.890369°E	Mixed	11:30 pm	12:30 pm	69.58	09:00 pm	10:00 pm	61.50
NM_02	Near Railgate BGB CheckPost	26.037918°N 88.885063°E	Mixed	02:30 pm	03:30 pm	67.89	10:45 pm	11:45 pm	56.80
NM_03	Boro Anchra Aaam Bagan	26.035920°N 88.885228°E	Residential	4.00 pm	5.00 pm	46.23	10:00 pm	11:00 pm	41.22
NM_04	In front of Brac School, Gatipara, Benapole	23.031384°N 88.883885°E	Residential	10:20 am	11:20 am	50.62	09:30 pm	10:30 pm	40.31
NM_05	Gatipara (West Side)	23.031226°N 88.881695°E	Residential	10:15 am	11:15 am	53.83	09:20 pm	10:20 pm	37.82
NM_06	Purbo Bhavarber (East Side)	23.040277°N 88.912336°E	Residential	10:45 am	11:45 am	62.96	09:15 pm	10:15 pm	49.82
NM_07	Pacchim Bhavarber (West Side)	23.040277°N 88.912336°E	Residential	4.15 pm	5.15 pm	57.86	10.45 pm	11.45 pm	47.72
NM_08	Gatipara (East Side)	23.030025°N 88.883579°E	Mixed	3.40 pm	4.40 pm	59.28	9.00 pm	10.00 pm	46.82

Sample ID	Sample Location	GPS Location	Land Use Category	Day Time		Noise Level (dBA) (LAeq)	Night Time		Noise Level (dBA) (LAeq)
				Start	End		Start	End	
NM_09	Bhavarber Moddo Para	23.039975°N 88.906968°E	Residential	11.00 am	12.00 pm	51.29	11.00 pm	12.00 am	43.29
NM_10	Near Taltola BGB Checkpost (Gatipara)	23.034249°N 88.882853°E	Commercial	10.00 am	11.00 am	65.93	9.20 pm	10.20 pm	53.04

Notes:

- Land use category is based on the classification provided in the Noise Pollution Control Rules (2006)
- Shaded cell indicates noise levels in excess of Noise Pollution Control Rules ambient noise limits for a given land use area
- The sound level standards for commercial area are 70 at day and 60 at night.
- The sound level standards for mixed area are 60 at day and 50 at night.
- The sound level standards for residential area are 55 at day and 45 at night.
- Noise Level is the average noise recorded over the duration of the monitoring period
- According to WHO Standards, the sound level standards for commercial & industrial area are 70 at day and 60 at night and the sound level standards for residential area are 55 at day and 45 at night.

105. Among ten locations, four locations exceeded the national standard both during day and night for mixed and residential areas. The four locations are Staring point near 9 no terminal gate (NM_01), Railgate BGB Checkpost (NM_02), Purbo Bhavarber (NM_06) and Pacchim Bhavarber (NM_07). According to WHO Standards, the noise levels exceeded the standards in the nighttime near terminal gate (NM_01), day and nighttime in the Purbo Bhavarbar (NM_06) and Pacchim Bhavarber (NM_07). The heavy vehicles’ movement near Terminal gate, Rail gate and BGB Check post are responsible for this noise exceedance. Whereas the higher traffic movement in Purbo and Pachim Bhavarber are the reason for the noise exceedance in the that area.

2.1.1.1.2 Water Quality

• Surface Water Quality

106. There is only one river in the proposed area (Noadanga River). However, the river is inside the borders of India. Additionally, several ponds in the proposed area are mostly used for fish farming. Surface water quality has been assessed from four locations. One sample each from Bhoberbar and Gatipara, and two from Boro Anchra. All four (04) samples were collected from the ponds.

107. Results of the surface water tested at the sub project locations have been shown in Table 3.4. Lab results have been provided in the Annex D. Photographs have been provided in the Figure 3-28 and Annex F.

	
SW_01_ Bhavarber Moddo Para	SW_02_ Beside MP Market, Boro Anchra
	
SW_03_ Gatipara West Side	SW_04_ Boro Anchra

Figure 3-28: Surface water tested at the sub project location (Benapole Land Port)

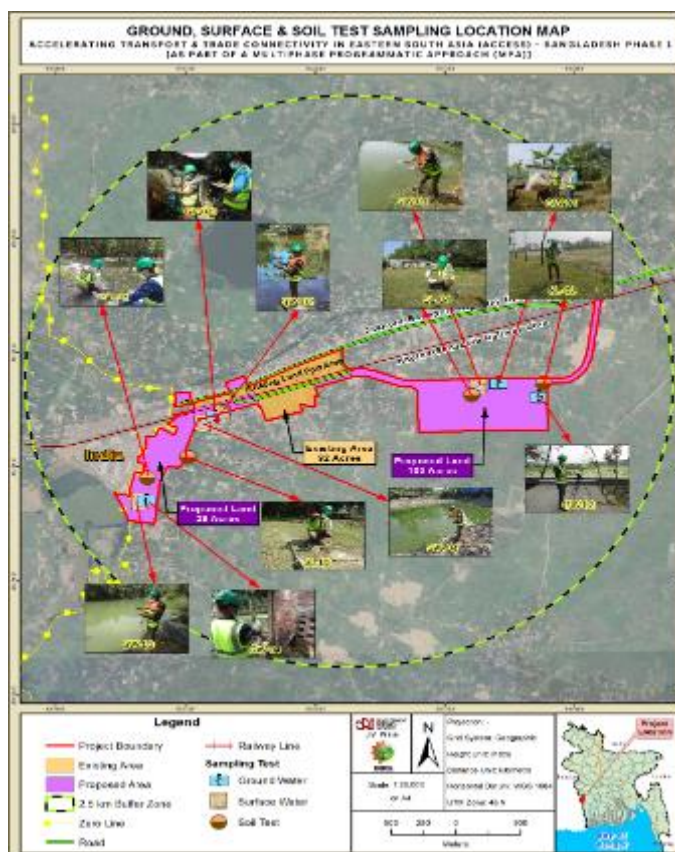


Figure 3-29: Environmental Quality Test Sample (Ground Water, Surface Water, Soil Test) Location Map (Benapole Land Port)

Table 3.4: Surface water quality test at the sub project location (Benapole Land Port)

Parameters	Unit	SW_01	SW_02	SW_03	SW_04	Standards for Inland Surface Water** (Best fishing practice)	Standards for Inland Surface Water** (for recreational use)	Analysis Method
		23.040256°N , 88.907222°E Pond Water Bhavarber Moddo Para	23.038329°N , 88.887831°E Pond Water Beside MP Market, Boro Anchra	23.031385°N , 88.881496°E Pond Water Gatipara West Side	23.037465°N , 88.886381°E Pond Water Boro Anchra			
pH*	-	8.08	8.33	8.10	10.21	6.5-8.5	6.5-8.5	Multimeter
Temperature*	°C	22.16	21.95	22.33	27.5	20-30	NYS	
Electricity Conductivity*	µs/cm	394	377	321	236	NYS	NYS	
Salinity*	mg/l	156	174	163	216	NYS	NYS	
Dissolved Oxygen (DO) *	mg/l	6.8	6.9	7.1	3.65	5 or more	5 or more	
Total Dissolved Solids (TDS)*	mg/l	283	267	231	339	1000	1000	
Oxidation-Reduction Potential (ORP)	mg/l	- 83.8	-97.57	-86.63	-202	NYS	NYS	
Biological Oxygen	mg/l	19	12	18	90	< 6	< 3	5 days incubation

Parameters	Unit	SW_01	SW_02	SW_03	SW_04	Standards for Inland Surface Water** (Best fishing practice)	Standards for Inland Surface Water** (for recreational use)	Analysis Method
		23.040256°N 88.907222°E	23.038329°N 88.887831°E	23.031385°N 88.881496°E	23.037465°N 88.886381°E			
		Pond Water	Pond Water	Pond Water	Pond Water			
		Bhavarber Moddo Para	Beside MP Market, Boro Anchra	Gatipara West Side	Boro Anchra			
Demand (BOD ₅)								APHA/SM 5210B
Chemical Oxygen Demand (COD)	mg/l	93	47	74	350	50	10	APHA/SM 5220D
Iron (Fe)	mg/l	5.7	< 0.5	1.3	12.5	NYS		AAS
Chloride (Cl ⁻)	mg/l	< 10	< 10	12.5	< 10	NYS		Titrimetric Method
PO ₄ ²⁻	mg/l	< 0.1	< 0.1	< 0.1	< 0.1	NYS	0.5	Photometric Method
SO ₄ ²⁻	mg/l	12	14	13	78	400		Photometric Method
Total Suspended Solids (TSS)	mg/l	230	48	57	226	NYS	NYS	APHA/SM 2540D
Hardness	mg/l	0.28	0.00	0.06	0.24	NYS	NYS	SM2340C
Turbidity	NTU	14.3	< 5	20.7	28.6	NYS	NYS	Nephelometric
Oil & Grease	mg/l	< 0.5	< 0.5	< 0.5	< 0.5	NYS	NYS	With reference USEPA 1664

**Standards for Inland Surface Water for best fishing practiced are followed by Environment Conservation Rules (ECR) '97

*On site Test

NYS-Not yet Standardized

108. Most of the surface water parameters are not yet standardized. From the test result, it is seen that the pH and DO is not within standards in Boro Anchra Pond. The pond was filled with households and other waste which is the reason for this exceedance. Again, the BOD₅ is exceedance for all locations. All the ponds were almost filled with the Algae which is grown due to dumping of organic waste in the pond. This Algae is reasonable for the higher level of BOD₅. The other parameters are within the national standards. **The surface water is used for domestic purposes as well as fish cultivation. So, the standard for the inland surface water using for best fishing purposes is given in the table 3.4 as per ECR-23. However, they would be used in labor camps for cooking, bathing, handwashing etc. So, Standards for Inland Surface Water for recreational use are now newly added.**

- Groundwater Use and Quality

109. The groundwater samples were collected from three tube wells and one irrigation pump within the impacted area. One sample each from Boro Anchra and Gatipara, as well as two samples from Bhoberbar. In the survey, it was found that the water table is quite deep. Approximately 120 to 200 feet of water was extracted. There are no possibilities of shortages in water supply as there are multiple sources of water supply. However, rainwater harvesting facilities will be developed as per project scope. The result of the Ground water quality test is given in the Table 3.5. Lab results have been provided in the Annex D. The photographs have been provided in the Figure 3-30 and Annex F.



Figure 3-30: Ground water tested at the sub project location (Benapole Land Port)

Table 3.5: Ground water test quality at the sub project location (Benapole Land Port)

Parameters	Unit	GW_01	GW_02	GW_03	GW_04	Standards for Potable Water **	Analysis Method
		23.040402°N, 88.908661°E	23.039256°N 88.911737°E	23.038012°N 88.887295°E	23.031411°N 88.882028°E		
		Pump Water		Tube well Water			
		Bhavarber Moddo Para	Purbo Bhavarber (East Side)	Near MP Market, Boro Anchra	Gatipara (West Side)		
		Depth: 200 Feet	Depth: 120 Feet	Depth: 120 Feet	Depth: 120 Feet		
pH*	-	7.43	7.58	7.40	7.54	6.5-8.5	Multimeter
Temperature*	°C	25.16	23.72	23.11	23.94	20-30	
Electricity Conductivity*	µs/cm	212	254	273	323	NYS	
Salinity*	mg/l	38.32	59.48	47.28	67.75	NYS	
Total Dissolved Solids (TDS)*	mg/l	121	74	117	154	1000	
Oxidation-Reduction Potential (ORP) *	mg/l	-47.1	-58.9	-47.9	-56.4	NYS	
Arsenic	mg/l	< 0.02	< 0.02	< 0.02	< 0.02	0.05	AAS
Iron (Fe)	mg/l	3.4	4.0	11.9	2.3	0.3-1	Titrimetric
Chloride (Cl ⁻)	mg/l	< 10	< 10	< 10	< 10	150-600	
PO ₄ ²⁻	mg/l	0.42	0.27	0.29	0.21	6.0	Photometric Method
NO ₃ ⁻	mg/l	< 5	< 5	< 5	< 5	10.0	APHA/SM 4500N-C
Manganese	mg/l	0.2	0.1	0.8	0.2	0.1	AAS
Total Coliform	mg/l	0	0	0	0	0	MFM
Fecal Coliform	mg/l	0	0	0	0	0	
Color	Hazan	< 5	< 5	< 5	< 5	15	ISO 7887 Method B
Odor	mg/l	Odourless	Odourless	Odourless	Odourless	NYS	APHA/SM 2150

**Standards for Potable Water is followed by Environment Conservation Rules (ECR) '97

*On site Test

NYS-Not Yet Standardized

110. From the test result, it is seen that the Iron parameter exceeded the national standards in all tube wells and pump wells. Manganese also exceeded the standard in almost every location except in Purbo Bhavarber. A study shows that the amount of manganese in ground water in Jashore and its surrounding areas is quite high (Chakraborty et al., 2022)⁹. The findings demonstrate the validity of this statement. **There is no possibility of shortages in water supply as there are multiple sources of water supply. However, rainwater harvesting facilities will be developed as per project scope.**

2.1.1.1.3 Soil Quality

111. Benapole falls with Ganges River floodplain where calcareous dark grey floodplain and calcareous brown floodplain soils are common. For physiochemical properties, a total of four soil samples were collected from the proposed sub-project area and tested. Figure 3-31 and Annex F shows the collection of soil samples at the sub project boundary. The table 4.6 shows the soil quality result of the sub project area and Lab results have been provided in the Annex D.



Figure 3-31: Soil Samples collected at the sub project location (Benapole Land Port)

Table 3.6: Soil quality test at the sub project location (Benapole Land Port)

Parameter	Unit	BNP_SL_01	BNP_SL_02	BNP_SL_03	BNP_SL_04	Dutch/OSPAR Standards (2004)
		Gatipara Aam Bagan	Purbo Bhavarber	Boro Anchra	Bhavarber Moddo Para	
		23.033263°N 88.882185°E	23.040390°N 88.912088°E	23.034855°N 88.885252°E	23.040256°N 88.907222°E	
pH	-	7.0	7.9	7.4	8.1	NYS
Sulphate	mg/kg	249	621	472	498	NYS
Nitrate	mg/kg	< 5	< 5	< 5	< 5	NYS
Total Iron	mg/kg	21468	27699	22016	39178	NYS
Total Manganese	mg/kg	203	251	251	322	NYS
Total Lead	mg/kg	9	13	10	17	85
Total Zinc	mg/kg	46	63	52	90	140
Total Potassium	mg/kg	2559	4395	4396	4882	NYS

**Dutch Standards for Soil, Soil Reference Value, 2004;

*NYS-Not Yet Standardized

⁹ Chakraborty, T., Ghosh, G., Ghosh, P., Jahan, I., Zaman, S., Islam, M., Hossain, M., Habib, A., Biswas, B., Sultana, N. and Khan, A., 2022. Arsenic, iron, and manganese in groundwater and its associated human health risk assessment in the rural area of Jashore, Bangladesh. Journal of Water and Health, 20(6), pp.888-902.

112. There is no Bangladesh regulation/standard for soil parameters. In the absence of local country standards, the environmental consultant's practice is to use the globally recognized 'Dutch Ministry of Public Housing, Land-Use and Environmental Guidelines - Soil and Groundwater Standards' to assess soil quality and determine the need for any remedial action. Parameters analyzed in soil quality were observed below the standards limit as per Dutch/OSPAR Standards (2004), whereas most parameters are not yet standardized.

3.3.6.2 Environmental Quality Test for Bhomra Land Port

2.1.1.1.4 Ambient Air Quality

113. The main air pollutants in the Lakshmidari village are PM_{2.5} and PM₁₀, SO₂, NO₂, Carbon Monoxide (CO), O₃, Volatile Organic Carbon (VOC). High movements of heavy vehicles and the load and unloading activities of imported stones are the major source of PM pollution. Most of the PM pollutants (greater than 80%) come from diesel-run vehicles.



Figure 3-32: Activity causing dust pollution in Bhomra Land port

114. The air quality monitoring was performed at selected locations (see Figure 3-33). Some of locations of air quality sampling are shown in Figure 3-33 and Annex F. Other locations are provided in the Annex. Results of the air quality monitoring are given in Table 3.7. Lab results have been provided in the Annex D. Analysis of each measured parameter is given in the next paragraphs.



Figure 3-33: Air Quality Monitoring in the Sub-project Site (Bhomra Land Port)

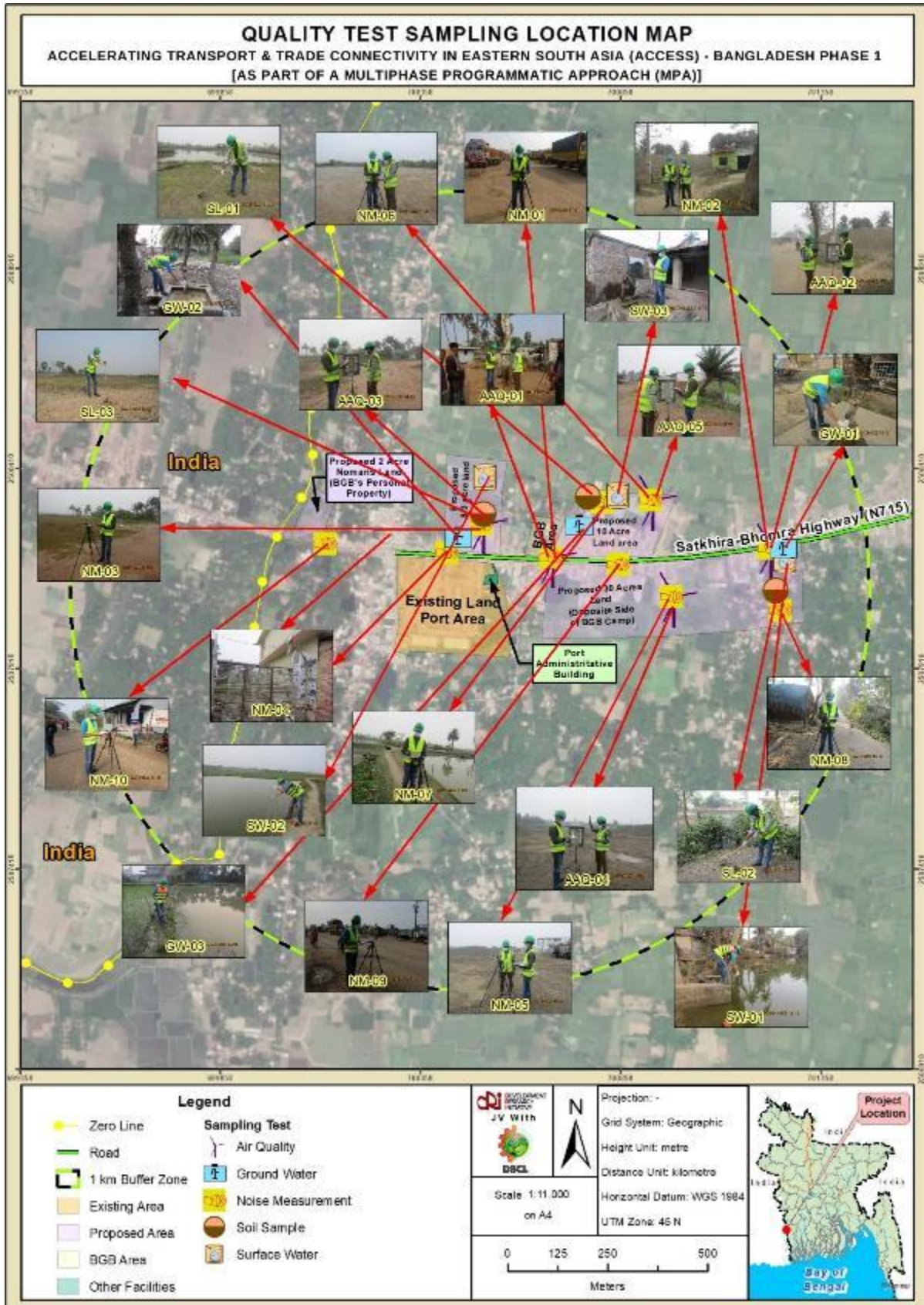


Figure 3-34: Environmental Quality Test Sample Location Map (Bhomra Land Port)

Table 3.7: Ambient air quality test at the sub-project location (Bhomra Land Port)

Parameter	Unit	AAQ_01	AAQ_02	AAQ_03	AAQ_04	AAQ_05	Bangladesh Standard **	WHO Standard ***	Duration (hours)	Method of Analysis
		22.66893 6°N 88.953248°E	26.66907 8°N 88.958547°E	26.669707°N 88.95157 6°E	26.668011°N 88.95616 5°E	26.67019 3°N 88.955699°E				
		Beside BGB Camp	Near Sub-Director's Office	Lakshmidari Bazar Area-West side	Near C&F Agent Association	Lakshmidari bazar-East side				
PM _{2.5}	µg/m ³	56.2	57.59	43.77	35.41	35.37	65	15	24	AEROQU AL Series 500
PM ₁₀	µg/m ³	105.32	120.29	88.94	73.73	70.77	150	45	24	Particulate matter monitors Gravimetric
SO ₂	µg/m ³	65.3	62.15	35.73	41.55	29.39	80	40	24	AEROQU AL Series 500 SOx monitor
NO _x	µg/m ³	49.65	37.39	39.43	43.66	36.33	40	10	Annual	AEROQU AL Series 500 NOx monitor
CO	ppm	2	<2	<1	<1	<1	5	4	8 *	CO Meter
O ₃	µg/m ³	38.93	37.35	38.75	36.73	37.44	157	100	8 *	AEROQU AL Series 500 O3 monitor
VOC	ppm	48.93	51.72	32.71	41.52	44.81	NYS	NYS	8*	AEROQU AL Series 500 VOC monitor
Weather Conditions		Sunny	Sunny	Cloudy	Cloudy	Sunny	-	-	-	-

NYS – Not Yet Standardized

** SRO NO. 255-LAW/2022(Bangladesh Air Pollution Control Rules, 2022)). <https://mccbdl.org/wp-content/uploads/2022/07/Air-Pollution-Control-Rules-2022.pdf>

* CO, TVOC & O3 concentrations and standards are 8 hours only

*** WHO. 2021. WHO global air quality guidelines

115. From the result of Ambient Air quality for Bhomra Land Port, it is found that all the measuring parameters are within national standard according to the Environment Conservation Rule, 1997. However, according to the WHO standard, the PM_{2.5}, PM₁₀, NO_x were exceeded the standard level in all locations and SO₂ is exceeded in the all locations except from the Lakshmidari Bazar Area-West side (**AAQ_03**) and Lakshmidari Bazar-East side (**AAQ_05**). For AAQ-1, NO_x also exceeds the national and WHO standards. The heavy vehicle movement and the worst road condition are the reason for exceeding the air quality standard.

2.1.1.1.5 Noise Level Measurement

116. Noise Level Measurement was analyzed at ten sub-project influenced locations from 20 January 2022 to 26 January 2022 (Figure 3-35 and Annex F). Results of the noise level monitored at the sub-project locations have been shown in Table 3.8. Lab results have been provided in the Annex D.

117. From the site visit at Bhomra Land Port, the baseline noise level is expected to be high because of heavy traffic movement.

Land Port



Figure 3-35: Noise Level Monitoring in the Sub-project Site (Bhomra Land Port)
Table 3.8: Noise level measurement at the sub-project location (Bhomra Land Port)

Sample ID	Sample Location	GPS Location	Land Use Category	Day Time		Noise Level (dBA) (LAeq)	Nighttime		Noise Level (dBA) (LAeq)
				Start	End		Start	Start	
NM_01	Beside BGB Camp	22.688936°N 88.953248°E	Commercial	11:00 am	12:00 pm	59.2	09:45 pm	10:45 pm	48.78
NM_02	Near Sub-Director's Office	22.669078°N 88.958541°E	Commercial	10:40 am	11:40 am	55.9	10:20 Pm	11:20 Pm	48.80
NM_03	Lakshmidari Bazar Area-West side	22.669707°N 88.951570°E	Residential	10:57 am	11:57 am	51.2	09:10 Pm	10:10 Pm	40.15
NM_04	Infront of 2nd gate of Land port	22.669076°N 88.950726°E	Commercial	01:16 pm	02:16 pm	62.3	10:15 pm	11:15 pm	41.02
NM_05	Near C&F Agent Association	22.668011°N 88.956165°E	Commercial	10:05 am	11:05 am	50.3	10:08 pm	11:08 pm	47.6
NM_06	Lakshmidari bazar-East side	22.670193°N 88.955699°E	Residential	09:50 am	10:50 am	46.3	09:15 Pm	10:15 Pm	39.5
NM_07	Lakshmidari Middle	22.670162°N 88.954514°E	Residential	11:15 am	12:15 pm	48.1	10:20 Pm	11:20 Pm	35.1
NM_08	Bhomra Purba Para	22.667680°N 88.958818°E	Residential	10:05 am	11:05 am	53.5	09:03 Pm	10:03 Pm	37.5
NM_09	Infront of Near C&F Agent Association	22.668764°N 88.954891°E	Commercial	11:20 am	12:20 pm	60.7	09:14 Pm	10:14 Pm	50.1
NM_10	BGB Checkpost	22.669308°N 88.947779°E	Mixed Area	10:10 am	11:10 am	56.5	09:15 pm	10:15 pm	45.4

Notes:

- Land use category is based on the classification provided in the Noise Pollution Control Rules (2006)
- Shaded cell indicates noise levels in excess of Noise Pollution Control Rules ambient noise limits for a given land use area
- The sound level standards for commercial area are 70 at day and 60 at night.
- The sound level standards for mixed area are 60 at day and 50 at night.
- The sound level standards for residential area are 55 at day and 45 at night.
- Noise Level is the average noise recorded over the duration of the monitoring period
- According to WHO Standards, the sound level standards for commercial & industrial area are 70 at day and 60 at night and the sound level standards for residential area are 55 at day and 45 at night.

118. From the test results, it is seen that the Noise Level result is within the national standard for all locations in Bhomra Land port.

2.1.1.1.6 Water Quality

• Surface Water Quality

119. Most of the water bodies contain the minimum amount of water during the dry season and get water in rainy season. People use the water for various purposes from the canal and ponds for washing, bathing, and irrigation. Surface water quality has been assessed from three (03) locations. Three samples were taken from the existing ponds. On the East side there is a pond 870m far from the proposed area, another one is in the North side 280 m at distance and the other one is in the North-eastern side 450 m away from the proposed area.

120. Results of the surface water tested at the sub-project locations have been shown in Table 3.9. Lab results have been provided in the Annex D. Photographs have been provided in the Figure 3-36 and Annex F.

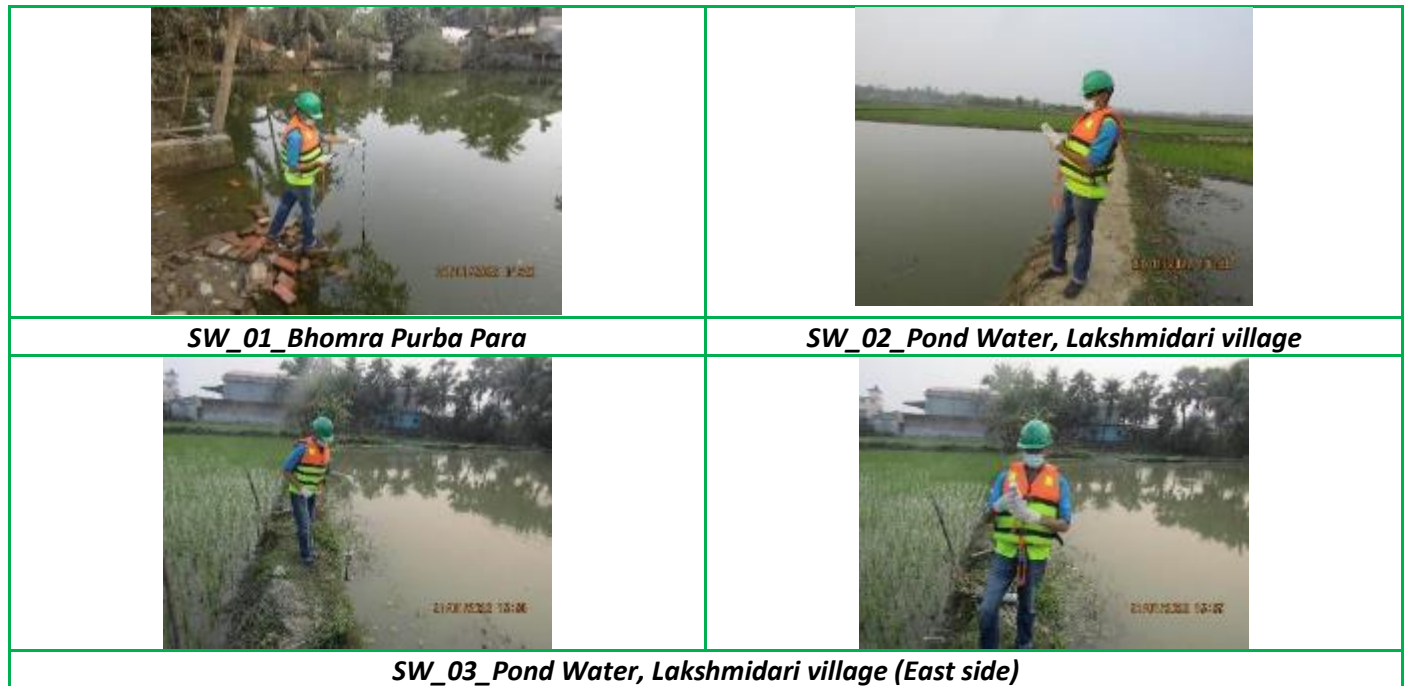


Figure 3-36: Surface water tested at the sub-project location (Bhomra Land Port)

Table 3.9: Surface water quality test at the sub-project location (Bhomra Land Port)

Parameters	Unit	SW_01	SW_02	SW_03	Standards for Inland Surface Water** (Best fishing practice)	Standards for Inland Surface Water** (for recreational use)	Analysis Method
		22.668807°N, 88.958930°E	22.670770°N, 88.951664°E	22.670309°N, 88.954888°E			
		Pond Water, Bhomra Purba Para	Pond Water, Lakshmidari village	Pond Water, Lakshmidari village (East side)			
pH*	-	8.98	8.18	8.4	6.5-8.5	6.5-8.5	Multimeter
Temperature	°C	21.9	22.6	22.2	20-30	NYS	Multimeter
Electricity Conductivity	µs/cm	14.44	14.21	14.38	NYS	NYS	Multimeter
Salinity	mg/l	8.5	8.36	8.37	NYS	NYS	Multimeter
Dissolved Oxygen (DO)	mg/l	3.4	8.2	7.5	5 or more	5 or more	DO Meter
Total Dissolved Solids (TDS)*	mg/l	9.50	9.36	9.45	NYS	1000	Multimeter
Oxidation-Reduction Potential (ORP)	mg/l	- 132.5	-141.4	-100.9	NYS	NYS	Multimeter
Biological Oxygen Demand (BOD ₅)	mg/l	11	14	13	<6	< 3	5 days incubation APHA/SM 5210B

Parameters	Unit	SW_01	SW_02	SW_03	Standards for Inland Surface Water** (Best fishing practice)	Standards for Inland Surface Water** (for recreational use)	Analysis Method
		22.668807°N, 88.958930°E	22.670770°N, 88.951664°E	22.670309°N, 88.954888°E			
		Pond Water, Bhomra Purba Para	Pond Water, Lakshmidari village	Pond Water, Lakshmidari village (East side)			
Chemical Oxygen Demand (COD)	mg/l	42	77	52	NYS	10	APHA/SM 5220D
Iron (Fe)	mg/l	0.32	5.3	2.6	NYS	NYS	AAS
Chloride (Cl ⁻)	mg/l	15.0	12.5	12.5	NYS	NYS	Titrimetric Method
PO ₄ ²⁻	mg/l	0.43	0.22	0.39	NYS	0.5	Photometric Method
SO ₄ ²⁻	mg/l	22	24	45	NYS	NYS	Photometric Method
Total Suspended Solids (TSS)	mg/l	59	308	73	NYS	NYS	APHA/SM 2540D
Hardness	mg/l	0.20	2.32	0.63	NYS	NYS	SM2340C
Turbidity	NTU	6.18	25.1	49.5	NYS	NYS	Nephelometric
Oil & Grease	mg/l	<0.5	<0.5	<0.5	NYS	NYS	With reference USEPA 1664

**Standards for Inland Surface Water for best fishing practiced are followed by Environment Conservation Rules (ECR) '97

*On site Test

NYS-Not yet Standardized

121. Most of the surface water parameters are not yet standardized. From the test result, it is seen that the pH parameter is not within standard in Bhomra Purba Para Pond. Again, the BOD parameter has increased from standard for all locations.

• Ground Water Quality

122. The geophysical conditions very often affect the availability, quality, and accessibility to safe drinking water. Bhomra union under sadar upazila of Satkhira district is situated on the southwest coast. Villages are in the active tidal zones and cyclones and tidal surges affect the locality. Ground water samples were collected from three (03) tube wells within the sub-project influenced area (Figure 3-37 and Annex F). One from east side of the proposed sub-project and another from north side very close to the proposed sub-project and other one from north-east part. Lab results have been provided in the Annex D.



Figure 3-37: Ground water tested at the sub-project location (Bhomra Land Port)

Table 3.10: Ground water test quality at the sub-project location (Bhomra Land Port)

Parameters	Unit	GW_01	GW_02	GW_03	Standards for Potable Water**	Analysis Method
		22.669057°N, 88.958888°E	22.669389°N 88.950992°E	22.669629°N 88.953934°E		
		Tube well Water	Tube well Water	Tube well Water		
		Bhomra Purba Para	Lakshmidari Bazar	Near BGB Camp		
		Established 2019	Established 2014	Established 2017		
		Depth: 50 Feet	Depth: 600 Feet	Depth: 150 Feet		
pH*	-	7.22	7.44	8.65	6.5-8.5	Multimeter
Temperature	° Celsius	22.5	24.8	26.5	20-30	Multimeter
Electricity Conductivity		14.23	13.6	365	NYS	Multimeter
Salinity	mg/l	8.37	7.99	174	NYS	Multimeter
Total Dissolved Solids (TDS)*	mg/l	9.38	8.98	230	1000	Multimeter
Oxidation-Reduction Potential (ORP)	mg/l	48	-50.2	-84.2	NYS	Multimeter
Arsenic	mg/l	<0.02	<0.02	<0.02	0.05	AAS
Iron (Fe)	mg/l	<0.5	<0.5	0.5	0.3-1	AAS
Chloride (Cl ⁻)	mg/l	30	25	25	150-600	Titrimetric
PO ₄ ²⁻	mg/l	<0.1	<0.1	<0.1	6.0	Photometric Method
NO ₃ ⁻	mg/l	<5	<5	<5	5.0	APHA/SM 4500N-C
Manganese	mg/l	0.2	0.3	0.5	0.1	AAS
Total Coliform	mg/l	0	0	0	0	MFM
Fecal Coliform	mg/l	0	0	0	0	MFM
Color	mg/l	<5	<5	<5	5	ISO 7887 Method B
Odor	mg/l	Odorless	Odorless	Odorless	NYS	APHA/SM 2150

**Standards for Potable Water is followed by Environment Conservation Rules (ECR) '97

*On site Test

NYS-Not Yet Standardized

123. From the test result, it is seen that the pH parameter of the GW_03 which is collected from the Near BGB camp exceeded the national standards. Moreover, the Manganese parameter also exceeded the national standards for all locations. A research investigation¹⁰ conducted by Rahman and colleagues in 2021 reveals elevated levels of manganese in the groundwater within and around the Satkhira region. The outcomes of the study confirm the accuracy of this assertion. **In Bangladesh, a defined standard for groundwater quality is currently unavailable. The Tube wells, from where samples were collected, serve present drinking water needs and are anticipated for use even in the future construction activities. Considering this, we have referenced the potable drinking standards specified in ECR-23 for the purpose of comparing our results.**

• Soil Quality

124. The general soil types of the AOI predominantly include the Calcareous Alluvium, Calcareous Dark Grey floodplain soils and Calcareous Brown Floodplain soils. Calcareous Alluvium Soils are stratified or raw alluvium

¹⁰ Rahman, Md.A. et al. (2021) Manganese in potable water of nine districts, Bangladesh: Human health risk [Preprint]. doi:10.21203/rs.3.rs-219919/v1.

throughout or below the cultivated. Three (03) soil samples were collected from proposed sub-project area and tested physio-chemical properties of the soil. Figure 3-38 and Annex F shows the collection of soil samples at the sub-project boundary. The Table 3.11 shows the soil quality of the sub-project area. Lab results have been provided in the Annex D.



Figure 3-38: Soil Samples collected at the sub-project location (Bhomra Land Port)

125. In general, most of the topsoil is acidic and sub-soils are neutral to slightly alkaline. The soil of the project and surrounding area are alkaline. General fertility level is moderate to high with low organic matter content.

Table 3.11: Soil quality test at the sub-project location (Bhomra Land Port)

Parameter	Unit	SL_01	SL_02	SL_03	Dutch/OSPAR Standards (2004)
		22.670290°N 88.954171°E	22.668124°N 88.958704°E	22.669932°N 88.951625°E	
		Lakshmidari middle side	Bhomra purba para	Lakshmidari West side	
pH	-	8.2	8.2	7.8	NYS
Sulphate	mg/kg	1171	597	748	NYS
Nitrate	mg/kg	<5	<5	<5	NYS
Total Iron	mg/kg	28819	24076	31849	NYS
Total Manganese	mg/kg	360	342	384	NYS
Total Lead	mg/kg	10	10	10	85
Total Zinc	mg/kg	52	54	69	140
Total Potassium	mg/kg	3051	3996	6189	NYS

**Dutch Standards for Soil, Soil Reference Value, 2004;

*NYS-Not Yet Standardized

126. Bangladesh has no soil parameter regulation or standard. The environmental consultant's practice is to evaluate soil quality and determine whether any corrective action is necessary using the internationally recognized "Dutch Ministry of Public Housing, Land-Use and Environmental Guidelines - Soil and Groundwater Standards" in the absence of local country standards. While most parameters are still not standardized, those in the soil quality analysis were seen to be below the standards limit.

3.3.6.3.1 Flood

127. In the southwest region, rain-fed flooding and waterlogging is the most prevalent. This kind of flood also occurs in the flood plains where natural drainage systems have been disturbed either due to human interferences or due to gradual decay of the natural drainage system. Waterlogging is a serious problem along coastal rivers, where the adjoining lands are mostly impoldered.

128. Saline tidal floodplain has a transitional physiography, which is in the administrative district of Satkhira, Khulna, Bagerhat, Jhalokathi and Borguna. It has a low ridge and basin relief, crossed by innumerable tidal rivers and creeks.

129. The coastal area of Bay of Bengal is about 125 km to the south respectively from the Land Port and Bhomra Land Port sub-project site. road level elevation is 2.6 m above mean sea level year flood level is found as 2.42m msl as per visit and Survey of Bangladesh Data and 4.07m as data. The difference of highest-level data is

3.3.6.3.2 Cyclones and Storm Surges in

130. Tropical cyclones from the Bay of Bengal accompanied by storm surges are one of the major the coastal regions in Bangladesh. The high number is since cyclones are always associated with storm sometimes with surge heights of even more than example, the 1876 cyclone had a surge height of in 1970 the height was 9.11 m.

131. Observing the tracks of different cyclones the country in the last decade, the country's portion has been classified into three risk zones high risk zone, risk zone, and wind risk zone. The

160 km and Benapole The current (msl). A 10-physical per BWDB 1.65m.

study area

disasters in of casualties surges, 9m. For 13.6 m and

affecting southward namely, study area falls in the wind risk zone which possesses some

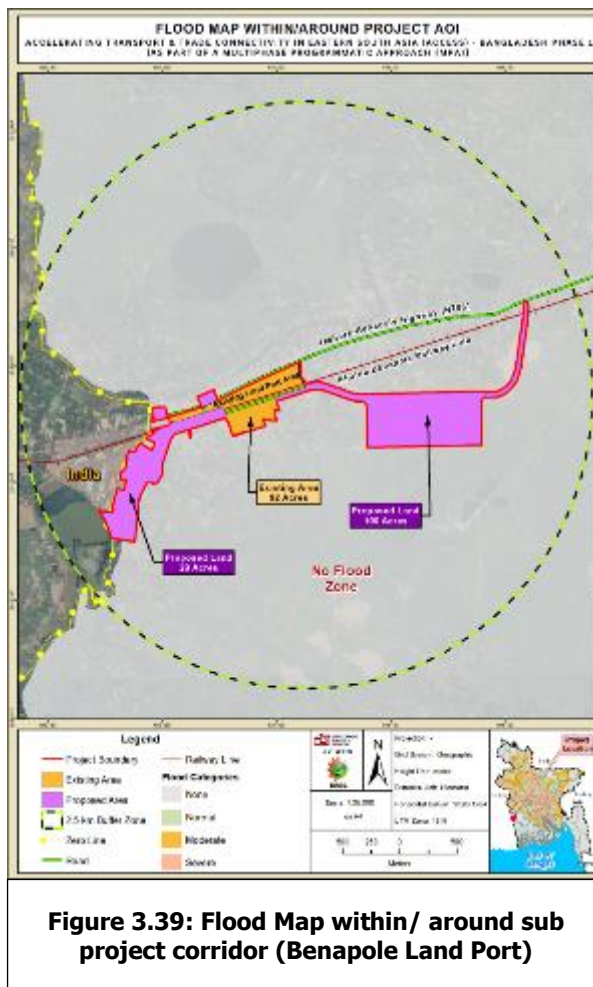


Figure 3.39: Flood Map within/ around sub project corridor (Benapole Land Port)

vulnerability due to the strong winds, and surge heights associated with cyclones.

132. According to recent field observations, the Benapole and Bhomra land port locations did not sustain any significant damage during recent cyclonic occurrences such as Sidr (2007), Aila (2009), and Amphan (2021).

133. The occurrence of both a frontal and mesoscale flash flood pattern and the entrainment of tropical moisture from western Bay of Bengal (BoB) combined to produce the heavy rainfall over a two-day period from May 26-27. An extensive area with storm totals of 25 to 50 mm rainfall stretched from southwest Bangladesh into south-eastern Nepal and Bhutan, with isolated pockets in excess of 50mm. In the end, Cyclone Aila was the cause of 190 deaths, affecting more than 3.9 million people across the 11 coastal districts, disrupting their livelihoods, and destroying infrastructure.

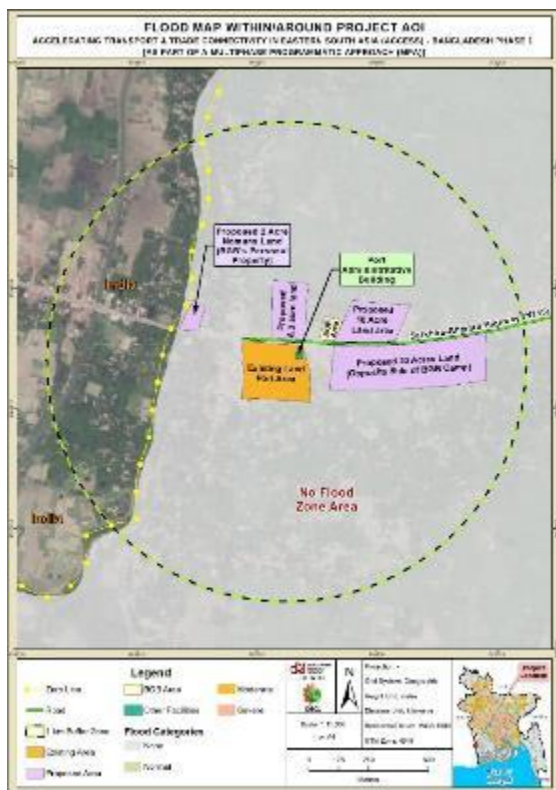


Figure 3.40; Flood Map within/ around sub-project corridor (Bhomra Land Port)

Land Port, no death has been occurred in the and Benapole land sub project area according to people. But most of the people's property was during this Cyclone.

3.3.7 Ecological Critical Area

134. The nearest ECA Sundarban Reserved around 85 kilometers away from the Benapole area and 56 km distance from Bhomra Land Port Sundarbans mangrove forest is one of the such forests in the world (140,000 ha), lies on of the Ganges, Brahmaputra, and Meghna rivers of Bengal. Thus, the sub-projects have no Sundarban.

Bhomra the local affected

Forest is Land port Area. The largest the delta on the Bay impact on



Figure 3.41: Ecological Critical Area/ around sub project corridor (Benapole Land Port)

3.4 Biological Environment

3.4.1 Bio-Ecological Zone

135. Bangladesh's ecosystems can be divided into two categories: (i) land-based ecosystems and (ii) aquatic ecosystems. Forest and hill ecosystems, agro-ecosystems, and homestead ecosystems are examples of land-based ecosystems, whereas seasonal and perennial wetlands, rivers, lakes, coastal mangroves, coastal mudflats and chars, and marine ecosystems are examples of aquatic ecosystems.



Figure 3.42: Ecological Critical Area/ around sub-project AOI (Bhomra Land Port)

136. Each of the ecosystems has many sub-units with distinct characteristics as well. Bangladesh was divided into twenty-five bio-ecological zones by the IUCN in 2002. The sub project areas within the Khulna division fall into Ganges floodplain. The Ganges floodplain is made up of the Ganges' active floodplain and the meander floodplain adjacent to it. The latter is mostly made up of a flat terrain with ridges, basins, and old channels. The Ganges floodplain most of the districts of Rajshahi, Natore, Pabna, entire Kushtia, Rajbari, Faridpur, Meherpur, Chuadanga, Jhenaidaha, Magura, parts of

Land Port, Narayanganj, Munshiganj, Shariatpur, Madaripur, Barisal, Gopalganj, Narail, Khulna, Bagerhat, Satkhira, and most of Jashore.

3.4.2 Biodiversity of Flora and Fauna

137. The main objectives of flora and fauna survey

- Secondary data on the status of floral and faunal components and habitats is collected and from interested parties such as the Forest and others. Provide quantitative information on different floral and faunal components: using statistical analysis and diversity indices.
- Identification and listing of floral and species of conservation significant (rare, endangered and threatened – RET and endemic species in accordance with International Union of Conservation for IUCN RED List/ MoEFCC) if any in the Sub-AOI.
- Assess the status of floral components and micro flora) of perennial aquatic (lake, reservoirs/dams, and rivers) in the Sub-project AOI (Including the sub-site) adopting standard techniques.

3.4.2.1 Flora

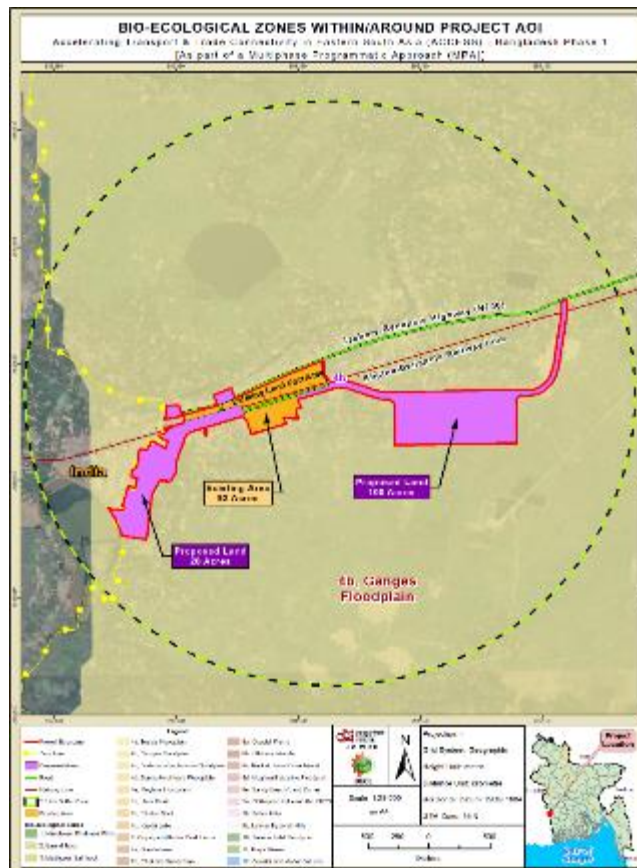


Figure 3.43: Bio-ecological zone within/ around sub project corridor (Benapole Land Post)

138. Since the sub-project region is wholly and intensively rural, much of the natural ecosystem remains quite intact. Herbs, shrubs, and trees are among the many types of vegetation. The sub-project is not likely to have a negative impact on terrestrial flora because the activities associated with it are substantially the same as what has occurred in the area over the last few decades.

139. The ecological survey was conducted in two ways; i) Transect walk along the sub-project corridor ii) Quadrates method in sample basis.

Quadrats

140. A total of 4 grids (size: 50 m × 50 m) were selected to study floral composition. A total of 2 days was spent in the field. Observation started early in the morning and ended in the late afternoon each day (0600 hr. – 1800 hr.). Unidentified vegetation species were collected (either seed, flower, or leaf) for later identification.

141. Micro level approach involved mainly the field based primary data collection on different components of the sub-project objectives/scope of work using well established and accepted ecological methods in different habitats identified within the Sub-project AOI. The field data collection mainly included biodiversity status assessment of different life forms of floral elements such as trees, shrubs, climbers, herbs, and grass (Figure 3-45 and Figure 3-46)

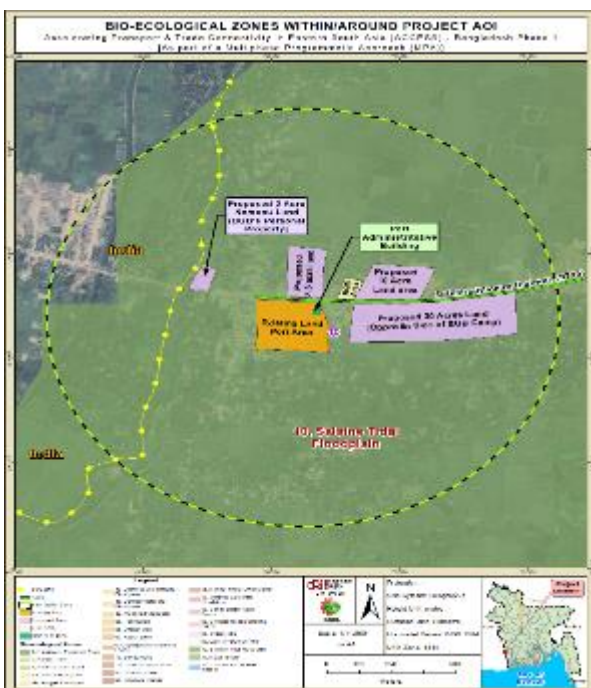


Figure 3.44: Bio-ecological zone within/ around sub project corridor (Bhomra Land Port)

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Figure 3-45: Vegetation Survey using Quadrates method in Benapole Land Port (AOI)

Figure 3-46: Vegetation Survey using Quadrates method in Bomra Land Port (AOI)

Transect Walk

142. Alongside Transect line and gridding methods, surveyors performed transect walking to randomly identify floral species. These random transect walks were done in-between the quadrates exercises. See Figure 3-47 and Figure 3-48 for photos.



Figure 3-47: Transect walk along Benapole Sub Project location



Figure 3-48: Transect walk along Bhomra Sub-project location

Quantitative Plant surveys were conducted in two habitats to enumerate the vegetation occurring within the Sub-project AOI. These are discussed below. The region is highly diversified in terms of vegetation. The quadrates include Homestead, roadside, riverine/aquatic vegetation, and agricultural vegetation. From the Survey analysis, Akashmoni and Mango are the most dominant tree species in the Benapole sub project area and Mahogany has been found to be the most dominant tree species in the Bhomra sub-project location.

Table 3.12: Detail quadrat information for floral survey

S/N	Location	Types of Habitats
Benapole Land Port		
1	Gatipara, Un: Benapole; Up: Sharsha; Dist: Jashore	Roadside, Homestead
2	Gatipara Aaam Bagan, Gatipara, Un: Benapole; Up: Sharsha; Dist: Jashore	Homestead
3	Boro Anchra, Un: Benapole; Up: Sharsha; Dist: Jashore	Homestead
Bhomra Land Port		
1	Purba para, East side, Union: Bhomra, Upazilla: Satkhira Sadar District: Satkhira	Roadside, Homestead
2	Bhomra Purba para, West side	Homestead, Social Forestry

Homestead Plantation

144. A list of plants found at homesteads of the sub-project area is given in Table 3.12 and Table 3.14 as well as Figure 3.49.

Table 3.13: Common plants found in the backyards of homesteads of the Benapole Sub project area

Location Name	Local Name	English Name	Scientific name	Family	Uses/importance
Boro Anchra	Aam	Mango	<i>Mangifera indica</i>	Anacardiaceae	Fruits, timber, fuel, furniture
	Narikel	Coconut	<i>Cocos nucifera</i>	Palmae	Fruits, drinks, fuel, fence, handicrafts
	Ataphal	Custard apple	<i>Annona reticulata</i>	Annonaceae	Fruits, timber
	Bel	Wood Apple	<i>Aegle marmelos</i>	Rutaceae	Fruits, herbal medicine
	Supari	Betel Nut	<i>Areca catechu</i>	Palmae	Fruits, fuel, pole, window rod
	Kathal	Jackfruit	<i>Artocarpus heterophyllus</i>	Morasia	Fruits, timber, furniture, medicine
	Segun	Teak	<i>Tectona grandis</i>	Verbenaceae	Timber, furniture, medicine
	Baroi/Kul	Indian Jujube	<i>Zizyphus mauritiana</i>	Rhamnaceae	Fruit, agriculture tools, fuel
	Pepe	Papaya	<i>Carica papaya</i>	Caricaceae	Fruits
	Dumur	Cluster Fig	<i>Ficus racemosa</i>	Moraceae	Fruits, Medicine
	Krishna chura	Royal Poinciana	<i>Delonix regia Rafin.</i>	Caesalpinoideae	Timber
	Shimul	Malabar silk-cotton tree	<i>Bombax ceiba</i>	Bombacaceae	Medicine
Kola Gach	Banana	<i>Musa sapientum</i>	Musaceae	Fruits	
Bhabervar	Aam	Mango	<i>Mangifera indica</i>	Anacardiaceae	Fruits, timber, fuel, furniture
	Kathal	Jackfruit	<i>Artocarpus heterophyllus</i>	Morasia	Fruits, timber, furniture, medicine
	Narikel	Coconut	<i>Cocos nucifera</i>	Palmae	Fruits, drinks, fuel, fence, handicrafts
	Kola Gach	Banana	<i>Musa sapientum</i>	Musaceae	Fruits

Location Name	Local Name	English Name	Scientific name	Family	Uses/importance
	Tetul	Tamarind	<i>Tamarindus indica</i>	Leguminosae	Fruits, medicine, timber, fuel
	Tal gachh	Palmyra Palm	<i>Borassus flabellifer</i>	Palmae	Timber, Fruits, Furniture
	Baroi/Kul	Indian Jujube	<i>Zizyphus mauritiana</i>	Rhamnaceae	Fruit, agriculture tools, fuel

Source: Environmental Survey Team, January 2022

Table 3.14: Common plants found in the backyards of homesteads of the Bhomra sub-project area

Bengali/ Local name	English Name	Scientific name	Family	Uses/importance
Aam	Mango	<i>Mangifera indica</i>	Anacardiaceae	Fruits, timber, fuel, furniture
Amra	Hog Plum	<i>Spondias pinnata</i>	Anacardiaceae	Fruits, fuel
Boroi/Kul	Indian Jujube	<i>Zizyphus mauritiana</i>	Rhamnaceae	Fruit, agriculture tools, fuel
Bel	Wood Apple	<i>Aegle marmelos</i>	Rutaceae	Fruits, herbal medicine
Safeda	Sapodilla	<i>Manilkara sapota</i>	Sapotaceae	Fruits
Jalpai	Olive Tree	<i>Elaeocarpus serratus</i>	Elaeocarpaceae	Fruits, oil
Kamranga	Star Fruit	<i>Averrhoa carambola</i>	Averrhoaceae	Fruits, herbal medicine
Narikel	Coconut	<i>Cocos nucifera</i>	Palmae	Fruits, drinks, fuel, fenc handicrafts
Peyara	Guava	<i>Psidium guajava</i>	Myrtaceae	Fruits, jelly, fuel, tools
Supari	Betal Palm	<i>Areca catechu</i>	Palmae	Fruits, fuel, pole, window rod
Tetul	Tamarind	<i>Tamarindus indica</i>	Leguminosae	Fruits, medicine, timber, fuel
Tal	Palmyra Palm	<i>Borassus flabellifer</i>	Arecaceae	Fruits
Neem	Neem	<i>Azadirachta indica</i>	Meliaceae	Medicine, tools
Jam	Jam	<i>Sambucus</i>	Ericaceae	Fruits
Pepe	Papaya	<i>Carica papaya</i>	Caricaceae	Fruits
Sheem	Sheem	<i>Vigna unguiculata</i>	Fabaceae	Fruits, Leaves
Shishu	North Indian Rosewood	<i>Dalbergia sissoo</i>	Legumes	Timber
Jibon	Indian Charcoal Tree	<i>Trema orientalis</i>	Ulmaceae	Medicine, Timber
Kola	Banana	<i>Musa acuminata</i>	Musaceae	Fruit
Mahogoni	Mahogoni	<i>Swietenia macrophylla</i>	Meliaceae	Timber
Lebu	Key Lime	<i>Citrus limon</i>	Rutaceae	Fruit
German Lota	Bittervine	<i>Mikania micrantha</i>	Asteraceae	Medicine

Source: Environmental Survey Team, January and February 2022

Within the Benapole Land Port Area



Figure 3-49: Commonly found homestead plants in the sub-project area (Source: Survey Team 2022)

Roadside Plantation

145. Terminalia arjuna (Akashmoni), Lannea coromandelica (Jiol), Delonix regia (Krishsachura), Tectona Grandis (Segun) etc. were found as most common roadside plantation in Benapole subproject location and Swietenia macrophylla (Mahogany), Dalbergia sissoo (Shisoo), Cocos nucifera (Narikel) etc. were found as most common roadside plantation in Bhomra subproject location (Figure 4.50). A list of homestead and roadside plants is presented in Table 3.15 and Table 3.16.



Figure 3-50: Commonly found roadside plants in the sub-project area (Source: Survey Team 2022)

Land Port **Table 3.15: List of Roadside and Homestead plantation found in the Benapole sub-project area**

Location Area	Scientific Name	Local Name	English	Types	Use	Indigenous	IUCN Red Book Status	Types of Species
Boro Anchra	<i>Datura metel</i>	Dutura	Stramonium		Flower			
	<i>Mangifera indica</i>	Aaam	Mango	Fruit bearing tree	Food	Indigenous	LC	Endemic
	<i>Artocarpus heterophyllus</i>	Khatal	Jackfruit	Fruit bearing tree	Food	Indigenous		Endemic
	<i>Tectona Grandis</i>	Segun	Teak	Woody tree	Timber	Exotic		Endemic
	<i>Tamarindus indica</i>	Tetul	Tamarind	Fruit bearing tree	Food			
	<i>Manilkara sapota</i>	Safeda	Sapodilla	Fruit bearing tree	Food			
	<i>Piper nigrum</i>	Pepe	Papaya	Fruit bearing tree	Vegetables			
	<i>Ficus hispida,</i>	Dumur	Egyptian fig tree	Fruit bearing tree	Food			
	<i>Psidium guajava</i>	Peyera	Guava	Fruit bearing tree	Food			
	<i>Ziziphus zizyphus</i>	Boroi	Jujube / Chinese date	Fruit bearing tree	Food	Indigenous	LC	Endemic
	<i>Swietenia macrophylla</i>	Mahagoni	Spanish Mahagoni	woody tree	Timber	Exotic	VU	Endemic
	<i>Bombax ceiba</i>	Shimul	cotton tree	Cotton Tree	Cotton	Exotic	LC	Endemic
	<i>Lannea coromandelica</i>	Zigar	Indian Ash Tree	Medicinal	Medicinal	Exotic	LC	Endemic
	<i>Moringa oleifera</i>	Shojona	Drumstick tree			Indigenous	LC	Endemic
<i>Areca catechu</i>	Supari	Areca Nut	Fruit bearing tree	Food				
Gatipara	<i>Mangifera indica</i>	Aaam	Mango	Fruit bearing tree	Food	Indigenous	LC	Endemic
	<i>Phoenix dactylifera</i>	Khejur	Date palm	Fruit bearing tree	Food			
	<i>Moringa oleifera</i>	Shojona	Drumstick tree			Indigenous	LC	Endemic
	<i>Areca catechu</i>	Supari	Areca palm	Fruit bearing tree	Food			
	<i>Ziziphus zizyphus</i>	Boroi	Jujube / Chinese date	Fruit bearing tree	Food	Indigenous	LC	Endemic
	<i>Bambusa vulgaris</i>	Bash	Bamboo					
	<i>Artocarpus heterophyllus</i>	Khatal	Jackfruit	Fruit bearing tree	Food	Indigenous		Endemic
	<i>Ficus benghalensis</i>	Bhot Ghac	Banyan			Indigenous	LC	
Bhaberbar	<i>Citrus maxima</i>	Jambura	Pomelo	Fruit bearing tree	Food			
	<i>Malpighia coccigera</i>	Khoya Gach	Dwarf holly	Fruit bearing tree				
	<i>Acacia auriculiformis</i>	Akashmoni	Earleaf acacia					
	<i>Diospyros blancoi</i>	Gaab Gach	Velvet apple/					
	<i>Phoenix dactylifera</i>	Khejur	Date palm	Fruit bearing tree	Food			
	<i>Musa acuminata</i>	Kola	Banana	Fruit bearing tree	Food	Indigenous	LC	Endemic

Source: Environmental Survey Team 2022

Table 3.16: List of Roadside and Homestead plantation found in the Bhomra sub-project area

Scientific Name	Local Name	English	Types	Use	Indigenous	IUCN Red Book Status	Types of Species
<i>Ziziphus zizyphus</i>	Boroi	Jujube / Chinese date	Fruit bearing tree	Fruit	Indigenous	LC	Endemic
<i>Albizia lebbek</i>	Koroi	Lebbeck	Timber	Timber	Indigenous	LC	Endemic
<i>Azadirachta indica</i>	Neem	Neem	Medicinal	Medicinal	Indigenous	LC	Endemic
<i>Cocos nucifera</i>	Narikel	Coconut	Fruit bearing tree	Fruit	Indigenous	LC	Endemic
<i>Lagenaria siceraria</i>	Lau	Bottle gourd	Vegetables	Vegetables	Indigenous	LC	Endemic
<i>Lablab Purpureas</i>	Shim	Bean	Vegetables	Vegetables	Indigenous	LC	Endemic
<i>Vigna mungo</i>	Mashkalai	Black legume	Food	Food	Exotic	LC	Endemic
<i>Musa acuminata</i>	Kola	Banana	Fruit bearing tree	Fruit	Indigenous	LC	Endemic
<i>Anaranthus oleraceus</i>	Lal Shak	Red amaramth	Vegetables	Vegetables	Indigenous	LC	Endemic
<i>Artocarpus heterophyllus</i>	Khatal	Jackfruit	Fruit bearing tree	Fruit	Indigenous	LC	Endemic
<i>Moringa oleifera</i>	Shojne	Drumstick tree	Vegetable	Vegetables	Indigenous	LC	Endemic
<i>Polyalthia longifolia</i>	Devdharu	Monoon longifolium	Medicinal	Medicinal	Indigenous	LC	Non-Endemic
<i>Mangifera indica</i>	Aaam	Mango	Fruit bearing tree	Food	Indigenous	LC	Endemic
<i>Swietenia macrophylla</i>	Mahogany	Spanish Mahagoni	Timber	Timber	Exotic	VU	Endemic
<i>Ficus benghalensis</i>	Bot Ghac	Banyan	Timber		Indigenous	LC	
<i>Delonix regia</i>	Krishnachura	Royal poinciana	Flower and Timber	Timber	Indigenous	LC	Endemic
<i>Leucas aspera</i>	Dhulpi	Thumbai	Flower	Flower			Endemic

Source: Environmental Survey Team 2022

* **Abbreviation:** UC = Uncommon, VC = Very Common, C = Common, F = Few, O = Occasional, CR = Critically Endangered, EN = Endangered, Vu = Vulnerable, LC = Least Concern, DD = Data Deficient, M = Migratory, R = Resident, Bh = Bush, Op = Open place, Hh = Human habitation, Cl = Cultivated land, Tt = Tall tree, H = Hole, R = River, P = Pond, C = Canal, Dt = Ditch, We = Water edge.

Assessment of Critical Habitat

146. Biodiversity surveys, consultation with stakeholders and biodiversity specialists, were undertaken as part of the ESIA. The following potential critical habitat features are known or likely to be present in the area:

Critically Endangered (CR) and/or Endangered (EN) species at global and/or national level

147. Biodiversity study and literature review uncovered record presence of some species included as Critically Endangered (CR) or Endangered (EN) species in Sub-project footprint or greater study area landscape. Therefore, Criterion 1 is applicable to the Sub-project site.

Endemic and/or restricted-range species

148. Biodiversity study and literature review did not cover the presence of species that include endemic and/or restricted-range species in sub-project footprint or study area landscape. Therefore, Criterion 2 is not applicable to the sub-project site.

Migratory and/or congregator species

149. Biodiversity study and literature review did not record presence of species that include migratory and/or congregator species or the habitat in Sub-project footprint or greater study area landscape. The sub-project is also not part of any global migration route. Therefore, Criterion 3 is not applicable to the sub-project site.

Highly threatened and/or unique ecosystems

150. The study did not observe any unique ecosystems in the Sub-project area. Therefore, Criterion 4 is not applicable to the Sub-project site.

Legally Protected and Internationally Recognized Areas

151. The sub-project location is not located within or adjacent to national level protected areas, regional protected area, or international protected area. It is however considered that the requirements in Paragraph 20 of the IFC PS6 (IFC, 2012a) are not applicable to the sub-projects.

Agricultural Land

152. Most of the land in the sub-project belongs to agricultural land, in general. A variety of naturalized weeds also grow along with the crops. Agricultural lands are dominated with herbs like herbs like *Lippa alba*, *Xanthium indicum*, *Alternanthera sesilis*, *Grangea sp.*, *Dentalla repens*, *Eclipta alba*, *Lens esculenta* etc. Sedges like *Cyperus rotundus* in Benapole Land Port AOI and *Oryza sativa*, *Brassica oleracea*, *Brassica oleracea*, *Amaranthus cruentus* in Bhomra Land port AOI.

153. Major crops of the region are paddy, betel leaf, betel nut, potato, wheat, jute, potato, banana, onion, rice, mustard, Cauliflower, Cabbage, ginger, and other vegetables in both sub-project areas.

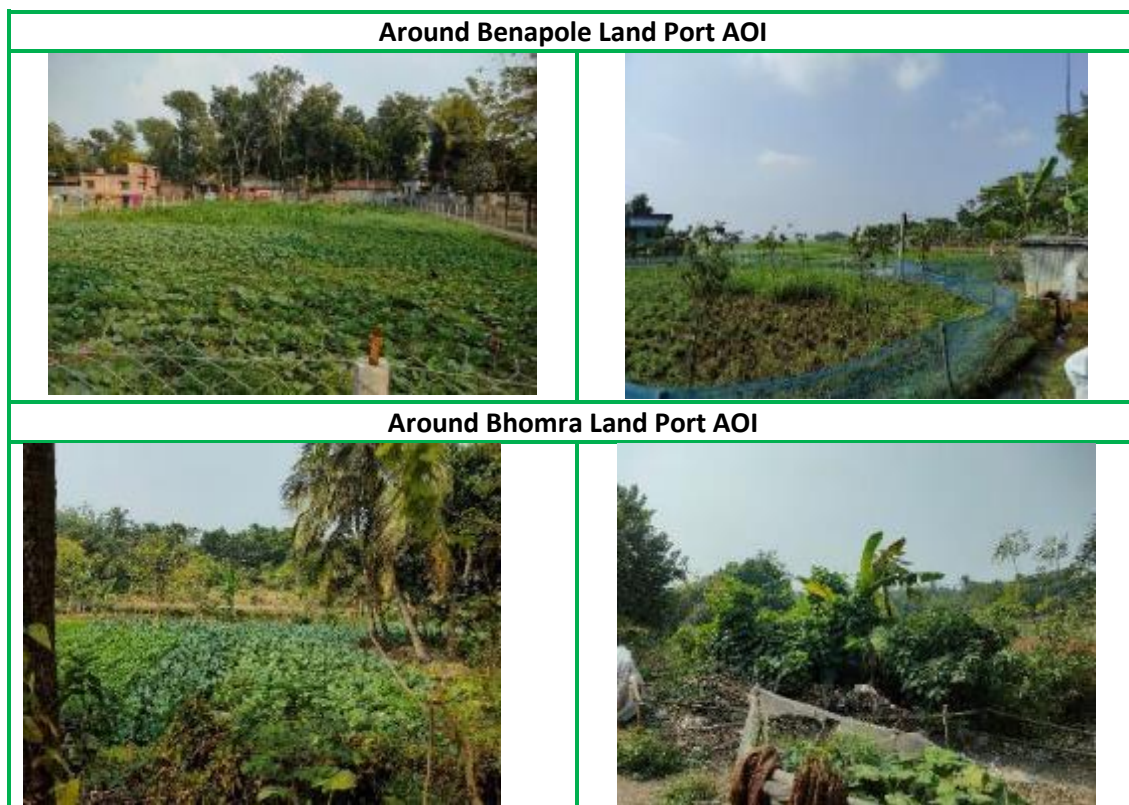


Figure 3-51: Commonly found agricultural plants in the sub-project area (Source: Survey Team 2021)

3.4.2.2 Fauna

154. Faunal Studies were undertaken in the sub-project AOI by opportunistic search methods where habitats of the different faunal species were repeatedly visited twice to confirm their presence and usage of the habitats. Focus was given on the larger animals under threat of frequent urbanization and industrialization in the area. The target faunal species studied are Mammals, Avifauna, Reptiles and Amphibians. Cows, goats, dogs, cats, mules, are found in the study area during the visit. No wild fauna was found in Benapole and Bhomara AOI. From discussion with local people, it was learned that foxes are found in bushy areas, but none were spotted during the visit.

155d Porcrow (Corvus splendens), House sparrow/Choroi, Avifauna like /Pigeon, Doyal (Magpie Ribbon), Sarosh/Eastern Great Egret (Ardea modesta), Duck (Anatidae anatinae)) are found in the Benapole AOI and Avifauna like Paira/Pigeon, Doyal (Magpie Ribbon), House sparrow/Choroi, Crow (Corvus splendens), Myna/Shalik, Shakun, Babui/Baya Weaver, Duck (Anatidae anatinae), are found in the Bhomra AOI. Apart from these, as per discussion with local people, few migratory birds also visit port site.

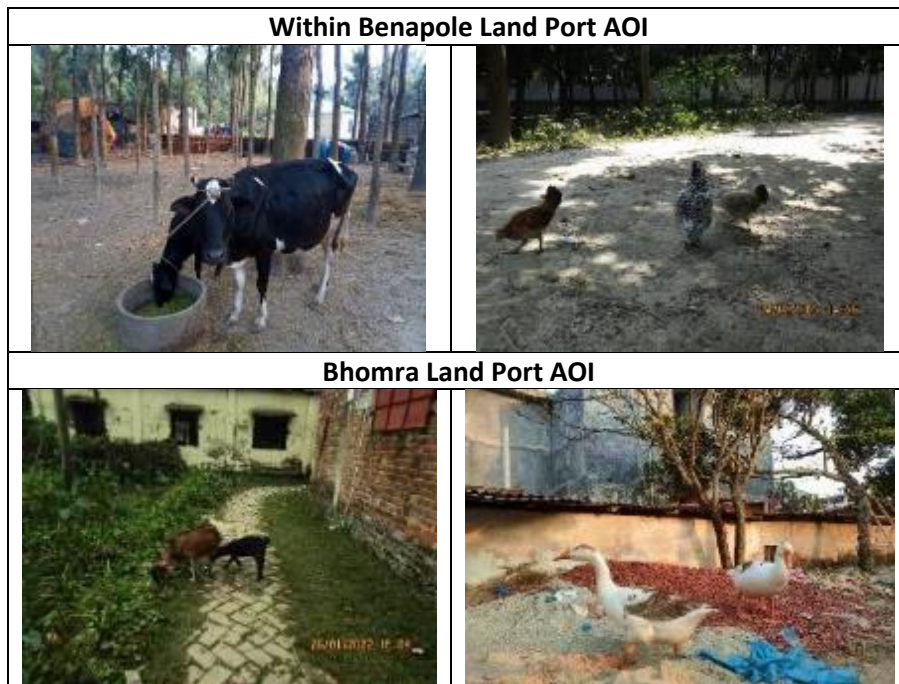


Figure 3-52: Commonly found fauna in the sub-project area (Source: Survey Team January and February 2022)

Table 3.17: List of Fauna found in the sub-project AOI and their local IUCN status.

Scientific Name	Local Name	English Name	IUCN Redbook Status ^{11*}	Habitat*
Benapole Land Port				
<i>Suncus murinus</i>	Chika	Indian Musk Shrew	LC	H
<i>Canis aureus Linnaeus</i>	Pati Shial	Golden Jackal	LC	Op
<i>Vulpes bengalensis</i>	Kheki	Indian Fox	VU	Hh, Op
<i>Callosciurus pygerythrus</i>	Badami Kathbirali	Squirrel	LC	H
<i>Bandicota bengalensis</i>	Metho-indur	Lesser Bandicoot Rat	LC	H
<i>Rattus rattus</i>	Indur	Rat	LC	H
<i>Cairina moschata</i>	China Has	Muscovy Duck	LC	Hh
<i>Amphiesma stolum</i>	Dhora Shap	Buff Striped Keelback	LC	H, P
<i>Passer domesticus</i>	Pati Chorui	House Sparrow	LC	Tt
Bhomra Land Port				
<i>Suncus murinus</i>	Chika	Indian Musk Shrew	LC	Hh
<i>Pteropus giganteus</i>	Baro Badur	Indian Flying Fox	LC	Tt
<i>Cynopterus sphinx</i>	Kola Badur	Greater Short-nosed Fruit Bat	LC	Hh

¹¹ Red List of Bangladesh Volume 1, IUCN, International Union for Conservation of Nature Bangladesh Country Office 2015

Scientific Name	Local Name	English Name	IUCN Redbook Status ^{11*}	Habitat*
<i>Canis aureus Linnaeus</i>	Pati Shial	Golden Jackal	LC	Op
<i>Prionailurus bengalensis</i>	Chita Biral	Leopard Cat	NT	Bh
<i>Herpestes edwardsi</i>	Boro Beji	Indian Gray Mongoose	LC	Bh
<i>Herpestes urva</i>	Moucha Bejji	Crab-Eating Mongoose	NT	Bh
<i>Viverra zibetha Linnaeus</i>	Gondho golkul	Large Indian Civet	LC	Bh
<i>Manis crassicaudata Gray</i>	Indian Pangolin	Indian Pangolin	EN	Bh
<i>Callosciurus pygerythrus</i>	Badami Kathbirali	Squirrel	LC	Hh
<i>Bandicota bengalensis</i>	Metho-idur	Lesser Bandicoot Rat	LC	Hh

* **Abbreviation:** UC = Uncommon, VC = Very Common, C = Common, F = Few, O = Occasional, CR = Critically Endangered, EN = Endangered, Vu = Vulnerable, LC = Least Concern, DD = Data Deficient, M = Migratory, R = Resident, Bh = Bush, Op = Open place, Hh = Human habitation, Cl = Cultivated land, Tt = Tall tree, H = Hole, R = River, P = Pond, C = Canal, Dt = Ditch, We = Water edge.

3.4.2.3 Fish Survey

156. The survey was conducted for four (04) consecutive days; two (02) days in the Bhomra Land port in the adjacent fish market and two (02) days in Bhoberbar, Gatipara and adjacent fish market. These four (04) days were spent on reconnaissance surveys and main survey purposes. Fishermen interviews were also conducted during surveys to understand their perceptions and thoughts of fishing techniques, availability of fish and correlation of fish catch with environment. Interviews also covered environmental considerations, e.g., changes in the environment over the last 30 years and its correlation with fish catch or migratory route.

157. Different types of fish species were observed during the field survey on the other during the visit of fish market and interviewed with fisherman. Some figures are shown in Figure 3-53 and Figure 3-54. A complete list of fisheries found in the sub-project area is listed in Table 3.18.



Figure 3-53: Fishing practice near Benapole Land Port Area; Upazilla: Sharsha; Dist: Jashore

158. According to the fisheries, most of the fisherman catches fish with fishing net around the Benapole Land Port. Some people are fishing with finishing rods during leisure time. In around the Bhomra Land port and Benapole Land port, the people cultivated fish in the pond. Some catches fish from Ichamati River with fishing rods. Both subproject people said that fish are not available as before in the Ichamati River in Benapole and Baor Khal near Bhomra Land port.



Figure 3-54: Fishing practice near Bhomra Land Port Area; village: Lakshmidari Un: Bhomra; Up:Satkhira;

Table 3.18: List of fisheries species found in the sub-project AOI and their local IUCN status

Family	Scientific Name	English Name	Local Name	IUCN Red Book Status ^{12*}
Benapole Land Port				
Amblycipitidae	<i>Amblyceps mangois</i>	Indian Torrent catfish	Shing	LC
Bagridae	<i>Mystus tengara</i>	Indian catfish	Tengra	LC
	<i>Channa striata</i>	Snakehead murrel	Shol	LC
	<i>Channa punctata</i>	Spotted snakehead	Taki	LC
Cichlidae	<i>Oreochromis mossambicus</i>	Mozambique tilapia	Tilapia	LC
Clupeidae	<i>Tenualosa ilisha</i>	Hilsa	Ilish	LC
Cyprinidae	<i>Labeo bata</i>	bata Labeo	Bata	LC
	<i>Hypophthalmichthys molitrix</i>	Silver carp	Silver carp	LC
	<i>Ctenopharyngodon idella</i>	Grass carp	Grass carp	LC
	<i>Cirrhinus cirrhosus</i>	white carp	Mrigal carp	NT
	<i>Labeo catla</i>	Indian carp	Katla	LC
	<i>Labeo rohita</i>	Ruhu	Rui	LC
	<i>Puntius chola</i>	Swamp barb	Puti	LC
	<i>Amblypharyngodon microlepis</i>	Indian Carplet	Mola	LC
Bhomra Land Port				
Ambassidae	<i>Parambassis ranga</i>	Indian glassy fish	Chanda	LC
Anabantidae	<i>Anabas testudineus</i>	Climbing perch	Koi	LC
Balitoridae	<i>Lepidocephalichthys annandalei</i>	Annandale loach	Gutum	VU
Bagridae	<i>Mystus tengara</i>	Indian catfish	Tengra	LC
	<i>Sperata aor</i>	long-whiskered catfish	Aair	VU
Channidae	<i>Channa marulius</i>	Great snakehead	Gojar	EN
	<i>Channa striata</i>	Snakehead murrel	Shol	LC
	<i>Channa punctata</i>	Spotted snakehead	Taki	LC
	<i>Channa striata</i>	Striped snakehead	Taki	LC
Cyprinidae	<i>Labeo bata</i>	bata Labeo	Bata	LC
	<i>Ctenopharyngodon idella</i>	Grass carp	Grass carp	
	<i>Labeo calbasu</i>	Orange-fin labeo	kali Baush	DD
	<i>Labeo catla</i>	Indian carp	Katla	LC
	<i>Cyprinus carpio carpio</i>	Common carp	Minar Carp	DD
	<i>Puntius chola</i>	Swamp barb	Puti	LC
	<i>Labeo rohita</i>	Ruhi	Rui	LC
	<i>Puntius sarana</i>	Olive barb	Sorputi	NT
	<i>Hypophthalmichthys molitrix</i>	Silver Carp	Silver Carp	

* **Abbreviation:** UC = Uncommon, VC = Very Common, C = Common, F = Few, O = Occasional, CR = Critically Endangered, EN = Endangered, Vu = Vulnerable, LC = Least Concern, DD = Data Deficient, M = Migratory, R = Resident, Bh = Bush, Op = Open place, Hh = Human habitation, Cl = Cultivated land, Tt = Tall tree, H = Hole, R = River, P = Pond, C = Canal, Dt = Ditch, We = Water edge.



¹² Red List of Bangladesh Volume 5, IUCN, International Union for Conservation of Nature Bangladesh Country Office 2015

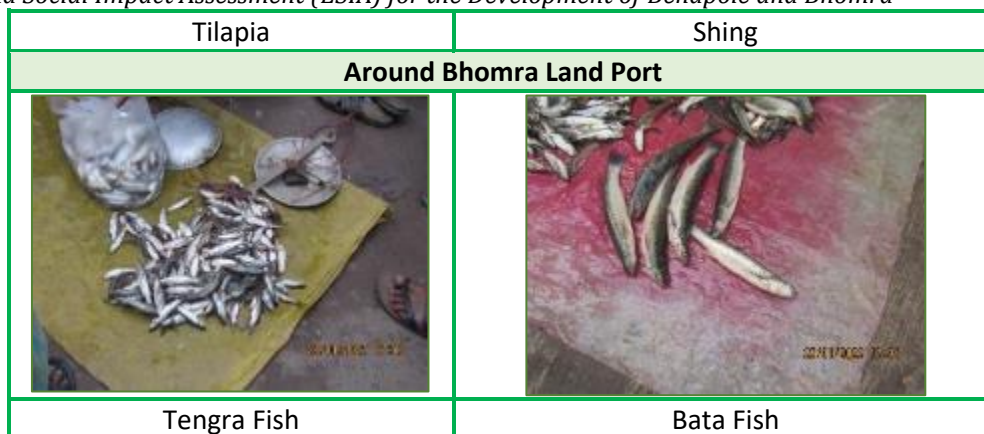


Figure 3-55: Different types of fishes observed in the sub-project AOI

3.4.3 Farming Practice

159. In the study area, there are three cropping seasons in a year. They are Kharif-I, Kharif-II and Rabi seasons. The Kharif-I starts in March and ends in June. This season is characterized by the uncertainty of weather of alternating dry and wet spells. Vegetables, jute, and mustard crops are grown in this season in the area. The Kharif-II starts in July and ends in October. The Kharif -II season is characterized by wet and cloudy environment and heavy rainfall but uneven distribution, low solar radiation, high temperature and humidity.

160. According to local farmers, the main crops in Benapole Land Port AOI's are Paddy, potato, cabbage, red amaranth etc. The main fruits are Mango, Jackfruit, Date Palm, Guava, and banana in Benapole Land Port AOI's.

161. T. Aman rice's both local and HYV and some vegetables are grown in this season under rainfed condition in Bhomra Land Port AOI's. Farmers also provide supplementary irrigation to HYV T. Aman crops in an underwater stressed situation.

3.4.4 Protected Areas and Endangered Species & Red Book Species

162. The proposed areas are on barren land with standing crops, few trees, agricultural land, and vegetation growth of mainly shrubs and grasses. There are no archaeological sites, sensitive cultural or biodiversity receptors of international, national, state, or district importance including protected areas, key biodiversity areas, forest areas, sacred groves, or historical/cultural monuments around the identified proposed sites. The nearest ecologically critical area to the Project AOI is Sundarban, which is around 70 km far from the project location.

163. The names of locally threatened species were found from interviews with local people. The basis of this analysis was to identify the species that have been disappearing fast in last 20 years. No endangered floral species are reported. However, Few Endangered fauna and fisheries species were found according to the local people.

3.5 Socio-Economic Environment

3.5.1 Introduction

164. The socio-economic condition of the people living in the study area is described in this chapter. The primary data were collected using a range of RRA techniques including Key Informant Interview (KII), Focus Group Discussion (FGD), observation and public consultation. Moreover, relevant secondary information was compiled from the community series of the Population Census 2011 published by Bangladesh Bureau of Statistics (BBS). A separate census survey was conducted for the 376 sub-projects affected in Benapole Land Port and 251 sub-project affected households in Bhomra Land Port connection with the RAP preparation. The social questionnaire is given in the Annex C.

165. Some of the PAPs are vulnerable, such as women, less educated, differently able people and those unable to access the DC office to get legal documents, etc. They need support by BLPA to access the DC office to obtain documents and get compensation, etc.

166. Local language of the sub-project area is Bangla/Bengali. Bangla is spoken by all the people living in the sub-project surrounding area and it is the common language of communication.

3.5.2 Area and Population

167. Area of the Sharsha upazilla 1115 ha (BBS, 2011). The population density of Sharsha Upazila and of Jashore Sadar was 4247 and 14765 respectively. Sex Ratio of male/female was very close to 1.0 (1.023 in the Upazila, and 1.02 in Jashore Sadar).

Table 3.19: Area and Population of the Study Area

Reference Area	Area sq. km.	Area ha	HH	Population	Density	Female Population	Male population	Sex Ratio
Sharsha upazilla	11.15	1115	8563	36524	4247	18047	18477	1.023
Jashore sadar	14.72	260694	5983	217337	14765	101703	115634	1.02
Bangladesh (Area, pop)	1480	148000 sq km	32.1 million	150 million	1,014	74.98 million	74.79 million	100.3

168. The area of Bhomra Upazilla was 2,934 ha (BBS, 2001). Population density of Satkhira Sadar Upazila and of Bhomra UP was 1156 and 887 respectively and household size for the Upazila, UP varied from 4.22 to 4.35. Sex Ratio of male/female was very close to 1.0 (0.98 to 1.02 in the district, Upazila and UP but higher at 1.10 in village Lakshmidari). Details of population been mentioned in Table 3.20.

Table 3.20: Area and Population of the Study Area

Reference Area	Area acre	Area ha	HH	Population	Density	HH Size	Female Population	Male population	Sex Ratio
Satkhira district	943272	381891	469890	1,985,959	520	4.23	1,003,182	982,777	0.98
Satkhira Sadar Upazila	98490	39,874	109105	460,892	1,156	4.22	230,264	230,628	1.00
Bhomra UP	7248	2934	5983	26,020	887	4.35	12,915	13,105	1.02
Lakshmidari Village	-	-	707	3,034	-	4.29	1,444	1,590	1.10
Bangladesh (Area, pop)	-	148000 sq km	32.1 million	150 million	1,014	4.4	74.98 million	74.79 million	100.3

3.5.3 Housing Characteristics

3.5.3.1 Household Demography

169. A Social Survey was carried out in the sub-project intervention areas to create a profile of the socio-economic features of the communities. The survey team interviewed 376 households (HHs) in Benapole Land Port AOI and 251 households (HHs) in Bhomra Land Port AOI. In Benapole, the 376 sample households have 1591 members, consisting of 806 male and 785 female and in Bhoma, 251 sample households consist of 479 male and 528 female. The respondents from each household were selected based on whether they were the HH head, an elderly member of the family, or a member who is knowledgeable about the HH's details. Gender Ratio of male/female was close to 1.026 and 0.9072 respectively in Benapole and Bhomra.

Table 3.21: Household Demography

Districts	HH	Total population	Male	Female
Benapole	376	1591	806	785
Bhomra	251	1007	479	528

3.5.3.2 Household Size

170. Household members with average household size of 4 to 6 meaning that the sample households in Benapole, had larger household size than national average 4.4 and that of 145 PAP households 4.29 weather in Bhomra household members with average household size of 4 to 6 meaning that the sample households in Bhomra, had larger household size than national average 4.4 and that of 145 PAP households 4.29.

Table 3.22: Household Size

Family Size (Number of Members)	Aggregate	
Benapole		
N	376	
Up to 3	138	138
4 to 6	201	201
>6	37	37
Bhomra		
N	251	
Up to 3	85	85
4 to 6	155	155
>6	11	11

3.5.3.3 Distribution of Age

171. Of the 1591 people, 104 males above age 45, 106 females above 45 in Benapole weather 98 males above age 45, 100 females above 45 in Bhomra 251 sample households, the average age of each HH is approximately 28.63 years and 38.27 years for men as well as 28.83 and 34.06 for women in Benapole and Bhomra. Maximum age being 95 years for male and 105 for female for Benapole and 95 years for male and 80 for female for Bhomra. The Tables 4.23 depict the distribution of family size and age.

Table 3.23: Distribution of Age

	Mean	0-45	46-60	>60 (Vulnerable category)	Min	Max
Benapole						
N	1591					
Benapole	28.73	1295	210	86	0	105
Male	28.63	654	104	48	0	95
Female	28.83	641	106	38	0	105
Bhomra						
N	1007					
Bhomra	38.63	809	137	61	0	95
Male	38.27	381	59	39	1	95
Female	34.06	428	78	22	0	80

3.5.4 Marital Status of Individuals

172. The Table 4.24 shows the marital status of 1297 sample respondents in Benapole and 831 sample respondents in Bhomra. It reveals that 23.21% of the respondents are unmarried and 68.39% are married in Benapole Land Port AOI and 20.82% of the respondents are unmarried and 69.68% are married in Bhomra Land Port AOI. Widowed and separated are only 8.66%, divorced rate is only 0.84% in Bhomra Land port AOI weather in Benapole Land Port AOI, it is seen that Widowed and separated are only 6.32%, divorced rate is only 1.31%.

Table 3.24: Marital Status of Individuals

Marital Status	Percentage
Benapole Land Port AOI	
N	1297
Unmarried	23.21
Married	68.39
Divorced	0.77
Widow/widower	6.32
Separated	1.31
Bhomra	
N	831
Unmarried	20.82
Married	69.68
Divorced	0.84
Widow/widower	7.34
Separated	1.32

3.5.5 Land Ownership

173. A Social Survey was carried out in the sub-project intervention areas to provide information regarding land ownership. The survey team got 489 responses in Benapole and 510 responses in Bhomra sub-project area. The result indicates that the highest amount of land is owned through inheritance for both sub project locations.

Table 3.25: Land Ownership

Ownership of land	Number response	Percentage of cases
Benapole Land Port AOI		
N		489
Inheritance	300	61.35
Purchase	140	28.63
As a gift	1	0.20
Occupancy	44	9.00
Others	4	0.82
Bhomra Land Port AOI		
N		510
inheritance	426	83.53
purchase	42	8.24
as a gift	2	0.39
charity	1	0.20
occupancy	34	6.67
Others	5	0.98

3.5.6 NGO Participation

174. This section discusses the participation of the surveyed in 1591 respondents of Benapole sub project area and 1007 respondents of Bhomra sub project area in NGO groups. 11.13 percent in Benapole land port AOI and 12.41 percent in Bhomra Land port AOI of the surveyed individuals are currently involved in NGO run microcredit programs. Approximately 85.67 percent in Benapole Land Port AOI and 79.64 percent in Bhomra Land Port AOI have never been involved in NGO related activities. In Benapole Sub project, 3.21 percent are no longer involved in NGO weather and 7.15 percent are no longer involved in Bhomra subproject AOI.

Table 3.26: NGO Participation

NGO participation	Number	Percentage
Benapole Land Port AOI		
N		1591
Never been a member	1363	85.67
Former member; not involved anymore	51	3.21
Involved in micro-credit	177	11.13
Bhomra Land Port AOI		
N		1007
never been a member	802	79.64
no allowance	2	0.20
M.A/M.com/M.sc or equal	1	0.10
never been a member	1	0.10
former member; not involved anymore	72	7.15
never been a member	1	0.10
involved in micro-credit	125	12.41
involved in ultra-poor program	2	0.20

3.5.7 Health Service

175. The people around the Benapole sub-project area are mainly dependent on District hospital, Quacks, community health clinic. Union and Upazila health complex, some private health clinics with limited facilities are available in the area. Typical health services are available in the hospital. In Bhomra, no significant and critical

Health facilities are available there. The local people urged the plant authority to have support or build a hospital with modern health facilities in Bhomra.

Table 3.27: Health Service

Name of health service provider	Availability			Grand Total
	Yes	No	Do not know	
Benapole Land Port AOI				
N	1802	1018	758	3578
Community health clinic	5.83	18.07	11.48	10.51
District hospital	20.59	0.20	0.40	10.51
Maternity clinic	3.27	17.49	18.21	10.48
NGO run health center	5.55	12.48	19.53	10.48
Private Clinic	13.76	6.58	7.92	10.48
Quack	20.64	0.20	0.26	10.51
Qualified Private physician	8.93	12.97	10.95	10.51
Union health complex	2.39	19.16	18.21	10.51
Upazila health Complex	18.92	0.39	4.09	10.51
Others	0.11	12.48	8.97	5.51
Bhomra Land Port AOI				
N				2317
Community health clinic	8.24	0.43	2.16	10.83
District hospital	10.14	0.09	0.60	10.83
Homeopathy doctor	0.04	0.00	0.00	0.04
Maternity clinic	3.11	1.68	6.04	10.83
NGO run health center	0.52	2.07	8.24	10.83
Private Clinic	6.43	1.34	3.06	10.83
Quack	10.10	0.26	0.26	10.62
Qualified Private physician	2.59	2.76	5.44	10.79
Union health complex	4.88	0.99	4.96	10.83
Upazila health Complex	6.21	0.69	3.93	10.83
Others	0.35	1.29	1.04	2.68

3.5.8 Profession

176. This section discusses the participation of the surveyed 1766 respondents in Benapole and 527 respondents in Bhomra Land Port. The following categories account for 95 percent of professions reported in the survey HH.

177. From the Table 4.38, the professional discussion is given.

Table 3.28: Profession

Occupation	Percentage
Benapole Land Port AOI	
N	1766
former	3.45
Farmer at others cultivation	1.08
Labor (construction, port labor etc)	7.42
Fisherman	0.40
Worker in industry (garments worker)	0.17
Raising livestock	2.49
Poultry farm	0.28
Employee at shop/hotel	0.51
Household helping hand	0.62
Sewing/ cottage industry/ handmade job	0.96
Rickshaw puller/truck/bus driver	2.38
Hawker	0.23
Owner of shop/hotel	1.02
Business, wholesale/industry	1.76

Occupation	Percentage
Skilled labor (carpenter/potter/blacksmith/jeweler/mechanic)	1.02
Community health worker, nurse	0.06
Teacher/home tutor	0.62
Professionals (doctor/engineer/lawyer)	0.06
Private employee	4.93
Government employee;	0.45
Politician, ward member, chairman;	0.06
Leasing/renting out land	0.57
Renting out property other than land (shop/tractor);	2.27
Picking leftover paddy	0.06
Retail seller (fish/vegetable/clothing/wood etc.)	0.06
other small business	5.10
Student	19.99
Housewife	24.75
NGO employee	0.17
Unemployed/ retired/ disable/child	15.40
Others	1.70
Bhomra Land Port AOI	
N	527
Agriculturist	12.33
Farmer at others cultivation	3.23
Labor (construction, port labor etc)	21.25
Fisherman	1.71
Raising livestock	5.69
Poultry farm	2.47
Vegetable cultivation/nursery	0.19
Employee at shop/hotel	0.57
Household helping hand	0.57
Sewing/ cottage industry/ handmade job	1.52
Rickshaw puller/truck/bus driver	4.55
Hawker	0.19
Owner of shop/hotel	1.90
Business, wholesale/industry	3.04
Skilled labor (carpenter/potter/blacksmith/jeweler/mechanic)	2.47
Teacher/home tutor	0.95
Private employee	9.68
Government employee;	1.14
Imam, priest;	0.57
Leasing/renting out land	1.33
Renting out property other than land (shop/tractor);	2.47
picking leftover paddy	0.38
other small business	7.02
student	8.54
housewife	1.52
NGO employee	0.19
Unemployed/ retired/ disable/child	3.23
Other	1.33

3.5.9 Literacy

178. Literacy Rate above age 7 of the Reference Area is provided in Table 3.29.

179. The literacy rate of sample respondents was 52.1 in Satkhira District, 54.1 in Bhomra Upazilla and 56.5 in Satkhira Sadar. Literacy rate is increasing with time due to positive change after 2011 as literacy rate of Bhomra was close to that of national average (51, 52%). Male community has more literacy rate than female community in all the sample respondents.

180. Based on socio-economic data, it was revealed that highest proportion (30.34%) of the affected household members can only sign own name followed by less than junior school passed (17.24%), primary school passed (9.66%),

HSC Passed (8.97%), SSC passed (8.97%), less than SSC (7.59%), masters (4.83%) and 2.07% college graduates. The results from survey also revealed that illiteracy rate is high among male than female household Members.

Table 3.29: Literacy Rate (%) of the Reference Area Population (Age 7+)2 in Bhomra

Literacy Rate			
Reference Area	Both Sex	Male	Female
Satkhira District	52.1	56.1	48.2
Satkhira Sadar UZ	56.5	59.8	53.2
Bhomra UP	51.4	53.7	49.2
Lakshmidari Village	48.1	51.8	44.1
Bangladesh	51.8	54.1	49.4

3.5.10 Religion

181. Majority is Muslim in the sample households with considerable Hindu minority. Among the 1007 respondents 893 people are Muslim, 114 people are Hindu by religion.



Table 3.30: Religion in Bhomra



Bhomra	Muslim		Hindu		Total	
	No. HH	Population	No. HH	Population	No. HH	Population
Total	224	893	27	114	251	1,007
Percentage (%)	89.24	88.68	10.76	11.32	100.00	100.00

3.5.11 Environmental and Social Sensitive Locations

182. The surveyor walked around the sub-project-affected region and obtained GPS of these vulnerable structures. In Benapole, Surveyor found twenty-three (23) sensitive area in Benapole Land Port AOI and twenty (20) sensitive areas in Bhomra Land Port. Table 3.31 represents some of the photos that the surveyors found. Others are provided in the annex.

Table 3.31: Environmental and social Sensitive area within the sub-project corridor

SL	Name	GPS Location	Photo
Benapole Land Port AOI			
1	Ideal Kinder Garden	23.039211°N 88.889915°E	
2	Bangladesh Anta-Zila Truck Chalok Union	23.038523°N 88.887133°E	

SL	Name	GPS Location	Photo
3	Family Graveyard	23.038384°N 88.886907°E	
4	Family Graveyard	23.037128°N 88.886486°E	

Bhomra Land Port

1	Ahona Clinic	22.66909°N 88.95949°E	
2	Family Graveyard	22.66902°N 88.95945°E	
3	Family Graveyard	22.66833°N 88.95891°E	
4	Bhomra Purba Para Jame Mosque	22.66902°N 88.95945°E	

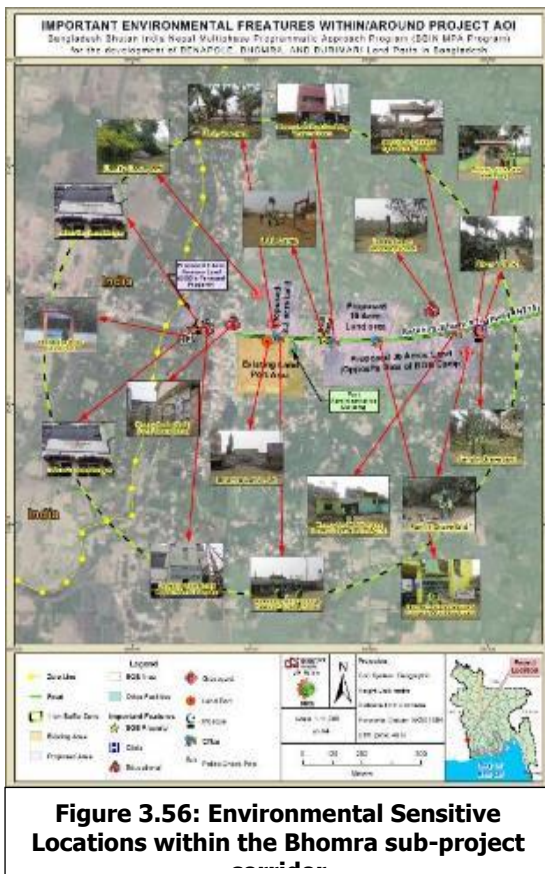


Figure 3.56: Environmental Sensitive Locations within the Bhomra sub-project



Figure 3.57: Environmental Sensitive Locations within the Benapole sub-

3.5.12 Traffic

183. Traffic study of Benapole Land Port and Bhomra Land Port are given in the following section. Due to implementation of the ACCESS project as well as implementation of SASEC project significant amount of traffic will be increased in this region. Increased traffic flow is likely to boost economic activity in Bhomra and Benapole, leading to:

- Improved road connectivity can facilitate trade between Bangladesh and its neighbors, leading to increased exports and imports.
- Better transportation infrastructure can attract businesses and investors to the region, creating new jobs and economic opportunities.
- Easier access to Bhomra and Benapole can attract tourists, further boosting the local economy.

184. The ACCESS project has the potential to bring significant economic benefits to Bhomra and Benapole as these two-land ports will be developed as potential hub of transportation for south Asia.

3.5.12.1 Movement of Trucks through Benapole

185. Transportation of cargo through Benapole is carried out by trucks (almost 99 percent). The average load for the year of 2020-2021 of Bangladesh truck in the was 2,066,701 metric tons compared to Indian trucks which carried around 2,074,727 metric tons. Therefore, the number of Bangladeshi trucks that require loading the imported goods from Indian trucks entering the port is higher than the number of incoming Indian trucks. On average 1,526,545 Bangladeshi trucks and 112,948 Indian trucks enter the port totaling 265,603 per year. The following tables shows the fact:

Table 3.32: Number of Cargo Movement through Benapole Land Port in from 2005-21

Fiscal year	Cargo Loading (Import)		Cargo Unloading (Export)		Total cargo lifting	
	Weight(t)	Number of Indian vehicles	Weight(t)	Number of Bangladeshi vehicles	Weight(t)	Number of Vehicles
2005-06	872532	66312	863786	77763	1736318	142580
2006-07	921605	66232	920942	78935	1842547	145167
2007-08	1422762	100006	1375876	113681	2798638	213687
2008-09	872819	77881	862297	87607	1735116	165488

Fiscal year	Cargo Loading (Import)		Cargo Unloading (Export)		Total cargo lifting	
	Weight(t)	Number of Indian vehicles	Weight(t)	Number of Bangladeshi vehicles	Weight(t)	Number of Vehicles
2009-10	1148468	99873	1167106	118456	2315576	218329
2010-11	1142126	103683	1165280	121533	2307457	217266
2011-12	1221470	93201	1185175	103907	2406648	197096
2012-13	1124126	87197	1145003	92127	2262362	180362
2013-14	1263099	95684	1261238	112941	2524342	208622
2014-15	1379350	100712	1404345	121071	2783695	221783
2015-16	1298983	107473	1297298	129760	2596281	237233
2016-17	1466164	114511	1432281	137359	2888445	255870
2017-18	1746215	121633	1850599	172001	3596281	293634
2018-19	1836953	122335	1990278	173964	2827231	296299
2019-20	1977074	94405	1961253	132885	3938327	227260
2020-21	2074727	117326	2066701	169958	4141428	287284

Source: Benapole Land port Authority

186. This chart can be shown in graphical Figure 3-58.

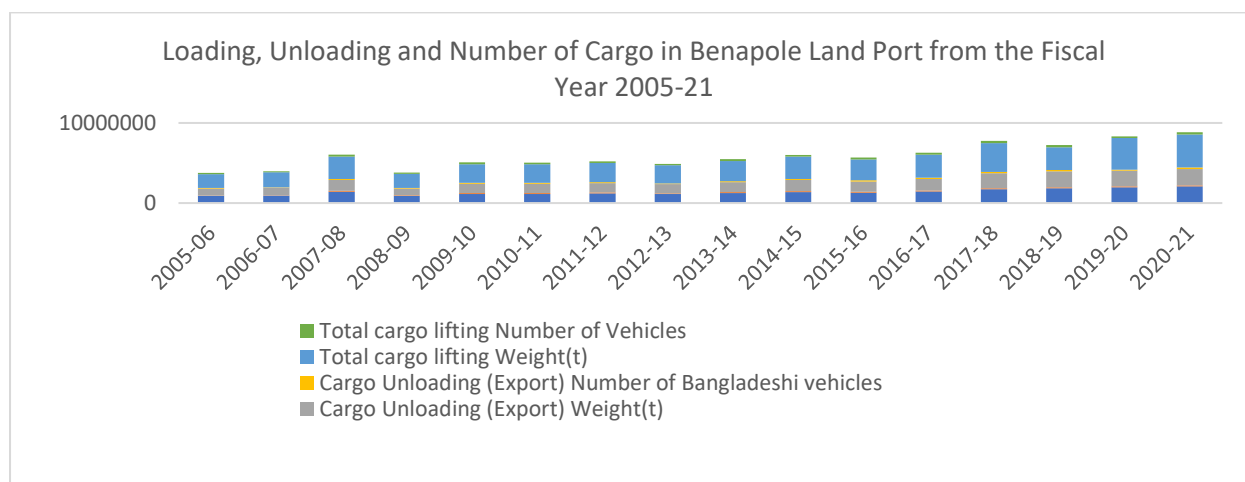


Figure 3-58: Cargo unloading and loading at Benapole Land Port

187. From the above chart loading, unloading and number of cargos increases for the last fiscal year 2020-21 is in the highest rate. Due to the pandemic last year, the number of cargo movement decreased for the fiscal year 2019-21. Then after the pandemic era the export import increases with a visible change.

3.5.12.1 Passenger movement through Benapole

188. In 2014 number of passengers from Bangladesh to India was around 562114. In 2019 the number increased to 1,255,966, an average increase of 22 percent per year. In 2019, around 1205823 passengers crossed the border through Benapole. The total number of passengers moving from Bangladesh to India was 5,897,867 in the last five years. On the other side, 5,351,255 passengers moved from India to Bangladesh in the last five years. The passenger movement data are shown below:

Table 3.33: Passenger movement through Benapole Land Port

Sl.	Year	Passenger In	Passenger Out
1	2014	520727	562114
2	2015	652914	715162
3	2016	635611	868287
4	2017	1230406	1320972
5	2018	1105774	1175366
6	2019	1205823	1255966
	total	5351255	5897867

Source: Benapole Land port Authority

189. This tabular form can be shown in the graphical chart also like below:

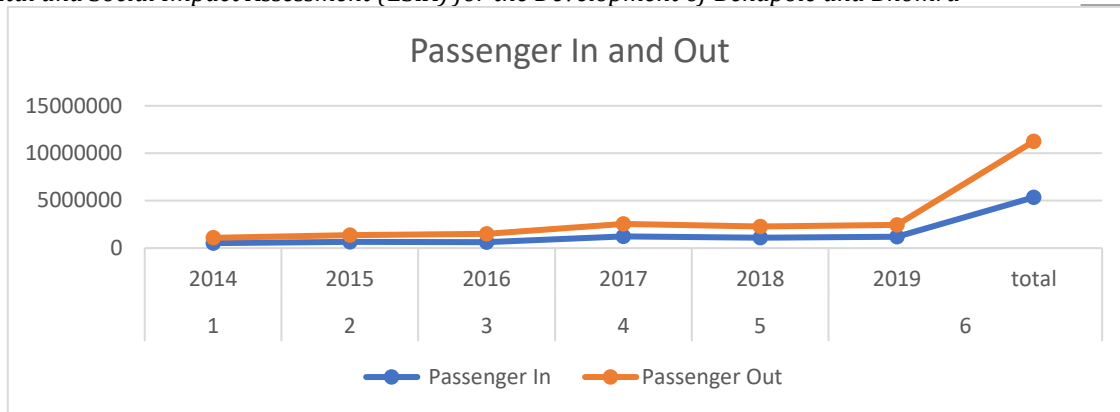


Figure 3-59: Passenger movement through Benapole Land Port

190. This chart shows that the rate of passengers out through the international terminal is higher than the rate of passengers entering the border. From the pandemic era the movement has been increasing after opening the border.

3.5.12.1.2 Imported and Exported Items at Benapole Land Port

191. Major goods imported and exported through land ports are given in the Table 3.34.

Table 3.34: Import and Export Items in Benapole Land Port¹³

SL	Import Items	SL	Export Items
1	Yarn	1	Fuel
2	Domestic Animal	2	Yarn Waste
3	Jute Yarn	3	Coconut Tree Broom
4	Frozen Fish	4	Cotton Waste
5	Cotton	5	Jute Yarn
6	Dry Fish	6	Biscuit
7	Onion	7	Juice
8	Garlic	8	Choco Bin
9	Oil Turmeric	9	Honey
10	Betal Leaf	10	Brunt Khoil
11	Stone Chips	11	Black Cumin
12	Marble Chips	12	Cotton Rags
13	Sand Stone	13	Chili
14	Quaztx	14	Leather
15	Feldspar	15	Reprocessed Plastic
16	China Clay	16	Knit Fabric
17	Fuel	17	Earth Clay
		18	Melamine Table Ware
		19	Fishing Net
		20	Coconut
		21	Zinc Waste and Scrap
		22	Bran Oil
		23	Fatty Acid
		24	Tobacco

192. These products are imported and exported annually by Benapole land port.

¹³ Bangladesh Land Port Authority. 2022. [online] Available at: <[http://bsbk.portal.gov.bd/sites/default/files/files/bsbk.portal.gov.bd/page/1da6d5ad_5287_4dc7_8146_0326260b1894/overview%20\(Nov%2717\).pdf](http://bsbk.portal.gov.bd/sites/default/files/files/bsbk.portal.gov.bd/page/1da6d5ad_5287_4dc7_8146_0326260b1894/overview%20(Nov%2717).pdf)>

Band Part 2 Movement of Trucks through Bhomra

193. Transportation of cargo through Bhomra is carried out by trucks (almost 99 percent). Average load per Bangladesh truck in the last five years was 20 tons compared to Indian trucks which carried around 33 tons. Therefore, number of Bangladeshi trucks that require to load the imported goods from Indian trucks entering the port is higher in number than the number of incoming Indian trucks. On average 132,000 Bangladeshi trucks and 82,000 Indian trucks enter the port totaling 214,000 per year. The following figure illustrates the facts.

Table 3.35: Statistics of Vehicle Movement through Bhomra

Financial year	Truck				Covered Van				Tractor				Lorry/Trailer				Oil Tanker			
	Bangladesh - India	Increase percent	India - Bangladesh	Increase percent	Bangladesh - India	Increase percent	India - Bangladesh	Increase percent	Bangladesh - India	Increase percent	India - Bangladesh	Increase percent	Bangladesh - India	Increase percent	India - Bangladesh	Increase percent	Bangladesh - India	Increase percent	India - Bangladesh	Increase percent
2014-15	6,573		80,880		231		251		198		201		5		11		55		109	
2015-16	9,262	40.91	76,825	-5.01	211	-9	241	-4	199	1	234	16	4	-20	13	18	58	5	111	2
2016-17	9,082	-1.94	88,252	14.87	230	9	234	-3	210	6	265	13	5	25	15	15	63	9	129	16
2017-18	18,379	102.37	86,011	-2.54	234	2	249	9	244	16	288	9	5	0	17	13	69	10	132	2
2018-19	17,882	-2.70	70,155	-18.43	251	7	265	4	287	18	299	4	6	20	21	24	87	26	145	10
Average (5 years)	12,236	34.66	80,425	-2.78	231	2.34	249	1.51	228	9.96	257	10.54	5	6.25	15	17.61	66	12.42	125	7.54

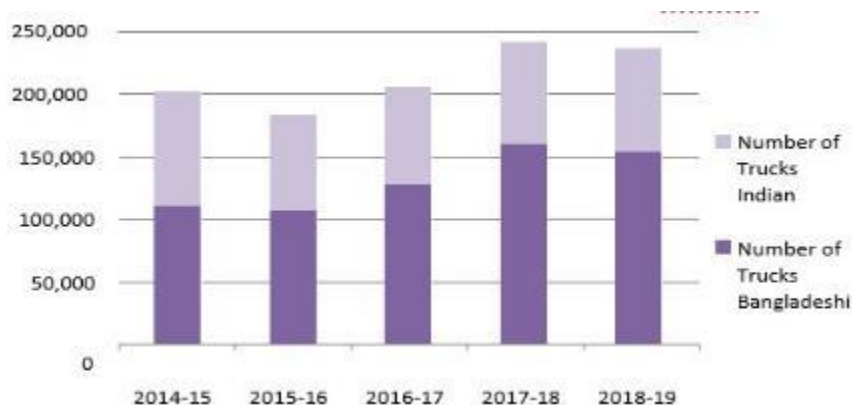


Figure 3-60: Number of trucks unloading and loading at Bhomra Land Port

194. The Bangladeshi trucks that load imported goods to take to different destinations do not usually stay in the port compound.

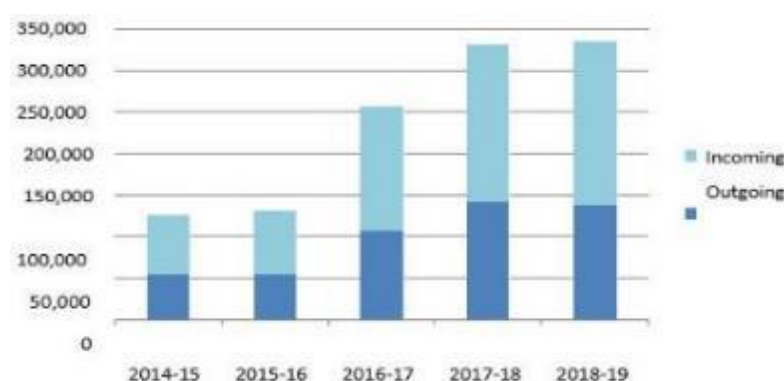


Figure 3-61: Number of passengers crossing Bhomra border

3.5.12.2.1 Passenger movement through Bhomra

195. In 2014-15 number of passengers from Bangladesh to India was around 54,000. In 2018-19 the number increased to 137,000 an average increase of 32 percent per year. In 2018-19, around 333,000 passengers crossed the border through Bhomra. Average number of passengers moving from Bangladesh to India was 98,000 in the last five years. On average 137,000 passengers per year moved from India to Bangladesh with a growth rate of 33 percent per year.

3.5.12.2.2 Imported and Exported Items at Bhomra Land Port

196. Major goods imported and exported through land ports are given in the Table 3.46.

Table 3.36: Import and Export Items in Bhomra Land Port

SL	Import Items	SL	Export Items
1	Fruit	1	Yarn Waste
2	Tomato	2	Coconut Tree Broom
3	Capsicum	3	Cotton Waste
4	Frozen Fish	4	Jute Yarn
5	Dry Chili	5	Biscuit
6	Dry Fish	6	Juice
7	Onion	7	Choco Bin
8	Garlic	8	Potato Chips
9	Oil Cake	9	Honey
10	Turmeric	10	Handloom Saree
11	Betal Leaf	11	Brunt Khoil

SL	Import Items	SL	Export Items
12	Stone Chips	12	Black Cumin
13	Marble Chips	13	Cotton Rags
14	Sand Stone	14	Chili
15	Quartz	15	Leather
16	Feldspar	16	Reprocessed Plastic
17	China Clay	17	Knit Fabric
		18	Earth Clay
		19	Plastic Furniture
		20	Melamine Table Ware
		21	Fishing Net
		22	Coconut

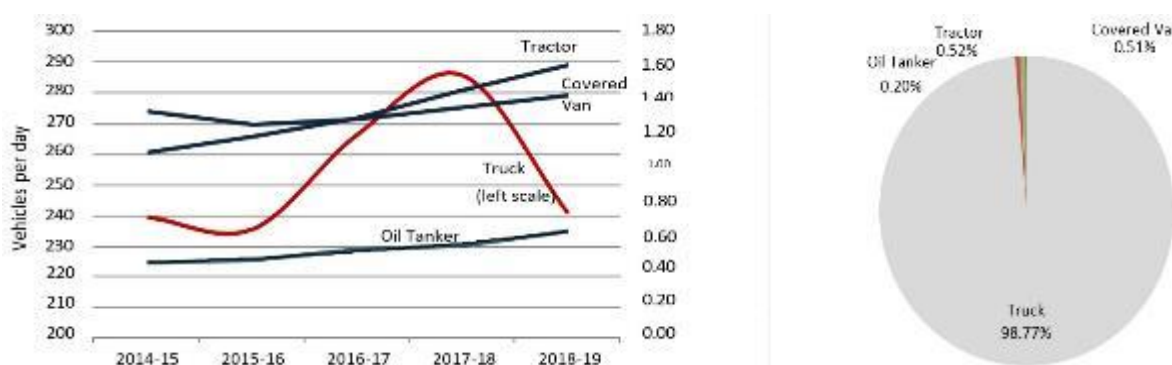


Figure 3-62: Pattern of Vehicle Movement through Bhomra Land Port

Table 3.37: Pattern of Vehicle Movement through Bhomra Land Port

Year	Entry into Bhomra ICP (Zero Gate)	Entry into Customs Area	Trans-shipment from Indian trucks to Bangladeshi trucks	Customs Examination	Final Clearance by Bhomra Customs	Exit from Customs Area	Total
2019		50 min-1 hr			50 min-1 hr		2.33 hr

3.5.12.2.3 Forecast Results for Traffic Volumes within Bhomra Land Port

197. In the past during 2005-2019, the cargo traffic grew at an average rate of 19% per year. This is a high rate of growth which was resulted from the speeding up the cargo handling demand through this port despite limitations. However, in the long run, the growth may decline if it is not intervened by fresh capacity additions or heavy diversion of traffic from Benapole. During the prediction period 2020-2050, the natural growth rate as predicted in the following figure. The average growth as predicted is 8% per year.

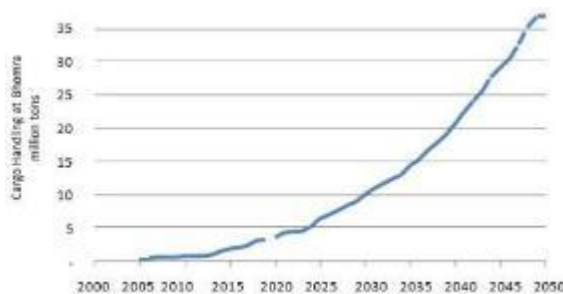


Figure 3-63: Prediction of cargo traffic through Bhomra Land Port

198. The actual profile of cargo handling at Bhomra will be a function of:

- Natural growth of Bhomra’s own traffic
- Induced traffic due to capacity additions
- Traffic diverted from Benapole and
- Capacity limitations and additions.

199. In some instances, it is likely to have a step jump due to addition of the new facilities or expansion of the port and in some instances, it may be restricted due to capacity availability, where it tends to grow at a level higher than the available capacity. Rapid traffic increase is predicted as the result of the project in addition to the recent traffic increase. Stringent traffic measures will be taken based on the impact analysis. The following figure shows the prediction of cargo volume handling by Bhomra based on the above assumptions.

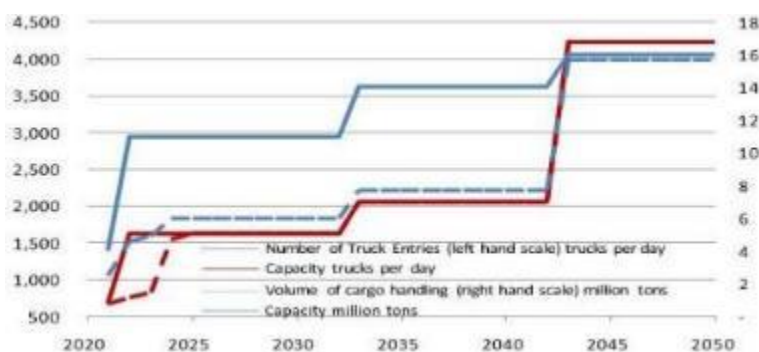


Figure 3-64: Prediction of traffic through Bhomra Land Port

It is predicted that by 2050, the land port can handle about 16 million tons of cargo per year and 4,250 trucks per day.

3.5.12.3 Law and Order Situation considering Illegal Issues:

200. According to Consultation Drug trafficking, smuggling of goods etc. issues are raised. As stated by participants in the consultation, Women in Benapole and Bhomra secretly bring Indian blankets across specific points along the border, evading guards, and sell them in local markets. The scale of this smuggling operation makes it impossible to determine the exact number of individuals involved or the quantity of blankets smuggled. Additionally, there are individuals involved in smuggling cosmetics and chocolate items from India, selling them to nearby border shops. Due to the unofficial nature of these activities, tracking the number of individuals or quantity of smuggled items is challenging.

201. However, local women sometimes get harassed by the Indian drivers/ transport workers that live near the port area said by the participants in Benapole and sometimes in news¹⁴ the human trafficking are exposed. According to local participants, particularly transportation workers residing in the port area,

¹⁴ Bangladesh Land Port Authority. 2022. [online] Available at: <[http://bsbk.portal.gov.bd/sites/default/files/files/bsbk.portal.gov.bd/page/1da6d5ad_5287_4dc7_8146_0326260b1894/overview%20\(Nov%2717\).pdf](http://bsbk.portal.gov.bd/sites/default/files/files/bsbk.portal.gov.bd/page/1da6d5ad_5287_4dc7_8146_0326260b1894/overview%20(Nov%2717).pdf)> -women-trafficked-to-india-returns> [Accessed 18 October 2022].

frequently utilize local shops, food establishments, markets, traffic routes, and temporary truck accommodations during traffic congestion. Although there have been occasional incidents of local women facing harassment from some of these individuals, it is important to emphasize that such occurrences are infrequent in nature. According to the participants, the land port area of Bhomra is deemed to be sufficiently safe, ensuring the well-being of women and children. There have been no reported incidents of harassment of local women by either locals or outsiders in this area. As a result, women can freely move around here at any time, according to their convenience and requirements. Simultaneously, they voiced concerns about the potential escalation in the risk of women facing harassment when a substantial influx of laborers and associated individuals arrives and resides in the area for land port development work. However, up until now, there have been no reported incidents of such nature occurring in this vicinity.

202. The GoB prohibits the trafficking of women and children for the purpose of commercial sexual exploitation or involuntary servitude under the Repression of Women and Children Act of 2000 (amended in 2003) and prohibits the selling and buying of children child under the age of 18 for prostitution in Articles 372 and 373 of its penal code. Prescribed penalties under these sex trafficking statutes range from 10 years' imprisonment to the death penalty. The most common sentence imposed on convicted sex traffickers is life imprisonment.

203. In case of Gender based violence, several laws have been put in place to reduce the amount of violence against women and girls. Early in 2011, a Division Bench of the High Court Division of the Supreme Court ordered every incident of eve-teasing to be considered sexual harassment. It also ordered an amendment to the Prevention and of Repression on Women and Children Act of 2000 to include the act of stalking in its provisions. Other laws protecting Bangladeshi women include the Acid Crime Control 2002 and the Dowry Prohibition Act 1980. However, weak enforcement of these laws is common due to a weak judiciary, corruption, and societal tolerance.

4 Stakeholder Engagement and Public Consultations

4.1 Introduction

204. FGDs regarding environmental concern on the proposed sub-project are carried out at 24th to 27th January 2022 in Bhomra sub project area and 6th February and 9th February 2022 in Benapole Sub project area to update the data relevant to environmental impacts owing to proposed sub-project works.

4.2 Objective of the Consultation

205. The SEP for ACCESS MPA program has been prepared. The coordination and monitoring mechanisms established in the SEP are overseen by committees comprising of staff from BLPA, NBR, RHD and other relevant agencies at the district and Upazilas level. As part of the preparation of this ESIA, 4 FGDs were conducted on different days and locations, and the participants included officials from Bhomra; Lakshmidari, local importers, community elite persons, female laborers, and truck labor association representative.

206. During the consultation the people were informed about:

- Background of ACCESS MPA program;
- Details about the start time of the project, about the land acquisition, how they know about the project. The people were informed about the ESF of the World Bank, GoB land Acquisition Act of 2017, provisions of compensation as per GoB regulations and the compensation and assistance therein and asked suggestion for improvement so that the sub-project authority can incorporate their suggestions for the proposed ACCESS MPA program;
- Advantages and disadvantages of the sub-project.
- Potential environmental and social impacts of the sub-project and likely mitigation measures

207. The Consultations elicited from the people the following:

- Details of the issues that should be given priority in land port development sub-project.
- Possible mitigation measures in case of adverse impacts;
- Means of better delivery of compensation and assistance;
- Their views on the sub-project especially the likely negative impacts;
- The assurance from the sub-project authority not to marginalize people by depriving them of their livelihood.

208. Through public participation, stakeholder's viewpoints and suggestions were captured as an input to the technical design, which were duly considered, and all the suggestions were incorporated in the sub-project design to the extent feasible and /or warranted.

4.3 Approach and Methodology

209. Stakeholder engagement and public consultation were carried out in phases.

Phase 1: Public Participation

210. A public consultation meeting was held with the local communities from 24 January to 27 January 2022. Additionally, meetings were also held with local government officials and customs officials. Photographs of these consultations are given here of local consultations. During these consultations, leaflets on key environmental and social issues were distributed to the participants (these were prepared in the local language) and big posters were also displayed at the venue. The environmental and social experts made power point presentations. Participants were encouraged to ask questions on the environmental and social issues. The local people attended in the discussion meeting included shopkeepers, Businessman, Farmer, Labor, School teacher, Company commander of BGB etc.

Phase 2: Focus Group Discussion FGD

211. The three (03) FGDs were conducted on 6th February 2022 and 9th February 2022 in Benapole sub project and four (04) FGDs were conducted on 24 January 2022 to 27 January 2022 in Bhomra sub project. The summary of focused group discussion meeting (FGD) is shown, and Attendances of Focus group discussion meeting are provided. The participants attended the discussion.

- Local Males
- Local Females
- Community elite persons
- C&F Agents/Port Labor Union

Table 4.1: Details of Consultation Meeting

Date	Meeting& Place	Male	Female	Total
Benapole Land Port Sub Project area				
6th February, 2022	FGD with Male Gatipara, Benapole, Jashore	22	21	43
	FGD with Female Benapole Land port, Boro Anchra, Benapole, Jashore			
9th February, 2022	Port Labor Union Representative Labor Union Office, Benapole, Sharsha, Jashore	10	-	10
Total				53
Bhomra Land Port Sub project area				
24 th January, 2022	FGD with Community Elite persons	08	-	08
	Purbopara Jame Masjid, Tower mor, Bhomra, Satkhira.			
25 th January, 2022	FGD with C&F Agents/Port Labor Union, Infront of Jahangir market, Bhomra, Satkhira	09	-	09
26 th January, 2022	FGD with Community Female, Golam Ayajuddin’s house, Majherpara, Lakshmidari, North side of Bhomra zero point, Sadar, Satkhira.	-	08	08
27 th January, 2022	FGD with Community Male, Golam Ayajuddin’s house, North side of Bhomra zero point, Bhomra, Lakshmidari, Satkhira	10	-	10
Total				35

4.4 Stakeholder Assessment

212. The three main categories of the stakeholders which have been considered in this report are: (i) Project affected parties; (ii) Other interested parties and (iii) Vulnerable and marginalized groups. The stakeholders of Benapole and Bhomra land port improvement sub-project include the (i) financing agencies e.g. WB, GoB and other donor agencies (ii) government organizations involved in planning, design and implementation e.g. BLPA, Bangladesh Water Development Board (BWDB), Civil Administration (DCs), Public Representatives, NGOs, etc., (iii) Consultants and Contractor involved with feasibility study, detailed design and bidding document preparation and implementation phases and (iv) PAPs affected positively and/or negatively directly and/or indirectly, (v) Squatters and Vulnerable HHs and (vi) transporters, transports workers/unions, labor at the port and their unions, traders/businesses including women traders.

Summary of Incorporation of Concerns

213. The sub-project in line with GoB and World Banks Environmental and Social Standards have employed a participatory approach in sub-project design. Several suggestions/ concerns were raised by PAPs and the following is a summary of the incorporation of key concerns. The principal behind the sub-projects’ E&S strategy is to mitigate to the highest extent possible.

a) In Case of Benapole Land Port

- **Land Acquisition and Compensation related Aspects:** Compensation will be determined based on GoB law and WB ESS5. The entitlement matrix will be included in the RAP and shared locally.
- **Replacement of community structures:** The design of the project ensures that there will be no impact on any religious institutions. However, tree, structures, squatter, and encroachers will be impacted negatively as a result of the project
- **Safety Concerns:** Currently children cross these roads to go to school therefore road safety during and after civil works needs to be accounted for C-ESMP will account for these challenges
- **SEA/SH/GBV:** As per the feedback from the consultation, the risk of SEA/SH for Benapole LP is low. There are no major cases reported earlier at Benapole regarding sexual harassment or abuse in workplace. As well as from the perception of local people it was found that no GBV risks have arisen in recent past at Benapole and people are aware of those issues. (However, the SEA/SH risks for the other LPs are rated moderate, consistent with the project's overall SEA/SH risk rating. A Gender Action Plan (GAP) and SEA/SH Action Plan has been prepared for all the 4 IAs with specific references to BLPA (and Benapole LP) for the relevant mitigation measures. This also includes a consulting package to recruit an NGO to develop and execute public awareness campaign on human trafficking and SEA/SH at the land ports).
- **Labor related issue:** Along with labor management and labor influx plans, labor camp site management also needs to be developed to mitigate or reduce the impact of migrant workers on the local community.
- **Information dissemination:** Currently the state of knowledge among locals in the project area is very low, therefore targeted participatory measures will be taken to update them on the project and its timeline. The process of resettlement begins long before land handover and this project will ensure that the affected parties have plenty of time to adjust and respond to the changes.
- **Mitigation of risks and Impacts:** The Design of the land port also considers possible environmental and social impacts. Furthermore, environmental, and social mitigation and monitoring measures have been developed along with appropriate budget and institutional setup during construction and operation phases.
- **Air/Dust Pollution Issues:** There are some air and dust pollution issues raised during construction activities. By proper monitoring activities such as using the latest equipment and upgradation, spraying water at least daily two or three times this can be mitigated.
- **Sound/Noise Pollution Issues:** During Construction, noise pollution can occur from construction activities, construction vehicle movements and as well as traffic congestion. This can be mitigated by different mitigation measures such as low noise generating equipment, established sound barrier around the sub-project area as well as providing ear muffler to the worker etc.
- **Traffic Issues:** Traffic congestion is commonly seen in the Benapole Land Port area. During construction it will worsen. However, by Implementing road safety measures (such as safety signboards, flagmen, speed breakers, zebra crossings etc.) the congestion issues can be minimized during construction as well as during the operational period.

b) In case of Bhomra Land Port

- **Land Acquisition and Compensation related Aspects:** Compensation will be determined based on GoB law and WB ESS5. And the guidelines of RPF. The entitlement matrix will be included in the RAP based on the identified impacts during census and IOL and will be disclosed locally.

- **Replacement of community structures:** The design of the sub-project ensures that there will be no impact on any religious institutions. However, trees, structures, squatters, and encroachers will be impacted negatively because of the sub-project and adequate mitigation measures will be proposed in the RAP.
- **Safety Concerns:** Currently children cross these roads to go to school therefore road safety during and after civil works needs to be accounted for C-ESMP will account for these challenges.
- **SEA/SH/GBV:** A GAP is being prepared and implemented throughout the project cycle. The GAP also includes SEA/SH prevention plan.
- **Labor related issue:** Along with labor management and labor influx plans, labor camp site management also needs to be developed to mitigate or reduce the impact of migrant workers on the local community.
- **Information dissemination:** Currently the state of knowledge among locals in the sub-project area is very low, therefore targeted participatory measures will be taken to update them on the sub-project and its timeline. The process of resettlement begins long before land handover and this sub-project will ensure that the affected parties have plenty of time to adjust and respond to the changes.
- **Minimization of Impacts:**
A RAP will be prepared based on the final detailed design which will contain detailed mitigation measures following the RPF.

4.5 Summary of the Consultations

214. As part of the disclosure of the ESIA consultation meetings were organized by the BLPA at Bhomra Land Port, Bhomra, Lakshmidari, Satkhira from 24 January 2022 to 27 January 2022 as well as, from 6th to 9th February 2022 at Benapole Land Port, Benapole, Jashore.

4.5.1 Summary of Focus Group Discussion

215. The consultations conducted at the Benapole and Bhomra land ports offered local stakeholders an opportunity to comprehend the project, assess potential scenarios, identify potential project-related impacts, and discuss measures necessary to mitigate these impacts. The discussions also involved exchanging suggestions on how to address various scenarios that may arise. Several key concerns were addressed pertaining to both land ports, which encompassed the following topics:

- General perception about the project
- Who will be affected directly/indirectly
- Impacts due to this project and how safe is the Environment for women and children
- Incidents of violence/ sexual harassment of local women and female workers who works in Land port
- Land Acquisition and compensation
- Perception about grievance resolving committee
- Impact on Environment due to this project
- Livelihood of residence

For details of the discussion, please go to Annex E.



Figure 4-1: Focus Group Discussion (FGD) With community Members in Benapole Sub project area



Figure 4-2: Focus Group Discussion (FGD) With community Members in Bhomra Sub project Area

5 Analysis of Alternatives

5.1 With Sub-project Scenario

216. In Benapole, the proposed project consists primarily of a few Khas (government) lands, with most of the areas requiring acquisition. As a result, major relocation and resettlement work is required. Because the planned sub-project is an expansion of the existing Benapole land port, it is desirable to situate the operations nearby because it has the finest communication facilities. The proposed lands are in around of the land port as well as near the India-Bangladesh border. Again, by acquiring residential area around the land port, security system of the land port will be increased. For this reason, the expansion of the subproject area chosen is the best alternative.

217. Again, the existing Bhomra land port has been operating since 2013. There is no alternative location for the extension of the existing port. This land has immense potentials as it is nearer to Kolkata for both trade and immigration. All current infrastructure is inadequate and of a poor standard. Bhomra Land Port Sub-project is in the village of Lakshmidari of Bhomra union of Satkhira Sadar Upazila under Satkhira district. It is the 3rd largest land port of Bangladesh. In 2013 Bhomra land port has been established at Bhomra for import and export goods with India, Bhutan, and Nepal by road.

218. In Bhomra, the proposed sub-project needs to acquire 61.20 acres of land with major resettlement related risks and impacts, RAP will discuss the detailed resettlement issues. As the proposed sub-project is an expansion of the existing Bhomra land port, the best option is to locate the activities adjacent to it as this has the best communication facilities. The area selected for expansion is the best option for this sub-project.

219. It has been observed that the proposed locations are acceptable for both the land ports' development. Besides, the distance of main source of imported materials from India to Bangladesh border by the route in minimum. At construction work for land port development, the construction materials may be used after import from India. So, these locations selections are very important for economy of Bangladesh. The importers have a license for their activities maintaining all governmental rules and regulations.

5.2 Alternatives for Single Modal and Multi Modal Transport

220. There is only one existing road from Satkhira Sadar to Bhomra land port which is about 15 km. Satkhira is connected to Dhaka by Khulna-Dhaka Highway. The transportation network from Dhaka to Bhomra is given in the Figure 4.

221. Current situation of the transport corridor in which Benapole and Bhomra land port is located is that:

- Railway line is not present in any proximity to the Bhomra Land port. Linking the railway line with Benapole and/or Mongla would require the government's long-term policy and investment plan.
- Betna River and Ichamati river route were not operational since independence of Bangladesh. Big investment may be required for river port facilities and for securing the river route by dredging. Moreover, the connectivity through the river will endanger the natural habitat and the biodiversity of The Sundarbans.
- The O-D survey suggests that the source of products that are transported through the route doesn't comply with the requirements of any other mode of transportation- water way or railway.
- As, there is a national border in the corridors, additional facilities like customs, immigration, and quarantine facilities with related agreement between governments of Bangladesh and India. Making the agreement between the two countries would require quite a bit of time.
- Despite the constraint described above, if the export/import characteristics on the corridor

fulfill basic conditions for multi-modal transport such as (1) the origins and destinations of the goods are not dispersed, (2) the transport distances are long enough¹⁵ to deploy multi-modal transport (road ~ railway or river ~ road), multimodal transport options should be deeply investigated.

222. Benapole Land Port is connected by road and rail network weather Bhomra Land Port is connected by road network only. Both land ports are not connected by river.

223. The Betna River originates in Jashore District, flows through Satkhira and Khulna and falls in the Bay of Bengal. As well as the Noadanga Khal flow beside the Benapole Land Port and between Bangladesh-India Border side. In Bhomra Land port, there is River Ichamati which is originated from India is at three kilometers south of Bhomra. Both rivers have no Jetty or port facility and upstream both rivers have no navigational channel because of siltation. However, from Bangladesh part these rivers have low navigational clearance for river crafts with load. It remains navigable in rainy season or monsoon period only from the month of June to September (4 months).

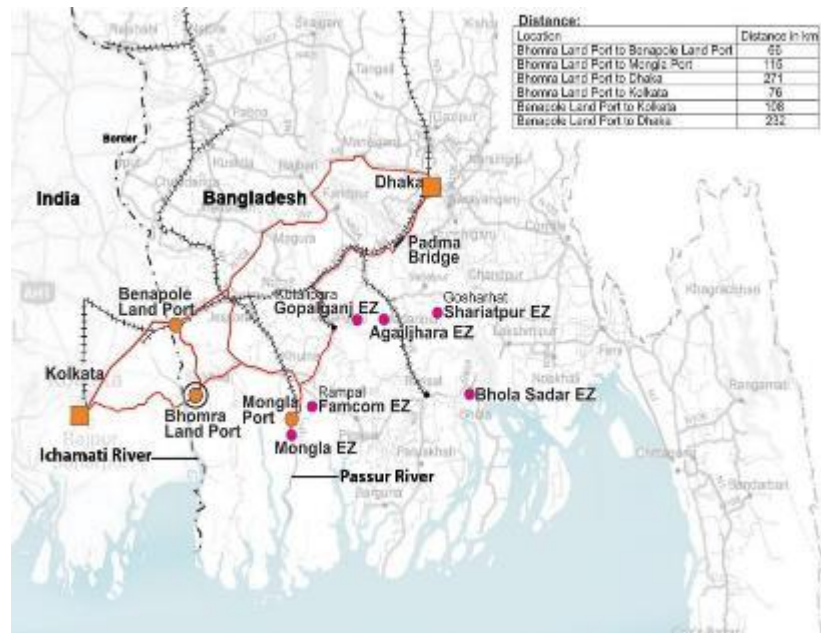


Figure 5.1: Transportation network from Dhaka to Benapole and

224. On the other hand, the nearby 6 Economic zones are being developed by 2020 by BLPA in the public and private sector. These are connected by road. So, the road is the best option now for having access to the Benapole and Bhomra land port site. Detailed situation can be shown in the maps and pictures below.

Detailed situation can be shown in the maps and pictures below.

225. In conclusion, Benapole and Bhomra land port exists on the road corridor and the O-D characteristics of goods are not proper to introduce multimodal transport in this corridor, this project, Improvement of Bhomra land port, is focusing on the current location of Benapole and Bhomra land port.

226. It is recommended that multimodal transport routes be developed in view of the efficient international transportation systems for goods movement with enough time and costs under agreement among relevant countries.

5.3 Without Sub-project Scenario

227. If the sub-project is not implemented, the people living in the sub-project region would continue to face the same issues. The region will be deprived of the potential for expanded production, the formation of new economic activity, and employment if it does not have a good investment infrastructure.

228. There are no other options for the current infrastructure and roadways. The design is created keeping the current infrastructure and roadways in mind. Existing facilities will not be dismantled until

¹⁵ If the transport distance is shorter than 300 km, road transport is much more competitive than the other modes such as railway, inland waterway, etc. If the transport distance is longer than 1,000 km, multi-modal transport seems to be competitive in practical point of view.

and unless new facilities for drivers and laborers and a passenger terminal, passenger parking, and pedestrian road/access are built.

5.4 Technological Alternatives

229. This section will be completed after completing the feasibility study of this sub-project. Then the technological options will be analyzed.

230. There are no alternative arrangements for present facilities and roads. Design is developed while considering present facilities and roads. Arrangements have been made that until and unless new facilities for drivers and laborers, passenger terminal, passenger parking, and pedestrian road/access are established the existing facilities will not be demolished. A temporary impact may be observed during construction on the movement of traders, truckers, and passengers. To mitigate this, a temporary diversion way for movement will be suggested.

231. Traditional design has been selected as it will give most of the benefit. Proposed and construction options are analyzed for traditional, co-located or juxtaposed, staggered, and delocalized design. Considering all the mentioned factors existing land custom site at Benapole and Bhomra is more suitable and sustainable for both Land Port Development (e.g. Benapole Land Port and Bhomra Land Port) and consequently detail of environmental study was conducted on the existing land port site for Land port development.

6 Environmental and Social Risks, Impacts and Mitigation

6.1 Introduction

232. The proposed sub-projects will imply both positive and negative environmental and social consequences on the Individuals and communities living in the sub-project's influence area. However, the scale of the sub-projects indicates that influx of migrant labor and resettlement process in the sub-project areas might lead to several socio-economic challenges. Indicators related to community health and gender-based violence may worsen because of labor influx during the construction phase. These issues account for some of the most critical areas in this assessment.

6.2 Risk Assessment Methodology

6.2.1 Assigning Risk

233. Following the assessment of magnitude, the quality and sensitivity of the receiving environment receptor shall be determined. The significance of each potential impact will be established using the risk classification matrix shown in Table 7.1 and in accordance with the ESS1 standard of the potential four risk categories viz. **High, Substantial, Moderate and Low**.

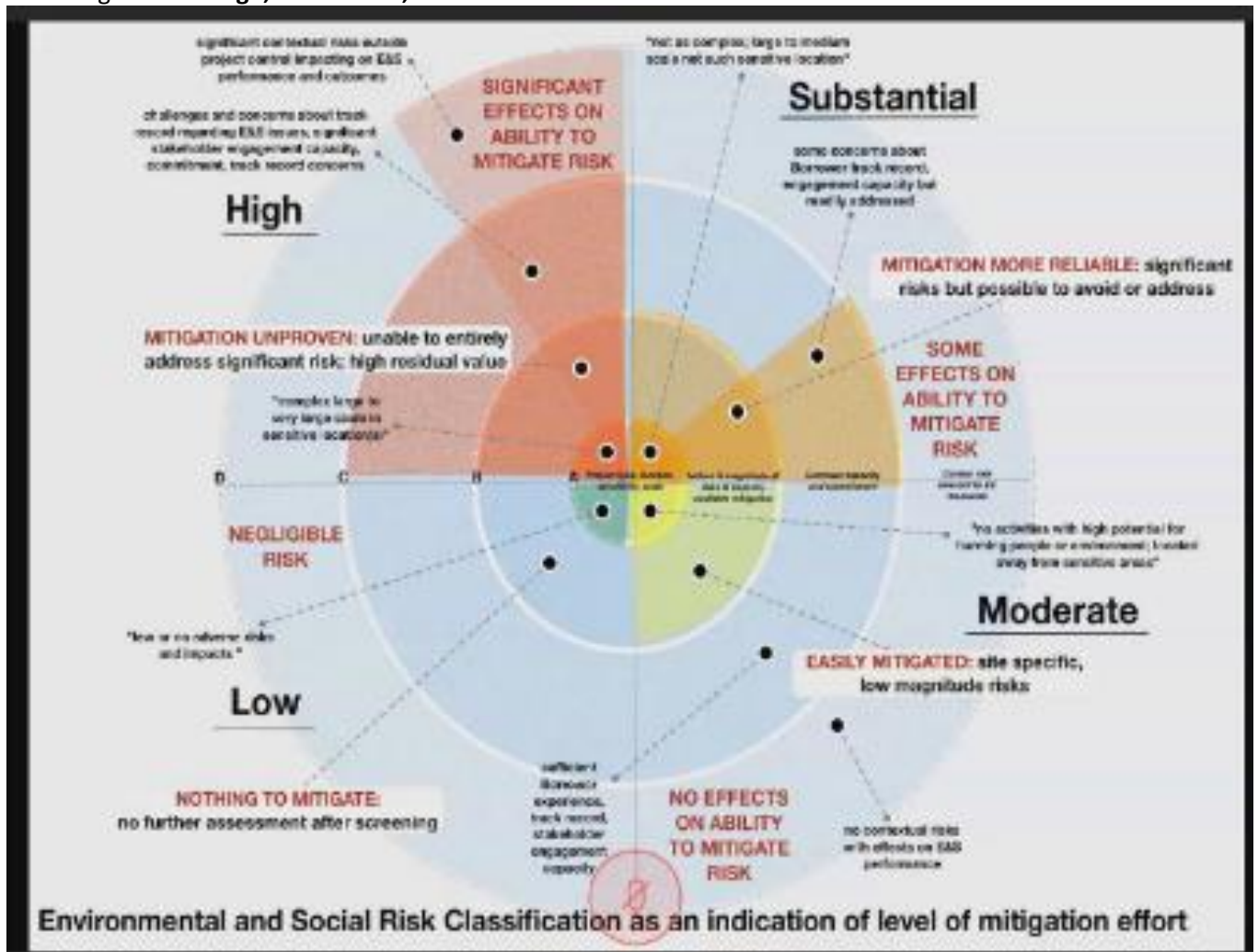


Figure 6-1: Environmental and Social Risk Classification

234. Risk screening criteria based on WB ESF were used to investigate the sub-project's risks and consequences, and the risk classification for this sub-project is displayed in Table 6.1.

Table 6.1: Risk Screening Criteria

Risk Category	Screening Criteria
High	A project is classified as high risk when its potential adverse risks and impacts on human populations and the environment exhibit several concerning characteristics. These include the likelihood of generating a wide range of significant adverse effects, such as long-term, permanent, or irreversible impacts that are impossible to entirely avoid due to the project's nature, high magnitude and spatial extent affecting large areas or populations, significant cumulative and transboundary impacts, and a high probability of serious adverse effects on human health and the environment. Furthermore, if the project area is of high value and sensitivity, involving legally protected ecosystems, Indigenous Peoples' rights, complex resettlement, or densely populated urban areas, it heightens the risk. Complex, unproven mitigation measures, potential social conflict or harm, security concerns, regulatory uncertainties, limited project development experience, and capacity and commitment issues related to stakeholder engagement also contribute to the high-risk classification. Additionally, external factors beyond the project's control could significantly impact its environmental and social performance and outcomes. The project may have trouble complying with the appropriate ESF requirement, necessitating extensive mitigation.
Substantial	A project is classified as having "Substantial Risk" when considering its integrated risks and impacts. While not as complex as "High Risk" projects, it still presents noteworthy concerns. The project's environmental and social (ES) scale and impact are moderate, and it typically operates in less sensitive areas. The potential risks and impacts share these characteristics: they are mostly temporary and reversible, although reversing them may require substantial investment and time; there are concerns of limited social conflict or harm resulting from the project and its mitigation measures; they are of medium magnitude and spatial extent; potential for cumulative and transboundary impacts exists but is less severe and more manageable compared to High Risk Projects; and there is a medium to low probability of serious adverse effects on human health and the environment, with known mechanisms to prevent or minimize such incidents. The project's effects on areas of high value or sensitivity are expected to be lower than high-risk projects, and mitigatory and compensatory measures are more readily designed and reliable. It may face legal or regulatory uncertainties, and the borrower and implementing agencies have limited experience in certain aspects, but these concerns can be addressed through implementation support. Capacity and experience in managing stakeholder engagement also raise some concerns, but they are manageable with support.
Moderate	A project falls under the category of "Moderate Risk" when considering its integrated risks and impacts. In this classification, the potential adverse effects on both human populations and the environment are not expected to be significant. This is primarily because the project is neither complex nor large, does not involve activities with a high potential for harm to people or the environment, and is situated away from environmentally or socially sensitive areas. As a result, the potential risks and impacts are characterized by being predictable, temporary, and reversible, with low magnitude and site-specific nature, unlikely to extend beyond the project's actual footprint. Moreover, there is a low probability of serious adverse effects on human health or the environment, as the project does not involve the use or disposal of toxic materials, and routine safety precautions are sufficient to prevent accidents. Additionally, the risks and impacts of the project can be easily and predictably mitigated.
Low	A "Low Risk" project is one in which the potential adverse impacts on human populations and the environment are expected to be minimal or negligible. These projects, characterized by few or no adverse risks or impacts, typically do not necessitate further environmental and social assessment beyond the initial screening.

6.2.1.1 Magnitude of Impact

235. The assessment of magnitude was undertaken in two steps. Firstly, the key issues associated with the sub-project are categorized as beneficial or adverse. Secondly, potential impacts shall be categorized as Very High, High, Moderate and Low based on consideration of the parameters such as:

- Ability of people and ecosystem to cope with change
- Spatial extent of the potential impact;
- Duration of the potential impact;
- Timing of effects experienced;
- Nature of cause-and-effect;
- Relationship of sub-project activities to impacts from other sources in landscape

6.2.1.2 Sensitivity of Receptor

236. The sensitivity of a receptor shall be determined based on review of the population (including proximity/numbers/vulnerability) and presence of features on the site or the surrounding area. Criteria for determining receptor sensitivity of the program’s potential impacts are outlined in Table 6.2.

Table 6.2: Criteria for Determining Sensitivity

Sensitivity Determination	Definition
Very Severe	Vulnerable receptor with little or no capacity to absorb proposed changes or minimal opportunities for mitigation.
Severe	Vulnerable receptor with little or no capacity to absorb proposed changes or limited opportunities for mitigation.
Mild	Vulnerable receptor with some capacity to absorb proposed changes or moderate opportunities for mitigation
Low/Negligible	Vulnerable receptor with good capacity to absorb proposed changes or/and good opportunities for mitigation

6.2.2 Assigning Risk Significance

237. Magnitude of Impact and Sensitivity receptor are key factors for assigning the sub-project's risk significance. From the above mentioned criteria of impact assessment the overall risk have been assigned. The following Table 6.4 is outcome and the consequences of the magnitude of impact and sensitivity of receptor.

Table 6.3: Assessment of Risk Significance

Magnitude of Potential impact	Sensitivity of Receptors				
	Very Severe	Severe	Mild	Low	Negligible
Very High	-	-	Substantial	Substantial	Moderate
High	-	-	Substantial	Moderate	Moderate
Moderate	Substantial	Substantial	Moderate	Moderate	Low
Low	Moderate	Moderate	Moderate	Moderate	Low
Nil	Moderate	Moderate	Low	Low	Low

6.3 Risk Assessment of the Sub-project

238. In Bangladesh, the proposed activities are assessed to have **Substantial** environment risk given that most of the works are rehabilitation and improvement of existing infrastructure. Furthermore, there appears to be no environmentally sensitive areas that will be affected by the sub-project activities. BLPA has demonstrated under the ACCESS MPA Programme that Implementation period can manage environmental risks and impacts satisfactorily. With trainings and capacity building and specialist support, it is expected that the anticipated environmental risks can be managed effectively.

239. On the other hand, the social risk rating for the sub-projects Bhomra Land Port is **High** as the large amount of land acquisition with high physical and economic displacement might be required. The generic adverse impact assessment matrix for the sub-projects intervention is given in following Table.

Table 6.4: Generic Adverse Impact Assessment Matrix for the sub-project Intervention

ESF Standards, Environmental and Social risks and impacts	Land Port	Risk Rating		Rationale
		Construction stage	Operation stage	
ESS1 Assessment and Management of E&S Risks and Impacts				
Vulnerable groups	Benapole Land Port	Substantial	Moderate	The proposed sub-project is likely to result in physical and economic displacement in the project AOI. As a result, it's probable that vulnerable groups will experience substantial impact. A significant portion of agricultural land is currently undergoing the process of being acquired, potentially leading to the loss of some land for 3.45% of the respondents who identified as farmers. 22.98% landowners are in the AOI, they will be affected economically. As a result, if construction work creates access barriers to labor markets for these individuals, they may become economically vulnerable. The sub-project is likely to benefit vulnerable groups financially, and there will be moderate impact on the vulnerable group in operational phase.
	Bhomra Land Port	Substantial	Moderate	The sub-project will categorize vulnerable groups (i) having a disability, (ii) being a widow, and (iii) being a senior citizen (age greater than 60). (iv) farmers and to be marginal farmers and landless farmers after acquiring lands. The proposed sub-project is likely to result in physical and economic displacement in the project AOI. Therefore, vulnerable groups are likely to be disproportionately affected. Large agricultural land is under the process of land acquisition. 12.33% respondents were agriculturist, land acquisition may force some people to become marginal farmers or go landless, exposing them to vulnerability. 54.98% are landowners are in the AOI, they will be affected economically. Fishermen (1.71% of the respondents) will be economically at risk; fish culture will be affected as some ponds will be filled. A large proportion of people living in the surveyed HH earn less than BDT 5000 per month. As a result, if construction work creates access barriers to labor markets for these individuals, they may become economically vulnerable. The sub-project is likely to benefit vulnerable groups financially, and there will be moderate impact on the vulnerable group in operational phase.
Cumulative Impacts	Benapole Land Port	Moderate	Low	There are currently no major projects underway on the Benapole Land Port, and the cumulative impact of the project is most likely to be felt during the construction stage. Positive cumulative impacts, on the other hand, are expected to outweigh any negative cumulative impacts, as the region is expected to be economically transformed once the project is completed.
	Bhomra Land Port	Moderate	Low	There are currently no major sub-projects underway on the Bhomra Land Port, and the cumulative impact of the sub-project is most likely to be observed during the construction stage. On the contrary, positive cumulative impacts are expected to outweigh any negative cumulative impacts, as the region is expected to be economically transformed once the sub-project is implemented.
ESS 2 Labour and Working Conditions				
Labor accommodation	Benapole Land Port	Substantial	Low	Providing adequate worker accommodations is a major problem in Bangladesh. Because workers from outside the project area, even those from the project area, are at risk of being housed on construction sites, appropriate measures must be developed to ensure that immigrant workers find separate housing and have the necessary amenities, reducing the likelihood of conflict with local communities. In this regard, the World Bank's safeguard procedures for worker housing should be followed to avoid a serious situation, as it is currently a big concern.

ESF Standards, Environmental and Social risks and impacts	Land Port	Risk Rating		Rationale
		Construction stage	Operation stage	
	Bhomra Land Port	Substantial	Low	Issues regarding providing appropriate accommodations for labors is a common problem in Bangladesh. Migrant workers are likely to face the more difficulty of finding accommodation at construction sites, appropriate measures must be developed to ensure that immigrant workers find separate housing and have the necessary amenities, reducing the likelihood of conflict with local communities. In this regard, the World Bank's measures according to ESS2 for worker accommodation should be followed.
Working conditions	Benapole and Bhomra Land Port	Substantial	Low	Poor working conditions are a common issue with large - scale construction throughout Bangladesh. So, this sub-project is likely to have adverse impact on working conditions.
Child Labor	Benapole and Bhomra Land Port	Low	Low	Child labor is a widespread issue in Bangladesh. There is a risk of involving children in various stages of the sub-project, and thus the sub-project may endanger the safety and rights of the children involved. According to the social survey, there will be no children involved in the sub-project as child labor.
Occupational Health and Safety	Benapole Land Port	Substantial	Low	While working on a construction site, workers may be exposed to a variety of health risks and hazards. Excavation, the use of construction equipment such as excavators and dump trucks, the operation of crusher plants, and the operation of quarry sites are all prone to result in accidents and health concerns. Workers may be injured or have accidents if there aren't enough safety precautions in place (sometimes resulting in fatalities). The Covid-19 pandemic is a major concern as the virus transmits one to another. The workplace environment needs to be adjusted.
	Bhomra Land Port	Substantial	Low	The survey result shows that 21.25% of respondents are labor. Workers may be exposed to a variety of health risks and hazards while working on a construction site. Accidents and health hazards are likely to occur during excavation, operation of construction vehicles such as excavators and dump trucks, operation of crusher plants, and operation of quarry sites. In the absence of adequate safety measures, workers may sustain injuries and accidents (sometimes resulting in fatalities). The Covid-19 pandemic is a major concern as the virus transmits from one to another. Workplace environment needs to be adjusted accordingly to avoid getting affected.
ESS 3 Resource Efficiency and Pollution Prevention Management				
Landscape aesthetic	Benapole Land Port	Substantial	Moderate	The stockpiling of materials, construction excavation for structures, acquiring of agricultural land, clearance of vegetation, cutting of trees, filling of ponds, are some of the issues related to the general aesthetics. Long-term effect due to acquiring agricultural land, removal of vegetation and cutting of trees. It is assumed that the project will not impact on ground water level significantly in both Benapole and Bhomra.

ESF Standards, Environmental and Social risks and impacts	Land Port	Risk Rating		Rationale
		Construction stage	Operation stage	
	Bhomra Land Port	Moderate	Moderate	
Land use change	Benapole Land Port	Substantial	Moderate	Acquiring agricultural property, water bodies, barren ground, and settlement (residential and commercial) within the AOI is required to expand this existing port area. 33.3 percent of the land covered in the study area is agricultural land, 9.38 percent is vegetation, 22.98 percent is homestead, and 11.32 percent is water body. Barren land and flood plains will be used temporarily for labor camps, crusher sites, worker camp sites, and spoil disposal before being altered during the building period. As a result of the improved transportation infrastructure, several commercial activities will begin throughout the operation phase.
	Bhomra Land Port	Substantial	Moderate	Expanding this existing port area requires acquiring agricultural land, water bodies, barren land, and settlement (residential and commercial) within the AOI. In the study area major land cover consists of 39.95% is agricultural land, 23.77% is vegetation, 14.06% is homestead, 5.29% water body. Lands such as barren land and flood plain will be used temporarily for the establishment of labor camps, crusher sites, worker camp sites, spoil disposal, and will be changed during the construction period. Several commercial activities will begin during the operation phase because of improvements to transportation infrastructure.
Air pollution	Benapole Land Port	Substantial	Moderate	During construction, excavation for land development may result in air pollution. The influence of dust (PM _{2.5} and PM ₁₀), NO _x , SO _x etc on settlement areas caused by the operation of crusher plants, batching plants, and other plants as well as construction vehicles, affecting nearby communities and businesses. The traffic will be increased during operation phase which also contribute to the air quality degradation. However, it will be decreased somehow as there are no construction activities at that time.
	Bhomra Land Port	Substantial	Moderate	The air quality was already deteriorated due to the stone crushing activities during the field survey period. However, excavation for improvement of land may cause increased air pollution during construction at Bhomra sub-project. The impact of dust on settlement areas caused by the operation of crusher plants, batching plants, plants, construction vehicles nearby may cause air and noise pollution, affecting the nearby settlements, and other establishments. During the operational phase, air pollution is expected to decrease because there will be no ongoing construction activities during that period.
Potential hazards caused by bitumen and other toxic chemicals	Benapole Land Port	Moderate	Low	During the construction process, the use of chemically hazardous materials for roads such as epoxy, gypsum, additives, admixtures, cement, bitumen, and so on is unavoidable. Special precautionary measures should be taken when storing such chemicals. Containers of such chemicals, such as bitumen drums, are frequently damaged during transit, resulting in a leakage in storage areas that are frequently not or inadequately cleaned up afterward.

ESF Standards, Environmental and Social risks and impacts	Land Port	Risk Rating		Rationale
		Construction stage	Operation stage	
	Bhomra Land Port	Moderate	Moderate	During the construction process, there will be minimal use of chemically hazardous materials such as epoxy, gypsum, additives, admixtures, cements, bitumen, and so on. Special precautionary measures should be taken when storing such chemicals. Containers of such chemicals, such as bitumen drums, are frequently damaged during transit, resulting in a leakage in storage areas that are frequently not or inadequately cleaned up afterwards. In the operational stage, there will be a facility in the warehouse to store hazardous materials. But BLPA will implement Specific management plan to manage hazardous waste.
Noise pollution	Benapole and Bhomra Land Port	Substantial	Moderate	Noise pollution is likely due to operation of excavators, crusher plants, batching and concrete-mixing plants, heavy construction materials bearing vehicles and their activities cause inconvenience to nearby settlements in terms of noise pollution. During the operational phase, the noise levels are anticipated to increase due to traffic-related noise pollution; vibrations from engines and tires, and mainly pressure horns.
Solid waste management	Benapole and Bhomra Land Port	Moderate	Low	Construction activities will produce solid waste (e.g. Excavated material, construction material, Municipal Solid Waste) as well as hazardous waste (used oil, empty drums or replaced parts of construction machinery, used battery, concrete admixture etc.) to some extent. The direct disposal of waste from construction camps and yards during the construction period, as well as income generation activities such as small enterprises along the road, is likely to cause bad odor, blockage and obstruction of roadside drains, traffic congestion, contamination of ground, and river water, and contamination of agricultural land close to the sub-project boundary. With enough waste management facilities in place throughout the operation phase, the dangers will be minimized.
Pollution of water resources	Benapole and Bhomra Land Port	Moderate	Low	Water quality in existing ponds is likely to deteriorate, particularly during construction due to the disposal of soil and chemical waste from construction sites and camps. During operations, the impact on water sources from vehicle washing, fuel leakage, poor sanitation practices, increased human activities/settlement/market center is very likely.
Ecosystem Services	Benapole and Bhomra Land Port	Moderate	Moderate	The sub-project areas provide a wide range of ecosystem services to people, including fish, non-timber forest products, and medicinal herbs. Various sub-project activities, including but not limited to the construction of civil works as well as the potential increased risk of landslides, have the potential to impact, e.g. sound pollution, surface water pollution, vibration etc, these services.
ESS4 Community Health and Safety				
Traffic management	Benapole Land Port	Substantial	Moderate	During construction, controlling traffic along the sub-project boundaries will be difficult. Because this is an existing port location, transportation of construction materials by vehicles may cause traffic congestion. To alleviate the worries, a traffic management plan will be devised by the Contractor that will need to be approved by BLPA prior to the construction. There may be increased traffic when existing land ports are extended, but the well-managed traffic system created by BLPA can minimize traffic congestion.

ESF Standards, Environmental and Social risks and impacts	Land Port	Risk Rating		Rationale
		Construction stage	Operation stage	
	Bhomra Land Port	Substantial	Moderate	Management of traffic along the sub-project corridor will be a challenging task during construction works. The road is narrow hence the movement of construction materials by vehicle may cause traffic jam. A traffic management plan will be prepared that will need to be approved by BLPA prior to the construction to mitigate the concerns.
Traffic and Road Safety	Benapole and Bhomra Land Port	Substantial	Moderate	In the sub-project area, heavy truck cargo movement may cause traffic congestion and accidents. It can be also a major issue during the time of construction and operations of the sub-project, but the establishment of the road infrastructures (signs, zebra, light, median) will help improve road safety. Increasing awareness among the Bangladeshi and Indian drivers will also reduce the rate of accident.
Community Exposure to Health Issues and Labour Influx	Benapole Land Port	Moderate	Low	Although the labor influx is expected to be low to moderate, the local host populations may nonetheless be exposed to communicable diseases including STDs. Outside laborers' poor sanitary practices in camps and building sites are likely to result in community health problems. Along the port area, there is a risk of price inflation for goods and commodities. Social unrest and violence can arise as a result of intercultural disparities between migrants and the local population. The sociological surveys, on the other hand, revealed that the community would welcome the project employees and that, with several safeguards in place, such as GRM and Code of Conduct enforcement, the likelihood of confrontation would be minimal. Separate worker housing/labor camps will improve migrant labor's relationship with the community.
	Bhomra Land Port	Substantial	Low	Because of the constant influx of migrant labor, local host communities are potentially at risk of contracting various communicable diseases, including STDs. Poor sanitation practices by the outside labor force in camps and construction sites are likely to cause community health issues. Workers from various backgrounds and locations are likely to harm society's way of life. There is a risk of price inflation for goods and commodities in the area. Inter-cultural differences between immigrants and the local community may cause social unrest and conflict.
Hazardous Materials	Benapole Land Port	Substantial	Moderate	Handling and transporting hazardous items during construction entails some hazards and consequences. As a result, hazardous materials are likely to pose significant risks or have significant consequences in the sub-project area. The sub-project also includes construction of a new godown for chemical/hazardous materials which will require strict engineering standards. The subsequent transfer of the chemical/hazardous material stocks from the current godown to the new one will require strict protocols to adhere, followed by the demolition of current godown.
	Bhomra Land Port	Moderate	Moderate	From the survey, a clear picture has been extracted that the sub-project areas are so dusty and pollution level is moderate due to vehicular movement. The sub-project will employ several hazardous materials and transport them through several local communities along the access road. The handling and movement of hazardous materials during construction period possess some risks but the quantity will be low. Warehouse facilities will include storage of hazardous materials in the operational stage.

ESF Standards, Environmental and Social risks and impacts	Land Port	Risk Rating		Rationale
		Construction stage	Operation stage	
Emergency Preparedness and Response	Benapole and Bhomra Land Port	Substantial	Substantial	Sub-project poses several risks to local communities, including safety concerns, environmental issues, or regulatory requirements., creating the need to establish emergency preparedness and response within the sub-project AOI.
SEA/SH/GBV	Benapole and Bhomra Land Port	Substantial	Low	SEA/SH/GBV is common phenomenon in Bangladesh because of unequal gender relations and discrimination against women in both the public and private spheres. SEA/SH/GBV is a possibility because of labor influx and stress on local villages. The social survey revealed skewed attitudes toward women's roles in society. However, FGDs with various groups, including women, show that they do not expect the gender gap to worsen because of the influx of labor. A stand-alone SEA/SH plan is already being prepared and will be implemented through the project.
ESS 5: Land Acquisition, Restrictions on Land Use, and Involuntary Resettlement				
Land Acquisition	Benapole Land Port	High	Moderate	A total area of 100.68 acres will be acquired for Benapole Land Port. This is a large area that will include agricultural land, mango gardens, ponds, etc. But the largest chunk of land under proposed acquisition is vacant land.
	Bhomra Land Port	High	Low	A total area of 61.20 acres will be proposed for Bhomra Land Port.
Economic Displacement	Benapole Land Port	High	Low	The impact of economic displacement is currently unknown; during the RAP census survey, the sub-project will learn more about it. However, preliminary research suggests that the economic displacement caused by the extension of port areas, the Contractor's camp, and auxiliary facilities is significant. Individuals, HHs, and businesses are likely to be economically displaced due to the loss of private property and assets (land and housing structures, including trade structures), necessitating compensation and the restoration of livelihoods. Similarly, many micro and small company owners along the AOI of the sub-project are likely to lose their jobs as a result of the upgrade. Both title and non-title holders will be compensated.
	Bhomra Land Port	High	Low	Social survey indicates that the extent of economic displacement as a result of port areas expansion, contractor's camp, and ancillary facilities is significant. Individuals, HHs, and businesses which are likely to economically displace persons as a result of the loss of private property and assets (land and housing structures, including trade structures), necessitating compensation and the restoration of livelihoods, will be major. Similarly, many micro and small business owners along the sub-project corridor are likely to be economically displaced due to upgrading. Compensation will be paid to both title and non-title holders.
Physical Displacement	Benapole and Bhomra Land Port	High	Low	Expansion of the proposed area of Bhomra Land Port will necessitate land acquisition and the physical displacement of title and non-title holders. Transect walks and socio-economic surveys along the proposed alignment revealed the presence of structures such as some household, mosque, graveyard, tea stall etc. A site-specific Resettlement Action Plan (RAP) will be developed for this purpose, which will include details on such mitigation provisions. No construction will be started before the RAP is implemented.
ESS 6: Bio-diversity & Living Natural Resources				

ESF Standards, Environmental and Social risks and impacts	Land Port	Risk Rating		Rationale
		Construction stage	Operation stage	
Flora and Fauna	Benapole Land Port	Substantial	Low	Clearing the construction site will entail acquiring extensive agricultural land and removing vegetation, including cutting down trees. The extension of the Benapole Subproject will require the felling of approximately 1200 trees, primarily consisting of large species like Mango, Jackfruit, Koroi, and Segun. In addition to this, around 1600 trees will need to be removed in the Benapole Land Port area, and 250 trees in the Bhomra Land Port vicinity. It's worth noting that the baseline survey findings suggest that the sub-project area is relatively less diverse in terms of its natural flora due to human activity.
	Bhomra Land Port	Moderate	Low	Site clearance for construction will require the acquisition of significant agricultural land, the removal of vegetation, and the cutting down of trees. The extension of the Benapole Subproject necessitates the removal of approximately 250 trees for the Bhomra Land Port expansion. Notably, the baseline survey results reveal that the sub-project area is relatively less ecologically diverse, likely due to human activities.
Protected Area	Benapole and Bhomra Land Port	Low	Low	There is no National Park or wildlife sanctuary within 10km from the sub-project corridor or any habitats of known biodiversity within the sub-project corridor. The nearest ECA Sundarban Reserved Forest is around 85 kilometers away from the Benapole Land port area and 56 km at distance from Bhomra Land Port Area.
ESS 7: Indigenous Peoples				
Free Prior and Informed Consent (FPIC)	Benapole and Bhomra Land Port	Low	Low	The sub-project will not affect indigenous peoples, their traditional culture, land resources, or territories.
Tangible Heritage	Benapole and Bhomra Land Port	Moderate	Low	Based on preliminary socio-economic survey at proposed area, no impact is expected. The current alignment may have an impact on some mosques/madrasas.
Intangible Heritage	Benapole and Bhomra Land Port	Low	Low	No impact expected based on socioeconomic survey.
ESS 10: Stakeholder Engagement and Information Disclosure				
Continues Engagement of Stakeholders during Implementation	Benapole and Bhomra Land Port	Moderate	Low	There is little understanding of the sub-project and the land acquisition process, Compensation for impacted land, affected private and public structures, and public structure construction
Issues of Related to the sub-project	Benapole and Bhomra Land Port	Moderate	Low	Risks of migrant labours, SEA/SH/GBV, establishment of GRM, hiring of local labour, community health and safety, pay parity between men and women.

6.4 Anticipated Potential Impact and Mitigation Measures Related to ESS

6.4.1 Impacts Related to Assessment and Management of E&S risk and impact (ESS 1)

240. Land acquisition will lead to physical and economic displacement at the individual, HH and community levels. The impact of land acquisition, on the other hand, will be disproportionately felt by vulnerable and disadvantaged groups. The sub-project will categorize vulnerable groups (i) having a disability, (ii) being a widow, and (iii) being a senior citizen (age greater than 60). (iv) farmers and to be marginal farmers and landless farmers after acquiring lands.

241. Due to land acquisition and civil works, vulnerable groups may lose jobs and other sources of income, land and homesteads, and social networks with the larger community on which they may rely.

6.4.2 Impacts Related to Labor and Working Conditions (ESS 2)

242. BLPA will appoint contractors to carry out civil works, to support core functions, primary suppliers of material/equipment, and as well as for other implementation support. Construction work will necessitate the use of labor as well as associated goods and services.

Sub-project shall comprise the following types of workers:

243. The sub-project will comprise the following types of workers. The details are covered in the LMP

- a. Direct workers
- b. Contracted workers
- c. Primary supplier workers

244. **Potential labor risks:** Following are the potential risks associated with workers/labors engaged in road construction works.

1. Safety issues while at work like injuries/accidents/ fatalities leading to even death, while at work;
2. Short terms effects due to exposure to dust and noise levels, while at work.
3. Long term effects on life due to exposure to chemical /hazardous wastes.
4. Inadequate accommodation facilities at workforce camps, including inadequate sanitation and health facilities.
5. Unclear terms and conditions of employment
6. Non-payment of wages by Employer.
7. Non-payment of benefits (compensation, bonus, maternity benefits etc.) by Employer
8. Discrimination in Employment (e.g., abrupt termination of the employment, working conditions, wages or benefits etc.)
9. Sexual harassment at work
10. Forces labor trafficking
11. Security of women work force
12. Inadequate facilities for the children of the workforce at camp sites
13. Possibility of Gender based violence
14. Inadequate emergency response system for rescue of labor/ workforce in situations of fire outbreak or any natural calamities like earthquake etc.
15. Health risks of labor relating to HIV/AIDS and other sexually transmitted diseases
16. Discrimination and denial of equal opportunity in hiring and promotions/ incentives/ training opportunities
17. Absence of grievance mechanism for labor to seek redressal of their grievances

245. To mitigate labor risks in road construction projects, prioritize safety through rigorous training and protective equipment. Improve workers' living conditions and clarify employment terms while ensuring timely wage and benefit payments. Accident/Incident Reporting Form needs to be prepared. However, Accident/Incident Reporting Form is given in the Annex I as a sample. Implement measures to prevent discrimination, harassment, and trafficking, and establish emergency response plans, healthcare support, and a transparent grievance mechanism to promote fair treatment and worker well-

being. Moreover, A labor Management plan is needed to be prepared by the Contractor. Sample Labor Management Plan is given in the Annex L

246. **Occupational Health and Safety (OHS) Plan:** OHS plan will be prepared and implemented by each contractor based on the WBG EHS Guidelines (1997), ESCoPs, mitigation plan, and other relevant standards. The Plan will be submitted for review and approval before contractor mobilization. For labor-intensive maintenance works to be carried out by poor people in rural areas, OHS measures outlined in the Labor Management Procedures will be implemented by PIU.

Mitigation

247. The Civil Works Contractor's contractual obligations to manage these negative impacts will be clearly stated, with appropriate mechanisms in place to address non-compliance. Construction bid documents will include environmental, social, health, and safety (ESHS) requirements, such as a list of applicable labor laws and provisions, as well as metrics for contractor reporting regularly.

248. To address labor influx, contractor will:

- Reduce labor influx into the sub-project area, source all unskilled labor from within the sub-project area and its vicinity. Skilled labor would be brought in from outside the sub-project area, either within or outside the district, if unavailable locally.
- Develop a Workers' Camp Management Plan that addresses specific aspects of the establishment and operation of workers' camps, such as separating labor camps and material storage areas;
- Conduct HIV/AIDS, STDs, COVID-19, and other communicable diseases training programs.
- Create a system for handling complaints at the sub-project level.
- A SEA/SH/GBV action plan to be prepared by the Implementing agency. This should cover awareness raising, especially among workers and staff, disseminating information to the populace and a specific GRM procedure circulated and understood by those concerned.

6.4.3 Impacts Related to Resource Efficiency and Pollution Prevention and Management (ESS 3)

6.4.3.1 Impact on Physiography

249. The Benapole Land Port area has been operational for several decades, and the current building work consists solely of land expansion and enhancement of existing land port amenities. The land will be acquired in a wide range of areas, totaling 100.68 acres. As a result, this project will have a substantial impact on the region's physiography.

250. Bhomra Land Port area has existed for a long time and the present construction works involves only expansion of land and development of present facilities of land port. The development sub-project does not cover a wide range of land area. So, there will be no significant impact on the physiography of the region due to this sub-project.

6.4.3.2 Impact on Soil

251. Acquisition of large agricultural land, removal of vegetation, predicted to have a direct impact on topsoil stripping up to a depth of 15cm during the construction phase. Compaction of soil caused by traffic, stockpiles, and temporary facilities is also likely to have an impact on soil structure, which can affect organism activity, water retention capacity, and nutrient retention.

• Mitigation Measures for Soil Pollution

252. The contractor will ensure trucks used for transportation of material are covered by tarpaulin and provided tail board, so that enroute spillage and generation of fugitive dust are prevented. All haul roads (paved or unpaved) used for transportation of materials shall be subjected to daily surveillance, especially settlement/residential areas, for dust levels and regular water sprinklers to check air quality is compliant. Trucks in good condition shall only be deployed for operations and shall adhere to pre-determined routes.

6.4.3.3 Impact due to Borrow Materials Extraction

253. The extension of a land port has some impact on the surrounding environment through the extraction of raw materials from borrow sites such as habitat disruption and potential loss of biodiversity, soil erosion leading to water quality degradation, noise, and dust pollution, altered drainage patterns, aesthetic changes in the landscape, disturbances to local wildlife, and challenges in site reclamation post-extraction. Though these impacts are not so adverse.

- **Mitigation Measures for Borrow Material Extraction**

254. All the impacts have been assessed through available information. Contractors should prioritize the selection of borrow sites in less ecologically sensitive areas to minimize habitat disruption. Effective erosion control measures, such as silt fences and sediment basins, should be in place to prevent soil erosion and protect water quality. Dust and noise pollution can be reduced through dust suppressants, noise barriers, and scheduling noisy activities during less sensitive times. Proper drainage planning and the creation of retention ponds can help manage altered drainage patterns. After extraction, comprehensive site reclamation efforts should be undertaken to restore the borrowed sites to their natural state or for productive use. Due to excavation activities impact will arise but the intensity of the impact is not significant. The estimated amount of soil deposited from the excavation is negligible in respect to the land development area, it can be used in landscaping area.

6.4.3.4 Impact on Water Resources

255. In Benapole, Betna river and Noadanga Khal are situated within 1 km buffer zone. This river is non-tidal. The suggested route is only 180 meters from the river. Pechor Baor is also within 600 meters of the planned alignment.

256. There is a river beside the Bhomra sub-project AOI named 'Ichamati'. Ichamati is a trans-boundary, meandering tidal river. The proposed sub-project is 3 km away from the river so construction activities will not pose any disturbance to it. Therefore, no significant adverse impact is anticipated.

- **Mitigation Measures for Surface water Pollution**

- The Contractor shall comply with the national legislation and other regulations currently applied in Bangladesh as they relate to water pollution control.

- **Mitigation Measures for Groundwater Pollution**

- A study shows that deeper ground waters in Southeastern zone of Bangladesh are free of Arsenic and sea water intrusion.¹⁶ So, By Groundwater pumping should be from deep aquifers of more than 300 m to supply arsenic free water. Safe and sustainable discharges are to be ascertained prior to selection of pumps.
- Tube wells will be installed with due regard for the surface environment, protection of groundwater from surface contaminants, and protection of aquifer cross contamination. Protect groundwater supplies of adjacent lands.

6.4.3.5 Impact on Physical Environment

6.4.3.5.1 Ambient Air Quality

257. In specific circumstances, if Construction activities are not effectively managed, they have the potential to generate dust emissions. These activities encompass site preparation, excavation, and overall construction, contributing to the release of dust particles (PM_{2.5} and PM₁₀) as well as NO_x, SO_x, and similar substances. Particularly, earthworks and land filling can expose soil areas prone to generating dust, especially during windy conditions. Dust emissions may occur irrespective of the time of day or night, emphasizing the need for comprehensive dust control measures beyond active construction periods.

¹⁶ <https://www.tbsnews.net/bangladesh/new-arsenic-free-groundwater-sources-identified-bangladesh-124318?amp>

258. Emissions of dust from bulk truck handling and gases from truck handling equipment can be sources of air pollution. Dust will generate due to the use of construction materials (sand, aggregates, cement), movement of construction vehicles and the construction process.

259. During the field survey, no brick kiln was found in the sounding area of Bhomra, especially within and/or near the proposed project area. Moreover, the contractors will procure brick chips and crushed stones from Government's authorized sellers who maintain all governmental rules and regulations. Additionally, during the construction period the project area will be surrounded by temporary barriers and no brick or stone crushing activities will be allowed within the project area.

260. During the field survey conducted in Benapole, specifically within or near the proposed project area, no brick kilns were identified. This absence of brick kilns mirrors findings asking to those observed in Bhomra. The sourcing of brick chips and crushed stones will be procured from an authorized seller who maintains all governmental rules and regulations by the contractors. Furthermore, to maintain environmental standards, temporary barriers will enclose the project area during construction, prohibiting any brick or stone crushing activities within its vicinity.

- **Mitigation Measures for Air Pollution**

261. Dust control measures, such as regular watering of construction sites, application of dust suppressants, and covering loose soil, are crucial to prevent the release of airborne particles. Additionally, employing low-emission construction equipment, implementing proper waste management, and scheduling construction activities strategically can significantly reduce the overall environmental impact. Also, workers should use face masks during construction work. There are some specific mitigation measures need to carry out during construction stage and regularly basis is mentioned here:

- Enclosing the crushing process can significantly reduce fugitive dust emissions. This can be achieved by fully enclosed crushers and conveyor belts, equipped with dust collection systems.
- The use of water sprays or mist cannons can effectively suppress dust generated during crushing, loading, and unloading activities.
- Fuel conversion: Replacing fossil fuels with cleaner burning fuels such as natural gas or biogas can significantly reduce emissions of pollutants like particulate matter and sulfur oxides.
- Training employees on proper dust suppression practices and the importance of air quality management can contribute to better control of emissions.
- Planting trees and other vegetation around brick crushing units can act as a natural barrier to dust and improve air quality.

6.4.3.5.2 Impact on Noise & Vibration

262. The sub-project area's existing baseline conditions show that the noise level both in day and nighttime is within the Bangladesh standard except for ten locations of Benapole land port.

263. The vibration produced by rollers can be transmitted along the ground. This may cause damage to kutcha structures located along the alignment.

- **Mitigation Measures for Noise Pollution**

264. Traffic handling equipment and road traffic are two major sources of noise and vibration, which may cause unacceptable levels of stress among local people.

- Regular maintenance of the machinery, equipment and vehicles shall be carried out to minimize the noise levels. All machinery, equipment and vehicles shall have a definite maintenance schedule and be maintained by the contractor.
- Nighttime construction activity shall be prohibited if settlement/habitations are located within 500 m of the construction site. There are habitations within the 500m of proposed area.

- A temporary noise barrier should be established around the project area. Moreover, workers should use earmuffs in case of high level of noise activity.

6.4.3.5.3 Transboundary Impact

265. During the field visit it is found that the Transboundary Impact will not occur due to this project. But from the Indian border part, 3 km away from South-West of the Bhomra Land Port, there are about 40 Brick fields which spread polluted air into Bangladesh side with the existing pollution which cumulate the total pollution. Besides this the Ichamati River originated from India also carrying silt and flash water during heavy rain in Upper River and affected the lower riparian area which need detail study.

266. However, there is no transboundary impact in Benapole Sub project.

- **Mitigation Measures for transboundary impact**

267. Major portion of Ichamati river is in India. During the development process, the responsible authority will ensure that there is no pollution caused to the river. Consultation is one of the most important steps of the mitigation process.

6.4.3.5.4 Impact due to the Produced Waste due to Proposed Project

268. The proposed project will generate different types of waste such as.

- **Construction Waste:** includes materials like concrete, wood, metal, and debris generated during the construction and demolition phases.
- **Operational Waste:** such as packaging materials, food waste, and general refuse
- **Hazardous Waste:** such as chemicals, oils, or contaminated materials
- **Recyclables Waste:** such as paper, cardboard, plastics, and metals

269. This increased waste generation will be posed environmental, health, and aesthetic challenges. Inadequate waste management can result in pollution, health concerns, and aesthetic degradation, affecting both workers at the port and nearby communities. It may also deplete valuable resources and lead to legal and regulatory issues.

- **Mitigation Measures in case of Waste Produced**

270. It is crucial to implement effective waste management practices, including recycling and proper disposal methods, while also conducting environmental impact assessments and complying with relevant regulations to minimize the adverse impacts of waste generation associated with the land port extension. So, Waste management plan is needed to be prepared. However, a waste Management Plan is given in the Annex H as a sample.

6.4.4 Impacts Related to Community Health and Safety (ESS 4)

6.4.4.1 Infrastructure, Services and Security

271. During the construction phase, there will be a demand for energy, water, and medical services. The exact nature of these demands is unknown currently, but contractors are expected to use both the electricity grid and on-site generators. Conflict with the community may emerge if the number of laborers and/or the nature of the civil works place a strain on existing infrastructure and natural resources such as water. Throughout the project implementation and operation period emphasized given of security personal. It has also been noted that security building is included in the project scope. As these two are international border always armed forces like BGB, APBN and Immigration police are deployed in these two ports. In addition to the above BLPA will engage adequate number of Ansar to provide the additional to the security services.

6.4.4.2 Transport, Accessibility and Health

272. During the building stage, temporary access to Contractor's camps/establishments may be required depending on camp location. Increased traffic along the corridor and transport routes will also expose communities to health and safety risks because of the sub-project interventions. To address these issues, a traffic management plan would be necessary. In particular, the community may be exposed to increased construction-related traffic and equipment, particularly at certain road sections that include sensitive receptors such as schools and religious institutions.

6.4.4.3 Hazardous and non-hazardous wastes

273. The sub-projects will generate both solid non-hazardous and hazardous wastes during the construction phase. Excavated material, construction material, Municipal Solid Waste, and waste waters are among the non-hazardous wastes expected. The examples of hazardous wastes are used oil, empty drums or replaced parts of construction machinery, used battery, concrete admixture etc.

6.4.4.4 Natural Hazard and Vulnerability

274. The impact due to construction of this sub-project does not alter the vulnerability status of the region. Given site investigation observed and identified the risk due natural calamities like earthquake. Since such events would have potential health and safety hazard to personal or work force or labor or community in vicinity and may get stranded at operational sites.

6.4.4.5 Sexual Exploitation and Abuse (SEA)/ Sexual Harassment (SH)

275. The potential labor influx may lead to risk of SEA/SH. A standalone SEA/SH Management Plan is prepared for the ACCESS Program which provides the relevant mitigation measures and risk management procedures for BLPA. The SEA/SH Plan will include a Code of Conduct (CoC) for all the workers in the sub-project.

276. Child marriage used to be common, but it has significantly decreased in recent years. Although there is no direct dowry in marriage, the participants stated that items, products, and money are exchanged with both parties' consent. A Sexual Exploitation & Abuse (SEA)/Sexual Harassment (SH) Prevention Plan including Gender Based Violence (GBV) is needed to be prepared. However, a sample Table of Content for "Sexual Exploitation & Abuse (SEA)/Sexual Harassment (SH) Prevention Plan including Gender Based Violence (GBV)" is given in the Annex O.

6.4.5 Impact related to Land & Assets (ESS 5)

277. The sub-projects will require land acquisition. In total, 100.68 acres of land for Benapole Port and 61.20 acres of land for Bhomra Land Port will need to be acquired for the proposed sub-project. In the event of an acquisition, the community members demanded that job possibilities for at least one member of the affected family be provided.

Mitigation

278. Impacts on land and assets arising pre-construction stage activities will require addressing and mitigating through a mix of compensation, assistance, and relocation arrangements. For this purpose, a Resettlement Action Plan (RAP) will be developed that will contain details of such mitigation provisions. The mitigation provisions include:

- Payment of compensation at replacement cost will be paid as per the provisions of GoB and WB ESS;

6.4.6 Impacts Related to Biodiversity & Living Natural Resources (ESS 6)

279. The site clearance activities for construction activities will involve acquiring large agricultural land, removal of vegetation and felling of trees. About 2,230 trees need to be cut down in Benapole Land port AOI and 3863 trees need to cut down in Bhomra Land Port areas. The baseline survey results indicate that sub-project AOI is relatively less diverse due to human intervention.

280. There is no National Park or wildlife sanctuary within 10km from the sub-project corridor or any habitats of known biodiversity within the sub-project corridor. The nearest ecologically critical area Sundarban is 70 km at distance from the sub-project AOI. Therefore, no impact will occur on any ECA.

Mitigation

281. For plantation, only local species that consume less water and have been approved by the forest department will be used. Normally, the department of forest will undertake all such afforestation and maintain it for three years as deposit work. As a result, the ESMP Budget includes a cost provision for Compensatory Plantation. In Benapole Land Port about 1200 trees will be needed to cut down whereas in Bhomra Land Port 250 trees will be needed to cut down.

6.4.7 Impacts Related to Tribal/ Indigenous Population (ESS 7)

282. The surveys indicated that there are no tribal or indigenous people within the sub-project area and the standard is not relevant to the sub-project.

6.4.8 Impact Related on Impacts on Cultural Heritage (ESS 8)

283. The proposed area of the sub-projects road does not have any ancient monuments and/or archaeological site(s); Thus, no impacts are foreseen on ancient monuments and archaeological sites due to the construction of ACCESS sub-project. However, the impact assessment survey has identified few mosques and a few graves in the sub-project influenced area.

- **Chance Find Procedure**

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

285. No cultural heritage will be physically affected due to the construction. The ESMP will include chance finding procedures, and chance finding clauses will be included in work contracts with contractors.

6.4.9 Impacts Related to Financial-Intermediaries (ESS 9)

286. Not relevant as there is no financial intermediary involved.

6.4.10 Impacts Related to Stakeholder-Engagement-and-Information-Disclosure (ESS 10)

287. In this sub-project a wide variety of stakeholders are engaged during its sub-project cycle that are associated with activities such as land acquisition, labour influx issues etc.

The stakeholders of the sub-project are the

- (i) Project affected parties: PAP from LA/IR, informal occupants, business, traders, etc.)
- (ii) Other interested parties: civil society, media, traders’ associations, chambers of commerce, national/international NGOs, local government institutions, etc.)
- (iii) Disadvantaged and vulnerable groups/peoples: women traders, women-led households among the PAPs, users with physical handicaps, potential SEA/SH survivors, informal occupants, etc.)

6.5 Summary of Impact Potential and Risk Categorization

288. A summary of anticipated negative impacts with risk ratings and estimated efficacy of prescribed mitigation is presented in Table 6.5.

Table 6.5: Environmental & Social Management Plan for the Proposed Sub-project

Potential Impacts	Land Port	Duration of Impact	Spatial Extent	Likelihood	Magnitude	Sensitivity	Significance Prior to Mitigation	Significance after Mitigation
Pre-Construction Phase								
Land Acquisition and clearance of Private structure	Benapole Land Port	Long term	Local	Certain	High	High	High negative	Moderate negative
	Bhomra Land Port				High	High	High negative	Moderate negative

Potential Impacts	Land Port	Duration of Impact	Spatial Extent	Likelihood	Magnitude	Sensitivity	Significance Prior to Mitigation	Significance after Mitigation
Utility & Community Property Resources	Benapole Land Port	Long term	Local	Certain	Substantial	High	High negative	Low negative
	Bhomra Land Port				Moderate	Moderate	Moderate negative	Low negative
Labour Management	Benapole Land Port	Short term	Local	Certain	Moderate	Mild	Moderate negative	Low negative
	Bhomra Land Port							
Agricultural resources, trimming of vegetation and trees cutting	Benapole Land Port	Long term	Local	Certain	Substantial	Substantial	High negative	Low negative
	Bhomra Land Port				Moderate	Mild	Moderate negative	Low negative
Socio-economic conditions	Benapole Land Port	Short term	Local but beyond project footprint	Certain	Moderate	Moderate	Moderate negative	Low negative
	Bhomra Land Port							
Pond and ditches	Benapole Land Port	Long term	Local	Certain	Substantial	Substantial	High negative	Low negative
	Bhomra Land Port				Moderate	Mild	Moderate negative	Low negative
Construction Period								
Land and agricultural resources	Benapole Land Port	Short term	Local	Certain	Moderate	Moderate	Moderate negative	Low negative
	Bhomra Land Port				Moderate	Moderate	Moderate negative	Low negative
Removal of Topsoil	Benapole Land Port	Short term	Local	Certain	High	Moderate	Moderate negative	Low negative
	Bhomra Land Port							
Impact on Surface Water	Benapole Land Port	Long term	Local but beyond project footprint	Certain	High	Moderate	Moderate negative	Low to moderate negative
	Bhomra Land Port				Moderate	Moderate	Moderate negative	
Impact on Groundwater	Benapole Land Port	Long term	Local but beyond project footprint	Certain	High	Moderate	Moderate negative	Low to moderate negative
	Bhomra Land Port							
Impact on Air Quality	Benapole Land Port	Short term	Local	Certain	Substantial	Moderate	Moderate negative	Low negative
	Bhomra Land Port							

Potential Impacts	Land Port	Duration of Impact	Spatial Extent	Likelihood	Magnitude	Sensitivity	Significance Prior to Mitigation	Significance after Mitigation
Impact on Noise	Benapole Land Port	Short term	Local	Certain	High	Moderate	Moderate negative	Low negative
	Bhomra Land Port							
Impacts on homestead biodiversity	Benapole Land Port	Long term	Local but beyond project footprint	Certain	High	Moderate	High negative	Moderate negative
	Bhomra Land Port				Moderate	Mild	Moderate negative	Low negative
Occupational health and safety	Benapole Land Port	Short term	Local	Certain	Moderate	Moderate	Moderate negative	Low to moderate negative
	Bhomra Land Port							
Community health and safety (H&S)	Benapole Land Port	Short term	Local	Certain	High	Moderate	Moderate negative	Low to moderate negative
	Bhomra Land Port				Moderate	Moderate	Moderate negative	Low negative
Waste Disposal management	Benapole Land Port	Short term	Local	Certain	High	Moderate	Moderate negative	Low negative
	Bhomra Land Port				Moderate	Moderate	Moderate negative	Low negative
SEA/SH	Benapole Land Port	Short term	Local	Certain	Substantial	Moderate	Moderate negative	Low negative
	Bhomra Land Port							
Post Construction Period								
Air Quality	Benapole Land Port	Long term	Local	Certain	Moderate	Moderate	Moderate negative	Low negative
	Bhomra Land Port							
Noise and Vibration generation	Benapole Land Port	Long term	Local	Certain	Moderate	Mild	Moderate negative	Low negative
	Bhomra Land Port							
Soil and groundwater quality	Benapole Land Port	Long term	Local	Certain	Moderate	Mild	Moderate negative	Low negative
	Bhomra Land Port							
Generation of Solid Waste and Hazardous Waste	Benapole Land Port	Long term	Local	Certain	Moderate	Moderate	Moderate negative	Low negative
	Bhomra Land Port				Low	Low	Low negative	Low negative

Potential Impacts	Land Port	Duration of Impact	Spatial Extent	Likelihood	Magnitude	Sensitivity	Significance Prior to Mitigation	Significance after Mitigation
Road Accidents/ Road safety	Benapole Land Port	Long term	Local	Likely	Moderate	Mild	Moderate negative	Low negative
	Bhomra Land Port							
Community Health and safety	Benapole Land Port	Long term	Local	Likely	Moderate	Mild	Moderate negative	Low negative
	Bhomra Land Port							
Traffic Congestion	Benapole Land Port	Long term	Local	Likely	Moderate	Mild	Moderate negative	Low negative
	Bhomra Land Port				Low			
SEA/SH	Benapole Land Port	Short term	Local	Certain	Substantial	Moderate	Moderate negative	Low
	Bhomra Land Port							

6.6 Environmental and Social Management Plan (ESMP)

6.6.1 General

289. This chapter outlines the framework for assessing and managing environmental and social issues in different sub-projects. It also provides necessary procedures and tools for screening and assessing environmental and social impacts. The environmental and social assessment of several sub-projects needs to be carried out based on the provisions of the ECA'1995, ECR'1997 and recently updated ECR-2023 of GoB and the relevant World Bank's Environmental and Social Standards (ESSs). **BLPA will maintain a budget provision in the Bill of Quantities (BOQ) as a provisional sum for the costs associated with utility relocation and reconstruction. The Contractor will engage in communication and coordination to facilitate the execution of utility relocation and reconstruction work. They will procure completion and payment certificates from the utility-providing authorities, which will be submitted to BLPA. Subsequently, BLPA will issue the bill to the contractors. BLPA will engage in consultation with the community to identify suitable locations for reconstruction, ensuring the reconstruction of these properties accordingly.**

Table 6.6: Environmental & Social Management Plan for the Proposed Sub-project

Environmental Issues/ Parameters	Land Port	Environmental & Social Impacts	Mitigation Measures	Implementation Agency	Supervision Agency
(a) Pre-construction Phase					
Land Acquisition and clearance of Private structure	Benapole Land Port	<ul style="list-style-type: none"> A large amount of land must be acquired for the subproject. In total 100.68 acres of land will need to acquire for the proposed project. Land acquisition will lead to loss of land for both title and non-titleholders and cause disruption in income and livelihood streams for individual and groups of people. 	<ul style="list-style-type: none"> Resettlement Action Plan will be developed when the final alignment and designs are decided. The payment of compensation and removal of private assets will be carried out in line with the RAP. Payment of compensation at replacement cost will be paid as per the provisions of GoB and WB ESS Encroachers and squatters (those mostly live near Bhomra) will be paid compensation in line with the agreed entitlement matrix along with titleholders. 	PIU supported by I-NGO	BLPA
	Bhomra Land Port	<ul style="list-style-type: none"> The sub-project will require 61.20 acres land. Land acquisition will lead to loss of land for both title and non-titleholders and cause disruption in income and livelihood streams for individual and groups of people. 			
Utility & Community Property Resources	Benapole and Bhomra Land Port	<ul style="list-style-type: none"> Due to sub-project activities, there will be an impact on common property resources (including religious places, retaining walls and compound walls, etc) due to sub-project activities. 	<ul style="list-style-type: none"> BLPA will relocate or rebuild all community utilities and properties as per provisions listed in the RAP and ESMP. This will be carried out in consultation with the community 	Contractor/ PDB	CSC/PIU
Labour Management	Benapole and Bhomra Land Port	<ul style="list-style-type: none"> The Contractor will hire unemployed labor from the local community where possible to give them maximum benefit from the project 	<ul style="list-style-type: none"> The LMP should guide the PIU and Contractors Set up and run a workers' GRM consistent with the provisions of the LMP 	Contractor	CSC/PIU
Agricultural resources, trimming of vegetation and trees cutting	Benapole Land Port	<ul style="list-style-type: none"> Loss of standing crops, trees, grass and bushes from land acquisition, including at substation sites and construction camp sites. Moreover, Loss of 1200 trees in Benapole land port 	<ul style="list-style-type: none"> Provide adequate compensation to the owners on time before beginning vegetation clearing. Tree plantation program need to be arranged according Ensure timely compensation is given to property owners before commencing vegetation clearance. 	PIU/CSC	BLPA
	Bhomra Land Port	<ul style="list-style-type: none"> About 250 trees in Bhomra Land Port, standing crops (if any), grass and bushes of substation sites and construction camp sites 			
Socio-economic conditions	Benapole and Bhomra Land Port	<ul style="list-style-type: none"> Employment opportunities for the local people especially for PAPs. 	<ul style="list-style-type: none"> Employ local people specially PAPs for the sub-project activities as much as possible. 	Contractor, CSC	PIU

Environmental Issues/ Parameters	Land Port	Environmental & Social Impacts	Mitigation Measures	Implementation Agency	Supervision Agency
Pond and ditches	Benapole and Bhomra Land Port	<ul style="list-style-type: none"> Loss of fish culture, ponds and ditches 	<ul style="list-style-type: none"> Adequate cross drainage structures will be provided for all ditch areas and ponds on both sides of the road. 	Contractor	CSC/PIU
			<ul style="list-style-type: none"> Sufficient cross drainage structures will be installed to facilitate water flow across ditches and ponds on both sides of the road. No construction will be undertaken during high flood when water depth usually reaches a maximum of 6m 		
Air Pollution due to brick industry	Benapole and Bhomra Land Port	<ul style="list-style-type: none"> The brick crushing industry resulting in environmental and health impacts which are major concern 	<ul style="list-style-type: none"> The project area will be surrounded by temporary barriers. No Brick or stone crushing activities will be allowed within the project area. 	Contractor	PIU
(b) Construction Phase					
Land and agricultural resources	Benapole and Bhomra Land Port	<ul style="list-style-type: none"> Unanticipated impacts on the property including land and structures. Loss of agricultural land causes a temporary disruption of farming activities, damage to crops, bunds, canals and drains. 	<ul style="list-style-type: none"> Follow design drawings and implement careful construction practices to avoid damage to existing structures (e.g., buildings) and roads, crops, bunds, canals and drains. Defining the work zone and preventing incursions outside the agreed-upon impact zone. 	Contractor	CSC/PIU
Removal of Topsoil	Benapole and Bhomra Land Port	<ul style="list-style-type: none"> During the construction phase, topsoil stripping up to a depth of 15cm is expected to be directly influenced by clearing and grubbing. Compaction of soil caused by traffic, stockpiles, and temporary facilities is also likely to have an impact on soil structure, which can affect organism activity, water retention capacity, and nutrient retention. Heavy machinery used during extraction can compact the soil, reducing its porosity and water infiltration capacity. This can lead to decreased plant growth and increased soil erosion. Extraction of Borrow material extraction can be degraded soil quality by causing compaction and altering its natural composition, which can impede plant growth and disrupt ecosystems. These alterations may require extensive soil remediation efforts to restore its fertility and ecological functions. 	<ul style="list-style-type: none"> The construction debris from all operational areas shall be regularly scavenged and disposed of at identified disposal sites (e.g. Kagmari Road, Ward No 4, Benapole) or those approved by District administration (e.g., Binerpota, Satkhira). Contractors should prioritize less ecologically sensitive areas for site selection, implement erosion control measures, reduce dust and noise pollution with suppressants and barriers, plan proper drainage, create retention ponds, and conduct site reclamation for ecological restoration or productive use post-extraction. 	Contractor	CSC/PIU

Environmental Issues/ Parameters	Land Port	Environmental & Social Impacts	Mitigation Measures	Implementation Agency	Supervision Agency
Impact on Surface Water	Benapole and Bhomra Land Port	<ul style="list-style-type: none"> Uncontrolled dumping of wastes, sewage, dredge materials, can pollute water body. The proposed alignment is just 100 m away from the river. Construction activities may have localized and temporary impacts. 	<ul style="list-style-type: none"> The earthwork sites where exposed land surface is vulnerable to runoff, etc. shall be consolidated and/or covered. All drainage facilities and erosion and sediment control structures shall be regularly inspected and maintained to always ensure proper and efficient operation and particularly following rainstorms. The Contractor shall ensure that no tools or machinery are washed in any water source or areas that drain into an existing watercourse. 	Contractor	CSC/PIU
Impact on Groundwater	Benapole and Bhomra Land Port	<ul style="list-style-type: none"> The availability of water to locals may be harmed by uncontrolled water extraction. 	<ul style="list-style-type: none"> Tube wells will be installed with due regard for the surface environment, groundwater protection from surface contaminants, and protection of aquifer cross contamination. Pumping of groundwater should be from deep aquifers of more than 300 m to supply arsenic free water. Safe and sustainable discharges are to be ascertained prior to selection of pumps. 	Contractor	CSC/PIU
Impact on Air Quality	Benapole and Bhomra Land Port	<ul style="list-style-type: none"> Emissions from construction related vehicles and machinery. Dust suspension due to frequent vehicle/trucks movement in roads & construction works. Health hazard to labors and residents/ workers due to dust spreading. 	<ul style="list-style-type: none"> Dust generation will be restricted as much as possible and water sprinkling should be ensured as appropriate, especially where earthmoving and excavation are carried out. Emissions from construction vehicles/equipment and traffic will comply with World Bank EHS guidelines and will be monitored. Training employees on proper dust suppression practices and the importance of air quality management can contribute to better control of emissions. The use of water sprays or mist cannons can effectively suppress dust generated during crushing, loading, and unloading activities. 	Contractor	CSC/PIU
Impact on Noise	Benapole and Bhomra Land Port	<ul style="list-style-type: none"> 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. Hearing hazards to labors and residents. 	<ul style="list-style-type: none"> Regular maintenance of the machinery, equipment and vehicles shall be carried out to minimize the noise levels. All machinery, equipment and vehicles shall have a definite maintenance schedule and maintained by the contractor. Environmental measures such as construction of noise barriers shall be constructed for the identified sensitive receptors well before commencement. 	Contractor	CSC/PIU
Occupational health and safety	Benapole and Bhomra Land Port	<ul style="list-style-type: none"> Health & safety risks of construction workers during the construction period 	<ul style="list-style-type: none"> Reduce labor influx into the sub-project area, source all unskilled labor from within the sub-project area and its vicinity. Skilled labor would be brought in from outside the sub-project area, either within or outside the district, if unavailable locally. 	Contractor	CSC/PIU

Environmental Issues/ Parameters	Land Port	Environmental & Social Impacts	Mitigation Measures	Implementation Agency	Supervision Agency
			<ul style="list-style-type: none"> • During the COVID-19 pandemic, temperature checks to be carried out at the worksite entrance at the start of shift, and records of all suspected and confirmed cases to be kept. • Require workers to observe the EHS Guideline on Construction and Demolition. • Personnel must have a record of attending an appropriate course on electrical safety and working at height, and they must be adequately trained and qualified to operate on electrical equipment and at height. • Develop a Workers' Camp Management Plan that addresses specific aspects of the establishment and operation of workers' camps, such as separating labor camps and material storage areas; • Organize training initiatives addressing HIV/AIDS, STDs, COVID-19, and various communicable diseases. • Establish a complaint management system at the sub-project level. • Require the implementing agency to develop a comprehensive plan for addressing SEA/SH/GBV, including activities like worker and staff awareness campaigns, community information dissemination, and clear guidelines for the Gender and Risk Management procedure that are widely understood by relevant stakeholders. 		
Community health and safety (H&S)	Benapole and Bhomra Land Port	<ul style="list-style-type: none"> • Community health and safety such as the toppling of concrete poles, traffic and accidents, the emergency spill of materials, and access of villagers to dangerous working areas. • Human trafficking may occur as migrant labor will come from different part of the country and due to border area, some concern regarding human trafficking may arise. • Conflicts or disputes among workers can arise in labor camp environments due to various factors like cultural differences, work-related stress, or personal issues. 	<ul style="list-style-type: none"> • Residual water must be avoided since it might serve as a breeding ground for mosquitoes and other insects. • Provide signs detailing site and office contacts in the event of a grievance during construction. • Do not leave hazardous conditions (e.g., unlit open excavations without means of escape) overnight unless no access by the public can be ensured • Prevent standing water as it may become a breeding habitat for mosquitoes etc. • During construction, provide signage detailing site and office contacts in case of grievance. • BLPA deployed security guard as they are trained in conflict resolution techniques can help de-escalate tense situations, maintain order, and promote a peaceful working environment. • Contractor will prepare of Traffic Management Plan and implement during construction period to reduce the traffic jam. • In case of Emergency, Emergency Response Plan will be developed and implemented by the contractor. 	Contractor	CSC/PIU

Environmental Issues/ Parameters	Land Port	Environmental & Social Impacts	Mitigation Measures	Implementation Agency	Supervision Agency
Waste disposal management	Benapole and Bhomra	<ul style="list-style-type: none"> The handling, storage, and disposal of waste, both on and off-site, may pose several risks such as to (human health Tuberculosis, pneumonia, diarrhoea, tetanus, whooping cough etc) and the environment (air pollution, water and soil contamination.). 	<ul style="list-style-type: none"> Contractor should prepare a Waste management Plan so that wastes and debris should be disposed properly. Construction debris must be stockpiled and removed to a safe site; Do not drop or expose any debris while transporting; Minimize waste materials production by 3R (Reduce, Recycle and Reuse) approach. 	Contractor	CSC/PIU
SEA/SH	Benapole and Bhomra	<ul style="list-style-type: none"> Sexual harassment, exploitation and abuse at work Health risks of labor relating to HIV/AIDS and other sexually transmitted diseases 	<ul style="list-style-type: none"> Integrate SEA/SH/GBV into existing IEC strategy/materials, GRM, safety talks, toolbox meeting and regular trainings. Enforce the Code of Conduct (COC) Training/orientation of labors on occupational health and safety issues. Identify hotspots for SEA/SH/GBV within the sub-project include construction work and labor camps alongside local communities, schools, vocational training centres and, migrant laborers residing in rented accommodations within the villages. Set up and run a SEA/SH compliant GRM as outlined in the project SEA/SH Risk Mitigation and Action Plan 	Contractor	CSC/PIU
(c) Operation Phase					
Air Quality	Benapole and Bhomra	<ul style="list-style-type: none"> Due to loading and unloading activities and Vehicle movement dust generation and increased gas emission. 	<ul style="list-style-type: none"> Sweeping yards and handling areas on a regular basis Keeping transfer equipment in good functioning order (e.g., cranes, forklifts, and trucks). Introduction of innovative technology and fuel sources that will significantly reduce GHG emissions; To sink GHG, trees should be planted in the sub-project area. 	E&S Cell	BLPA
Noise & Vibration	Benapole and Bhomra	<ul style="list-style-type: none"> Noise sources in port operations include cargo handling, vehicular traffic, and loading / unloading containers and ships. 	<ul style="list-style-type: none"> In the planning stage, consideration should also be given for developing vegetation, tree plantation, and tall boundary walls around the port facilities to reduce noise and dust levels. Alter operations schedules to avoid noise pollution during nights and weekends; 	E&S Cell	BLPA
Soil and groundwater quality	Benapole and Bhomra	<ul style="list-style-type: none"> Due to storing of chemicals/ perishable organic export & import materials and other solid and liquid waste dumping – 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. 	<ul style="list-style-type: none"> Oil and chemical-handling facilities should be located with consideration of natural drainage systems; Ports 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; 	Port Operator	BLPA

Environmental Issues/ Parameters	Land Port	Environmental & Social Impacts	Mitigation Measures	Implementation Agency	Supervision Agency
			<ul style="list-style-type: none"> Fuelling equipment should be inspected daily to ensure all components are in satisfactory condition; Preparation of spill prevention, control and countermeasure plan by the BLPA. 		
Waste water, Oil, Hazardous Waste etc.	Benapole and Bhomra Land Port	<ul style="list-style-type: none"> Oil, grease etc. from machinery; Stored Hazardous material in the port. Solid waste from waste; Waste water from washing and sprinkling; and Sanitary waste from staff toilets. 	<ul style="list-style-type: none"> Transport waste of dangerous goods, which cannot be recycled, to a designated disposal site approved by DOE. Vehicles transporting solid waste shall be covered with tarps or nets to prevent spilling waste along the route Provide absorbent and containment material (e.g., absorbent matting) where hazardous material is used and stored and personnel trained in the correct use. 	Port Operator	BLPA
Road Accidents/ Road safety	Benapole and Bhomra Land Port	<ul style="list-style-type: none"> The increased vehicular movement and speed may result in road safety issues like traffic accidents. The accidents may also be due to tiredness. The vehicles may not follow speed limit having widened and free road which may cause road accidents. 	<ul style="list-style-type: none"> By enforcing speed limits and imposing penalties on the traffic violators will ensure the road safety. Traffic signs will be provided to facilitate road users about speed limits, rest areas, eating establishments etc. Warning messages will also be displayed at appropriate locations to aware drivers about likely accidents due to over speeding. All the lanes, median, sharp bends will be reflectorized to facilitate travellers in the nighttime. Proper lighting arrangement on the proposed highway will be done at required places. The BRTA rules should be followed strictly in every relevant case. 	Port Operator	BLPA
Community Health and safety	Benapole and Bhomra	<ul style="list-style-type: none"> Improper health and safety policy maintained at the site may lead to outbreak of different diseases to the surrounding communities / public through the sickness 	<ul style="list-style-type: none"> Proper health and safety plan should be prepared by the Contractors prior to the after construction and act accordingly to avoid road accidents and health hazards of the surrounding project community. 	Terminal Operator	BLPA
Traffic Congestion	Benapole and Bhomra	<ul style="list-style-type: none"> Traffic congestions, affecting workers and local people and disrupting user's routines. 	<ul style="list-style-type: none"> Implement road safety measures (such as safety signboards, flagmen, speed breakers, zebra crossings, etc.). Temporary crosswalks or bridgeways will be provided to ensure the safety of the workers and the public. 	Port Operator	BLPA
SEA/SH	Benapole and Bhomra	<ul style="list-style-type: none"> Sexual harassment, exploitation and abuse at work including with the port users 	<ul style="list-style-type: none"> Enforce the Code of Conduct (COC) among officials/workers involved in the running/management of the port Training/orientation on SEA/SH occupational health and safety issues. Set up and run a SEA/SH compliant GRM as outlined in the project SEA/SH Risk Mitigation and Action Plan 	Respective land port authority	BLPA

6.7 Environmental and Social Monitoring Activities and Cost Plan

6.7.1 General

290. This chapter outlines the framework for assessing and managing environmental and social issues in different sub-projects. It also provides necessary procedures and tools for screening and assessing environmental and social impacts. The environmental and social assessment of several sub-projects need to be carried out based on the provisions of the ECA'1995 and ECR'1997 and also on updated on 2023 of GoB and the relevant World Bank's Environmental and Social Standards (ESSs).

6.7.2 Objectives of the ESMP

291. An ESMP will be used to implement environmental mitigation measures and environmental monitoring requirements. The ESMP describes the environmental impacts, environmental and social mitigation measures, environmental monitoring requirements, and environmental supervisor responsibilities.

292. The ESMP is required because it will manage the environment by offsetting negative impacts with possible mitigation measures and enhancing positive impacts within the sub-project's allocated funds. As a result, the following are the primary goals of the ESMP for the proposed sub-project:

- Encourage good management practices through sub-project planning and commitment to environmental issues.
- To provide rational and practical environmental guidelines to aid in reducing the potential environmental impact of activities.
- Aids in the reduction of environmental disturbance (physical, biological and ecological, socioeconomic, cultural, and archeological);
- To combat all forms of pollution, monitor air, noise, land, water, waste, energy, and natural resources.
- Flora and fauna that are sensitive or endangered must be protected.
- Stop land degradation;
- Adopt best practices in waste management for all types of waste (liquid and solid), with a focus on waste prevention, minimization, recycling, treatment, and disposal.
- Employees and contractors should be trained and made aware of their environmental obligations and compliance.
- Reduce environmental risk and improve Health, Safety, and the Environment (HS&E).
- Increase efficiency by reducing consumption and conserving energy-diminishing resources.
- Visual Inspection during project implementation period with specific frequencies.

Table 6.7: Environmental Monitoring Activities during Construction Stage (Qualitative Aspects) Bhomra and Benapole

No.	Environmental Impact	Means of Monitoring	Location	Frequency	Implementing Organization	Monitoring Organization
1	Dust/Air pollution	<ul style="list-style-type: none"> - Check if proper maintenance of vehicles and equipment is ensured to reduce smoke. - Check availability of equipment for watering in case of dust generation areas. - Collection Air and Noise sampling 	<p>Every location of sub-project activity</p> <p>-Sub-project site where construction is in progress near settlement / habitation area</p>	Daily/Monthly	Contractor	CSC/ PIU
2	Landscape/ Topography	Consultation with adjacent households and BLPA authority to get opinion on work being completed.	Along the sub-project's corridor	Construction stage/Monthly inspection	Contractor	CSC/ PIU
3	Ground Water quality	Turbidity and oil form.	Construction sites of sub-project activity.	Weekly	Contractor	CSC/ PIU
4	Surface water quality	Changes surface water quality	Nearby River and Pond	Quarterly during the construction phase	Contractor	CSC/ PIU
5	Soil pollution	<ul style="list-style-type: none"> - Odor - Visual Inspection 	Construction sites of sub-project activity.	Daily	Contractor	CSC/ PIU
6	Solid waste management/ Hazardous waste management	<ul style="list-style-type: none"> - Check collection records/ registers and storage of waste - Check proper disposal of waste. - Check storage of hazardous material. 	Construction site and camp and designated waste disposal areas	Daily	Contractor	CSC/ PIU
7	Sanitation	Check if sanitation facilities (Connection to the septic tank and soak pits)—provision of using mask, keeping first aid boxes, sanitation system.	Construction sites of sub-project activity.	Daily	Contractor	CSC/ PIU
8	Working conditions	Hard hat, safety belt, scaffolding, traffic safety, Safety Shoe, water spraying	Construction sites of sub-project activity.	As and when required	Contractor	CSC/ PIU
9	Health and Safety	Monitoring of health and safety of workers and number of accidents.	Construction site and construction camp	As and when required	Contractor	CSC/ PIU
10	Tree cutting	Visual inspection to ensure the removal of trees in time and avoid removing any additional tree other than the ones that have been identified.	Along the sub-project corridor	Before the site clearance	Contractor	CSC/ PIU
11	Accident	Number of accident and near-miss encountered	Construction sites of sub-project activity.	As and when required	Contractor	CSC/ PIU
12	Danger and Safety Signs	Danger and warning signs for occupational and public safety; temporary crosswalk or bridgeways	Construction sites of sub-project activity.	Once a Monty or when required	Contractor	CSC/ PIU
13	Housekeeping	Ensure hygiene and healthy environment in labour camp	Construction sites of sub-project activity.	Weekly	Contractor	CSC/ PIU

No.	Environmental Impact	Means of Monitoring	Location	Frequency	Implementing Organization	Monitoring Organization
14	Site clean-up and restoration of sub-project area	Site and surroundings of the sub-project area will be restored and clean up after completion of the construction activity	Construction sites of sub-project activity.	Once prior to commissioning	Contractor	CSC/ PIU
15	Drainage Congestion	Visual Inspection	Construction sites of sub-project activity.	Weekly	Contractor	CSC/ PIU
16	Community health & safety/ Grievance	Number of grievances registered and addressed	Along the sub-project corridor	As and when required	Contractor	CSC/ PIU
17	SEA/SH and security personnel	Social monitoring	Along the sub-project corridor	As and when required	Contractor	CSC/ PIU
18	Human trafficking	Social monitoring	Along the project corridor	As and when required	Contractor	CSC/ PIU
19	Hazardous Materials	Check storage of hazardous material.	Construction site and camp and designated waste disposal areas	Daily	Contractor	CSC/ PIU
1	Landscape/ Topography	Consultation with adjacent households and BLPA to get opinion on work being completed.	Along the sub-project corridor	Regular	EHS officer of Port	BLPA
2	Road Accidents/ Road safety	Traffic signs, kilometer posts, speed breakers (where required) along the road and traffic signal at road crossing have to be provided.	At designated places (intersection points, cultural structures, School, hospital)	Regular	RHD	BLPA
3	Rain water drainage	Visual inspection	Any area inside and surrounding of the sub-project area	During Rainy Season	PIU	BLPA
4	Solid waste collection	Visual inspection that waste collection facilities are in use	From each facility of Benapole and Bhomra land port	Weekly	EHS Officer of respective Port	BLPA
5	SEA-SH	Social monitoring	Along the project corridor	As and when required	Contractor	CSC/ PIU
6	Human trafficking	Social monitoring	Along the project corridor	As and when required	Contractor	CSC/ PIU
7	Hazardous Materials	Check storage of hazardous material.	Construction site and camp and designated waste disposal areas	Daily	Contractor	CSC/ PIU
8	Occupational Health and Safety	Monitoring of workers health and safety and number of accidents.	Construction site and construction camp	As and when required	Contractor	CSC/ PIU

6.7.3 Monitoring Activities for the Mitigation Measures (Quantitative Aspects)

Table 6.8: Environmental Monitoring during Construction Stage (Quantitative Aspects) for Benapole Land Port and Bhomra Land Port

No.	Environmental Issues	Test Parameters	Methods of Monitoring	Location	Frequency of Monitoring	Implementing Organization	Monitoring Organization
Construction Phase							
1	Air Quality	PM _{2.5} , PM ₁₀ , SO _x , NO _x , CO, VOC, O ₃	Portable Air Quality Sampler	Five (05) locations within the sub-project boundary	Monthly	Contractor	CSC/ PIU
2	Noise Level	dB(A)	Noise Meter	Ten (10) locations through the sub-project corridor	Monthly	Contractor	CSC/ PIU
3	Surface water quality	pH, TSS, TDS, Turbidity, Oil & Grease, Cl ⁻ , Hardness, Coliform, Fe, BOD, COD	The samples were collected with Kemmerer Bottle	At three (03) major surface water bodies, including adjacent pond.	Quarterly	Contractor	CSC/ PIU
4	Ground water quality	pH, TDS, Cl, As, Mn, Fe, SO ₄ , TC, FC	The Samples were collected through multimeter and rest of the samples were tested at laboratory	At three (03) locations within the sub-project boundaries	Quarterly	Contractor	CSC/ PIU
Operation Phase (3 Years)							
1	Air Quality	PM _{2.5} , PM ₁₀ , SO _x , NO _x , CO, VOC, O ₃	Portable Air Quality Sampler	Five (05) locations within the sub-project boundary	Twice per year for operating Years	EHS Officer of respective Port	BLPA
2	Noise Level	dB(A)	Noise Meter	Ten (10) locations through the sub-project corridor	Twice per year for operating Years	EHS Officer of respective Port	BLPA
3	Surface water quality	pH, TSS, TDS, Turbidity, Oil & Grease, Cl ⁻ , Hardness, Coliform, Fe, BOD, COD	The samples were collected with Kemmerer Bottle	At three (03) major surface water bodies, including adjacent pond.	Twice per year for operating Years	EHS Officer of respective Port	BLPA
4	Groundwater quality	pH, TDS, Cl, As, Mn, Fe, SO ₄ , TC, FC	The Samples were collected through multimeter and rest of the samples were tested at laboratory	At three (03) locations within the sub-project boundaries	Twice per year for operating Years	EHS Officer of respective Port	BLPA

6.7.4 Environmental and Social Mitigation & Monitoring Cost

293. The costs are approximate and will require review at the time of detailed design and estimation stage. Total cost for environmental mitigation, monitoring and training will be BDT 25,340,000 (approx. USD 250,000) in the construction phase. In the operation phase, it is estimated to be BDT 4,950,000/yr (approx. USD 50,000/yr).

5.1.1.1 Budget Plan for Environmental Management

Table 6.9: Environmental and Social Impact Mitigation cost during for Construction Period in Benapole & Bhomra Land Port

SI No	Description of Item	Unit	Quantity	Unit Rate (BDT)	Item Total Cost (BDT)	Item Total Cost (USD) [1 USD=BDT 104.86]
1	For dust management, Movable Dust suppression equipment (spray stream, EU origin, droplet size 1mm, and noise level maximum 73dB, 360 angles rotated) with other facilities including maintenance and operation during construction period and will hand over to the project authority after completion of the work.	No	2	5000,000.00	10,000,000.00	95365.24
2	Duckweed grown in pond and for protection of surface water pollution.	LS	-	-	60,000.00	572.20
3	Maintenance and protection of traffic warning signs, and posting of signboard during project activities	LS	-	-	150,000.00	1430.48
4	Making/ construction and maintenance temporary construction/ labor campsite with facilities including drinking water supply and sanitation facilities.	LS	-	-	600,000.00	5721.92
5	Solid Waste Management including waste collection, transportation and dumping at authorized sanitary land fill site of Beanpole after minimizing of volume and recycling.	LS	-	-	300,000.00	2860.96
6	Central Sewerage Treatment Plant (STP) including liquid waste management.	No	1	10,000,000.00	10,000,000.00	95365.25
7	Supply of Double Cabin Pickup van with tiptop condition with maintenance and operation during construction period and will hand over to the project authority after completion of the work.	No.	1	5000,000.00	5000,000.00	47682.63
8	Supply of Ambulance with necessary equipment and accessories in tiptop condition with maintenance and operation during construction period and will hand over to the project authority after completion of the work.	No	1	6,000,000.00	6,000,000.00	57219.15
9	First aid box for treatment of injuries in emergency situations	Nos.	Package		150,000.00	1430.48
10	Personal Protective Equipment also considering present COVID-19 pandemic	LS	Package		700,000.00	6675.57
11	Spray of Disinfections materials to protect present COVID-19 pandemic	LS	Package		700,000.00	6675.57

SI No	Description of Item	Unit	Quantity	Unit Rate (BDT)	Item Total Cost (BDT)	Item Total Cost (USD) [1 USD=BDT 104.86]
12	Setup Disinfection Tunnel/ Chamber with Disinfection fog machine, etc. to protect from present COVID-19 pandemic in the entry point.	LS	2	75,000.00	150,000.00	1430.48
13	Infrared thermometer.	no	10	20,000.00	200,000.00	1907.31
14	Tree plantation and green area development.	LS	Package		400,000.00	3814.61
15	For excess noise protection, periodical maintenance of construction vehicles and installation of sound insulation measures.	LS	Package		100,000.00	953.66
16	Water quality protection measures: soil erosion and sedimentation control at the construction site and prevention of spillages, leakages of polluting materials, etc. to be at the satisfaction of the engineer.	LS	Package		100,000.00	953.66
17	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	Package		100,000.00	953.66
18	Rehabilitation of ancillary sites including stockpile sites, brick crushing sites, borrow areas, work force camps/ site office, and these are to be the entire satisfaction of Engineer.	Sqm	1000	200	200,000.00	1907.31
Total in BDT. Three Crore Forty-Nine lac Taka only					34,910,000.00	332,920.14

Table 6.10: Estimated annual costs for Environmental and Social Training in Benapole & Bhomra land Port

SL	Component	Stage	Item	Unit Cost	Quantity	Cost (in BDT)
1	Environmental Training	During Construction	Orientation Workshop and follow up training program for capacity building/ institutional development program	LS	LS	500,000.00
2	Environmental Training	During Operation	Orientation Workshop and follow up training program for capacity building/ institutional development program	LS	LS	500,000.00 /yr
3	COVID-19 pandemic	During Construction	COVID-19 pandemic awareness campaign to ensure that contractor 's personnel and local community understand COVID-19 pandemic	LS	LS	200,000.00
4	COVID-19 pandemic	During Operation	COVID-19 pandemic awareness campaign	LS	LS	200,000.00/yr
5	SEA-SH Training	During Construction	Sexual Exploitation and Abuse awareness campaign to ensure women safety in the sub-project area	LS	LS	200,000.00/yr
6	Occupational Health and Safety	During Construction	Awareness campaign about Health and Safety to ensure safety of workers in the sub-project area.	LS	LS	200,000.00/yr

6.7.4.1 Budget Plan for Environmental Monitoring

Table 6.11: Environmental monitoring cost During Construction period in Benapole & Bhomra Land Port

Component	Item	Unit Cost (BDT)	Quantity (Yearly)	Total Costs (BDT)
Air Pollution (Ambient Air Quality)	Measurement of SPM, PM ₁₀ , NO _x , SO ₂ , CO, CO ₂	100,000.00	12	1200,000.00
Water Pollution (Surface Water surrounding river Dharla)	Measurement of pH, EC, Turbidity, DO, BOD, COD NO ₃ , PO ₄ , Oil and Grease	110,000.00	6	660,000.00
Water Pollution (Ground Water)	Measurement of pH, FC, BOD, Nitrite, Chloride, Fe, Pb, Cd, Hg, As	80,000.00	6	480,000.00
Solid and Liquid Waste Management	Site inspection at waste sensitive locations and reporting; wastewater parameter (pH, Turbidity, BOD, COD, CF) test from outlet of central STP.	80,000.00	6	480,000.00
Noise (Ambient Noise Quality)	Measurement of Sound level (dB) at day and night; Periodical maintenance of construction vehicles and installation of sound insulation cover	20,000.00	12	120,000.00
COVID-19 monitoring	Daily thermal checkup through Temperature Scanner	LS	LS	50,000.00
COVID-19 awareness campaign	Yearly	LS	LS	100,000.00
Reporting on Environmental Monitoring	Quarterly Monitoring Report	50,000.00	6	300,000.00
Total in BDT. Twenty-Eight lac Fifty thousand Taka only				2,850,000.00

Table 6.12: Environmental and Social Impact Mitigation Cost During Operation Period in Benapole & Bhomra Land Port

Sl. No.	Description of Item	Unit	Quantity	Unit Rate (BDT)	Total Costs (BDT/Year)
1.	Maintenance of Dust Management system	LS			400,000.00
2.	O&M Cost of Duckweed grown in pond and Borrow pit for protection of surface water pollution	LS			60,000.00
3.	Maintenance of sewerage Treatment Plant (STP) including liquid waste management	LS			100,000.00
4.	First Aid Box with necessary medicine and equipment	LS			80,000.00
5.	Personal Protection Equipment (PPE) also considering present COVID-19, Pandemic	LS			100,000.00
6.	Spray of Disinfections materials to protect present COVID-19 Pandemic	LS			100,000.00
7.	Maintenance of Disinfection Tunnel/ Chamber with Disinfection fog machine, etc. to protect from COVID-19 in the entry point	LS			150,000.00
8.	Maintenance of Ambulance Driver's salary, purchase of necessary equipment and accessories, Fuel etc.	1	20	100,000.00	2000,000.00
9.	Tree Plantation and Green Area Development	LS			400,000.00
10.	Salary of Health and Safety Officer	2	20	100,000.00	2000,000.00
Total in BDT. Fifty-Three lac Ninety Thousand Taka only					5,390,000.00

Table 6.13: Environmental and Social Monitoring Cost during Operation Period in Benapole & Bhomra Land Port

Component	Item	Unit Cost (BDT)	Quantity (Yearly)	Total Costs (BDT)
Air Pollution (Ambient Air Quality)	Measurement of SPM, PM ₁₀ , NO _x , SO ₂ , CO, CO ₂	100,000.00	6	600,000.00
Water Pollution (Surface Water surrounding river Dharla)	Measurement of pH, EC, Turbidity, DO, BOD, COD NO ₃ , PO ₄ , Oil and Grease	100,000.00	6	600,000.00
Water Pollution (Ground Water)	Measurement of pH, FC, BOD, Nitrite, Chloride, Fe, Pb, Cd, Hg, As	80,000.00	6	480,000.00
Solid and Liquid Waste Management	Site inspection at waste sensitive locations and reporting; waste water parameter (pH, Turbidity, BOD, COD,CF) test from outlet of central STP.	80,000.00	8	640,000.00
Noise (Ambient Noise Quality)	Measurement of Sound level (dB) at day and night; Periodical maintenance of construction vehicles and installation of sound insulation cover	20,000.00	6	120,000.00
COVID-19 monitoring	Daily thermal checkup through Temperature Scanner	LS	LS	50,000.00
COVID-19 awareness campaign	Yearly	LS	LS	100,000.00
Reporting on Environmental Monitoring	Quarterly Monitoring Report	50,000.00	6	300,000.00
Total in BDT. Twenty-Eight lac Ninety thousand only				2,890,000.00

294. Total Environmental and Social Mitigation Measure, Monitoring and Training Cost during Construction Period: 75,280,000.00 (approx. USD 800,000) for Benapole Land Port and Bhomra Land Port.

295. Total Environmental and Social Mitigation Measure, Monitoring and Training Cost during Operation per year Period: 16,960,000/yr (approx. USD 100,000/yr) for both Land Port.

7 Institutional Arrangements and Grievance Redress Mechanism

296. The sub-project implementation will be led by the sub-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 subcomponents. The PIU will be headed by the Sub-project Director (PD). The PIU will consist 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 Sub-project Director and shared with the World Bank, throughout the construction period.

297. The E&S Cell will also provide training to the BLPA field personnel responsible for monitoring of environmental compliance during both construction and O&M phases of the sub-project. The institutional framework is shown in the organogram. 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.

298. The overall responsibility of environmental performance including EMP implementation of the Sub-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 their execution of construction-related environmental and social management requirements and measures.

7.1 Institutional Setting and Implementation Arrangement

299. BLPA will arrange for ESIA, ESMP/RAP implementation and monitoring mechanism. The PIU will have an Environmental and Social Cell in the PIU. At overall sub-project level all RPF/RAP oversight will be ensured by BLPA. Executive Engineer of BLPA will head the Environmental and Social Cell of BLPA. One Assistant Sub-project Director & one Sub-project Manager are each in charge of Environment and Social aspects of the sub-projects. The Deputy Director including Assistant Sub-project Director & Sub-project Manager of the Social and Environmental cell will be assisted by a Senior Social Specialist and Senior Environmental Specialist-ACCESS who is in-charge for Community Engagement and Gender. The Supervision Consultants and Contractors will have Environmental and Social Specialists to supervise and implement the RAP provisions. M&E Consultants will need to carry out an annual E&S audit every year. At the end of the sub-project, an end-line evaluation will be carried out. The all the monitoring and evaluation reports will be shared with the Bank for their feedback. The BLPA considers that they can carry out midterm review and end line evaluation internally and does not intend to engage any third party. The third party may be engaged for impact evaluation at a later stage after two- or three-years sub-project execution.

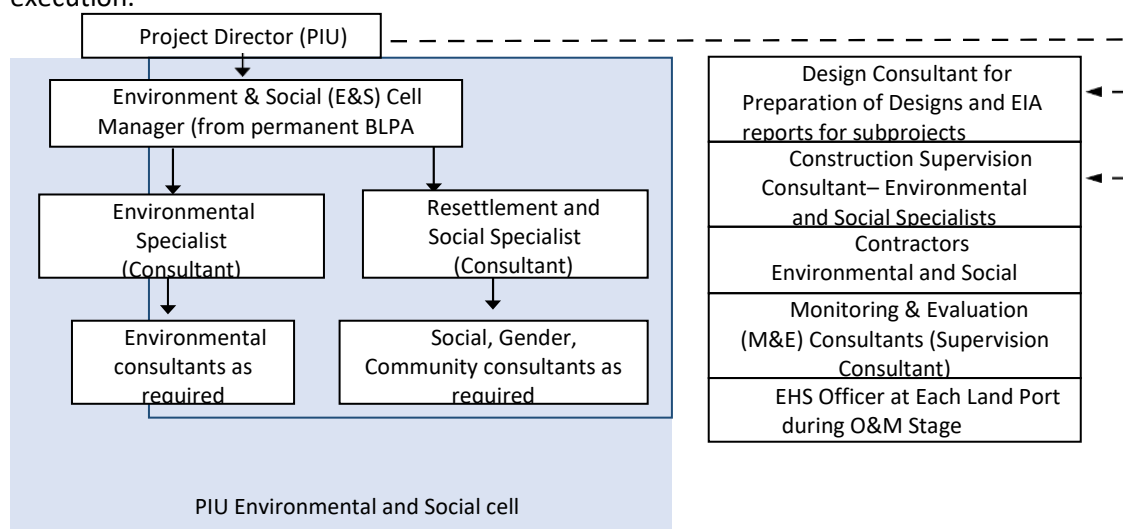


Figure 7-1: PIU Environmental and Social Cell

7.2 Consultant Support

300. The consultants will also help the PIU prepare quarterly progress reports to be submitted to the BLPA, who in turn will submit semi-annual reports to the co-financier for review. The CSC will, inter alia, be responsible for the following-

- Engage international/national environment specialists to ensure proper implementation of ESMP provisions;
- Undertake regular monitoring of the contractor's environmental performance, as scheduled in the ESMP;
- Conduct periodical environmental audits;
- Prior to construction, review and approve CESMPs/method statements prepared by the contractors;
- Supervise site environmental management system of the contractors, and provide corrective instructions;
- Monitor the implementation of the CESMP and review the environmental management and monitoring reports prepared by the contractor;
- Review and report on CESMP implementation by the contractor.

301. Overall, CSC is responsible for ensuring the proper and timely implementation of all their tasks specified in the ESMP.

7.3 Contractors

302. The contractor will be primarily responsible for preparing and implementing the CESMP based on ESIA and ESMP. Each contractor will be required to have one Environmental Specialist and one Occupational, Health and Safety (OHS) Specialist and one Social Specialist who will be working in close coordination with the environmental staff of CSC and PIU. The main functions of the contractor regarding environmental and social management and monitoring are to-

- Prior to the start of construction, prepare the CESMP, OHS Plan, Waste Management Plan, Soil/Spoil Management Plan, Tree Plantation Plan and other method statements and management plans according to requirements of ESMP and get them approved by CSC.
- Recruit qualified environmental and social safety officers (ESO) to ensure compliance with environmental and social contractual obligations and proper implementation of CESMP;
- Provide sufficient funding and human resources for proper implementation of CESMP;
- Prepare monthly reports related to environmental and social management and monitoring for review and verification by the CSC;
- Prepare and implement an Environmental Management system according to the requirement specified in ESIA/ ISO 14001.

7.4 Roles and Responsibilities

303. The BLPA will be responsible for the implementation of the project. The BLPA will establish a Sub-project Implementation Unit, headed by the Sub-project Director at the Sub-project office which will be responsible for the overall execution of the sub-project. The PIU consists of Engineering service unit, environmental management consultant and social specialist for total implementation of the sub-project.

304. The third-party organization or consulting firm will be responsible for E&S monitoring supervised by BLPA. Supervision Consultant (includes environmental and social specialists) shall monitor implementation of EMP as well as RAP implementation for Phase 1. The roles and responsibilities of PIU and its consultants are presented in the table below.

Table 7.1: Roles and Responsibilities for ESMP Implementation

Organizations	Responsibilities
PIU/BLPA	<ul style="list-style-type: none"> • Ensure that all sub-project activities are well-managed and coordinated. • Procurement of works and goods. • Payment of compensation to the sub-project affected people • Recruitment and supervision of Construction Supervision Consultants (CSC) • Recruitment and supervision of external monitor and independent Panel of Experts • Carry out an environmental assessment of sub-projects in Component 1A implementation. • Quarterly reporting on RAP implementation to BLPA. • All the actions related to ensuring compliance with RPF as directed by BLPA and preparatory studies in Component 1C in compliance with the World Bank and Government of Bangladesh requirements
E&S Cell within PIU/BLPA	<ul style="list-style-type: none"> • Responsible for assisting PD with developing TORs and hiring of consultants to carry out any required environmental assessment work for sub-projects and also for preparatory studies in Component 1C, reviewing consultant deliverables related to environmental assessment, reviewing bid documents for inclusion of ESMP measures, supervising construction activities, producing periodic monitoring reports, • Ensuring inclusion of ESMP in bidding documents • Providing training on ESMP principles and requirements to CSC, Contractors, BLPA field staff, and others as needed to ensure effective implementation of ESMP • Supervising CSC for the implementation of ESMP • Closely coordinate with other concerned agencies, local governments, and communities to support the implementation of ESMP • Preparation of progress reports on the implementation of ESMP. • Ensure effective implementation of ESMP components not directly tasked to the Contractor, including components dealing with indirect, induced and cumulative effects and operations and maintenance stage plans and measures. • Commissioning and oversight/review of consultant reports for ESIA/ESMPs to be developed for the sub-components of the Sub-project • Ensure compliance of the studies on Component 1C (Component 1C: Preparation Studies and Activities to Enhance Connectivity of Land Ports and Sub-project Implementation Support) comply with World Bank and Government of Bangladesh requirements. • Responsible for developing standard environmental code of practices during the operation stage of land ports
E&S of CSC	<ul style="list-style-type: none"> • Engage international/national environment specialists to ensure proper implementation of ESMP provisions; • Undertake regular monitoring of the contractor's environmental performance, as scheduled in the ESMP; • Conduct periodical environmental audits; • Prior to construction, review and approve CESMPs/method statements prepared by the contractors; • Supervise site environmental management system of the contractors, and provide corrective instructions; • Monitor the implementation of the CESMP and review the environmental management and monitoring reports prepared by the contractor; • Review and report on CESMP implementation by the contractor.
EHS Officer at each Land port	<ul style="list-style-type: none"> • Responsible for implementing standard environmental code of practices during the operation stage of land ports • Implementation of mitigation and monitoring measures during the operation stage of the land ports (monitoring of dust, traffic, solid waste collection and disposal, OHS issues, etc.)
ESIA Consultant	<ul style="list-style-type: none"> • Carrying out ESIA studies in compliance with the GoB and World Bank guidelines following the ESMF. • Preparing ESMP for inclusion in the bid documents.
Contractor	<ul style="list-style-type: none"> • Responsible for implementation of mitigation and monitoring measures proposed in the ESMP • Each Contractor will recruit an Environmental, Health, and Safety (EHS) Manager, responsible for implementing the Contractors' environmental, health and safety responsibilities and liaising with government agencies. S/he will have adequate staff to support them for these tasks.
M&E Consultant	<ul style="list-style-type: none"> • External Monitoring and evaluation of Resettlement Action Plan

7.5 Grievance Redress Mechanism

305. BLPA desired to keep some of the GRC resolutions confidential as it may affect involved parties defaming their dignity. But the summary of outcomes of GRCs in periodical reports will be published on BLPA sub-project website without mentioning the name of complainer/ affected persons. The monitoring plan will ensure that WB guidance/good practices are followed when handling complaints related to SEA/SH/GBV.

7.5.1 Principles of GRM

306. It is important that social protection programs adhere to international standards and principles when collecting and resolving grievances. Programs must have GRMs to remedy mistakes when implementers and decision makers become aware of them, as well as to correct the processes and systems that do not provide the quality of service promised. The following principles and attributes should normally apply to a well-functioning GRM: independence, accessibility and inclusivity, confidentiality, responsiveness, effectiveness, and continuous improvement. GRM principles are not prescriptive, but rather a set of generally accepted practices that are recommended for social protection programs to design effective GRMs.

7.5.2 Objectives of Grievance Redress Mechanism

307. The fundamental objective of GRM will be to resolve any sub-project related grievances locally in consultation with the aggrieved party to facilitate smooth implementation of the social and environmental action plans. Another important objective is to democratize the development process at the local level and to establish accountability for the affected people. However, the procedures will not a person's right to go to the courts of law pre-empting an effective dispute management system consideration must be given to the disputes resulting from the following:

1. Disciplinary action
2. Individual grievances
3. Collective grievances and negotiation of collective grievances
4. Gender-based violence, sexual exploitation, and workplace sexual harassment

7.5.2.1 Disciplinary Procedure

308. This is the starting point for all disciplinary action rules. These rules may be implied or explicit and of course, will vary from workplace to workplace. Some rules are implied in the contract of employment (e.g., rule against stealing from the employer), however, even implied rules should be included in the disciplinary code or schedule of offences. In an organized workplace these rules ideally are negotiated with the trade union and are often included in the Recognition Agreements signed by the employer and trade union. These workplace rules must be:

- a. Valid or reasonable;
- b. Clear and unambiguous;
- c. The employee is aware, or could reasonably be aware of the rule or standard; and
- d. The procedure to be applied in the event the employee contravenes any of these rules

309. ACCESS MPA program will establish a fair and effective disciplinary procedure in the workplace, which should be fair and just. The procedure is as follows: -

- a. Investigate to determine whether there are grounds for a hearing to be held;
- b. If a hearing is to be held, the employer is to notify the employee of the allegations using a form and language that the employee can understand;
- c. The employee is to be given a reasonable time to prepare for the hearing and to be represented by a fellow employee or a union representative;
- d. The employee must be allowed to respond to the allegations, question the witnesses of the employer and to lead witnesses;
- e. The hearing must be held and concluded within a reasonable time and is to be chaired by an impartial representative.

- f. If an employee fails to attend the hearing the employer may proceed with the hearing in the absence of the employee;

7.5.2.2 Individual Grievance Procedure

310. Every employer, including contractors, must have a Formal Grievance Procedure that should be known and explained to the employee.

311. The Code recommends that such procedure should at least:

- a. Specify to whom the employee should lodge the grievance;
- b. Refer to time frames in the Labor Management Plan to allow the grievance to be dealt with expeditiously;
- c. Allow the person to refer the grievance to a more senior level within the organization if it is not resolved at the lowest level;
- d. If a grievance is not resolved the employee has the right to lodge a dispute with the ACCESS MPA program.

7.5.2.3 Collective Grievances and Disputes Resulting from the Negotiations of Collective Agreements

- **GRM for Dealing with Labor Issues**

312. The project is anticipated to involve a large workforce of approximately 220 individuals, which is a significant number. This workforce will consist of 200 workers and 20 labor supervisors. The GRCs dealing with labor grievances/complaints will have members who are directly and indirectly associated with the construction and other works under the individual Contract packages of the ACCESS MPA. Each GRC will have 5 members:

- Sub-project Implementing Agency (here BLPA, NBR, RHD) official who is in charge of all construction and other activities at individual work sites, will act as convener;
- A male worker representing the workers;
- A female worker representing the workers;
- Resident engineer of the Construction Supervision Consultant;
- A PIU official, designated by the Sub-project Director, who is not associated with the construction activities in the field., but a member of the NPIU/sub-PIUs.

7.5.2.4 Gender-based Violence, Sexual Exploitation and Workplace Sexual Harassment

313. ACCESS MPA program will, with support from consultants, identify institutions and services provides who are actively engaged in the prevention of gender-based violence, sexual exploitation, and workplace sexual harassment to establish a manual for referencing any potential survivors. ACCESS MPA, the sub-project unit, and the contractor are not equipped to handle complaints or provide relevant services to survivors but will refer any person to relevant service providers, including health facilities, law enforcement's gender unit or others, as relevant using the information on available services.

7.5.3 Communication & Awareness Raising on GRM

314. The final processes and procedures for the GRM will be translated into local language (i.e., Bangla) and disseminated at all sub-project locations. These shall be made available (in both leaflet and poster format) to all sub-project locations with the staff on site and in Villages, Upazila, District and Municipality offices.

7.5.4 Grievance Mechanism Structure

315. A three-tier grievance redress mechanism has been proposed for the affected people and other stakeholders (Sub-project GRM) under ACCESS MPA to address all grievances/claims and allow the people to go to the upper level or to the courts of law for seeking final judgment. Grievance Redress Mechanism under ACCESS MPA Program presented in Figure 8.1. Sample Grievance Registration Form is provided as Annex G.

316. Information about the GRM will be publicized as part of the initial disclosure consultations in the participating sub-project areas. Brochures will be distributed during consultations and public meetings, and posters will be displayed in public places such as in government offices, sub-project offices, village noticeboards, community centres, etc. Information about the GRM will also be posted online on the respective IA’s website (BLPA: [https:// http://www.bsbk.gov.bd/](https://http://www.bsbk.gov.bd/); NBR: [https:// https://nbr.gov.bd/](https://https://nbr.gov.bd/); and RHD: [https://www. https://rhd.portal.gov.bd/](https://www.https://rhd.portal.gov.bd/)). The Stakeholder Engagement Plan (SEP) and the Labor Management Procedure (LMP) provides details of the Sub-project GRM, Workers GRM and protocol for SEA/SH/GBV complaints interlinked with the Government’s centralized Grievance Redress System (GRS) available online.

317. Once a grievance is registered through the standard procedure, the GRM focal person, with the help of GRO (Corporate) will oversee taking care of the problem. If the aggrieved party wants to escalate the issue, firstly site level GRC are responsible for addressing the issue within one week from the reporting of the problem. If the aggrieved party is not convinced with the resolution from the site level GRC, they can take the grievance up to the PIU level GRC and seek for a resolution. PIU level GRC will take a maximum of 2 weeks to address any grievance they receive from site level GRC. If PIU level GRC fails to resolve any issue, the aggrieved party has the right to take it up to the national judicial system. However, there will be a one stop center where all the SEA/SH/GBV related can be addressed for timely response.

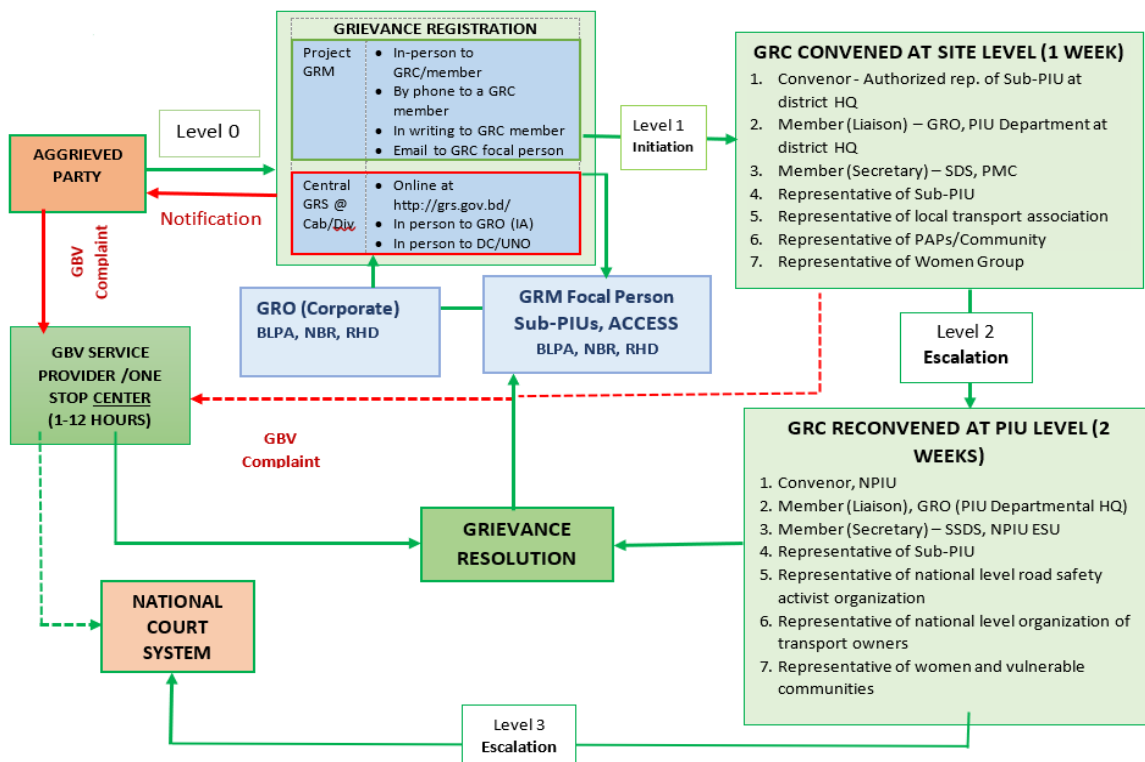


Figure 7-2: Grievance Redress Mechanism under ACCESS MPA Programme

7.5.5 GRM Implementation Arrangements

318. The overall process for the GRM will include six steps as described below. This GRM process structure is the combined output of all the IAs.

- **Step 1: Uptake.** Project stakeholders will be able to provide feedback and report complaints through several channels: in person at offices (village/mahalla, Union, project, and Upazila offices) and at project sites, and by mail, telephone, and email.
- **Step 2: Sorting and processing.** Complaints and feedback will be compiled by the Assistant Manager/Social Development Officer and recorded in a register. Submissions related to the resettlement and compensation program will be referred to the planning department for

processing and resolution and submissions related to SEA/SH will be delegated to a mapped service provider.

- **Step 3:** Acknowledgement and follow-up. Within seven (7) days of the date a complaint is submitted, the responsible person will communicate with the complainant and provide information on the likely course of action and the anticipated timeframe for resolution of the complaint.
- **Step 4:** Verification, investigation, and action. This step involves gathering information about the grievance to determine the facts surrounding the issue and verifying the complaint’s validity, and resolve the complaints is expected that many or most grievances would be resolved at this stage. All activities taken during this and the other steps will be fully documented, and any resolution logged in the register.
- **Step 5:** Monitoring and evaluation. Monitoring refers to the process of tracking grievances and assessing the progress that has been toward resolution. This will be accomplished by maintaining the grievance register and records of all steps taken to resolve grievances or otherwise respond to feedback and questions.
- **Step 6:** Providing Feedback. This step involves informing those to submit complaints, feedback, and questions about how issues were resolved, or providing answers to questions. On a monthly basis, the Planning Department will report to the Executive Chairman on grievances resolved since the previous report and on grievances that remain unresolved, with an explanation as to steps to be taken to resolve grievances that have not been resolved within 30 days.

7.5.6 Information Disclosure

319. The mechanism of information disclosure dissemination will be simple and be accessible to all. Two of the important means that have been followed until now include briefing material and organization of community consultation sessions. The briefing material (all to be prepared in local language i.e., Bangla) can be in the form of (a) brochures (including project information, details of entitlements including compensation and assistance to be given to the PAPs; grievance mechanism) that can be kept in the offices of local government (union parishad office) and project office; (b) posters to be displayed at prominent locations and (c) leaflets that can be distributed in the project areas. Consultation meetings should also be organized at regular intervals by the project to acquaint the communities, target group beneficiaries and affected persons of the following:

- Timeline and progress of the sub-project by components;
- Information on beneficiary participation;
- Information of involuntary displacement, compensation and entitlements;
- Sub-project E&S risks and impacts

Table 7.2: Disclosure Requirements

Topic	Documents to be Disclosed	Frequency	Where
Environmental and Social Assessment	Environmental and Social Management Framework (ESMF), Resettlement Framework (RF), Stakeholder Engagement Plan (SEP), Labor Management Procedure (LMP)	Once in the entire sub-project cycle. But to remain on the website and other disclosure locations throughout the sub-project period.	On the website of IA’s (BLPA, NBR, RHD)
	Environmental and Social Impact Assessment (ESIA), Initial Environmental Examination (IEE); Environmental and Social Management Plan (ESMP); Resettlement Plan (RP).	Each document will be prepared after finalization of specific location and scope and disclosed accordingly. It will remain on the	On the website of IA’s (BLPA, NBR, RHD); The client would make the ESA Report, ESMP, RAP available at a place accessible to displaced persons and local NGOs, in a form, manner, and language that are understandable to the stakeholders and PAPs in the following offices:

Topic	Documents to be Disclosed	Frequency	Where
		website and other disclosure locations throughout the sub-project period.	<ul style="list-style-type: none"> • UP Office • Municipality Office/Councilor Office • Public Library if any • Sub-project Office
	Resettlement Policy Framework translated in local language	Once in the entire sub-project cycle.	Distributed among Sub-project Affected Persons (PAP)
	Information regarding impacts and their entitlements in local language	Once at the start of the sub-project and as and when demanded by the PAP.	Through one-to-one contact with PAPs. Community consultation List of PAPs with impacts and entitlements to be pasted in the sub-project office and website of IA's (BLPA, NBR, RHD),
	Environmental and Social Monitoring Report	Quarterly (by April 15, July 15, October 15 and January 15, every year)	Website of IA's (BLPA, NBR, RHD). Hard copy in the sub-project office
	Contractors monthly progress report.	10th day of every month	Website of IA's (BLPA, NBR, RHD). Hard copy in the sub-project office
	RAP Report	At midterm and end of the RAP implementation	IA's (BLPA, NBR, RHD) website in local language.
Public Consultation	Minutes of Formal Public Consultation Meetings	Within two weeks of meeting	In the web sites of IA's (BLPA, NBR RHD) Hard copies in local language in the following offices: UP Office Municipality Office/Councilor Office Sub-project Office
Grievance redressed process	Proceedings of grievance process/ monitoring reports	Continuous process throughout the sub-project cycle.	In the web sites of IA (BLPA) Hard copies in local language in the following offices: UP Office Municipality Office/Councilor Office Sub-project Office Beneficiaries and affected persons to be informed on one-to-one contact
Beneficiary identification and engagement	Approach and proceedings/long and short list of beneficiaries	Continuous process throughout the sub-project cycle.	In the web sites of IA's (BLPA, NBR, RHD) Hard copies in local language in the following offices: UP Office Municipality Office/Councilor Office Sub-project Office Potential target group beneficiaries to be informed on one-to-one contact

8 Conclusions and Recommendations

8.1 Conclusions

320. The ESIA report has been conducted in accordance with the World Bank Environmental and Social Framework, World Bank's Environmental & Social Standards, World Bank's Environmental Health, and Safety (EHS) Guidelines, government policies, including national legislative requirement.

321. As per environmental consideration the overall sub-project risk categorization for the Benapole and Bhomra Land Port is respectively "High" and 'Substantial' and as per social consideration risk categorization is 'High'.

322. The report demonstrates ESS (1-10) and analyzes environmental & social risks related to ESS (1-10). For conducting this study primary data and secondary data have been collected and analyzed. The primary data includes data collected from field observations and secondary data includes review of the Bangladesh statistical and relevant information from Government Departments. For social baseline, discussions were held with stakeholders including government officials, community representatives and a wide range of existing land port beneficiaries.

323. The key negative environmental and social impacts due to the sub-project construction expected as an outcome of the ESIA study are on land acquisition and impacts on livelihoods, air quality, noise quality, water quality, solid waste generation and disposal, increase in traffic and transport and occupational health and safety and community health and safety. The economic opportunities in terms of local employment during construction and operation phase are assessed as positive. During the operation of the proposed sub-projects, the key issues related to the environment identified from the ESIA study are hazardous waste generation and management, impact local people due to industrial activity, generation of noise due to construction and operational activity, air, and dust emissions due to traffic movement and construction activity and occupational health and safety.

8.2 Recommendations

324. As the proposed sub-project area consists of lots of agricultural land, trees, and vegetation cover, it is necessary to restore the ecological balance throughout the sub-project boundaries during the sub-project construction period. So extra mitigation measures will be needed. A tree planting initiative should be organized to compensate for the trees that will need to be removed. Also, it is crucial to guarantee fair and adequate compensation for those who will be impacted due to the project activities. During the project's implementation, a preference should be given to residents when selecting workers to help alleviate the influx of outside labor.

325. The proposed Environment and Social Management Plan should be implemented strictly both during operation and construction phases of the sub-project and to utilize the monitoring cost properly. These interventions can be possible by strengthening the institutional capacity of BLPA and Sub-project Implementation Unit. If any new scope or changes are identified, the ESIA will be updated during detailed design stage or may in implementation stage.

Annexures

Annex A: WB Environmental and Social Standards (ESSs)

Sl. No.	Environmental and Social Standard	URL
1	ESS 1: Assessment and Management of Environmental and Social Risks and Impacts	Assessment and Management of Environmental and Social Risks and Impacts: This standard requires the identification and assessment of potential environmental and social risks and impacts throughout the project cycle. It emphasizes the need for appropriate management plans and mitigation measures.
2	ESS 2: Labor and Working Conditions	Labor and Working Conditions: This standard focuses on promoting decent work conditions, fair labor practices, and the protection of workers' rights. It covers aspects such as working hours, wages, occupational health and safety, and freedom of association.
3	ESS 3: Resource Efficiency and Pollution Prevention and Management	Resource Efficiency and Pollution Prevention: This standard aims to promote resource efficiency and pollution prevention in project design and operation. It includes measures to reduce waste generation, promote energy and water efficiency, and minimize pollution and emissions.
4	ESS 4: Community Health and Safety	Community Health and Safety: This standard addresses the potential health and safety impacts on project-affected communities. It requires the identification and mitigation of risks associated with the project's activities, infrastructure, and operation.
5	ESS 5: Land Acquisition, Restrictions on Land Use and Involuntary Resettlement	Land Acquisition and Involuntary Resettlement: This standard focuses on the fair treatment of communities affected by land acquisition and resettlement. It emphasizes the need for adequate compensation, livelihood restoration, and meaningful consultation with affected communities.
6	ESS 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources	Biodiversity Conservation and Sustainable Management of Living Natural Resources: This standard promotes the conservation of biodiversity and sustainable management of natural resources. It requires the identification and protection of significant biodiversity areas and the consideration of the ecological impacts of projects.
7	ESS 7: Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities	Indigenous Peoples: This standard recognizes the rights of indigenous peoples and their unique cultural heritage. It requires meaningful engagement and consultation with indigenous communities and addresses issues related to land tenure, cultural heritage, and economic opportunities.
8	ESS 8: Cultural Heritage	Cultural Heritage: This standard focuses on the protection and preservation of cultural heritage sites and objects. It emphasizes the importance of identifying, assessing, and managing potential impacts on cultural heritage during project development.
9	ESS 9: Financial Intermediaries	Financial Intermediaries: This standard applies when the World Bank provides funding to financial intermediaries, such as banks or investment funds. It aims to ensure that the intermediaries' activities meet the environmental and social standards of the World Bank.
10	ESS 10: Stakeholder Engagement and Information Disclosure	Stakeholder Engagement and Information Disclosure: This standard promotes meaningful engagement with stakeholders throughout the project cycle. It requires the disclosure of relevant project information and the establishment of grievance mechanisms to address concerns and complaints.

Annex B: Sample Checklist for Environmental and Social Screening of Sub-projects

Sub-project Name	Bhoma Land Port	
Implementing Agency	World Bank	
Sub-project Location	Bhomra Union, Bhomra Upazila, Satkhira District	
Estimated Investment		
Start and Completion Date	20 January 2022	

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

Name of the sub-project	Type of Intervention/s	Key stakeholders	Brief description of the design
Bhoma Land port	Land acquisition, structure removal,		

Sl No	Screening criteria	Response to the Question		ES Impact					Remarks	
		Yes	No	No Impact	Positive Impact	Negative Impact				
						Low	Moderate	Substantial		High
ESS-1: Assessment and Management of Environmental & Social Risk and Impacts										
1	Does the subproject carry risk that disadvantaged and vulnerable groups may have unequitable access to sub-project benefits?	✓					✓			
2	Will the sub-project contribute to any long-term significant adverse (negative), large scale, irreversible, sensitive impact at a regional scale or area broader than the sub-project sites?		✓			✓				
3	Whether accessibility of differently able people have been made in the sub-project design?		✓			✓				
ESS-2: Labor and Working Conditions										
4	Does the sub-project involve recruitment of workers including Direct workers	✓					✓			

Sl No	Screening criteria	Response to the Question		ES Impact					Remarks	
		Yes	No	No Impact	Positive Impact	Negative Impact				
						Low	Moderate	Substantial		High
	Contracted workers Primary supply workers Community workers?									
5	Will there be migrated labor in the sub-project?	✓					✓			
6	Will there be any labor camp for the accommodation of the labors?	✓					✓			1
7	How severely the sub-project activities can impact the OHS of the workers	✓						✓		2
8	Is there a possibility of employing vulnerable workers, including women and child labor?		✓		✓					3
9	Does the sub-project area present considerable Gender-Based Violence (GBV) and Sexual Exploitation and Abuse (SEA) risk?	✓				✓				
10	Is there possibility that activities and deployment of labor would add to the GBV prevalence?	✓				✓				
11	Will the activities cause interaction between labors and communities in view of COVID-19 situation?	✓			✓					
12	Is there any potential for conflict between construction workers and local peoples (and vice versa)?		✓			✓				
13	Does the subsub-project have a Labor GRM in place, to which all	✓			✓					

¹ Labor camp, rented house etc.? If a labor camp is required, should a location be mentioned?

² Accidents, safety, Covid-19

³ Engaging vulnerable women is preferred but adequate safety measures must be taken

Sl No	Screening criteria	Response to the Question		ES Impact						Remarks	
		Yes	No	No Impact	Positive Impact	Negative Impact					
						Low	Moderate	Substantial	High		
	workers have access, designed to respond quickly and effectively?										
ESS-3: Resource Efficiency and Pollution Prevention and Management											
14	Will the activities use or generate substances that will cause pollution of water bodies (groundwater/surface water) during the construction or use of the facilities?	✓							✓		
15	If the sub-project is located by the side of a river, is there any drinking water source upstream and downstream of the sub-project location that can be affected?		✓		✓		✓				
16	Are there any low-lying areas prone to water logging/flooding due to sub-project activities?	✓							✓		
17	Is there necessity of substantial removal of Top Soil?	✓								✓	
18	Will the sub-project / any of its component might contaminate or pollute the Land?	✓							✓		
19	Will the sub-project result in stagnation of water flow or pondage or weed growth		✓					✓			
20	Will the sub-project use or store dangerous substances (e.g., massive quantities of hazardous chemicals/ materials like Chlorine, Diesel, Petroleum products; any other?		✓		✓						
21	Will the sub-project produce solid or liquid	✓									

SI No	Screening criteria	Response to the Question		ES Impact						Remarks
		Yes	No	No Impact	Positive Impact	Negative Impact				
						Low	Moderate	Substantial	High	
	wastes; including construction/demolition wastes (including de-weeding wastes, muck/silt, dust); polluted liquids?					✓				
22	Will the sub-project cause or increase air pollution or odor nuisance?	✓					✓			
23	Will the sub-project cause or increase noise pollution or vibration level?	✓					✓			
24	Is there any potential for release of toxic gases or accident risks (e.g., potential fire outbreaks)	✓	✓			✓				
ESS-4: Community Health and Safety										
25	Will the sub-project result in Health & Safety Risks in the neighborhood?	✓					✓			
26	Is there possibility of potential disruption to common property, accessibility, traffic system etc. due to sub-project activity?	✓						✓		4
27	Will the activities affect other communities who rely (or might become dependent) on the same resources that the proposed activity will be using?	✓				✓				
28	Will the activities create a situation that may threaten the livelihood of people who have been providing similar types of services in the	✓			✓					

⁴ If common properties are affected or disrupted, please link with ESS5 as well.

Sl No	Screening criteria	Response to the Question		ES Impact					Remarks	
		Yes	No	No Impact	Positive Impact	Negative Impact				
						Low	Moderate	Substantial		High
	community?									
29	Are there any sensitive ES receptors such as residences, schools, hospitals etc. which the sub-project might impact?	✓				✓	✓			
ESS-5: Land Acquisition, Restrictions on Land Use and Involuntary Resettlement										
30	Will the proposed activities potentially involve involuntary resettlement?	✓							✓	
31	If the answer to any of the Ques above is yes, answer below and write detailed here.	Please write detailed here								
31a	Will there be any acquisition or requisition of private land?	Please write the purpose of acquisition or requisition here <i>W/S</i>								
31b	Will there be any repossession of public land from formal private uses with a legally constituted lease/rent agreement?	Please write the purpose of acquisition or requisition here								
31c	Will there be any repossession of public land from informal private uses without any legally constituted lease/rent agreement?	Please write the purpose of acquisition or requisition here								
31d	Is the ownership status of the land known? If yes, please provide details here.									5
31e	Is there a possibility of voluntary land donation? If yes, please provide details here.									6
31f	Will there be any loss of residential, commercial									7

⁵ Government/private or owned? by other entities

⁶ If yes, who will donate?

⁷ Please provide numbers here, if the answer is yes

SI No	Screening criteria	Response to the Question		ES Impact						Remarks
		Yes	No	No Impact	Positive Impact	Negative Impact				
						Low	Moderate	Substantial	High	
	or community structures?									
31g	Is there any presence of squatters who may be affected due to interventions?	✓					✓			
31h	Will there be any loss of trees, crops, or any fixed assets?	✓			✓		✓			8
31i	Would the resettlement site culturally sensitive?		✓		✓					
ESS-6: Biodiversity Conservation and Sustainable Management of Living Natural Resources										
32	Will the activities be located within or close to protected areas and areas of ecological significance including critical habitats, key biodiversity areas and internationally recognized conservation sites?		✓							
33	Is there any possibility of degradation of land / eco-systems due to the sub-project activities?									
34	Is there any possibility of tree cutting that may have impact on local ecology?	✓				✓				
35	Will the activities cause any degradation to the nearby aquatic environment?	✓				✓				
ESS-7: Indigenous/Tribal Peoples										
36	Will the activities affect tribal peoples with indigenous status those would be affected by the sub-project interventions?		✓	✓						9
37	Are there any tribal		✓	✓						

⁸ Numbers and types

⁹ If yes, please provide details here. Also communicate with Bank's E&S team.

SI No	Screening criteria	Response to the Question		ES Impact						Remarks
		Yes	No	No Impact	Positive Impact	Negative Impact				
						Low	Moderate	Substantial	High	
	peoples in the sub-project influence area who would benefit from the sub-project interventions?									
ESS-8: Cultural Heritage										
38	Loss or impacts on Cultural/heritage properties		✓							
ESS-10: Stakeholders Engagement and Information Disclosure										
39	Has the screening team conducted any consultations with the different stakeholders during screening?	✓								
40	Do the local people aware of the proposed sub-project?	✓			✓					

Conclusions:

Sub-project Category	<input type="checkbox"/> Low <input type="checkbox"/> Moderate <input checked="" type="checkbox"/> Substantial <input type="checkbox"/> High
Key Reasons	Lots of lands need to be acquired more. As well as, some structures are fallen in the project AoI
E&S Instruments Required	<input checked="" type="checkbox"/> Detailed ESIA and ESMP <input type="checkbox"/> ESA <input checked="" type="checkbox"/> Resettlement Plan <input type="checkbox"/> Site-specific ESMP

Report Prepared by:	Reviewed by:	Approved by:
Environmental and Social Team, Contract Package No.	Name: <i>Prithi Nath</i> Designation: <i>Deputy Manager</i> Organization: <i>D SCL</i> Email: <i>prithi@dsclbd.com</i> Sign: <i>Prithi</i>	Name: <i>Saiful Islam Inuran</i> Designation: <i>Manager (Env & Social)</i> Organization: <i>D SCL</i> Email: <i>Saiful@dsclbd.com</i> Sign: <i>Saiful</i>

Annex C: Social Questionnaire

Page 25 Done
Signature: [Signature]

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(Interviewers: নিচের অংশটি উত্তরদাতার কাছে পরিষ্কারভাবে বর্ণনা করুন এবং তার অনুমতি নিয়ে আরম্ভ করুন।)
উত্তরদাতার জ্ঞানসাপেক্ষ অনুমতি গ্রহণঃ

বিশ্বব্যাংক এবং বাংলাদেশ ফুল বন্দর কর্তৃপক্ষের আর্থিক সহায়তার অধীনে আমরা আপনারদের এলাকায় "Preparation of Environment and Social Framework (ESF) Documents for Bangladesh Bhutan India Nepal Multiphase Programmatic Approach Program" নামে একটি গবেষণা কাজ এর জন্য এসেছি। যেহেতু সকলের কাছ থেকে তথ্য নেয়া সম্ভব নয়, তাই আমাদের উদ্দেশ্য হচ্ছে দীর্ঘদিনের মাধ্যমে বাছাইকৃত কিছু পরিবারের কাছ হতে কিছু তথ্য সংগ্রহ করা। এই বাছাইয়ে আপনার নাম এসেছে। আপনার পরিবার থেকে সাধারণ কিছু বিষয়ে তথ্য সংগ্রহ করা হবে। এখান থেকে পাওয়া তথ্য শুধুমাত্র গবেষণা কাজে ব্যবহার করা হবে, কোন ভাবেই আপনারদের অনুমতি ছাড়া কারো নাম পরিচয় ব্যবহার করা হবে না। আমাদেরকে তথ্য দেওয়ার বিনিময়ে আপনি ছয় মাস কোন অর্থ/সহায়তা পাবেন না তবে এই তথ্য/উপাত্ত নতুন জ্ঞান সৃষ্টি করবে। এক্ষেত্রে আপনার প্রশংসাপত্র প্রদান করা হবে, আপনি যদি এই কার্যক্রমে অংশগ্রহণে এক্ষেত্রে তথ্য প্রদানে সক্ষম হন, তবে নিজে স্বাক্ষর করতে পারেন। এখানে উল্লেখ্য যে, আপনি অনুমতি দেয়ার পরও যে কোন সময়ে তথ্য দেয়া বন্ধ করে দিতে পারেন। তথ্য প্রদান করা বা না করার কারণে আপনার কোন ক্ষতি বা ক্ষতি হবে না। আপনি কি তথ্য দিতে সক্ষম আছেন।

[Signature]

স্বাক্ষর/টিপসই: _____

[উত্তরদাতার অনুমতি সাপেক্ষে তথ্য নেয়া শুরু করুন]

SL. [Official use only] HHID:

স্বাক্ষরকারীর প্রবন্ধের তারিখ: স্বাক্ষরকারীর বয়স:

স্বাক্ষরকারীর প্রবন্ধের নাম: _____ মোতায়েন:

স্বাক্ষরকারীর নাম: _____ মোতায়েন:

উত্তরদাতার নাম (বাংলা/বঙ্গ/জাতীয় বাসিন্দা): _____ লাইন নম্বর:

খানা প্রবন্ধের নাম: _____ লাইন নম্বর:

খানা প্রবন্ধের পিতার নাম: _____ মোতায়েন:

গ্রামের নাম ও কোড: _____ মোতায়েন:

বিভাগীয় ক্রমিক: _____ মোতায়েন:

বিভাগীয়: _____ মোতায়েন:

খানা নম্বরের মোবাইল নাম্বার: [1] [2]

উত্তরদাতার এই এলাকায় কত বছর ধরে বাস করছেন? | সব সময় বাস করছেন 95 দিনের |

উত্তরদাতার ধর্ম 1 = মুসলিম; 2 = হিন্দু; 3 = বৌদ্ধ; 4 = খ্রিস্টান; অন্যান্য (উল্লেখ করুন)

উত্তরদাতার জাতি 1 = বাঙ্গালি; 2 = বিহারি; 3 = অসমীয়া; অন্যান্য (উল্লেখ করুন)

1

5. A. Household Members, main characteristics

আপনার স্থানীয় বর্তমানে যে সকল সদস্য বসবাস করছেন তাদের নাম বসুন। যাচাই করুন এবং সকল সদস্যদের নাম সঠিকভাবে লিখুন।

আপনার স্থানীয় বর্তমানে যে সকল সদস্য বসবাস করছেন তাদের নাম বসুন। যাচাই করুন এবং সকল সদস্যদের নাম সঠিকভাবে লিখুন।

A. এই স্থানীয় সদস্যের কতজন সদস্য আছে?

05

ক্র. নং	নাম	বয়স (বর্ষ বয়স)	লিঙ্গ	খানা প্রধান সদস্য	শিক্ষণ	এই বয়সে কর্মসংস্থান (কম ১০ বছর ১০+ বছর)	বয়স ১০ বছরের ছোট বয়স		(০ থেকে ৫-মাসের বয়স)		NGO-র সদস্য	অন্যান্য সদস্য
							কর্মসংস্থান	কর্মসংস্থান	কর্মসংস্থান	কর্মসংস্থান		
01.	মোঃ জাহাঙ্গীর আলী	60	1	1=HHH		2						
02.	মোঃ জাহাঙ্গীর আলী	50	2	02		2						
03.	মোঃ টাঙ্গির আলী	22	1	03		2						
04.	মোঃ জাহাঙ্গীর আলী	17	2	04		2						
05.	মোঃ জাহাঙ্গীর আলী	11	1	03		2						
06.												
07.												
08.												
09.												
10.												
11.												
12.												
13.												
14.												
15.												

2. নিচের কোড :
 1 = পুরুষ
 2 = মহিলা
 3 = তৃতীয় লিঙ্গ
3. স্থান প্রাপ্যতার সাবে
 সম্পর্ক :
 01 = স্থান প্রদান
 02 = স্বামী/স্ত্রী
 03 = ভেড়া/সেভে
 04 = মেয়ের জামাই/ পুরষু
 05 = পিতা/ মাতা
 06 = স্বত্ব/ শর্তধি
 07 = ভাই/ বোন
 08 = খালক/শ্রমিকা

4. প্রতিষ্ঠান/সংস্থার সাবে
 09 = অন্যায় স্বার্থী
 10 = নতি/ নাতনী
 11 = অন্যত্রীয়
 অন্যান্য, উত্তরাধিকার
4. প্রতিষ্ঠান/সংস্থার সাবে
 সম্পর্ক :
 1 = স্বামী
 2 = স্বামী
 3 = স্বামী/স্ত্রী
 4 = স্বত্ব/ শর্ত (স্বত্ব/স্বত্বাধিকার)
 5 = মেয়ের বাইরে
 9 = অন্যান্য
5. বৈশিষ্ট্য/সংস্থার সাবে
 1 = কখনই বিদ্যে কঠোর/অধিবাসিত
 2 = বিবাহিত (একত্রে বসবাস)
 3 = জলাশয়
 4 = বিদ্যা/বিশিষ্ট
 5 = বিজ্ঞ/পরিতাপক

6. যাকিন বাইরে ছিলো কিনা :
 1 = হ্যাঁ
 2 = না
7. যাকিন বাইরে থাকার কোড :
 1 = একই জায়গা/ এলাকায়
 2 = এলাকা বাইরে একই এলাকা
 3 = অন্য এলাকা
 4 = স্বত্ব শর্ত (স্বত্ব/স্বত্বাধিকার)
 5 = মেয়ের বাইরে
 9 = অন্যান্য

8. যুক্ত বাসস্থান/সংস্থার সাবে
 1 = ভর্তি হবার/ স্বত্বাধিকার
 2 = ভর্তি হবার/ এক নিয়মিত

9. ভর্তি হবার/ এক নিয়মিত
 3 = ভর্তি হবার/ এক নিয়মিত
 4 = ভর্তি হবার/ এক নিয়মিত
 5 = যুক্ত হবার/ এক নিয়মিত
 6 = প্রত্যক্ষ/ এক নিয়মিত
 7 = প্রত্যক্ষ/ এক নিয়মিত
 8 = প্রত্যক্ষ/ এক নিয়মিত
 9 = প্রত্যক্ষ/ এক নিয়মিত

10. ভর্তি হবার/ এক নিয়মিত
 09 = নতুন শ্রেণী পান
 10 = একদলি/ একদলি
 11 = একদলি/ একদলি
 12 = একদলি/ একদলি
 13 = একদলি/ একদলি
 14 = একদলি/ একদলি
 15 = একদলি/ একদলি
 55 = একদলি/ একদলি
 88 = একদলি/ একদলি
 98 = একদলি/ একদলি
10. একদলি/ একদলি
 1 = একদলি/ একদলি
 2 = একদলি/ একদলি
 3 = একদলি/ একদলি

11. স্বত্বাধিকার/সংস্থার সাবে
 1 = ভর্তি হবার/ এক নিয়মিত
 2 = VGF (স্বত্ব/স্বত্ব)
 3 = স্বত্ব/স্বত্ব
 4 = স্বত্ব/স্বত্ব
 5 = স্বত্ব/স্বত্ব
 6 = স্বত্ব/স্বত্ব
 7 = স্বত্ব/স্বত্ব
 8 = স্বত্ব/স্বত্ব
 9 = স্বত্ব/স্বত্ব
 অন্যান্য, উত্তরাধিকার

S.B1 House-ownership status

1	2		3		4		5		6
	স্বত্বাধিকার/সংস্থার সাবে	স্বত্ব/স্বত্ব	স্বত্ব/স্বত্ব	স্বত্ব/স্বত্ব	স্বত্ব/স্বত্ব	স্বত্ব/স্বত্ব	স্বত্ব/স্বত্ব		
2	800000								স্বত্ব/স্বত্ব

S.B1: 1. স্বত্বাধিকার/সংস্থার সাবে
 1 = স্বত্ব/স্বত্ব
 2 = স্বত্ব/স্বত্ব
 3 = স্বত্ব/স্বত্ব
 4 = স্বত্ব/স্বত্ব
 5 = স্বত্ব/স্বত্ব
 6 = স্বত্ব/স্বত্ব
 অন্যান্য (উত্তরাধিকার)

S.B1: 5. স্বত্বাধিকার/সংস্থার সাবে
 1 = স্বত্ব/স্বত্ব
 2 = স্বত্ব/স্বত্ব
 3 = স্বত্ব/স্বত্ব
 অন্যান্য (উত্তরাধিকার)

S. B2 Built and Dwelling environment

ক্রম:	ঘরের ধরন	কিসের তৈরি			দৈর্ঘ্য (ফুট) [একতলার অধিক হলে একটি তলার দৈর্ঘ্য]	ব্রড (ফুট) [একতলার অধিক হলে একটি তলার ব্রড]	অবকাঠামোটি কয় তলা বিশিষ্ট?	পরিমাণ/ সংখ্যা	নির্মাণকাল (সাল)	(INTERVIEW) সার্বিক অবস্থা দেখে কি মনে হয়?
		হাট	সেয়াল	হেবে						
	1	2	3	4	5	6	7	8	9	10
ঘর/ কাঠামো - 1	1	5	5	5	33	16	1	528	2016	3
ঘর/ কাঠামো - 2	2	7	5	5	30	10		300	2021	3
ঘর/ কাঠামো - 3	9	5	5	5	7	6	1	42	2021	3
ঘর/ কাঠামো - 4	2	7	7	3	9	5		45	2019	2
ঘর/ কাঠামো - 5	* 7	7	2	2	5	5		25	2020	3
ঘর/ কাঠামো - 6	* 7	7	5	5	8	6		48	2017	3
ঘর/ কাঠামো - 7	13							1	2015	3
ঘর/ কাঠামো - 8										
ঘর/ কাঠামো - 9										
ঘর/ কাঠামো - 10										

B2: 1 ঘর/ কাঠামোর ধরন 1 = বসত ঘর 2 = বারান্দা 3 = বারান্দা 4 = গ্যেসলখানা 5 = টয়লেট/ প্যাটিন 6 = সোকান/ ব্যবসা প্রতিষ্ঠান 7 = গল-ছাদ/ হাঁস-মুরগি রাখার ঘর 8 = মালখানা রাখার ঘর/ ডানঘ 9 = গ্যেসলখানা, টয়লেট একসাথে	10= প্রধান ফটক/ মেইন গেট 11= সীমানা প্রাচীর/ বেড়া 12= টিউবওয়েল/ নলকূপ (গভীর) 13= টিউবওয়েল/ নলকূপ (অগভীর) অন্যান্য (উল্লেখ করুন)	B2:2; 3; 4 কিসের তৈরি 1 = হাট/পাড়া/পাটকাঠি/পাতা/প্রাস্টিক/ডাট 2 = বাঁশ 3 = কানামাটি 4 = টালি/টাইলস 5 = ইট/সিমেন্ট/কর 6 = কর 7 = টিন 8 = দেয়াল/ ছাদ নাই অন্যান্য (উল্লেখ করুন)	B2:10' সার্বিক অবস্থা 1 = ত্যাগ 2 = সামান্য মোমামত দরকার 3 = ভাল অবস্থা
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SL	প্রশ্ন	Code List	কোড পিন্ডন
08.	Interviewers- প্রশ্ন করবেন না, নিজে পর্যবেক্ষণ করুন: বাড়ির চারপাশে গাছপাড়া কেমন আছে?	1= বেশি 2=মোটামুটি 3= কম 4= একেবারেই নেই	2
09.	Interviewers- প্রশ্ন করবেন না, নিজে পর্যবেক্ষণ করুন: ঘরের আশে-পাশে সবজি লাগানো হয় এমন খোলা জায়গা আছে কি?	1 = হ্যাঁ 2 = না	1
10.	Interviewers- প্রশ্ন করবেন না, নিজে পর্যবেক্ষণ করুন: [যদি হয়] সেখানে সবজি লাগানো হয়েছে?		1
11.	এই বাড়ির/ বাড়ির সাথে/ বাড়ির পাশের (কমন নয়) খোলা জায়গা/ উঠান কি কি ধরনের কাজে ব্যবহার করা হয়?		

* মুক্তি ৩০
 * সিডি ৩০ -

হাটা চালা, জামড় উল্লোনা, হান উল্লোনা.

2.

3.

4.

5.

ক্রমিক	গাছের নাম	গাছের নাম, ধরণ ও সংখ্যা লিখুন	
		গাছের ধরণ 1= ফলাফল; 2= বনজ/ কাঠ; 3= উষ্মি	মোট সংখ্যা
12.a	জামড়	1	7
12.b	জামড়	1	4
12.c	জামড়	1	1
12.d	সবেদা	1	1
12.e	জামড়	1	2
12.f	শিউ	1	1
12.g	হাটগাছ	2	10
12.h	মোড়	1	3
12.i			
12.j			
12.k			
12.l			
12.m			

অন্যান্য উল্লেখ করুন-

S. C. Particulars of land
C.1 আশপার ফার্মার মালিকানাধীন নিম্ন লিখিত জমি আছে কিনা জানতে চাচ্ছি।

SL	জমির ধরণ	1 আশপা লা জমা পত্রের সূত্র	2 অঞ্চল	3 মোট জমির পরিমাণ (ডেসিমিটার)	4 ক্ষতিগ্রস্ত জমির পরিমাণ (ডেসিমিটার)	5 জমির মৌজার নাম	6 বিক্রয়ের পত্রের সংখ্যা	7 মালিকানা সময়কাল সিদ্ধান্ত	8 বর্তমান মূল্য
01.	নিজের জমি, নিজে ব্যবহার	2							
02.	নিজের জমি, ব্যবসায়ের দ্বারা	1	01	8	8	বোমরা	01		3200000
03.	নিজের জমি, সেসকাল/ ব্যবসা	2							
04.	নিজের জমি, গুরু	2							
05.	নিজের জমি, গৃহস্থ/ বাসি পড়ে আছে	2							
06.	নিজের জমি, অসম	2							
07.	নিজের জমি, গুরু সেওয়া	2							
08.	নিজের জমি, গুরু/কার সেওয়া	2							
09.	নিজের জমি, বর্গ সেওয়া	2							
10.	নিজের জমি, দান (মসজিদ/ মাদ্রাসা)	2							
11.	নিজের জমি, দান (কলক/ হাথ)	2							
12.	অন্যের জমি, নিজে ব্যবহার (বাণিজ্যিক/মিষ্টি/অন্য সেওয়া)	1	02	66		সেওয়া	06	01	2400000
13.	অন্যান্য (উদ্ভূত করণ)								

6. বিক্রয়ের পত্রের সংখ্যা :
 1 = উত্তরাধিকার সূত্র
 2 = প্রমাণ করা
 3 = উপহার হিসাবে পাওয়া
 4 = বৈধত্ব হিসাবে পাওয়া
 5 = দান হিসাবে পাওয়া
 6 = স্বত্ব সূত্রের পাওয়া
 অন্যান্য (উদ্ভূত করণ)

2. জমির অঞ্চল :
 1 = এই শব্দে (কমটির পাশে) শাসন/এই জমি
 2 = এই শব্দে (কমটির থেকে মুক্ত)
 3 = এই জমির জন্য অন্য শব্দে
 4 = এই জমির গ্রাম
 5 = অন্য জমির শব্দে
 6 = অন্য জমির জন্য শব্দে
 7 = অন্য জমির গ্রাম
 অন্যান্য (উদ্ভূত করণ)

1. জমি আছে কি?
 1 = হ্যাঁ
 2 = না

* ১৪৮৮৮৮

C2 About Sublease land/lease/Mortgage / Rental (out)

আমনার খানার মালিকানাধীন যদি বর্ণা/শীর্ষ/বসত/ভাড়া নিয়ন্ত্রণ 1 = ধাঁ; 2 = না [না ধরণ অর্ধের সেকশনের মান]

জানি বর্ণা/শীর্ষ/বসত/ভাড়া নিয়ন্ত্রণ 1 = বর্ণা সেকশন; 2 = শীর্ষ; 3 = বসত; 4 = ভাড়া; অস্বাভাব্য (উল্লেখ করুন)

চাক্ষুরের বিস্তারিত বিবরণ দিন :

ক্রমিক নং	চাক্ষুরের নাম	জানির ধরণ	চাক্ষুরের ঠিকানা	জানির দৌলত	জানির পুঁজি নং	জানির পরিমাণ (বর্গফুট)	উৎস/স্বত্ব প্রাপ্তির তারিখ (সেকশন)	বর্তমান স্বত্ব ধারক একক/শীর্ষ স্বত্ব ধারক পরিমাণ	শীর্ষ/ভাড়া স্বত্ব ধারক একক/শীর্ষ স্বত্ব ধারক পরিমাণ
0	1	2	3	4	5	6	7	8	9
1		<input type="checkbox"/>							
2		<input type="checkbox"/>							
3		<input type="checkbox"/>							
4		<input type="checkbox"/>							
5		<input type="checkbox"/>							

C3 About Sublease land/lease/Mortgage / Rental (in)

আমনার খানা অর্ধের মালিকানাধীন যদি বর্ণা/শীর্ষ/বসত/ভাড়া নিয়ন্ত্রণ নিয়ন্ত্রণ 1 = ধাঁ; 2 = না [না ধরণ অর্ধের সেকশনের মান]

জানি বর্ণা/শীর্ষ/বসত/ভাড়া নিয়ন্ত্রণ 1 = বর্ণা সেকশন; 2 = শীর্ষ; 3 = বসত; 4 = ভাড়া; অস্বাভাব্য (উল্লেখ করুন)

জানির মালিকের বিস্তারিত বিবরণ দিন :

ক্রমিক নং	জানির মালিকের নাম	জানির ধরণ	জানির মালিকের ঠিকানা	জানির দৌলত	জানির পুঁজি নং	জানির পরিমাণ (বর্গফুট)	উৎস/স্বত্ব প্রাপ্তির তারিখ (সেকশন)	বর্তমান স্বত্ব ধারক একক/শীর্ষ স্বত্ব ধারক পরিমাণ	শীর্ষ/ভাড়া স্বত্ব ধারক একক/শীর্ষ স্বত্ব ধারক পরিমাণ
0	1	2	3	4	5	6	7	8	9
1	শ্রীঃ সৈয়দ হাদী	<input type="checkbox"/>	খোয়াস, নওশাহা	নওশাহা	3	66	50		

C.A Fisheries- স্থানীয় জনগণের মধ্যে আশঙ্কার মূল্যে পরিণত হওয়ার সম্ভাবনা আছে কি? 1= হ্যাঁ, 2= না

2									
3									
4									
5									

2 [এই ধরনের মতামত প্রকাশিত হওয়া]

কি মনে হবে বা [কোন মতামত সংক্রান্ত]	অধিক আশঙ্কাজনক	অনেকটা জানি হবে কিন্তু কি না?	কম আশঙ্কাজনক কিন্তু আছে কিন্তু?	স্বাভাবিক হবে	স্বাভাবিক হবে কিন্তু কি না?	স্বাভাবিক হবে কিন্তু কি না?
1	2	3	4	5	6	7

1= হ্যাঁ
2= অনেকটা
3= জানি না
4= স্বাভাবিক

1= হ্যাঁ
2= না

1= হ্যাঁ
2= না

S. D. HH Assets

ক্রমিক নং	নিচের সম্পদগুলোর মধ্যে আপনার খানায় কোনটি কতগুলো আছে?	পরিমাণ (সংখ্যা)	বর্তমান মূল্য (টাকা)	আপনার খানা কিভাবে এই সম্পদ অর্জন করেছে ?		
				1 = জম	2 = উত্তরাধিকার	3 = উপহার/ দান
				১ (একদিনের ক্ষেত্রে ছতে গঠবে)		
01.	বেতিও/ সিডি প্রেয়ার					
02.	টেলিভিশন ✓	1	8000	4		
03.	বৈদ্যুতিক পাখা ✓	3	3000	1		
04.	ফ্রিজ ✓	1	25000	1		
05.	মোবাইল ফোন ✓	4	12000	1	3	
06.	সাইকেল ✓	1	1300	1		
07.	মোটরসাইকেল ✓	1	120000	1		
08.	সেলাই মেশিন					
09.	আলনা/আলমারী/কেবিনেট/শোকেস ✓	2	15000	1		
10.	অলংকার (সোনা ও রুপা) আনয়ন ✓	2	10000	1	3	
11.	রিপ্সা/ভ্যান					
12.	গরু/মহিষ ✓	1	65000	1		
13.	ছাপ্পা/ভেড়া					
14.	কবুতর/ হাঁস /মুরগী	40	8000	1	5	
15.	সিএমজি/ অটো রিক্সা/ করিমন/ ইঞ্জি বাইক					
16.	খাট ✓	4	12000	1		
17.	চেয়ার ✓	4	2000	1		
18.	টেবিল ✓	1	1000	1		
19.	ট্রলার/নৌকা/নৌযান					
20.	ট্রাক্টর					
21.	গ্যাসের চুলা ✓	1	2000	1		
22.	পানির পাম্প/ শ্যাঙ্গো মেশিন					
23.	কম্পিউটার (ডেস্কটপ/ ল্যাপটপ)					
24.	বৈদ্যুতিক ইঞ্জি					
25.	অন্য সম্পদ (১)					
26.	অন্য সম্পদ (২)					
27.	অন্য সম্পদ (৩)					

S. E. Business Activities: Savings, Loan

ক্রমিক সংখ্যা	কোম্পানি নাম	বিনিয়োগের ক্ষেত্রে		সঞ্চয়		ঋণ		সঞ্চয়		ঋণ		সঞ্চয়		ঋণ	
		কর	কর	কর	কর	কর	কর	কর	কর	কর	কর	কর	কর	কর	কর
01	01	7500	1												
02	36	2000	1												
03	22	1000	1												
04	33	3600	1												
05	36														
05	33														
05	33														
06															
07															
08															
09															
10															
11															
12															
13															
14															

S.F. Poverty status :

ক্রম.	প্রশ্ন	কোড	কোডের তালিকা
1	2	3	
01.	এই খানার সদস্যরা কি ধরনের পয়সাখানা ব্যবহার করেন?	3	1= মোলা মট, 2= কাঁচা 3= স্যানিটারি
02.	আপনার খানার কোনো সদস্য কি দিশমজুরির সাথে যুক্ত?	1	1= হ্যাঁ 2= না
03.	আপনার খানার ৬ থেকে ১৭ বছর বয়সের সকল শিশু কি স্কুলে যায়?	1	1= হ্যাঁ 2= না 99= প্রযোজ্য নয়
04.	আপনার খানায় কি বিদ্যুৎ সংযোগ আছে?	1	1= হ্যাঁ 2= না
05.	আপনার খানায় কি নিজস্ব কোনো গবাদি পশু আছে?	1	1= হ্যাঁ 2= না
06.	আপনার খানায় কি কোনো আলাদা রান্নাঘর আছে?	1	
07.	আপনাদের খানার খাবার পানির প্রধান উৎস কি?	5	1= সুপ্রাই/ পাইপের পানি (বাড়িতে) 2= সুপ্রাই/ পাইপের পানি (বাড়ির বাইরে) 3= সরকারি কল 4= কণী 5= নালকূপ 6= পুকুর/দুর্নী/খাল 7= জুয়া/কূপ অন্যান্য (নির্দিষ্ট করুন)
08.	আপনাদের খানার জ্বালানীর প্রধান উৎস কি?	1	1= নাকড়ি/ কাঠ/ খড় 2= কয়লা 3= পাক, খড়, ঘুটে ইত্যাদি 4= গ্যাস/ বায়োগ্যাস/ এলপিগ্যাস 5= কেবোলেস 6= বিদ্যুৎ অন্যান্য (নির্দিষ্ট করুন)
09.	আপনার খানার আয় এবং খাবার খরচ হিসেব করে আপনি আপনার খানাকে কোন অবস্থানে রাখবেন?	3	1= সবচেয়ে খাদ্য ঘাটতি থাকে 2= মাঝমাঝে খাদ্য ঘাটতি থাকে 3= ঘাটতিও না উত্তরও না 4= খাদ্য উত্তর থাকে
10.	বিগত ১২ মাসে এ অবস্থার কেমন পরিবর্তন হয়েছে?	1	1= উন্নতি হয়েছে, 2= অবনতি হয়েছে 3= একই বকম আছে
11.	বিগত ১২ মাসের গড় আয় বিবেচনা করলে একটি সাধারণ মাসে আপনার খানার মোট আয় কত?		13900
12.	বিগত ১২ মাসের গড় ব্যয় বিবেচনা করলে একটি সাধারণ মাসে আপনার খানার মোট ব্যয় কত?		12000
13.	বিগত ১২ মাসে খানা সদস্য ব্যতীত অন্য কারো নিকট হতে আপনার খানায়, কোনো টাকা/ অর্থ এসেছে? (দেশের ভিতরে বসবাসকারী বা প্রবাসী কোনো পরিবারের সদস্য, আত্মীয়, অন্যতীয় কে কারো নিকট হতে আসতে পারে কিন্তু ৭র্থ হিসেবে নয়)	1	1= হ্যাঁ 2= না
14.	হ্যাঁ হলে, অর্থের পরিমাণ উল্লেখ করুন	5000	

S.G. Health:

S.G.1. Health Center:

ক্রম	প্রশ্ন	কোড	কোডের তালিকা
1.	গত ৫ বছরে এই এলাকায়/ কমিউনিটিতে কোনো নতুন স্বাস্থ্যসেবা কেন্দ্র গড়ে উঠেছে অথবা বিদ্যমান স্বাস্থ্যসেবা কেন্দ্রগুলোর মালের কোনো উল্লেখযোগ্য উন্নতি হয়েছে?	2	1= হ্যাঁ 2= না
2.	এই এলাকার স্বাস্থ্যসেবা কেন্দ্রগুলো সপ্তাহে সাধারণত কয়দিন সেবা প্রদান করে থাকে?	1	1= প্রতিদিন 2= সপ্তাহে কয়েকদিন 3= সপ্তাহে একদিন অন্যান্য (উল্লেখ করুন)
3.	স্বাস্থ্যসেবা কেন্দ্রগুলোতে চাহিদানুযায়ী পর্যাপ্ত পরিমাণ যন্ত্রপাতি এবং উপকরণ আছে?	2	1= হ্যাঁ, পর্যাপ্ত 2= না, পর্যাপ্ত নয় 3= কিছুই নেই
4.	স্বাস্থ্যসেবা কেন্দ্রগুলোতে চাহিদানুযায়ী পর্যাপ্ত চিকিৎসক/ নার্স (চিকিৎসা সম্পূর্ণ লোককল) আছে?	1	1= হ্যাঁ, পর্যাপ্ত 2= না, পর্যাপ্ত নয় 3= কিছুই নেই
5.	আপনার মতে, আপনার কমিউনিটিতে বা এলাকায় সবচেয়ে বেশি প্রচলিত তিনটি রোগ/অসুস্থতা কী কী? (একধিক উত্তর আসতে পারে)	2 8 7	1= নিউমোনিয়া 2= স্বর্দি/ জ্বর 3= অ্যাংজনা 4= ডায়রিয়া 5 = কৃমি 6= ডেবু 7= টাইফয়েড 8= ডাইরিয়া জনিত জ্বর 9= অ্যালার্জি 10= বিভিন্ন ধরনের ইনফেকশন 11= এইচআইভি/ এইডস/ বৌলঝাতি রোগ 12= কোভিড-১৯ 13= কোনটিই নয় অন্যান্য (উল্লেখ করুন)
6.	গত ১ বছরে আপনার খানার সদস্যদের মধ্যে কোন রোগে আক্রান্ত হবার হার বেশি ছিল? (একধিক উত্তর আসতে পারে)	2 8 7	1= হ্যাঁ 2= না
7.	গত ১ বছরে আপনার পরিবারের কোনো সদস্য কী করোনা আক্রান্ত হয়েছেন?	2	1= হ্যাঁ 2= না
8.	করোনা মহামারীর প্রকোপ শুরু হবার পর থেকে করোনা ব্যাপীত অন্যান্য রোগের চিকিৎসা গ্রহণের ক্ষেত্রে কী ধরনের প্রতিবন্ধকতার সম্মুখীন হয়েছেন/হয়েছেন? (একধিক উত্তর আসতে পারে)	4 	1= ডাইরিয়া আক্রান্ত হওয়ার ভয়ে চিকিৎসাকেন্দ্রে যাওয়া হয়নি 2= স্বাস্থ্যকেন্দ্র অনেক ব্যস্ত ছিল 3= চিকিৎসা না নিয়ে ফিরিয়ে নিয়েছিল 4= প্রতিবন্ধকতার সম্মুখীন হইনি অন্যান্য (নির্দিষ্ট করুন)
9.	আপনার খানার সকল সদস্য কি করোনার টিকা গ্রহণ করেছে?	2	1= হ্যাঁ 2= না
10.	না হলে, কেন? (প্রধান ৩টি কারণ আনুন)	1 	1= বর্তমানে টিকা নেওয়ার অনুপযুক্ত 2= কাঙ্ক্ষিত কোনো টিকাদান কেন্দ্র নাই 3= কিস্তিতে টিকা নিতে হয়/ নিবন্ধন করতে হয় জানা নাই 4= ভরসা নাই/ বর্তমানে যে টিকা

		<p>পাওয়া যাচ্ছে তা কার্যকরী বলে মনে করিনা</p> <p>5= টিকা দেওয়ার কোনো পরিকল্পনা নেই</p> <p>6= অর্থনৈতিক সংকটের কারণে</p> <p>7= নিশ্চিত না/ পর্যাপ্ত তথ্য জািনা</p> <p>8= নিবন্ধন করেছি, টিকা গ্রহণের তারিখ সন্নিবেশে</p> <p>অন্যান্য (উল্লেখ করুন)-</p>
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S.G.2. Access to Health Services:

স্বাস্থ্যসেবা প্রদানকারী প্রতিষ্ঠানের নাম	আছে কিনা?		দূরত্ব (কিমি :)	সেবা মেয়া হয় কিনা?		যাতায়াতের বাহন/ মাধ্যম (সর্বাধিক ব্যবহৃত)	যাতায়াত খরচ (সর্বাধিক ব্যবহৃত)
	1= হ্যাঁ	2= না		3= জানি না	1= হ্যাঁ		
কমিউনিটি হেলথ ক্লিনিক	<input checked="" type="checkbox"/>			<input type="checkbox"/>		<input type="checkbox"/>	
ইউনিয়ন পর্যায়ে হেলথ কমপ্লেক্স	<input checked="" type="checkbox"/>			<input type="checkbox"/>		<input type="checkbox"/>	
নগর মাতৃসদন কেন্দ্র (ম্যাটারনিটি ক্লিনিক)	<input type="checkbox"/>		10	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	60
উপজেলা স্বাস্থ্যকেন্দ্র	<input type="checkbox"/>		10	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	60
সদর হাসপাতাল	<input type="checkbox"/>		10	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	60
এনজিও পরিচালিত স্বাস্থ্যকেন্দ্র	<input checked="" type="checkbox"/>			<input type="checkbox"/>		<input type="checkbox"/>	
বেসরকারী হাসপাতাল	<input type="checkbox"/>		10	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	60
দক্ষ বেসরকারী চিকিৎসক	<input checked="" type="checkbox"/>			<input type="checkbox"/>		<input type="checkbox"/>	
হাঁতুড়ে ডাক্তার	<input type="checkbox"/>		1	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	
অন্যান্য (উল্লেখ করুন)	<input type="checkbox"/>			<input type="checkbox"/>		<input type="checkbox"/>	
<p>যাতায়াত ব্যবস্থা:</p> <p>1=পায়ে হেঁটে,</p> <p>2=সাইকেল,</p> <p>3=রিকশা</p> <p>4=জ্যান</p> <p>5=অটো-জ্যান</p> <p>6=বাস</p> <p>7=ট্রেন</p> <p>অন্যান্য (উল্লেখ করুন)</p>							

S.H. Eviction Threat

ক্রম	প্রশ্ন	কোড	কোড পিছন
1	বর্তমানে আপনি যেখানে বসবাস করছেন সেখান থেকে বাসস্থান পরিবর্তনের চিন্তা-ভাবনা আছে কি?	1= হ্যাঁ 2= না [না হলে প্রশ্ন নং 3 এ যান]	2
2	বাসস্থান পরিবর্তনের পরিকল্পনা থাকলে কেন পরিবর্তন করবেন? (প্রধান দুইটি কারণ আনুন)	01 = বন্যা 02 = সাইক্লোন/টর্নেডো 03 = নদী-ভাঙ্গন 04 = অতিরিক্ত জল 05 = অতিরিক্ত গরম 06 = অতিরিক্ত ঠান্ডা 07 = জলাবদ্ধতা 08 = ভূমিকম্প 09 = ভূমিধস/ ছাঁচ বন্যা 10 = দূর্ভিক্ষ 11 = অগ্নিসংযোগ 12 = খরা 13 = শুকনো মৌসুমে পানি স্বল্পতা 14 = অপ্রত্যাশিত জলোচ্ছ্বাস-হাঙ্গল 15 = অন্যদের সাথে ঝগড়া বা সংঘর্ষ 16 = শিফা 17 = উচ্ছেদ হওয়া/ আশংকা 18 = বাবা-মায়ের/ স্বামীর সাথে ঝগড়া 19 = জাড়া বেশি/বুঁধির কারণে 20 = ব্যবসায় ক্ষতি হওয়ার কারণে 21 = আয়-রোজগার/কর্মের কারণে 22 = স্বামীর অসুস্থতা/মৃত্যুর কারণে 23 = চাকুরীর কারণে/বন্দী 24= কর্মত্যাগীদের প্রত্যাবর্তন 25= বাচ্চাদের ভবিষ্যত চিন্তা করে 26= বাবা-মার সাথে এসেছে অন্যান্য (উল্লেখ করুন)	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
3	বর্তমানে যেখানে বসবাস করছেন, সেখান থেকে উচ্ছেদের আশংকা/ভয় কতটুকু/কোন? (কোড 1 হলে 4 নং প্রশ্নে যান, 2 ও 3 হলে 5 নং প্রশ্নে যান)	1 = খুবই আশংকিত; 2 = তেমন আশংকা নেই 3 = সম্ভাবনা নেই;	3
4	উচ্ছেদের আশংকা থাকার কারণ? (প্রধান দুইটি কারণ আনুন এবং 6 নং প্রশ্নে যান)	1= আগেও উচ্ছেদ হয়েছে 2= উচ্ছেদের নোটিশ পেয়েছে 3= উচ্ছেদ প্রতিরোধে স্থানীয় প্রত্যাশী ব্যক্তিদের হস্তক্ষেপ রয়েছে 4= জমি নিয়ে মামলা/স্বত্ব রয়েছে 5= সরকারি অধিগ্রহণের আশংকা 6= নতুন নির্মিত/তৈরী হওয়া জমিটি ভেঙেপারনের সম্ভব হওয়া 7= জমিটির অবস্থায় সম্পর্কে সঠিক জ্ঞান না; অন্যান্য (উল্লেখ করুন)	<input type="checkbox"/> <input type="checkbox"/>
5	উচ্ছেদের আশংকা না থাকার কারণ? (প্রধান দুইটি কারণ আনুন)	1= আগে কখনো উচ্ছেদ হয়নি 2= রাজস্ব/স্বত্ব/ বাস্তবায়ন ব্যক্তির আশংকা 3= নিয়মিত কর দেয়া হয়/হোল্ডিং নথর/কনসারভেশন আছে 4= বৈধ দলিলপত্র আছে 5= সংগঠন/সমিতি/সম্বন্ধিত প্রতিরোধ 6= উচ্ছেদের বিরুদ্ধে আদালতের যুগিভাঙ্গন আছে 7= নতুন নির্মিত/তৈরী হওয়া জমিটি ভেঙেপারনের সম্ভব হওয়া অন্যান্য (উল্লেখ করুন)	1, অন্যান্য→ গ্রামিণী বেঙ্গল মার্গেট সোহে মাই বিদ্যু ভাংগে না-কিউ ছি হবে না
6	প্রকল্পের কারণে যদি আপনার বসতভিটা/ জমির ক্ষতি হয় তাহলে এই ব্যাপারটিকে আপনি কিভাবে দেখেন/দেখবেন? (একমুখী উত্তর অপেক্ষা করে)	1= আয় কমে যাবে 2= জমি/ বাড়ি/ অবকাঠামো হারাতে হবে বা ক্ষতিগ্রস্ত হবে 3= খরচ/ ব্যয় বৃদ্ধি 4= আর্থিক ক্ষতি হবে 5= কিছুই করার নেই অন্যান্য (উল্লেখ করুন)-	2 4 1 <input type="checkbox"/>
7	প্রকল্পের কারণে যদি আপনাকে অন্যত্র সরে যেতে	1= খরচ/ ব্যয় বৃদ্ধি	1

	<p>হয় তাহলে নতুন এলাকায় স্থানান্তরিত হওয়ার ক্ষেত্রে আপনাকে কি ধরনের চ্যালেঞ্জের সম্মুখীন হতে হবে বলে মনে করেন? (একটিক উত্তর দিতে হবে)</p>	<p>2= নতুন জমি/ বাড়ি/ দোকান পেতে সমস্যা 3= নতুন জমি/ বাড়ি/ দোকান করা সময়সাপেক্ষ 4= নতুন পরিবেশের সাথে খাপ খাওয়ানো সমস্যা 5= আয় কমে যাবে 6= মানসিকভাবে ক্ষতিগ্রস্ত হওয়া 7= বাসা ভাড়া করে থাকা 8= সমস্যা হবে না অন্যান্য (উল্লেখ করুন)-</p>	<p>6 2 4</p>
<p>8</p>	<p>সম্মুখীন হওয়া চ্যালেঞ্জগুলো নিরসনে আপনি কি কি উদ্যোগ গ্রহণ করবেন? (একটিক উত্তর দিতে হবে)</p>	<p>1= ঋণ নেয়া 2= সরকারী সহায়তা নেয়া 3= ঋণ ব্যতীত অর্থ যোগাড় করা 4= নতুন বাড়ি/ দোকান/ অবকাঠামো নির্মাণ 5= নতুন জমি ক্রয়/ নতুন জমির খোঁজ করা 6= বাসা ভাড়া করে থাকা 7= আত্মীয়/ প্রতিবেশী/ এলাকার গণ্যমান্য ব্যক্তিদের সহায়তা নেয়া 8= নতুন পরিবেশের সাথে খাপ খাওয়ানোর চেষ্টা 9= জানিনা অন্যান্য (উল্লেখ করুন)-</p>	<p>2 4 5 8</p>

S.I. Rehabilitation Related (If infrastructure is damaged or any risk of damage)

ক্রম	ধরণ	কোডের তালিকা					কোড লিখুন		
		0-1	1-2	2-3	3-4	4-5		5+	
01.	জমির মালিকানা	1= নিজ 2= সরকারী 3= সামাজিক প্রতিষ্ঠান অন্যান্য (নির্দিষ্ট করুন)					<input type="checkbox"/>		
02.	ক্ষতির ধরণ	1= আংশিক 2= সম্পূর্ণ					<input type="checkbox"/>		
03.	অধিগননকৃত জমি ব্যতীত বিকল্প বা অন্যকোন জমির ব্যবস্থা আছে কি না?	1= হ্যাঁ 2= না [05 নং প্রশ্নে যান]					<input type="checkbox"/>		
4.	অবশিষ্ট জমির ধরণ	জমির অবস্থান মৌজা	পরিমাণ (হেক্টর/মেলা)	দূরত্ব (কি. মি)					
	1	2	3	4	5	6	7	8	9
4.1	বসতবাড়ী								
4.2	ভিটা								
4.3	নাশ/ফসলী								
4.4	বীশবাড়								
4.5	ফলের বাগান/কাঠেরবাগান								
4.6	পুকুর								
4.7	জলাশয়/ঘোবা								
4.8	অনাবাদি/পতিত জমি								
4.9	অন্যান্য (উল্লেখ করুন)								
SL	ধরণ	কোডের তালিকা					কোড লিখুন		
05.	আপনার পুনর্বাসনের ব্যবস্থা কিভাবে হবে বলে মনে করেন?	1= নিজেই করবেন 2= প্রকল্পের মাধ্যমে পুনর্বাসিত হতে চান 3= প্রতিবেশীদের সাথে দলবদ্ধভাবে অন্যান্য (উল্লেখ করুন)					<input type="checkbox"/>		
06.	নিজেই পুনর্বাসিত হলে কোথায় যাবেন?	1= আশেপাশে 2= অন্য গ্রামে 3= শহরে অন্যান্য (উল্লেখ করুন)					* <input type="checkbox"/>		
07.	পুনর্বাসনে আপনি সরকারের সহযোগিতা কমনা করেন কি?	1= হ্যাঁ 2= না (না হলে প্রশ্ন নং 9-এ যান)					<input type="checkbox"/>		
08.	উত্তর হ্যাঁ হলে কিভাবে?	1. মতুন ব্যক্তিত্ব ভিত্তি করে দিতে হবে। 2. বর্ষিক পুঁজি প্রদান করতে হবে। 3.							
09.	ক্ষতিপূরণ হিসেবে কি চান?	1= নগদ অর্থে 2= সম্পদ [12 নং প্রশ্নে যান]					<input type="checkbox"/>		
10.	ক্ষতিপূরণ বাবদ প্রাপ্তনগদ অর্থ ব্যয়ে আপনার কি কি ধরনের পরিকল্পনা রয়েছে?	1= জমি ক্রয়ের ক্ষেত্রে 2= ঘর স্থানান্তরের ক্ষেত্রে 3= ঘর তৈরীর ক্ষেত্রে 4= নতুন পেশা শিক্ষার ব্যাপারে 5= চাকুরী পাওয়ার ব্যাপারে 6= ব্যবসার ক্ষেত্রে 7= বাজারজাতকরণের ক্ষেত্রে 8= কর্ম-স্থানের ক্ষেত্রে					<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		

* জানি না কোথায় যাবো।

		9= ক্ষয় পরিশোধ অন্যান্য (উল্লেখ করুন)	
11.	প্রথম তিনটি পরিকল্পনা আধিকার জিজ্ঞাসিত হলো:	1. 2. 3.	
12.	অত্র প্রকল্প এলাকায় কর্মসংস্থানের কি ধরনের সুবিধা আছে বলে আপনি মনে করেন?	1. নৈমিত্তিক কাজ 2. কৃষি কাজ 3. কাজ	
13.	নতুন পেশা বা দক্ষতা বৃদ্ধির জন্য, আপনার/ খানা সদস্যদের কোন প্রশিক্ষণের প্রয়োজন আছে কি?	1= হ্যাঁ 2= না	<input checked="" type="checkbox"/>
14.	উক্ত, 'হ্যাঁ' হলে প্রয়োজনীয় প্রশিক্ষণের নাম	1= হাঁসমুরগি পালন 2= গরু মোটাতাজাকরণ 3= সেলাই 4= শাক-সজিচাষ 5= মতন্য চাষ 6= কারিগরী (উল্লেখ করুন) অন্যান্য (উল্লেখ করুন)	<input type="checkbox"/>

S.J. Involvement with govt. social safety net and agriculture subsidy program:

আপনার খানা সদস্যদের কেউ ভিজিটিভি/ভিজিএফ কার্ড, বয়স্ক ভাতা, মাতৃকৃতকালীন ভাতা অথবা কবিবা প্রোগ্রাম ইত্যাদির সুবিধা পায় কি না?

1= হ্যাঁ; 2= না (না হলে, পরবর্তীতে সেকশনে যান)

1	2	3	4	5	6
লাইন নম্বর	সরকারী সেবার ধরন	টাকা	সময়কাল (কত মাস অঙ্ক পায়)	সরকারী সুবিধা পাওয়ার ক্ষেত্রে আপনার বানার বাইরের কারো সহযোগিতা নিয়েছেন	কর কাছ থেকে
				<input type="checkbox"/>	
				<input type="checkbox"/>	
				<input type="checkbox"/>	
				<input type="checkbox"/>	
				<input type="checkbox"/>	
				<input type="checkbox"/>	
				<input type="checkbox"/>	
				<input type="checkbox"/>	

সরকারী সেবার ধরন: 1= ভিজিটিভি কার্ড, 2= বয়স্ক ভাতা, 3= মাতৃকৃতকালীন ভাতা, 4= কবিবা/টিআর, 5= প্রতিবন্ধি ভাতা, 6= বিধবা ভাতা, 7= মুক্তিযোদ্ধা ভাতা, 8= বৃষ্টি/ উপবৃষ্টি, 9= ভিজিএফ কার্ড, 10= ডরম্যান, 11= Poriposok allowance, 12= পরিভ্রমণ শারী ভাতা, 13= আর্মি কল্যাণ ভাতা;

বানার বাইরের কারো সহযোগিতা 1= হ্যাঁ 2= না

কর কাছ থেকে: 1= অস্ট্রিয়, 2 = বঙ্গ/অভিবেশি, 3= চেয়ারম্যান/মেম্বার/প্রত্যাশনশী, 4 = রাজনৈতিক নেতা, 5= প্রকৃতি কর্মী, 6= সরকারী কর্মকর্তা, অসংগত

S.K. Perception on prevalent social cultural practices:

SL No	মন্তব্য	কোড	কোড লিখুন
1		2	3
01.	স্বামীর সাথে একমত না হলেও স্ত্রীর নিজস্ব মত প্রকাশ করার অধিকার থাকা উচিত	1 = সম্পূর্ণ একমত 2 = একমত 3 = নিরপেক্ষ 4 = দ্বিমত 5 = সম্পূর্ণ বিমত	1
02.	যদি কোন স্ত্রী ভুল করে, তার স্বামীর তাকে অপমান, অপদস্থ করার বা ভয়ভীতি দেখানোর অধিকার আছে		4
03.	যদি কোন স্বামী তার স্ত্রীর সাথে খারাপ আচরণ করেন তাতে বাইরের কারো হস্তক্ষেপ করা উচিত		4
04.	স্বামীর তার স্ত্রীকে মারধর করার অধিকার আছে		5
05.	শিক্ষা ক্ষেত্রে নারী ও পুরুষের সমান সুযোগ থাকা উচিত		2
06.	নারীদের ঘরের বাইরে গিয়ে উপার্জন করতে দেয়া উচিত		2
07.	নারীর ইচ্ছা অনুযায়ী ঘরের বাইরে যেতে দেয়া উচিত		3
08.	নারী যে অর্থ উপার্জন করে তা তাদের খরচ করতে দেয়া উচিত		2
09.	একমাত্র ছেলেরাই পৈত্রিক সম্পত্তি পাওয়ার অধিকার থাকা উচিত		4
10.	স্ত্রীর ইচ্ছা না থাকা সত্ত্বেও স্বামীর সাথে দৈনিক মিলন করা তার কর্তব্য		3
11.	নারীদের নির্ধারিত মুক্ত/শাফিক্তিতে থাকার অধিকার আছে		1
12.	নির্ধারিত হলে একজন মহিলার সেবা পাওয়ার অধিকার আছে		2
13.	নারীকে কারো নির্ধারিত করার অধিকার নাই		2
14.	জনানিরূপ পদ্ধতি ব্যবহারের ক্ষেত্রে স্বামীর সিদ্ধান্তকেই প্রাধান্য দেয়া উচিত?		4
15.	স্ত্রীর, স্বামীকে তালাক দেয়ার কোনো অধিকার নেই, শুধুমাত্র স্বামীরই তালাক দেয়ার অধিকার আছে		4
16.	স্বামী তালাক দিলে স্ত্রীর সেনমোহর পাওয়ার কোনো অধিকার নেই		4

S.1 Description of Damaged Infrastructure (Homestead/Business/ Trees) For Affected Person/ Household Only

L.1 Description of Infrastructure

SI	ধর্ম	কোড	কোড লিখুন
no.		1= হাি 2= না	2
L.1.1	আপনার বা আপনার আনার মালিকানাধীন কোনো স্থাপনা/ অবকাঠামো প্রকল্প দ্বারা ক্ষতিগ্রস্ত হয়ে যে কী (যদি 'হাি' হয়, তাহলে নিম্নের টেবিল পূরণ করুন)		
L.1.2	প্রকল্প এলাকার অবস্থিত আপনার বা আপনার আনার মালিকানাধীন কোনো স্থাপনা/ অবকাঠামো ক্ষতিগ্রস্ত হবার মুক্তি রয়েছে কী (যদি 'হাি' হয়, তাহলে নিম্নের টেবিল পূরণ করুন / যদি 'না' হয় তাহলে L.2 তে যান)		1

ক্রমিক নং	অবকাঠামোর সংখ্যার	অবকাঠামোর বিবরণ			পরিমাণ		1= বিচ্ছিন্ন কবল/ বাধার 2= ভাঙা নিয়ন্ত্রণ 3= নিজ এলা জাড়া 4= শেয়ার করে ব্যবহার করা
		চাল/ স্থাপনা	বেড়া	যেবে	একক	পরিমাণ/ সংখ্যা	
0	1	2	3	4	5	6	7
1	1	5	5	5	1	528	1
2	2	7	5	5	1	300	1
3	9	5	5	5	1	42	1
4	2	7	7	3	1	45	1
5	* 7	7	2	2	1	25	1
6	**	7	5	5	1	48	1
7	13				3	1	1
8							

B2: 1 বর্ষ/ করাঁসোমের বর্ষ	5 = টাকার/ লাগাম	10 = গ্রামের মালিক/ বেইন মেট	B2: 2, 3; 4 বছরের বৈধতা	5 = হাি/সিমেট/হাি	5. একক কোড :
1 = বর্ষ/ বর্ষ	6 = পোতা/ ব্যবস প্রকল্প	11 = বীনা/ গাছ/ বেড়া	1 = খাল/বাড়/পাট/মাড়/পাট/প্রাক/পাট	6 = কাঁ	1 = এলাকা টি (বর্ষ/হাি)
2 = প্রান্ত	7 = গর-আল/ বন-স্থানিক প্রান্ত	12 = উভয়/ মালিক (গাছ/বাড়)	2 = বীনা	7 = টা	2 = অলাকা টি (গাছ/হাি)
3 = খাল	8 = মালিক প্রান্ত/ বন/ স্থান	13 = উভয়/ মালিক (অলাকা)	3 = কান/মাটি	8 = পোতা/ হাি/ মাটি	3 = সকা
4 = পোতা/খাল	9 = পোতা/খাল, টাকার/ প্রান্ত	আলা (উভয়/কান)	4 = টা/টা/টা	উপায় (উভয়/কান)	4 = সি.এক টি (বর্ষ/হাি)

শ্রী মৃগেশ চন্দ্র

L.2 Description of Business Organization (Only Damaged)

SI no.	বিবরণ	গোষ্ঠ	কোড	কোড দিখুন
L.2.1	আপনার/ আপনার খানার মালিকানাধীন কোনো ব্যবসা/ ব্যবসায়িক অবকাঠামো প্রকল্প দ্বারা ক্ষতিগ্রস্ত হয়েছে কি? (যদি 'হ্যাঁ' হয়, তাহলে নিম্নের টেবিল পূরণ করুন)	1= হ্যাঁ 2= না		2
L.2.2	প্রকল্প এলাকায় অবস্থিত আপনার বা আপনার খানার মালিকানাধীন কোনো ব্যবসা/ ব্যবসায়িক অবকাঠামো ক্ষতিগ্রস্ত হবার ঝুঁকি রয়েছে কি? (যদি 'হ্যাঁ' হয়, তাহলে নিম্নের টেবিল পূরণ করুন, যদি 'না' হয় তাহলে L.4 এ যান)			2

ক্রমিক নং	L.1 প্রশ্নের ক্রম হতে	ব্যবসা প্রতিষ্ঠানের নাম	বর্তমান ঠিকানা	ব্যবসার ধরন	ব্যবসায় মুজির পরিমাণ	ব্যবসা থেকে আর্থনৈতিক আয় (টাকা)	কর্মচারীর সংখ্যা	অবকাঠামোর মালিকানা 1= নিজে 2= অন্য	অধিবেশন জমা (টাকা)	মাসিক কত আড়া নিতে হয় (টাকা)
0	1	2	4	5	6	7	8	9	10	11
1										
2										
3										
4										
5										

N/A

L.3 Information about workers working in affected Business/ Enterprise (Only Damaged)

জাপনার ক্ষতিগ্রস্ত হওয়া/ ক্ষতির সম্ভাবনা থাকা ব্যবসা প্রতিষ্ঠানে কর্মরত কোন শ্রমিক আছে কি? 1 = হ্যাঁ; 2 = না। উত্তর না L.4 এ যান।

ক্রমিক নং	L.2 এর হতে	শ্রমিকের নাম	বয়স	পিতার নাম	বর্তমান ঠিকানা	শিক্ষা 1=মুখ্য 2=সহায়	কাজের ধরন	মাসিক বেতন	কত মাস যাবক নিয়োগিত আছে
0	1	2	3	4	5	6	7	8	9
1									
2									
3									
4									
5									

L.4 Information on rent/ lease related issues of damaged Business infrastructure/ Infrastructure (House rent/ Business purpose rent) (Only Damaged)

SI no.	ধর্ম	কোড	কোড সিস্টেম
L.4.1	আপনার/ আপনার বাসার মালিকানাধীন কোনো বাড়ি/ঘর/কোম্বা/বকসা/ ব্যবসায়িক অবকাঠামো যা, অন্য কোনো বাড়ি বা প্রতিষ্ঠানকে ভাড়া দেয়া হয়েছে এরকম কোনো অবকাঠামো প্রকল্প দ্বারা ক্ষতিগ্রস্ত হয়েছে কি? (যদি 'হ্যাঁ' হয়, তাহলে নিম্নের টেবিল পূরণ করুন)	1= হ্যাঁ 2= না	2
L.4.2	প্রকল্প এলাকায় অবস্থিত আপনার/ আপনার বাসার মালিকানাধীন কোনো ব্যবসা/ ব্যবসায়িক অবকাঠামো যা, অন্য কোনো বাড়ি বা প্রতিষ্ঠানকে ভাড়া দেয়া হয়েছে এরকম কোনো অবকাঠামো ক্ষতিগ্রস্ত হবার ঝুঁকি রয়েছে কি? (যদি 'হ্যাঁ' হয়, তাহলে নিম্নের টেবিল পূরণ করুন। যদি 'না' হয় তাহলে L.5 এ যান)		2

ক্রমিক নং	L.1 থেকে ক্রমিক নং	অভ্যন্তরীণ নাম	অভ্যন্তরীণ পিতার নাম	অভ্যন্তরীণ ঠিকানা	মাসিক ভাড়া	অভ্যন্তরীণ ব্যবসা (টাকা)	কি কালে ব্যবহার করা হয়? 1= এখন 2= যখন
0	1	2	3	4	5	7	8
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							

L.5 Information about plants (Own/social/government/others)

SI no.	Question	কোড	কোড কিংমন								
L.5.1	আপনার/ আপনার বাসার মালিকানাধীন গাছপালা প্রকল্প বাবা অভিযুক্ত হয়েছে কি? (কসি 'হ্যাঁ' হ্যাঁ, তাহলে নিচের তালিকা পূরণ করুন)	1= হ্যাঁ 2= না	2 1								
L.5.2	প্রকল্প এলাকায় অবস্থিত আপনার/ আপনার বাসার মালিকানাধীন গাছপালা অভিযুক্ত হবার ঝুঁকি হয়েছে কি? (কসি 'হ্যাঁ' হ্যাঁ, তাহলে নিচের তালিকা পূরণ করুন। যদি 'না' হয় তাহলে পরবর্তী সেকশনে যান)										
		ধরণ অনুযায়ী অভিযুক্ত গাছের সংখ্যা ও মূল্য									
ক্রমিক নং	গাছের নাম	1= ফলসহ 2= ফলহীন 3= উভয়	জন্মের মাসিকানা 1= মিলন 2= মকর	বৃদ্ধ	মূল্য	মাবাদী	মূল্য	ছোট	মূল্য	চারা	মূল্য
01.	1	2	3	4	5	6	7	8	9	10	11
02.	৩০৮৫	1	1					7	2100		
03.	৩০৮৫	1	1					1	400	4	800
04.	৩০৮৫	1	1					1	500		
05.	৩০৮৫	1	1					2	1000		
06.	৩০৮৫	1	1							1	300
07.	৩০৮৫	2	1							10	1000
08.	৩০৮৫	1	1			3	2000				
09.											
10.											
মোট গাছের সংখ্যা											

কৃ = উচ্চতা ১-৫ ফুট ও কোড ০০-৪০৮৫
 মাঝারি = উচ্চতা ৬-১৫ ফুট ও কোড ২০-৫০
 ছোট = উচ্চতা ৬-১০ ফুট ও কোড ১০-২০
 গাছ = উচ্চতা ১-৫ ফুট ও কোড ০১-১০

L.6. Damaged Crop ফসল সম্পর্কিত তথ্য (অধুনার ক্ষতিগ্রস্ত) :

প্রকল্প এলাকায় আপকার বাণার মালিকানাধীন জমির মধ্যে ক্ষতিগ্রস্ত হবে এমন কোন ফসলী জমি আছে কি? 1 = হ্যাঁ; 2 = না [উক্তর না হলে পরের সেকশনে যান]

ক্রমিক নং	জমির মালিকানা 1= নিজ 2= অন্যের জমি, বিত্ত ব্যবহার	ফসলের নাম	জমির পরিমাণ (শতকে)	মোট উৎপাদন (বিশ্ব প্রতি মণ)	বর্তমান বাজারমূল্য (প্রতি মণ)
1	2	3	4	5	5
01.					
02.					
03.					
04.					
05.					

S.M. Asset/Asset's price:

SL.	প্রশ্ন	কোডের তাশিকা	কোড
1.	আপনি বা আপনারা কেহ গত ১ বছরে এর মধ্যে কোন জমি ক্রয় করেছেন কি?	1= Yes 2= No	2
2.	জমির ক্রয়মূল্য (স্ট্যাম্প বা অন্যান্য খরচ বাদ দিয়ে) [নাম লিখুন]		
3.	আপনি বা আপনারা কেহ গত ১ বছরের মধ্যে কোন জমি বিক্রয় করেছেন কি?	1= Yes 2= No	2
4.	জমির বিক্রয় মূল্য (স্ট্যাম্প বা অন্যান্য খরচ বাদ দিয়ে)		
5.	আপনার "জানামতে" নিম্নলিখিত ধরণের জমির বর্তমান বাজার দর কত?		
	Land description in terms of type	Current price (per decimal)	Remarks
5.1	বসত ভিটা	400000	
5.2	এক ফসলী	36000	
5.3	দো-ফসলী	40000	
5.4	বহু ফসলী	40000	
5.5	ফল বাগান	200000	
5.6	পুকুর (চামাখান্দযোগ্য)	100000	
5.7	পুকুর (অব্যবহারযোগ্য)	700000	
5.8	পতিত জমি	100000	
5.9	বাবসায়িক উদ্দেশ্যে ব্যবহার উপযোগী জমি	400000	
5.10	অন্যান্য: (উল্লেখ করুন)		

S.N Crop price survey form:

ক্রমিক নং	ফসলের নাম	বিঘা প্রতি মোট উৎপাদন (মণ)	উৎপাদিত ফসলের মূল্য (মণ প্রতি)	বিঘা প্রতি উৎপাদিত ফসলের মোট মূল্য
1	বোনা আউস (উফশী)			
2	বোনা আউস (দেশী)			
3	রোপা আউস (উফশী)			
4	রোপা আউস (দেশী)			
5	বোনা আমন (উফশী)			
6	বোনা আমন (দেশী)			
7	রোপা আমন (উফশী)			
8	রোপা আমন (দেশী)			
9	বোরো (উফশী)			
10	বোরো (দেশী) ✓	16	1000	16000
11	পাট ✓	7	1200	8400
12	গম			
13	ভুট্টা			
14	সরিষা ✓	5	2500	12500
15	তিল			
16	মসুর			
17	খেসারী			
18	ছোলা			
19	মুগ			
20	মরিচ			
21	পিয়াজ			
22	রসুন			
23	গোল আলু			
24	আখ			
25	পান			
26	বেগুন			
27	ধনিয়া পাতা			
28	ধইলগা			
29	ফলুদ			
30	কলা			
31	পেঁপে			
32	কালোজিরা			
33	মটরগুটি			
34	মিষ্টি কুমড়া			
35	আদা			
36	শসা			
37	অন্যান্য			

S.O Development Participation

ক্রম	প্রশ্ন	কোড	কোড পিছন
1.	আপনি কী মনে করেন যে, প্রকল্পের উন্নয়নের বিভিন্ন পর্যায়ে বা পরিক্রমায় স্থানীয় জনগণ/ কমিউনিটির বসবাসকারীদের সম্পৃক্ত করা উচিত?	1 = হ্যাঁ 2 = না	1
2.	হ্যাঁ হলে, কোন পর্যায়ে?	1= পরিকল্পনা পর্যায়ে 2= ডিজাইন পর্যায়ে 3= প্রকল্প বাস্তবায়নের সময় অন্যান্য (উল্লেখ করুন)	3
3.	বিবিআইএল এমপিএ প্রোগ্রামের কোনো প্রকার কাজে আপনি অংশগ্রহণ করতে ইচ্ছুক? (না হলে, পরের সেকশনে যান)	1 = হ্যাঁ 2 = না	1
4.	আপনি কী ধরনের কাজে অংশগ্রহণ করতে ইচ্ছুক? <i>-সেই ঠিকানা দেয়,</i>		

S.P General Opinion

ক্রম	প্রশ্ন	কোড	কোড পিছন
1.	আপনার যানা কত বছর ধরে এই এলাকা/ কমিউনিটিতে বসবাস করছেন? (উত্তরদাতা যত বছর ধরে কমিউনিটিতে বসবাস করছেন সেই সময় বছরে পিছন)	100	
2.	প্রকল্প এলাকায় কি কোনো কবরস্থান/ শ্মশান/ সৎকার করার জায়গা পড়েছে? (না হলে একে প্রসঙ্গ যান)	1 = হ্যাঁ 2 = না	2
3.	যদি থাকে, কতগুলো?		
4.	কবরস্থান/ শ্মশান বা সৎকার করার জায়গাগুলোর অবস্থান উল্লেখ করুন:		
5.	প্রকল্প এলাকায় কোনো ঐতিহাসিক/ দর্শনীয় / সাংস্কৃতিকভাবে গুরুত্বপূর্ণ স্থান আছে? (না হলে ৭ নং প্রশ্নে যান)	1 = হ্যাঁ 2 = না	2
6.	যদি থাকে, তাহলে সেই স্থানগুলোর নাম, অবস্থান এবং প্রকৃতি সম্পর্কে বলুন।		
7.	প্রকল্পের সাথে সংশ্লিষ্ট কোনো পার্টি/ দল বা গ্রুপের মধ্যকার নিয়ন্ত্রণ সংক্রান্ত কোনো অস্বস্তিকোম্পন হবে বলে মনে করেন কি? (না হলে ১০ নং প্রশ্নে যান)	1 = হ্যাঁ 2 = না	1
8.	যদি হ্যাঁ হয়, তাহলে কাদের মধ্যে সেই কোম্পল? (একবিভিন্ন উত্তর আনতে পারে)	1= স্থানিক দলের মধ্যে 2= স্থানীয় নেতাদের মধ্যে 3= নির্মাণ উপকরণ সরবরাহকারীদের মধ্যে 4= ঠিকদারদের মধ্যে 5= ক্ষতিগ্রস্ত ব্যক্তিদের মধ্যে	1 2

9.	কি কারণে কোনদল ঘটে থাকে? (একমুখী উত্তর করতে পারবে)	6= নারী কর্মীদের মধ্যে অন্যান্য (উল্লেখ করুন) 1= কর্মপরিবেশ নিয়ে 2= শ্রম বন্টন নিয়ে 3= মজুরী বন্টন নিয়ে 4= নির্মাণ উপকরণ সরবরাহ নিয়ে অন্যান্য (উল্লেখ করুন)	23
10.	প্রকল্পের কারণে কারা সবচেয়ে বেশি ক্ষতিগ্রস্ত হতে পারে বলে আপনি মনে করেন?	1= শিশু 2= বয়োবৃদ্ধ 3= নারী 4= প্রতিবন্ধী 5= সমগ্র কমিউনিটি 6= পরিবহন ব্যবস্থা 7= ব্যক্তির নিকটে অবস্থিত জমির মালিক 8= জমির মালিক অন্যান্য (উল্লেখ করুন)	8
11.	প্রকল্পের কারণে কারা সবচেয়ে বেশি উপকৃত হতে পারে বলে আপনি মনে করেন?	1= শিশু 2= বয়োবৃদ্ধ 3= নারী 4= প্রতিবন্ধী 5= সমগ্র কমিউনিটি 6= পরিবহন ব্যবস্থা অন্যান্য (উল্লেখ করুন)	6
12.	প্রকল্প এলাকার জমি ব্যবহারের উপর কোনো ধরনের বাধ্যবাধকতা আছে? (না হলে ১# না প্রকল্প ঘন)	1 = হ্যাঁ 2 = না	2
13.	যদি থাকে, তাহলে কি ধরনের বাঁধা?		
14.	আপনি কি মনে করেন যে, প্রকল্পে নির্মাণ কাজের দ্বারা যে কন্ট্রোল এবং অন্যান্য উপকরণ ব্যবহার করা হবে সেগুলো সর্বোচ্চ উপযোগীতা মাথায় রেখে ব্যবহার করা হবে?	1 = হ্যাঁ 2 = না 3 = জাটনা	3
15.	এগুলো ব্যবহারের ক্ষেত্রে প্রকল্পের নির্দিষ্ট বর্জ্য ব্যবস্থাপনা থাকবে/ থাকে উচিত? (না হলে, ১# না প্রকল্প ঘন)	1 = হ্যাঁ 2 = না	1
16.	যদি বর্জ্য ব্যবস্থাপনা থাকে, তাহলে সঠিক বর্জ্য ব্যবস্থাপনা করার জন্য আপ নর পরামর্শ কি? না		
	বর্জ্য নির্দিষ্ট জায়গাতে বর্জ্য সঞ্চালনা থাকবে। মারিবেকো তাল চাকর।		
17.	প্রকল্প এলাকার কোনো খুলে দু-গোষ্ঠীর বসবাস আছে? (না হলে ২০ না প্রকল্প ঘন)	1 = হ্যাঁ 2 = না 3 = জাটনা	2

১ নেতা হওয়ায়-জন, চাকর এবং ২৯
উচিতনিয়ত প্রসারন করা হয়।

18.	বসবাসকারী ক্ষুদ্র নৃ-গোষ্ঠীর নাম কি?		
19.	আপনি কি মনে করেন, প্রকল্প দ্বারা কোনো ক্ষুদ্র নৃ-গোষ্ঠীর ক্ষতি হবার সম্ভাবনা আছে?	1 = হ্যাঁ 2 = না	<input type="checkbox"/>
20.	প্রকল্পের স্বার্থে অন্য এলাকা হতে শ্রমিকদের আশ্রমের কারণে আপনার কমিউনিটি/ এলাকাতে কোনো প্রভাব পড়বে? (যদি না হয় তাহলে প্রশ্ন নং 22 এ যান)	1 = হ্যাঁ 2 = না	<input checked="" type="checkbox"/>
21.	কি ধরনের প্রভাব? (একটিক উত্তর অমত পড়ে)	1= কমিউনিটিতে জনসংখ্যা বৃদ্ধি 2= বিশৃঙ্খলা/ কল্যাণহীন বৃদ্ধি 3= শ্রীমন্তারার ব্যয় বৃদ্ধি 4= ইভ টিভি/মৌলি হুয়রানি 5= শ্রমিকদের মধ্যে অস্বস্তিকাল 6= চুরি/ ছিনতাই/ বাহাজানি বৃদ্ধি অন্যান্য (উল্লেখ করুন)	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
22.	যদি না হয়, কি কারণে বলে মনে করেন? (একটিক উত্তর অমত পড়ে)	1= প্রকল্প কর্তৃপক্ষের সুষ্ঠু শ্রমিক ব্যবস্থাপনা আছে 2= আমাদের কমিউনিটি যথেষ্ট বন্ধুত্ববাপন/ আন্তরিক 3= অভিযোগ নিরসন কমিটি (জিয়ারএম) 4= স্থানীয় সেভাসের সুষ্ঠু পরিবেশন 5= প্রকল্পের কর্ম এলাকা কমিউনিটি থেকে দূরে অন্যান্য (উল্লেখ করুন)	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
23.	কমিউনিটি থেকে কেউ কি প্রকল্পের কাজে শ্রমিক হিসেবে যুক্ত হতে চাইবে বলে মনে করেন? (যদি না হয় তাহলে প্রশ্ন নং 25 এ যান)	1 = হ্যাঁ 2 = না	<input checked="" type="checkbox"/>
24.	যদি হয়, কেন?	1= আরম্ভক কাজের সুযোগ 2= সক্ষ শ্রমিকের সহজলভ্যতা 3= স্থানীয়দের প্রকল্পে শ্রমিক হিসেবে সংযুক্ত করা প্রকল্পের জন্য উপকারী 4= ভাল মজুরী লাভের আশা অন্যান্য (উল্লেখ করুন)	<input checked="" type="checkbox"/>
25.	যদি না হয়, কেন?	1= কর্তৃপক্ষ নিজস্ব শ্রমিক নিয়োগ নেয় 2= দক্ষতার অভাব 3= স্থানীয় শ্রমিকদের নিয়োগ করা কঠিন 4= মজুরী কম অন্যান্য (উল্লেখ করুন)	<input type="checkbox"/>
26.	আপনি কি মনে করেন, প্রকল্প এলাকার আওতাধীন কোনো বাজার ক্ষতিগ্রস্ত হবে? (না হলে, ২৮ নং প্রশ্নে যান)	1 = হ্যাঁ 2 = না	<input checked="" type="checkbox"/>
27.	যদি হয়, কোন বাজার ক্ষতিগ্রস্ত হবে বলে আপনি মনে করেন? (বাজারের নাম লিখুন)		<input checked="" type="checkbox"/> বেমড়া বাজার

28.	আপনি কি মনে করেন, প্রকল্পের কারণে কোনো স্কুল/কলেজ/মাদ্রাসা ক্ষতিগ্রস্ত হবে? (না হলে, ০১ নং প্রশ্নে যান)	1 = হ্যাঁ 2 = না	<input type="checkbox"/>
29.	যদি হ্যাঁ হয়, তাহলে কোন স্কুল/কলেজ/মাদ্রাসা ক্ষতিগ্রস্ত হবে বলে আপনি মনে করেন? (স্কুল/কলেজ/মাদ্রাসার নাম লিখুন)	ধার্মিক বিশ্বাস	
30.	প্রকল্প এলাকায় কোনো মসজিদ/মন্দির/শীতলা/উপাসনালয় ক্ষতিগ্রস্ত হবে বলে আপনি মনে করেন? (না হলে, ০২ নং প্রশ্নে যান)	1 = হ্যাঁ 2 = না	<input type="checkbox"/>
31.	যদি হ্যাঁ হয়, তাহলে তাদের অবস্থান উল্লেখ করুন:	শ্রীমতী কামা মসজিদ	
32.	প্রকল্প এলাকায় অবস্থিত কোনো পুকুর/জলাশয় আছে কী?	1 = হ্যাঁ 2 = না	<input type="checkbox"/>
33.	যদি থাকে, তাহলে কোন তাদের অবস্থান উল্লেখ করুন:	কৃষ্ণি মসজিদ/ন জায়েদ হুসেইন	
34.	আপনাদের এলাকায় স্থাপিত টিউবওয়েলগুলো র গভীরতা কেমন?	1 = গভীর 2 = অগভীর	<input type="checkbox"/>
35.	এই এলাকায় এমন কোনো প্রাণী/মাছ/পাখি আছে যা, ১০ বছর পুরেও দেখা যেত কিন্তু বর্তমানে খুবই কম দেখা যায় বা প্রায় নেই বললেই চলে?	1 = হ্যাঁ 2 = না	<input type="checkbox"/>
36.	'হ্যাঁ' হলে, তাদের নাম উল্লেখ করুন:	বাঘাল, নান্দই মাছ, চিত্র, স্ত্রীকুন	

সাক্ষাৎকার শেষ করার সময়:

ঘণ্টা

মিনিট

Annex D: Environmental Quality Test Result
a) Benapole Land Port



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DSCCL Environmental Laboratory

Name of the Project	ESIA Study for the Development of Benapole Land port Under ACCESS MPA Program
Description of Sample	AAQ_01 (23.039333°N, 88.890369°E)
Sampling Location	Starting Point of 3.36 Acre (East Side)
Sample Collector	Collected by DSCCL Personnel
Sampling Date	30 January 2022

Test Result of Ambient Air Quality Analysis

Parameter	Unit	AAQ_01	Bangladesh Standard**	Project Standards (DWSNIP)***	Duration (hours)	Method of Analysis
		23.039333°N 88.890369°E				
		Starting Point of 3.36 Acre (East Side)				
PM _{2.5}	µg/m ³	69.73	65	25	24	AEROQUAL Series 500 Particulate matter monitors Gravimetric
PM ₁₀	µg/m ³	147.69	150	50	24	
SO ₂	µg/m ³	85.77	365	20	24	AEROQUAL Series 500 SO _x monitor
NO _x	µg/m ³	67.11	100	200	Annual	AEROQUAL Series 500 NO _x monitor
CO*	ppm	2	10	8	8	CO meter
O ₃	µg/m ³	63.26	157	100	8	AEROQUAL Series 500 O ₃ monitor
VOC	ppm	57.36	NYS	NYS	8	AEROQUAL Series 500 VOC monitor
Weather Condition	Sunny		-	-	-	-

DSCCL Environmental Laboratory, January 2022

**The Bangladesh National Ambient Air Quality Standards have been taken from the Environmental Conservation Rules, 1997 which was amended on 19th July 2005 vide S.R.O. No. 220-Law/2005

*CO concentrations and standards are 8-hourly only.

Location	Sample Site Description
Starting Point of 3.36 Acre (East Side) (AAQ_01)	<ul style="list-style-type: none"> ➤ Vehicle movement Moderate ➤ People movement high ➤ Visible dust particle high

Pinon Nath
Test Performed By:
Pinon Nath
Jr. Environmental Specialist



Saiful Islam Imran
Checked By:
Saiful Islam Imran
Deputy Manager

House# 734 (1-A), Road# 10, Avenue# 04, DOHS Mirpur Dhaka-1216, Bangladesh.
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Development Solutions Consultant Limited

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DSCCL Environmental Laboratory

Name of the Project	ESIA Study for the Development of Benapole Land port Under ACCESS MPA Program
Description of Sample	AAQ_02 (23.035920°N, 88.885228°E)
Sampling Location	Boro Anchra Aaam Bagan
Sample Collector	Collected by DSCCL Personnel
Sampling Date	31 January 2022

Test Result of Ambient Air Quality Analysis

Parameter	Unit	AAQ_02	Bangladesh Standard**	Project Standards (DWSNIP)***	Duration (hours)	Method of Analysis
		23.035920°N 88.885228°E Boro Anchra Aaam Bagan				
PM _{2.5}	µg/m ³	92.84	65	25	24	AEROQUAL Series 500 Particulate matter monitors Gravimetric
PM ₁₀	µg/m ³	68.96	150	50	24	
SO ₂	µg/m ³	57.37	365	20	24	AEROQUAL Series 500 SO _x monitor
NO _x	µg/m ³	51.84	100	200	Annual	AEROQUAL Series 500 NO _x monitor
CO*	ppm	<1	10	8	8	CO meter
O ₃	µg/m ³	45.38	157	100	8	AEROQUAL Series 500 O ₃ monitor
VOC	ppm	47.53	NYS	NYS	8	AEROQUAL Series 500 VOC monitor
Weather Condition	Sunny		-	-	-	-

DSCCL Environmental Laboratory, January 2022

**The Bangladesh National Ambient Air Quality Standards have been taken from the Environmental Conservation Rules, 1997 which was amended on 19th July 2005 vide S.R.O. No. 220-Law/2005

*CO concentrations and standards are 8-hourly only.

Location	Sample Site Description
Boro Anchra Aaam Bagan (AAQ_02)	<ul style="list-style-type: none"> ➤ In the Mango and jackfruit orchards ➤ People movement low ➤ Visible dust particle low


Test Performed By:
Pinon Nath
 Jr. Environmental Specialist




Checked By:
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 Deputy Manager

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Name of the Project	ESIA Study for the Development of Benapole Land port Under ACCESS MPA Program
Description of Sample	AAQ_03 (23.031384°N, 88.883885°E)
Sampling Location	In front of Brac School, Gatipara
Sample Collector	Collected by DSCCL Personnel
Sampling Date	1 February 2022

Test Result of Ambient Air Quality Analysis

Parameter	Unit	AAQ_03	Bangladesh Standard**	Project Standards (DWSNIF)**	Duration (hours)	Method of Analysis
		23.031384°N 88.883885°E In front of Brac School, Gatipara				
PM _{2.5}	µg/m ³	37.33	65	25	24	AEROQUAL Series 500 Particulate matter monitors Gravimetric
PM ₁₀	µg/m ³	81.73	150	50	24	
SO ₂	µg/m ³	45.38	365	20	24	AEROQUAL Series 500 SO _x monitor
NO _x	µg/m ³	36.85	100	200	Annual	AEROQUAL Series 500 NO _x monitor
CO*	ppm	<1	10	8	8	CO meter
O ₃	µg/m ³	29.68	157	100	8	AEROQUAL Series 500 O ₃ monitor
VOC	ppm	31.92	NYS	NYS	8	AEROQUAL Series 500 VOC monitor
Weather Condition	Sunny					

DSCCL Environmental Laboratory, January 2022

**The Bangladesh National Ambient Air Quality Standards have been taken from the Environmental Conservation Rules, 1997 which was amended on 15th July 2005 vide S.R.O. No. 22D-Law/2005

*CO concentrations and standards are 8-hourly only.

Location	Sample Site Description
In front of Brac School, Gatipara (AAQ_03)	<ul style="list-style-type: none"> > People movement moderate > Traffic low > Vegetation moderate > Visible dust particle low


Test Performed By:
Pinon Nath
 Jr. Environmental Specialist




Checked By:
Saiful Islam Imran
 Deputy Manager

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DSCCL Environmental Laboratory

Name of the Project	ESIA Study for the Development of Benapole Land port Under ACCESS MPA Program
Description of Sample	AAQ_04 (23.031226°N, 88.881695°E)
Sampling Location	Gatipara (West Side)
Sample Collector	Collected by DSCCL Personnel
Sampling Date	2 February 2022

Test Result of Ambient Air Quality Analysis

Parameter	Unit	AAQ_04	Bangladesh Standard**	Project Standards (DWSNIP)***	Duration (hours)	Method of Analysis
		23.031226 °N 88.881695 °E Gatipara (West Side)				
PM _{2.5}	µg/m ³	85.51	65	25	24	AEROQUAL Series 500 Particulate matter monitors Gravimetric
PM ₁₀	µg/m ³	77.30	150	50	24	
SO ₂	µg/m ³	37.15	365	20	24	AEROQUAL Series 500 SO _x monitor
NO _x	µg/m ³	34.71	100	200	Annual	AEROQUAL Series 500 NO _x monitor
CO*	ppm	<1	10	8	8	CO meter
O ₃	µg/m ³	28.71	157	100	8	AEROQUAL Series 500 O ₃ monitor
VOC	ppm	27.98	NYS	NYS	8	AEROQUAL Series 500 VOC monitor
Weather Condition	Sunny		-	-	-	-

DSCCL Environmental Laboratory, January 2022

**The Bangladesh National Ambient Air Quality Standards have been taken from the Environmental Conservation Rules, 1997 which was amended on 19th July 2005 vide S.R.O. No. 220-Law/2005

*CO concentrations and standards are 8-hourly only.

Location	Sample Site Description
Gatipara (West Side) (AAQ_04)	<ul style="list-style-type: none"> ➤ People movement moderate ➤ Visible dust particle low ➤ Vegetation High

Test Performed By:

Pinon Nath

Jr. Environmental Specialist



Checked By:

Saiful Islam Imran

Deputy Manager

House# 734 (1-A), Road# 10, Avenue# 04, DOHS Mirpur Dhaka-1216, Bangladesh.
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Development Solutions Consultant Limited

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DSCCL Environmental Laboratory

Name of the Project	ESIA Study for the Development of Benapole Land port Under ACCESS MPA Program
Description of Sample	AAQ_05 (23.040277°N, 88.912336°E)
Sampling Location	Purbo Bhavarber (100 Acre East Side)
Sample Collector	Collected by DSCCL Personnel
Sampling Date	3 February 2022

Test Result of Ambient Air Quality Analysis

Parameter	Unit	AAQ_05	Bangladesh Standard**	Project Standards (DWSNIP)***	Duration (hours)	Method of Analysis
		23.040277°N 88.912336°E				
		Purbo Bhavarber (100 Acre East Side)				
PM _{2.5}	µg/m ³	53.76	65	25	24	AEROQUAL Series 500 Particulate matter monitors Gravimetric
PM ₁₀	µg/m ³	110.57	150	50	24	
SO ₂	µg/m ³	51.57	365	20	24	AEROQUAL Series 500 SO _x monitor
NO _x	µg/m ³	49.35	100	200	Annual	AEROQUAL Series 500 NO _x monitor
CO*	ppm	1	10	8	8	CO meter
O ₃	µg/m ³	43.61	157	100	8	AEROQUAL Series 500 O ₃ monitor
VOC	ppm	43.42	NYS	NYS	8	AEROQUAL Series 500 VOC monitor
Weather Condition	Cloudy		-	-	-	-

DSCCL Environmental Laboratory, January 2022

**The Bangladesh National Ambient Air Quality Standards have been taken from the Environmental Conservation Rules, 1997 which was amended on 19th July 2005 vide S.R.O. No. 220-Law/2005

*CO concentrations and standards are 8-hourly only.

Location	Sample Site Description
Purbo Bhavarber (100 Acre East Side) (AAQ_05)	<ul style="list-style-type: none"> ➤ Traffic high ➤ People movement moderate ➤ Visible dust particle moderate

Test Performed By:
Pinon Nath
Jr. Environmental Specialist



Checked By:
Saiful Islam Imran
Deputy Manager

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Name of the Project	ESIA Study for the Development of Benapole Land port Under ACCESS MPA Program
Description of Sample	AAQ_06 (23.034249°N, 88.882853°E)
Sampling Location	Near Taltola BGB Checkpost, Gatipara
Sample Collector	Collected by DSCL Personnel
Sampling Date	6 February 2022

Test Result of Ambient Air Quality Analysis

Parameter	Unit	AAQ_06	Bangladesh Standard**	Project Standards (DWSNIP)***	Duration (hours)	Method of Analysis
		23.034249°N 88.882853°E Near Taltola BGB Checkpost, Gatipara				
PM _{2.5}	µg/m ³	59.76	65	25	24	AEROQUAL Series 500 Particulate matter monitors Gravimetric
PM ₁₀	µg/m ³	93.76	150	50	24	
SO ₂	µg/m ³	67.61	365	20	24	AEROQUAL Series 500 SO _x monitor
NO _x	µg/m ³	68.74	100	200	Annual	AEROQUAL Series 500 NO _x monitor
CO*	ppm	2	10	8	8	CO meter
O ₃	µg/m ³	49.66	157	100	8	AEROQUAL Series 500 O ₃ monitor
VOC	ppm	49.72	NYS	NYS	8	AEROQUAL Series 500 VOC monitor
Weather Condition	Sunny		-	-	-	-

DSCL Environmental Laboratory, January 2022

**The Bangladesh National Ambient Air Quality Standards have been taken from the Environmental Conservation Rules, 1997 which was amended on 19th July 2005 vide S.R.O. No. 220-Law/2005

*CO concentrations and standards are 8-hourly only.

Location	Sample Site Description
Near Taltola BGB Checkpost, Gatipara (AAQ_06)	<ul style="list-style-type: none"> > People movement moderate > This place is used for truck stand > Traffic high > Visible dust particle moderate

Test Performed By:
Pinon Nath
Jr. Environmental Specialist



Checked By:
Saiful Islam Imran
Deputy Manager




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DSCCL Environmental Laboratory

Name of the Project	ESIA Study for the Development of Benapole Land port Under ACCESS MPA Program
Description of Sample	Noise Level Measurement
Sampling Location	Benapole
Sample Collector	Collected by DSCCL Personnel
Sampling Date	30 January 2022 to 6 February 2022

Noise Level Measurement Analysis

Sample ID	Sample Location	GPS Location	Land Use Category	Day Time		Noise Level (dBA) (LAeq)	Night Time		Noise Level (dBA) (LAeq)
				Start	End		Start	End	
NM_01	Starting Point of 3.36 Acre (East Side)	23.039333°N 88.890369°E	Mixed	11:30 pm	12:30 pm	69.58	09:00 pm	10:00 pm	61.50
NM_02	Near Railgate BGB CheckPost	26.037918°N 88.885063°E	Mixed	02:30 pm	03:30 pm	67.89	10:45 pm	11:45 pm	56.80
NM_03	Boro Anchra Aaam Bagan	26.035920°N 88.885228°E	Residential	4:00 pm	5:00 pm	46.23	10:00 pm	11:00 pm	41.22
NM_04	In front of Brac School, Gatipara, Benapole	23.031384°N 88.883885°E	Residential	10:20 am	11:20 am	50.62	09:30 pm	10:30 pm	40.31
NM_05	Gatipara (West Side)	23.031226°N 88.881695°E	Residential	10:15 am	11:15 am	53.83	09:20 pm	10:20 pm	37.82
NM_06	Purbo Bhavarber (100 Acre East Side)	23.040277°N 88.912336°E	Residential	10:45 am	11:45 am	62.96	09:15 pm	10:15 pm	49.82
NM_07	Pacchim Bhavarber (100 Acre West Side)	23.040277°N 88.912336°E	Residential	4:15 pm	5:15 pm	57.86	10:45 pm	11:45 pm	47.72
NM_08	Gatipara (East Side)	23.030025°N 88.883579°E	Mixed	3:40 pm	4:40	59.28	9:00 pm	10:00 pm	46.82
NM_09	Bhavarber Moddo Para	23.039975°N 88.906968°E	Residential	11:00 am	12:00 pm	51.29	11:00 pm	12:00 am	43.29
NM_10	Near Taltola BGB Checkpost (Gatipara)	23.034249°N 88.882853°E	Commercial	10:00 am	11:00 am	65.93	9:20 pm	10:20 pm	53.04

Notes:

- Land use category is based on the classification provided in the Noise Pollution Control Rules (2006)
- Shaded cell indicates noise levels in excess of Noise Pollution Control Rules ambient noise limits for a given land use area
- The sound level standards for commercial area are 70 at day and 60 at night.
- The sound level standards for residential area are 55 at day and 45 at night.
- Noise Level is the average noise recorded over the duration of the monitoring period

Abbreviation: NM- Noise Measurement; dB- decibel; NGF- Narsingdi Gas Field; TGF – Titlas Gas Field



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Sample Site Description

Location	Sample Site Description
NM_01 Starting Point of 3.36 Acre (East Side)	<ul style="list-style-type: none"> ➤ Traffic volume high ➤ People movement high ➤ Beside truck parking area
NM_02 Near Railgate BGB CheckPost	<ul style="list-style-type: none"> ➤ Traffic volume moderate ➤ People movement low ➤ Commercial area
NM_03 Boro Anchra Aaarn Bagan	<ul style="list-style-type: none"> ➤ Traffic volume low ➤ People movement low ➤ Residential area
NM_04 In front of Brac School, Gatipara, Benapole	<ul style="list-style-type: none"> ➤ Vehicle movement high ➤ People movement moderate ➤ Residential area
NM_05 Gatipara (West Side)	<ul style="list-style-type: none"> ➤ Traffic volume low ➤ People movement low
NM_06 Purbo Bhavarber (100 Acre East Side)	<ul style="list-style-type: none"> ➤ Traffic volume high ➤ People movement low
NM_07 Pacchim Bhavarber (100 Acre West Side)	<ul style="list-style-type: none"> ➤ Traffic volume high ➤ People movement low
NM_08 Gatipara (East Side)	<ul style="list-style-type: none"> ➤ Traffic volume moderate ➤ People movement moderate ➤ Mixed Area
NM_09 Bhavarber Moddo Para	<ul style="list-style-type: none"> ➤ People movement low ➤ Traffic volume low ➤ Residential Area
NM_10 Near Taltola BGB Checkpost (Gatipara)	<ul style="list-style-type: none"> ➤ Traffic volume high ➤ People movement moderate ➤ Commercial area



Test Performed By:
Pinon Nath
Jr. Environmental Specialist

Checked By:
Saiful Islam Imran
Deputy Manager

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DSCL Environmental Laboratory

Name of the Project	ESIA Study for the Development of Benapole Land port Under ACCESS MPA Program
Description of Sample	Ground Water Quality Test
Sample Collector	Collected by DSCL Personnel
Sampling Date	4 th February and 5 th February 2022

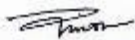
Ground Water Quality Analysis (On-site)

Parameters	Unit	GW_01	GW_02	GW_03	GW_04	Standards for Potable Water**	Analysis Method
		23.040402°N, 88.908661°E	23.039256°N, 88.911737°E	23.038012°N, 88.887295°E	23.031411°N, 88.882028°E		
		Pump Water	Tube well Water	Tube well Water	Tube well Water		
		Bhavarber Moddo Para	Purbo Bhavarber (100 Acre East Side)	Near MP Market, Boro Anchra	Gatipara (West Side)		
		Depth: 200 Feet	Depth: 120 Feet	Depth: 120 Feet	Depth: 120 Feet		
pH*	-	7.43	7.58	7.40	7.54	6.5-8.5	Multimeter
Temperature	Celsius	25.16	23.72	23.11	23.94	20-30	Multimeter
Electricity Conductivity	µs/cm	212	254	273	323	NYS	Multimeter
Salinity	mg/l	38.32	59.48	47.28	67.75	NYS	Multimeter
Total Dissolved Solids (TDS)*	mg/l	121	74	117	154	1000	Multimeter
Oxidation-Reduction Potential (ORP)	mg/l	-47.1	-58.9	-47.9	-56.4	NYS	Multimeter

Note:

** Standards for Potable Water is followed from Schedule-3(B) of the Environment Conservation Rule (ECR, '97)

NYS: Not Yet Standardized


Test Performed By:
Pinon Nath
 Jr. Environmental Specialist




Checked By:
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Applicant : DEVELOPMENT SOLUTIONS CONSULTANT LIMITED **Test Date :** Feb.8 – 15,2022
Address : HOUSE-734, 1-A, ROAD-10, AVENUE-4, DOHS MIRPUR, DHAKA-1216, BANGLADESH

Contact Person : MD. MASHIUR RAHMAN

Sample Description: GROUNDWATER

Testing Protocol: Self-Reference

Project Name: ESIA Study for the Development of Benapole Land Port under BBIN MPA Program

Sample ID: BNP_GW_01, BNP_GW_02, BNP_GW_03, BNP_GW_04

Source: Groundwater Samples from the site

Sample Information :

Sample ID	Description	Equivalent Code / Color
001	GROUNDWATER SAMPLE	BNP_GW_01
002	GROUNDWATER SAMPLE	BNP_GW_02
003	GROUNDWATER SAMPLE	BNP_GW_03
004	GROUNDWATER SAMPLE	BNP_GW_04

For and on behalf of
 UL VS Bangladesh Ltd.

Md. Nur Alam – Lab Technical & Operations Manager

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TEST	Sample ID			
	001	002	003	004
Chloride (Cl)	NC	NC	NC	NC
Phosphate (PO ₄)	NC	NC	NC	NC
Nitrate (NO ₃)	NC	NC	NC	NC
Color	NC	NC	NC	NC
Odor	NC	NC	NC	NC
Total Coliform (TC) †	NC	NC	NC	NC
Faecal Coliform (FC) †	NC	NC	NC	NC
Total Arsenic (As)	NC	NC	NC	NC
Total Iron (Fe)	NC	NC	NC	NC

Note: P = Pass ; F = Fail ; NC = No Comment ; NA = Not Applicable ; ** = test result(s) will be added later
 † Marked test was subcontracted to an ISO 17025 accredited laboratory.

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(01) Chloride (Cl)

Test Method: Analysis by Titrimetric Method

Sample ID	Ref. Sample ID	Detection limit, mg/L	Result, mg/L	Requirement, mg/L	Comment
001	BNP_GW_01	10	<10	-	NC
002	BNP_GW_02	10	<10	-	NC
003	BNP_GW_03	10	<10	-	NC
004	BNP_GW_04	10	<10	-	NC

*< means "less than" ; "mg/L" means "milligram per litre";

(02) Phosphate (PO₄)

Test Method: Analysis by Photometric Method

Sample ID	Ref. Sample ID	Detection limit, mg/L	Result, mg/L	Requirement, mg/L	Comment
001	BNP_GW_01	0.1	0.42	-	NC
002	BNP_GW_02	0.1	0.27	-	NC
003	BNP_GW_03	0.1	0.29	-	NC
004	BNP_GW_04	0.1	0.21	-	NC

*< means "less than" ; "mg/L" means "milligram per litre";

(03) Nitrate (NO₃)

Test Method: With reference APHA/SM 4500N-C

Sample ID	Ref. Sample ID	Detection limit, mg/L	Result, mg/L	Requirement, mg/L	Comment
001	BNP_GW_01	5	<5	-	NC
002	BNP_GW_02	5	<5	-	NC
003	BNP_GW_03	5	<5	-	NC
004	BNP_GW_04	5	<5	-	NC

*< means "less than" ; "mg/L" means "milligram per litre";

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(04) Color

Test Method: With reference ISO 7887 Method B

Sample ID	Ref. Sample ID	Detection limit (Hazen, Pt/Co Unit)	Result (Hazen, Pt/Co Unit)	Requirement (Hazen, Pt/Co Unit)	Comment
001	BNP_GW_01	5	<5	-	NC
002	BNP_GW_02	5	<5	-	NC
003	BNP_GW_03	5	<5	-	NC
004	BNP_GW_04	5	<5	-	NC

"<" means "less than" ;

(05) Odor

Test Method: With reference to APHA/SM 2150

Sample ID	Ref. Sample ID	Result	Requirement	Comment
001	BNP_GW_01	Odorless	-	NC
002	BNP_GW_02	Odorless	-	NC
003	BNP_GW_03	Odorless	-	NC
004	BNP_GW_04	Odorless	-	NC

(06) Total Coliform (TC)

Test Method: With reference USEPA 9132

Sample ID	Ref. Sample ID	Result, CFU/100mL	Requirement, CFU/100mL	Comment
001	BNP_GW_01	0	-	NC
002	BNP_GW_02	0	-	NC
003	BNP_GW_03	0	-	NC
004	BNP_GW_04	0	-	NC

"<" means "less than" ; "CFU" means "colony forming units"

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(07) Faecal Coliform (FC)

Test Method: Membrane Filtration

Sample ID	Ref. Sample ID	Result, CFU/100mL	Requirement, CFU/100mL	Comment
001	BNP_GW_01	0	-	NC
002	BNP_GW_02	0	-	NC
003	BNP_GW_03	0	-	NC
004	BNP_GW_04	0	-	NC

"<" means "less than" ; "CFU" means "colony forming units"

(08) Total Arsenic (As)

Test Method: Acid Digestion with ICP analysis

Sample ID	Ref. Sample ID	Substance name	CAS No.	Detection limit, mg/L	Result, mg/L	Requirement, mg/L	Comment
001	BNP_GW_01	Arsenic (As)	7440-38-2	0.02	<0.02	-	NC
002	BNP_GW_02	Arsenic (As)	7440-38-2	0.02	<0.02	-	NC
003	BNP_GW_03	Arsenic (As)	7440-38-2	0.02	<0.02	-	NC
004	BNP_GW_04	Arsenic (As)	7440-38-2	0.02	<0.02	-	NC

"<" means "less than" ; "mg/L" means "milligram per litre"

(09) Total Iron (Fe)

Test Method: Acid Digestion with ICP analysis

Sample ID	Ref. Sample ID	Substance name	CAS No.	Detection limit, mg/L	Result, mg/L	Requirement, mg/L	Comment
001	BNP_GW_01	Iron (Fe)	7439-89-6	0.5	3.4	-	NC
002	BNP_GW_02	Iron (Fe)	7439-89-6	0.5	4.0	-	NC
003	BNP_GW_03	Iron (Fe)	7439-89-6	0.5	11.9	-	NC
004	BNP_GW_04	Iron (Fe)	7439-89-6	0.5	2.3	-	NC

"<" means "less than" ; "mg/L" means "milligram per litre";

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TEST REPORT NO: 1001455573

Feb.15,2022

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Development Solutions Consultant Limited

Multidisciplinary Development Consultants

DSCL Environmental Laboratory

Name of the Project	ESIA Study for the Development of Benapole Land port Under ACCESS MPA Program
Description of Sample	Surface Water Quality Test
Sample Collector	Collected by DSCL Personnel
Sampling Date	4 February 2022

Surface Water Quality Analysis (Onsite)

Parameters	Unit	SW_01	SW_02	SW_03	SW_04	Standards for Inland Surface Water** (Best fishing practice)	Analysis Method
		23.040256°N, 88.907222°E	23.038329°N, 88.887331°E	23.031385°N, 88.881496°E	23.037465°N, 88.886381°E		
		Pond Water	Pond Water	Pond Water	Pond Water		
pH*	-	8.08	8.33	8.10	10.21	6.5-8.5	Multimeter
Temperature	°C	22.16	21.95	22.33	27.5	20-30	Multimeter
Electricity Conductivity	µs/cm	394	377	321	236	NYS	Multimeter
Salinity	mg/l	156	174	163	216	NYS	Multimeter
Dissolved Oxygen (DO)	mg/l	6.8	6.9	7.1	3.65	5 or more	DO Meter
Total Dissolved Solids (TDS)*	mg/l	283	267	231	339	NYS	Multimeter
Oxidation-Reduction Potential (ORP)	mg/l	-83.8	-97.57	-86.63	-202	NYS	Multimeter

Note:

** The standard for inland surface water have been taken from the Environmental conservation rules, 1997 which was amended on 19 July 2005 S.R.O. No. 220-Law/2005.

NYS: Not Yet Standardized


Test Performed By:
Pinon Nath
 Jr. Environmental Specialist




Checked By:
Saiful Islam Inuran
 Deputy Manager

House# 734 (1-A), Road# 10, Avenue# 04, DOHS Mirpur Dhaka-1216, Bangladesh.
 Tel: +8809617035444; +8801822758548; Email: dscl@dsclbd.com Web: www.dsclbd.com







TEST REPORT NO : 1001455393

Feb.15,2022

UL ORDER NO : 14206481

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Applicant : DEVELOPMENT SOLUTIONS CONSULTANT LIMITED
Address : HOUSE-734, 1-A, ROAD-10, AVENUE-4, DOHS MIRPUR, DHAKA-1216, BANGLADESH

Test Date : Feb.8 -15, 2022

Contact Person : MD MASHIUR RAJIMAN

Sample Description: SURFACE WATER

Testing Protocol: Self Reference

Project Name: ESIA Study for the Development of Benapole Land Port under BBIN MPA Program

Sample ID: BNP_SW_01, BNP_SW_02, BNP_SW_03, BNP_SW_04

Source: Surface Water Samples from the site

Sample Information :

Sample ID	Description	Equivalent Code / Color
001	SURFACE WATER SAMPLE	BNP_SW_01
002	SURFACE WATER SAMPLE	BNP_SW_02
003	SURFACE WATER SAMPLE	BNP_SW_03
004	SURFACE WATER SAMPLE	BNP_SW_04

For and on behalf of
 UL VS Bangladesh Ltd.

Md. Nur Alam – Lab Technical & Operations Manager

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TEST	Sample ID			
	001	002	003	004
Total Suspended Solid (TSS)	NC	NC	NC	NC
Chemical Oxygen Demand (COD)	NC	NC	NC	NC
Biological Oxygen Demand (BOD) (5-day)	NC	NC	NC	NC
Phosphate (PO ₄)	NC	NC	NC	NC
Turbidity	NC	NC	NC	NC
Oil & Grease	NC	NC	NC	NC
Chloride (Cl)	NC	NC	NC	NC
Sulphate (SO ₄)	NC	NC	NC	NC
Total Iron (Fe)	NC	NC	NC	NC

Note : P = Pass ; F = Fail ; NC = No Comment ; NA = Not Applicable ; ** = test result(s) will be added later

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(01) Total Suspended Solid (TSS)

Test Method: With reference APHA/SM 2540D

Sample ID	Ref. Sample ID	Detection limit, mg/L	Result, mg/L	Requirement, mg/L	Comment
001	BNP_SW_01	5	230	-	NC
002	BNP_SW_02	5	48	-	NC
003	BNP_SW_03	5	57	-	NC
004	BNP_SW_04	5	226	-	NC

"<" means "less than"; "mg/L" means "milligram per litre";

(02) Chemical Oxygen Demand (COD)

Test Method: With reference APHA/SM 5220D

Sample ID	Ref. Sample ID	Detection limit, mg/L	Result, mg/L	Requirement, mg/L	Comment
001	BNP_SW_01	5	93	-	NC
002	BNP_SW_02	5	47	-	NC
003	BNP_SW_03	5	74	-	NC
004	BNP_SW_04	5	350	-	NC

"<" means "less than"; "mg/L" means "milligram per litre";

(03) Biological Oxygen Demand (BOD) (5-day)

Test Method: With reference APHA/SM 5210B

Sample ID	Ref. Sample ID	Detection limit, mg/L	Result, mg/L	Requirement, mg/L	Comment
001	BNP_SW_01	2	19	-	NC
002	BNP_SW_02	2	12	-	NC
003	BNP_SW_03	2	18	-	NC
004	BNP_SW_04	2	90	-	NC

"<" means "less than"; "mg/L" means "milligram per litre";

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(04) Phosphate (PO₄)

Test Method: Analysis by Photometric Method

Sample ID	Ref. Sample ID	Detection limit, mg/L	Result, mg/L	Requirement, mg/L	Comment
001	BNP_SW_01	0.1	<0.1	-	NC
002	BNP_SW_02	0.1	<0.1	-	NC
003	BNP_SW_03	0.1	<0.1	-	NC
004	BNP_SW_04	0.1	<0.1	-	NC

"<" means "less than" ; "mg/L" means "milligram per litre";

(05) Turbidity

Test Method: With reference Nephelometric

Sample ID	Ref. Sample ID	Detection limit, NTU	Result, NTU	Requirement, NTU	Comment
001	BNP_SW_01	5	14.3	-	NC
002	BNP_SW_02	5	<5	-	NC
003	BNP_SW_03	5	20.7	-	NC
004	BNP_SW_04	5	28.6	-	NC

(06) Oil & Grease

Test Method: With reference USEPA 1664

Sample ID	Ref. Sample ID	Detection limit, mg/L	Result, mg/L	Requirement, mg/L	Comment
001	BNP_SW_01	0.5	<0.5	-	NC
002	BNP_SW_02	0.5	<0.5	-	NC
003	BNP_SW_03	0.5	<0.5	-	NC
004	BNP_SW_04	0.5	<0.5	-	NC

"<" means "less than" ; "mg/L" means "milligram per litre,"

(07) Chloride (Cl)

Test Method: Analysis by Titrimetric Method

Sample ID	Ref. Sample ID	Detection limit, mg/L	Result, mg/L	Requirement, mg/L	Comment
001	BNP_SW_01	10	<10	-	NC
002	BNP_SW_02	10	<10	-	NC
003	BNP_SW_03	10	12.5	-	NC
004	BNP_SW_04	10	<10	-	NC

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(08) Sulphate (SO₄)

Test Method: Analysis by Photometric Method

Sample ID	Ref. Sample ID	Detection limit, mg/L	Result, mg/L	Requirement, mg/L	Comment
001	BNP_SW_01	10	12	-	NC
002	BNP_SW_02	10	14	-	NC
003	BNP_SW_03	10	13	-	NC
004	BNP_SW_04	10	78	-	NC

"<" means "less than"; "mg/L" means "milligram per litre";

(09) Total Iron (Fe)

Test Method: Acid Digestion with ICP analysis

Sample ID	Ref. Sample ID	Substance name	CAS No.	Detection limit, mg/L	Result, mg/L	Requirement, mg/L	Comment
001	BNP_SW_01	Iron (Fe)	7439-89-6	0.5	5.7	-	NC
002	BNP_SW_02	Iron (Fe)	7439-89-6	0.5	<0.5	-	NC
003	BNP_SW_03	Iron (Fe)	7439-89-6	0.5	1.3	-	NC
004	BNP_SW_04	Iron (Fe)	7439-89-6	0.5	12.5	-	NC

"<" means "less than"; "mg/L" means "milligram per litre";

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TEST REPORT NO : 1001455621

Feb.15,2022

UL ORDER NO : 14206491

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Applicant : DEVELOPMENT SOLUTIONS CONSULTANT LIMITED
Address : HOUSE-734, 1-A, ROAD-10, AVENUE-4, DOHS MIRPUR, DHAKA-1218, BANGLADESH

Test Date : Feb.8 - 15,2022

Contact Person : MD. MASHIUR RAJIMAN

Sample Description: SOIL SAMPLES

Testing Protocol: Self Reference

Project Name: ESIA Study for the Development of Benapole Land Port under BBIN MPA Program

Sample ID: BNP_SL_01, BNP_SL_02, BNP_SL_03, BNP_SL_04

Source: Soil Samples from the site

Sample Information :

Sample ID	Description	Equivalent Code / Color
001	SOIL SAMPLE	BNP_SL_01
002	SOIL SAMPLE	BNP_SL_02
003	SOIL SAMPLE	BNP_SL_03
004	SOIL SAMPLE	BNP_SL_04

For and on behalf of
 UL VS Bangladesh Ltd.

Md. Nur Alam – Lab Technical & Operations Manager

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TEST	Sample ID			
	001	002	003	004
pH Value	NC	NC	NC	NC
Sulphide (SO ₄)	NC	NC	NC	NC
Nitrate (NO ₃)	NC	NC	NC	NC
Total Iron (Fe)	NC	NC	NC	NC
Total Manganese(Mn)	NC	NC	NC	NC
Total Lead (Pb)	NC	NC	NC	NC
Total Zinc (Zn)	NC	NC	NC	NC
Total Potassium (K)	NC	NC	NC	NC

Note: P = Pass ; F = Fail ; NC = No Comment ; NA = Not Applicable ; ** = test result(s) will be added later

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(01) pH Value

Test Method: With reference USEPA 9045 D

Sample ID	Ref. Sample ID	Result	Requirement	Comment
001	BNP_SL_01	7.0	-	NC
002	BNP_SL_02	7.9	-	NC
003	BNP_SL_03	7.4	-	NC
004	BNP_SL_04	8.1	-	NC

(02) Sulphate (SO₄)

Test Method: Analysis by Photometric Method

Sample ID	Ref. Sample ID	Detection limit, mg/kg	Result, mg/kg	Requirement, mg/kg	Comment
001	BNP_SL_01	10	249	-	NC
002	BNP_SL_02	10	621	-	NC
003	BNP_SL_03	10	472	-	NC
004	BNP_SL_04	10	498	-	NC

"<" means "less than" ; "mg/kg" means "milligram per kilogram;"

(03) Nitrate (NO₃)

Test Method: With reference APHA/SM 4500N-C

Sample ID	Ref. Sample ID	Detection limit, mg/kg	Result, mg/kg	Requirement, mg/kg	Comment
001	BNP_SL_01	5	<5	-	NC
002	BNP_SL_02	5	<5	-	NC
003	BNP_SL_03	5	<5	-	NC
004	BNP_SL_04	5	<5	-	NC

"<" means "less than" ; "mg/kg" means "milligram per kilogram;"

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(04) Total Iron (Fe)

Test Method: Acid Digestion with ICP analysis

Sample ID	Ref. Sample ID	Substance name	CAS No.	Detection limit, mg/kg	Result, mg/kg	Requirement, mg/kg	Comment
001	BNP_SL_01	Iron (Fe)	7439-89-6	10	21468	-	NC
002	BNP_SL_02	Iron (Fe)	7439-89-6	10	27699	-	NC
003	BNP_SL_03	Iron (Fe)	7439-89-6	10	22016	-	NC
004	BNP_SL_04	Iron (Fe)	7439-89-6	10	39178	-	NC

"<" means "less than" ; "mg/kg" means "milligram per kilogram"

(05) Total Manganese(Mn)

Test Method: Acid Digestion with ICP analysis

Sample ID	Ref. Sample ID	Substance name	CAS No.	Detection limit, mg/kg	Result, mg/kg	Requirement, mg/kg	Comment
001	BNP_SL_01	Manganese (Mn)	7439-96-5	10	203	-	NC
002	BNP_SL_02	Manganese (Mn)	7439-96-5	10	251	-	NC
003	BNP_SL_03	Manganese (Mn)	7439-96-5	10	251	-	NC
004	BNP_SL_04	Manganese (Mn)	7439-96-5	10	322	-	NC

"<" means "less than" ; "mg/kg" means "milligram per kilogram"

(06) Total Lead (Pb)

Test Method: Acid Digestion with ICP analysis

Sample ID	Ref. Sample ID	Substance name	CAS No.	Detection limit, mg/kg	Result, mg/kg	Requirement, mg/kg	Comment
001	BNP_SL_01	Lead (Pb)	7439-92-1	5	9	-	NC
002	BNP_SL_02	Lead (Pb)	7439-92-1	5	13	-	NC
003	BNP_SL_03	Lead (Pb)	7439-92-1	5	10	-	NC
004	BNP_SL_04	Lead (Pb)	7439-92-1	5	17	-	NC

"<" means "less than" ; "mg/kg" means "milligram per kilogram"

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Feb.15,2022

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(07) Total Zinc (Zn)

Test Method: Acid Digestion with ICP analysis

Sample ID	Ref. Sample ID	Substance name	CAS No.	Detection limit, mg/kg	Result, mg/kg	Requirement, mg/kg	Comment
001	BNP_SL_01	Zinc (Zn)	7440-66-6	10	46	-	NC
002	BNP_SL_02	Zinc (Zn)	7440-66-6	10	63	-	NC
003	BNP_SL_03	Zinc (Zn)	7440-66-6	10	52	-	NC
004	BNP_SL_04	Zinc (Zn)	7440-66-6	10	90	-	NC

*"<" means "less than"; "mg/kg" means "milligram per kilogram"

(08) Total Potassium (K)

Test Method: Acid Digestion with ICP analysis

Sample ID	Ref. Sample ID	Substance name	CAS No.	Detection limit, mg/kg	Result, mg/kg	Requirement, mg/kg	Comment
001	BNP_SL_01	Potassium (K)	7440-09-7	10	2559	-	NC
002	BNP_SL_02	Potassium (K)	7440-09-7	10	4395	-	NC
003	BNP_SL_03	Potassium (K)	7440-09-7	10	4396	-	NC
004	BNP_SL_04	Potassium (K)	7440-09-7	10	4892	-	NC

*"<" means "less than"; "mg/kg" means "milligram per kilogram"

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Feb.15,2022

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b) Bhomra Land Port



Development Solutions Consultant Limited

Multidisciplinary Development Consultants

DSCCL Environmental Laboratory

Name of the Project	ESIA Study for the Development of Bhomra Land port Under ACCESS MPA Program
Description of Sample	AAQ_01 (22.668936°N, 88.953248°E)
Sampling Location	Beside BGB Camp
Sample Collector	Collected by DSCCL Personnel
Sampling Date	20 January 2022

Test Result of Ambient Air Quality Analysis

Parameter	Unit	AAQ_01		Bangladesh Standard**	Project Standards (DWSN:P)***	Duration (hours)	Method of Analysis
		22.668936°N 88.953248°E	Beside BGB Camp				
PM _{2.5}	µg/m ³	56.2		65	25	24	AEROQUAL Series 500 Particulate matter monitors Gravimetric
PM ₁₀	µg/m ³	105.32		150	50	24	
SO ₂	µg/m ³	65.3		365	20	24	AEROQUAL Series 500 SO _x monitor
NO _x	µg/m ³	49.65		100	200	Annual	AEROQUAL Series 500 NO _x monitor
CO*	ppm	2		10	8	8	CO meter
O ₃	µg/m ³	38.93		157	100	8	AEROQUAL Series 500 O ₃ monitor
VOC	ppm	48.93		NYS	NYS	8	AEROQUAL Series 500 VOC monitor
Weather Condition	Sunny			-	-	-	-

DSCCL Environmental Laboratory, January 2022

**The Bangladesh National Ambient Air Quality Standards have been taken from the Environmental Conservation Rules, 1997 which was amended on 19th July 2005 vide S.R.O. No. 220-Law/2005

*CO concentrations and standards are 8-hourly only.

Location	Sample Site Description
Beside BGB Camp (AAQ_01)	<ul style="list-style-type: none"> ➤ Vehicle movement low ➤ People movement high ➤ Visible dust particle high


Test Performed By:
Pinon Nath
 Jr. Environmental Specialist




Checked By:
Saiful Islam Imran
 Deputy Manager

House# 734 (1-A), Road# 10, Avenue# 04, DOHS Mirpur Dhaka-1216, Bangladesh.
 Tel: +8809617035444; +8801822758548; Email: dscl@dsclbd.com Web: www.dsclbd.com





Development Solutions Consultant Limited

Multidisciplinary Development Consultants

DSCL Environmental Laboratory

Name of the Project	ESIA Study for the Development of Bhomra Land port Under ACCESS MPA Program
Description of Sample	AAQ_02 (26.669078°N, 88.958547°E)
Sampling Location	Near Sub-Director's Office
Sample Collector	Collected by DSCL Personnel
Sampling Date	22 January 2022

Test Result of Ambient Air Quality Analysis

Parameter	Unit	AAQ_02		Bangladesh Standard**	Project Standards (DWSNIP)***	Duration (hours)	Method of Analysis
		Near Sub-Director's Office	26.669078°N 88.958547°E				
PM _{2.5}	µg/m ³	57.59		65	25	24	AEROQUAL Series 500 Particulate matter monitors Gravimetric
PM ₁₀	µg/m ³	120.29		150	50	24	
SO ₂	µg/m ³	62.15		365	20	24	AEROQUAL Series 500 SO _x monitor
NO _x	µg/m ³	37.39		100	200	Annual	AEROQUAL Series 500 NO _x monitor
CO*	ppm	<2		10	8	8	CO meter
O ₃	µg/m ³	37.35		157	100	8	AEROQUAL Series 500 O ₃ monitor
VOC	ppm	51.72		NYS	NYS	8	AEROQUAL Series 500 VOC monitor
Weather Condition	Sunny			-	-	-	-

DSCL Environmental Laboratory, January 2022

**The Bangladesh National Ambient Air Quality Standards have been taken from the Environmental Conservation Rules, 1997 which was amended on 19th July 2005 vide S.R.O. No. 220-Law/2005

*CO concentrations and standards are 8 hourly only.

Location	Sample Site Description
Near Sub-Director's Office (AAQ_02)	<ul style="list-style-type: none"> ➤ Vehicle movement low ➤ People movement low ➤ Visible dust particle moderate


Test Performed By:
Pinon Nath
 Jr. Environmental Specialist




Checked By:
Saiful Islam Imran
 Deputy Manager





Development Solutions Consultant Limited

Multidisciplinary Development Consultants

DSCCL Environmental Laboratory

Name of the Project	ESIA Study for the Development of Bhomra Land port Under ACCESS MPA Program
Description of Sample	AAQ_03 (26.669707°N, 88.951576°E)
Sampling Location	Lakshmidari Bazar Area-West side
Sample Collector	Collected by DSCCL Personnel
Sampling Date	21 January 2022

Test Result of Ambient Air Quality Analysis

Parameter	Unit	AAQ_03	Bangladesh Standard**	Project Standards (DWSNIP)***	Duration (hours)	Method of Analysis
		Lakshmidari Bazar Area-West side 26.669707°N, 88.951576°E				
PM _{2.5}	µg/m ³	43.77	65	25	24	AEROQUAL Series 500 Particulate matter monitors Gravimetric
PM ₁₀	µg/m ³	88.94	150	50	24	AEROQUAL Series 500 SO _x monitor
SO ₂	µg/m ³	35.73	365	20	24	AEROQUAL Series 500 NO _x monitor
NO _x	µg/m ³	39.43	100	200	Annual	AEROQUAL Series 500 VOC monitor
CO*	ppm	<1	10	8	8	CO meter
O ₃	µg/m ³	38.75	157	100	8	AEROQUAL Series 500 O ₃ monitor
VOC	ppm	32.71	NYS	NYS	8	AEROQUAL Series 500 VOC monitor
Weather Condition	Cloudy		-	-	-	-

DSCCL Environmental Laboratory, January 2022

**The Bangladesh National Ambient Air Quality Standards have been taken from the Environmental Conservation Rules, 1997 which was amended on 19th July 2005 vide S.R.O. No. 220-Law/2005

*CO concentrations and standards are 8-hourly only.

Location	Sample Site Description
Near Sub-Director's Office (AAQ_03)	<ul style="list-style-type: none"> ➤ Vehicle movement high ➤ People movement low ➤ Visible dust particle high

P.Nath
Test Performed By:
Pinon Nath
Jr. Environmental Specialist



Saiful Islam Imran
Checked By:
Saiful Islam Imran
Deputy Manager

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DSCCL Environmental Laboratory

Name of the Project	ESIA Study for the Development of Bhomra Land port Under ACCESS MPA Program
Description of Sample	AAQ_04 (26.668011°N, 88.956165°E)
Sampling Location	Near C&F Agent Association
Sample Collector	Collected by DSCCL Personnel
Sampling Date	23 January 2022

Test Result of Ambient Air Quality Analysis

Parameter	Unit	AAQ_04	Bangladesh Standard**	Project Standards (DWSNIP)**	Duration (hours)	Method of Analysis
		Near C&F Agent Association 26.668011°N 88.956165°E				
PM _{2.5}	µg/m ³	35.41	65	25	24	AEROQUAL Series 500 Particulate matter monitors Gravimetric
PM ₁₀	µg/m ³	73.73	150	50	24	
SO ₂	µg/m ³	41.55	365	20	24	AEROQUAL Series 500 SO _x monitor
NO _x	µg/m ³	43.66	100	200	Annual	AEROQUAL Series 500 NO _x monitor
CO*	ppm	<1	10	8	8	CO meter
O ₃	µg/m ³	36.73	157	100	8	AEROQUAL Series 500 O ₃ monitor
VOC	ppm	41.52	NYS	NYS	8	AEROQUAL Series 500 VOC monitor
Weather Condition	Cloudy		-	-	-	-

DSCCL Environmental Laboratory, January 2022

**The Bangladesh National Ambient Air Quality Standards have been taken from the Environmental Conservation Rules, 1997 which was amended on 19th July 2005 vide S.R.O. No. 220-Law/2005

*CO concentrations and standards are 8-hourly only.

Location	Sample Site Description
Near C&F Agent Association (AAQ_04)	<ul style="list-style-type: none"> ➤ Vehicle movement high ➤ People movement low ➤ Visible dust particle high

Pinon Nath
Test Performed By:
Pinon Nath
 Jr. Environmental Specialist



Saiful Islam Imran
Checked By:
Saiful Islam Imran
 Deputy Manager

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DSCCL Environmental Laboratory

Name of the Project	ESIA Study for the Development of Bhomra Land port Under ACCESS MPA Program
Description of Sample	AAQ_05 (26.670193°N, 88.955699°E)
Sampling Location	Lakshmidari bazar-East side
Sample Collector	Collected by DSCCL Personnel
Sampling Date	21 January 2022

Test Result of Ambient Air Quality Analysis

Parameter	Unit	AAQ_05	Bangladesh Standard**	Project Standards (DWSNIP)***	Duration (hours)	Method of Analysis
		Lakshmidari bazar-East side 26.670193°N 88.955699°E				
PM _{2.5}	µg/m ³	35.37	65	25	24	AEROQUAL Series 500 Particulate matter monitors Gravimetric
PM ₁₀	µg/m ³	70.77	150	50	24	
SO ₂	µg/m ³	29.39	365	20	24	AEROQUAL Series 500 SO _x monitor
NO _x	µg/m ³	36.33	100	200	Annual	AEROQUAL Series 500 NO _x monitor
CO*	ppm	<1	10	8	8	CO meter
O ₃	µg/m ³	37.44	157	100	8	AEROQUAL Series 500 O ₃ monitor
VOC	ppm	44.81	NYS	NYS	8	AEROQUAL Series 500 VOC monitor
Weather Condition	Sunny		-	-	-	-

DSCCL Environmental Laboratory, January 2022

**The Bangladesh National Ambient Air Quality Standards have been taken from the Environmental Conservation Rules, 1997 which was amended on 19th July 2005 vide S.R.O. No. 220-Law/2005

*CO concentrations and standards are 8-hourly only.

Location	Sample Site Description
Lakshmidari bazar-East side (AAQ_05)	<ul style="list-style-type: none"> ➤ Vehicle movement low ➤ People movement low ➤ Visible dust particle high

Pinon Nath
Test Performed By:
Pinon Nath
 Jr. Environmental Specialist



Saiful Islam Imran
Checked By:
Saiful Islam Imran
 Deputy Manager

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Name of the Project	ESIA Study for the Development of Bhomra Land port Under ACCESS MPA Program
Description of Sample	Noise Level Measurement
Sampling Location	Near Sub-Director's Office
Sample Collector	Collected by DSCL Personnel
Sampling Date	20 January 2022 to 26 January 2022

Noise Level Analysis

Sample ID	Sample Location	GPS Location	Land Use Category	Day Time		Noise Level (dBA) (LAeq)	Night Time		Noise Level (dBA) (LAeq)
				Start	End		Start	End	
NM_01	Beside BGB Camp	22.688936°N 88.953248°E	Commercial	11:00 am	12:00 pm	59.2	09:45 pm	10:45 pm	48.78
NM_02	Near Sub-Director's Office	22.669078°N 88.958541°E	Commercial	10:40 am	11:40 am	55.9	10:20 Pm	11:20 Pm	48.80
NM_03	Lakshmidari Bazar Area- West side	22.669707°N 88.951570°E	Residential	10:57 am	11:57 am	51.2	09:10 Pm	10:10 Pm	40.15
NM_04	Infront of 2nd gate of Land port	22.669076°N 88.950726°E	Commercial	01:16 pm	02:16 pm	62.3	10:15 pm	11:15 pm	41.02
NM_05	Near C&F Agent Association	22.668011°N 88.956165°E	Commercial	10:05 am	11:05 am	50.3	10:08 pm	11:08 pm	47.6
NM_06	Lakshmidari bazar-East side	22.670193°N 88.955699°E	Residential	09:50 am	10:50 am	46.3	09:15 Pm	10:15 Pm	39.5
NM_07	Lakshmidari Middle	22.670162°N 88.954514°E	Residential	11:15 am	12:15 pm	48.1	10:20 Pm	11:20 Pm	35.1
NM_08	Bhomra Purba Para	22.667680°N 88.958818°E	Residential	10:05 am	11:05 am	53.5	09:03 Pm	10:03 Pm	37.5
NM_09	Infront of Near C&F Agent Association	22.668764°N 88.954891°E	Commercial	11:20 am	12:20 pm	60.7	09:14 Pm	10:14 Pm	50.1
NM_10	BGB Checkpost	22.669308°N 88.947779°E	Mixed Area	10:10 am	11:10 am	56.5	09:15 pm	10:15 pm	45.4

Notes:

- Land use category is based on the classification provided in the Noise Pollution Control Rules (2006)
- Shaded cell indicates noise levels in excess of Noise Pollution Control Rules ambient noise limits for a given land use area
- The sound level standards for commercial area are 70 at day and 60 at night.
- The sound level standards for residential area are 55 at day and 45 at night.
- Noise Level is the average noise recorded over the duration of the monitoring period

Abbreviation: NM- Noise Measurement; dB- decibel; NGF- Narsindi Gas Field; TGF – Titus Gas Field



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Location	Sample Site Description
NM_01 Beside BGB Camp	<ul style="list-style-type: none"> ➤ Traffic volume high ➤ People movement high ➤ Near truck parking area
NM_02 Near Sub-Director's Office	<ul style="list-style-type: none"> ➤ Traffic volume moderate ➤ People movement low ➤ Commercial area
NM_03 Lakshmidari Bazar Area-West side	<ul style="list-style-type: none"> ➤ Traffic volume low ➤ People movement low ➤ Residential area
NM_04 Infront of 2nd gate of Land port	<ul style="list-style-type: none"> ➤ Vehicle movement high ➤ People movement high ➤ Commercial area
NM_05 Near C&F Agent Association	<ul style="list-style-type: none"> ➤ Traffic volume low ➤ People movement low
NM_06 Lakshmidari bazar-East side	<ul style="list-style-type: none"> ➤ Traffic volume low ➤ People movement low ➤ Residential area
NM_07 Lakshmidari Middle	<ul style="list-style-type: none"> ➤ Traffic volume low ➤ People movement low ➤ Residential area
NM_08 Bhomra Purba Para	<ul style="list-style-type: none"> ➤ Traffic volume moderate ➤ People movement moderate ➤ Residential area
NM_09 Infront of Near C&F Agent Association	<ul style="list-style-type: none"> ➤ People movement high in the roadside area. ➤ Traffic volume high ➤ Commercial area
NM_10 BGB Checkpost	<ul style="list-style-type: none"> ➤ Traffic volume high ➤ People movement moderate ➤ Mixed area

Test Performed By:
Bappy Rahman
Office Engineer



Checked By:
Saiful Islam Imran
Deputy Manager

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DSCL Environmental Laboratory

Name of the Project	ESIA Study for the Development of Bhomra Land port Under ACCESS MPA Program
Description of Sample	Surface water quality
Sample Collector	Collected by DSCL Personnel
Sampling Date	21 January 2022

Surface water quality Analysis (Onsite)

Parameters	Unit	SW_01	SW_02	SW_03	Standards for Inland Surface Water** (best fishing practice)	Analysis Method
		22.668807°N, 88.958930°E Pond Water, Bhomra Parba Para	22.570770°N, 88.951064°E Pond Water, Lakshmidari village	22.670309°N, 88.954888°E Pond Water, Lakshmidari village (Last side)		
pH*	-	8.98	8.18	8.4	6.5-8.5	Multimeter
Temperature	°C	21.9	22.6	22.2	20-30	Multimeter
Electricity Conductivity	µs/cm	14.44	14.21	14.38	NYS	Multimeter
Salinity		8.5	8.36	8.37		Multimeter
Dissolved Oxygen (DO)	mg/l	3.4	8.2	7.5	5 or more	DO Meter
Total Dissolved Solids (TDS)*	mg/l	9.50	9.36	9.45	NYS	Multimeter
Oxidation-Reduction Potential (ORP)	mg/l	-132.5	-141.4	-100.9	NYS	Multimeter

Note:

** The standard for inland surface water have been taken from the Environmental conservation rules, 1997 which was amended on 19 July 2005 S.R.O. No. 220-Law/2005.

NYS: Not Yet Standardized

Pinon Nath
Test Performed By:
Pinon Nath
 Jr. Environmental Specialist



Saiful Islam Imran
Checked By:
Saiful Islam Imran
 Deputy Manager

House# 734 (1-A), Road# 10, Avenue# 04, DOHS Mirpur Dhaka-1216, Bangladesh.
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Development Solutions Consultant Limited

Multidisciplinary Development Consultants

DSCL Environmental Laboratory

Name of the Project	ESIA Study for the Development of Bhomra Land port Under ACCESS MPA Program
Description of Sample	Ground water quality
Sample Collector	Collected by DSCL Personnel
Sampling Date	21 January 2022

Ground water quality Analysis (Onsite)

Parameters	Unit	GW_01	GW_02	GW_03	Standards for Ground Water**	Analysis Method
		22.669057°N, 88.958888°E	22.669389°N 88.950992°E	22.669629°N 88.958934°E		
		Tube well Water	Tube well Water	Tube well Water		
		Bhomra Purba Para	Lakshmidari Bazar	Near BGB Camp		
		Established 2019	Established 2014	Established 2017		
		Depth: 30 feet	Depth: 600 Feet	Depth: 150 Feet		
pH*	-	7.22	7.44	8.65	6.5-8.5	Multimeter
Temperature	* Celsius	22.5	24.8	26.5	20-30	Multimeter
Electricity Conductivity		14.23	13.6	365	NYS	Multimeter
Salinity		8.37	7.99	174		Multimeter
Total Dissolved Solids (TDS)*	mg/l	9.38	8.98	230	1000	Multimeter
Oxidation-Reduction Potential (ORP)	mg/l	48	-50.2	-84.2		Multimeter

Note:

** The standard for inland surface water have been taken from the Environmental conservation rules, 1997 which was amended on 19 July 2005 S.R.O. No. 220-Law/2005.

NYS: Not Yet Standardized


Test Performed By:
Bappy Rahman
 Office Engineer




Checked By:
Saiful Islam Imran
 Deputy Manager

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TEST REPORT NO : 1001455686

Feb.15,2022

UL ORDER NO : 14206486

Page : 1 of 5

Applicant : DEVELOPMENT SOLUTIONS CONSULTANT LIMITED **Test Date :** Feb.5 - 15,2022
Address : HOUSE-734, 1-A, ROAD-10, AVENUE-4, DOHS MIRPUR, DHAKA-1216, BANGLADESH

Contact Person : MD. MASHIUR RAHMAN

Sample Description: SOIL SAMPLES

Testing Protocol: Self-Reference

Project Name: ESIA Study for the Development of Bhomra Land Port under BBIN MPA Program

Sample ID: BHOM_SL_01, BHOM_SL_02, BHOM_SL_03

Source: Soil Samples from the site

Sample Information :

Sample ID	Description	Equivalent Code / Color
001	SOIL SAMPLE	BHOM_SL_01
002	SOIL SAMPLE	BHOM_SL_02
003	SOIL SAMPLE	BHOM_SL_03

For and on behalf of
 UL VS Bangladesh Ltd.

Md. Nur Alam – Lab Technical & Operations Manager

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TEST	Sample ID		
	001	002	003
pH Value	NC	NC	NC
Sulphide (SO ₄)	NC	NC	NC
Nitrate (NO ₃)	NC	NC	NC
Total Iron (Fe)	NC	NC	NC
Total Manganese(Mn)	NC	NC	NC
Total Lead (Pb)	NC	NC	NC
Total Zinc (Zn)	NC	NC	NC
Total Potassium (K)	NC	NC	NC

Note: P = Pass ; F = Fail ; NC = No Comment ; NA = Not Applicable ; ** = test result(s) will be added later

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(01) pH Value

Test Method: With reference USEPA 9045 D

Sample ID	Ref. Sample ID	Result	Requirement	Comment
001	BHOM_SL_01	8.2	-	NC
002	BHOM_SL_02	8.2	-	NC
003	BHOM_SL_03	7.8	-	NC

(02) Sulphate (SO₄)

Test Method: Analysis by Photometric Method

Sample ID	Ref. Sample ID	Detection limit, mg/kg	Result, mg/kg	Requirement, mg/kg	Comment
001	BHOM_SL_01	10	1171	-	NC
002	BHOM_SL_02	10	597	-	NC
003	BHOM_SL_03	10	748	-	NC

"<" means "less than" ; "mg/kg" means "milligram per kilogram;"

(03) Nitrate (NO₃)

Test Method: With reference APHA/SM 4500N-C

Sample ID	Ref. Sample ID	Detection limit, mg/kg	Result, mg/kg	Requirement, mg/kg	Comment
001	BHOM_SL_01	5	<5	-	NC
002	BHOM_SL_02	5	<5	-	NC
003	BHOM_SL_03	5	<5	-	NC

"<" means "less than" ; "mg/kg" means "milligram per kilogram;"

(04) Total Iron (Fe)

Test Method: Acid Digestion with ICP analysis

Sample ID	Ref. Sample ID	Substance name	CAS No.	Detection limit, mg/kg	Result, mg/kg	Requirement, mg/kg	Comment
001	BHOM_SL_01	Iron (Fe)	7439-89-6	10	28819	-	NC
002	BHOM_SL_02	Iron (Fe)	7439-89-6	10	24076	-	NC
003	BHOM_SL_03	Iron (Fe)	7439-89-6	10	31849	-	NC

"<" means "less than" ; "mg/kg" means "milligram per kilogram"

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(05) Total Manganese(Mn)

Test Method: Acid Digestion with ICP analysis

Sample ID	Ref. Sample ID	Substance name	CAS No.	Detection limit, mg/kg	Result, mg/kg	Requirement, mg/kg	Comment
001	BHOM_SL_01	Manganese (Mn)	7439-96-5	10	360	-	NC
002	BHOM_SL_02	Manganese (Mn)	7439-96-5	10	342	-	NC
003	BHOM_SL_03	Manganese (Mn)	7439-96-5	10	384	-	NC
"<" means "less than"; "mg/kg" means "milligram per kilogram"							

(06) Total Lead (Pb)

Test Method: Acid Digestion with ICP analysis

Sample ID	Ref. Sample ID	Substance name	CAS No.	Detection limit, mg/kg	Result, mg/kg	Requirement, mg/kg	Comment
001	BHOM_SL_01	Lead (Pb)	7439-92-1	5	10	-	NC
002	BHOM_SL_02	Lead (Pb)	7439-92-1	5	10	-	NC
003	BHOM_SL_03	Lead (Pb)	7439-92-1	5	12	-	NC
"<" means "less than"; "mg/kg" means "milligram per kilogram"							

(07) Total Zinc (Zn)

Test Method: Acid Digestion with ICP analysis

Sample ID	Ref. Sample ID	Substance name	CAS No.	Detection limit, mg/kg	Result, mg/kg	Requirement, mg/kg	Comment
001	BHOM_SL_01	Zinc (Zn)	7440-66-6	10	52	-	NC
002	BHOM_SL_02	Zinc (Zn)	7440-66-6	10	54	-	NC
003	BHOM_SL_03	Zinc (Zn)	7440-66-6	10	69	-	NC
"<" means "less than"; "mg/kg" means "milligram per kilogram"							

(08) Total Potassium (K)

Test Method: Acid Digestion with ICP analysis

Sample ID	Ref. Sample ID	Substance name	CAS No.	Detection limit, mg/kg	Result, mg/kg	Requirement, mg/kg	Comment
001	BHOM_SL_01	Potassium (K)	7440-09-7	10	3051	-	NC
002	BHOM_SL_02	Potassium (K)	7440-09-7	10	3996	-	NC
003	BHOM_SL_03	Potassium (K)	7440-09-7	10	6189	-	NC
"<" means "less than"; "mg/kg" means "milligram per kilogram"							

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TEST REPORT NO : 1001445332

Jan.31,2022

UL ORDER NO : 14192980

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Applicant : DEVELOPMENT SOLUTIONS CONSULTANT LIMITED **Test Date :** Jan.25 -31, 2022
Address : HOUSE-734, 1-A, ROAD-10, AVENUE-4, DOHS MIRPUR, DHAKA-1216, BANGLADESH

Contact Person : MD. MASHIUR RAHMAN

Sample Description: SURFACE WATER

Testing Protocol: Self-Reference

Project Name: ESIA Study for the Development of Bhomra Land Port under BBIN MPA Program

Sample ID: BHOM_SW_01, BHOM_SW_02, BHOM_SW_03

Source: Surface Water Samples from the site

Sample Information :

Sample ID	Description	Equivalent Code / Color
001	SURFACE WATER SAMPLE	BHOM_SW_01
002	SURFACE WATER SAMPLE	BHOM_SW_02
003	SURFACE WATER SAMPLE	BHOM_SW_03

For and on behalf of
 UL VS Bangladesh Ltd.

Md. Nur Alam – Lab Technical & Operations Manager

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TEST	Sample ID		
	001	002	003
Total Suspended Solid (TSS)	NC	NC	NC
Chemical Oxygen Demand (COD)	NC	NC	NC
Biological Oxygen Demand (BOD) (5-day)	NC	NC	NC
Phosphate (PO ₄)	NC	NC	NC
Turbidity	NC	NC	NC
Oil & Grease	NC	NC	NC
Chloride (Cl)	NC	NC	NC
Sulphate (SO ₄)	NC	NC	NC
Total Iron (Fe)	NC	NC	NC

Note: P = Pass ; F = Fail ; NC = No Comment ; NA = Not Applicable ; ** = test result(s) will be added later

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(01) Total Suspended Solid (TSS)

Test Method: With reference APHA/SM 2540D

Sample ID	Ref. Sample ID	Detection limit, mg/L	Result, mg/L	Requirement, mg/L	Comment
001	BHOM_SW_01	5	59	-	NC
002	BHOM_SW_02	5	308	-	NC
003	BHOM_SW_03	5	73	-	NC

"<" means "less than" ; "mg/L" means "milligram per litre";

(02) Chemical Oxygen Demand (COD)

Test Method: With reference APHA/SM 5220D

Sample ID	Ref. Sample ID	Detection limit, mg/L	Result, mg/L	Requirement, mg/L	Comment
001	BHOM_SW_01	5	42	-	NC
002	BHOM_SW_02	5	77	-	NC
003	BHOM_SW_03	5	52	-	NC

"<" means "less than" ; "mg/L" means "milligram per litre";

(03) Biological Oxygen Demand (BOD) (5-day)

Test Method: With reference APHA/SM 5210B

Sample ID	Ref. Sample ID	Detection limit, mg/L	Result, mg/L	Requirement, mg/L	Comment
001	BHOM_SW_01	2	11	-	NC
002	BHOM_SW_02	2	14	-	NC
003	BHOM_SW_03	2	13	-	NC

"<" means "less than" ; "mg/L" means "milligram per litre";

(04) Phosphate (PO₄)

Test Method: Analysis by Photometric Method

Sample ID	Ref. Sample ID	Detection limit, mg/L	Result, mg/L	Requirement, mg/L	Comment
001	BHOM_SW_01	0.1	0.43	-	NC
002	BHOM_SW_02	0.1	0.22	-	NC
003	BHOM_SW_03	0.1	0.39	-	NC

"<" means "less than" ; "mg/L" means "milligram per litre";

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(05) Turbidity

Test Method: With reference Nephelometric

Sample ID	Ref. Sample ID	Detection limit, NTU	Result, NTU	Requirement, NTU	Comment
001	BHOM_SW_01	5	6.18	-	NC
002	BHOM_SW_02	5	25.1	-	NC
003	BHOM_SW_03	5	49.5	-	NC

(06) Oil & Grease

Test Method: With reference USEPA 1664

Sample ID	Ref. Sample ID	Detection limit, mg/L	Result, mg/L	Requirement, mg/L	Comment
001	BHOM_SW_01	0.5	<0.5	-	NC
002	BHOM_SW_02	0.5	<0.5	-	NC
003	BHOM_SW_03	0.5	<0.5	-	NC

"<" means "less than" ; "mg/L" means "milligram per litre" ;

(07) Chloride (Cl)

Test Method: Analysis by Titrimetric Method

Sample ID	Ref. Sample ID	Detection limit, mg/L	Result, mg/L	Requirement, mg/L	Comment
001	BHOM_SW_01	10	15.0	-	NC
002	BHOM_SW_02	10	12.5	-	NC
003	BHOM_SW_03	10	12.5	-	NC

"<" means "less than" ; "mg/L" means "milligram per litre" ;

(08) Sulphate (SO₄)

Test Method: Analysis by Photometric Method

Sample ID	Ref. Sample ID	Detection limit, mg/L	Result, mg/L	Requirement, mg/L	Comment
001	BHOM_SW_01	10	22	-	NC
002	BHOM_SW_02	10	24	-	NC
003	BHOM_SW_03	10	45	-	NC

"<" means "less than" ; "mg/L" means "milligram per litre" ;

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(09) Total Iron (Fe)

Test Method: Acid Digestion with ICP analysis

Sample ID	Ref. Sample ID	Substance name	CAS No.	Detection limit, mg/L	Result, mg/L	Requirement, mg/L	Comment
001	BHOM_SW_01	Iron (Fe)	7439-89-6	0.5	0.32	-	NC
002	BHOM_SW_02	Iron (Fe)	7439-89-6	0.5	5.3	-	NC
003	BHOM_SW_03	Iron (Fe)	7439-89-6	0.5	2.6	-	NC

* < means "less than" ; *mg/L* means "milligram per litre,"

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TEST REPORT NO : 1001445361

Feb.1,2022

UL ORDER NO : 14192987

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Applicant : DEVELOPMENT SOLUTIONS CONSULTANT LIMITED **Test Date :** Jan.25 – Feb.1,2022
Address : HOUSE-734, 1-A, ROAD-10, AVENUE-4, DOHS MIRPUR, DHAKA-1216, BANGLADESH

Contact Person : MD. MASHIUR RAHMAN

Sample Description: GROUNDWATER

Testing Protocol: Self-Reference

Project Name: ESIA Study for the Development of Bhomra Land Port under BBIN MPA Program

Sample ID: BHOM_GW_01, BHOM_GW_02, BHOM_GW_03

Source: Groundwater Samples from the site

Sample Information :

Sample ID	Description	Equivalent Code / Color
001	GROUNDWATER SAMPLE	BHOM_GW_01
002	GROUNDWATER SAMPLE	BHOM_GW_02
003	GROUNDWATER SAMPLE	BHOM_GW_03

For and on behalf of
 UL VS Bangladesh Ltd.

Md. Nur Alam – Lab Technical & Operations Manager

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TEST	Sample ID		
	001	002	003
Chloride (Cl)	NC	NC	NC
Phosphate (PO ₄)	NC	NC	NC
Nitrate (NO ₃)	NC	NC	NC
Color	NC	NC	NC
Odor	NC	NC	NC
Total Coliform (TC) *	NC	NC	NC
Faecal Coliform (FC) *	NC	NC	NC
Total Arsenic (As)	NC	NC	NC
Total Iron (Fe)	NC	NC	NC

Note: P = Pass ; F = Fail ; NC = No Comment ; NA = Not Applicable ; ** = test result(s) will be added later
 * Marked test was subcontracted to an ISO 17025 accredited laboratory.

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(01) Chloride (Cl)

Test Method: Analysis by Titrimetric Method

Sample ID	Ref. Sample ID	Detection limit, mg/L	Result, mg/L	Requirement, mg/L	Comment
001	BHOM_GW_01	10	30	-	NC
002	BHOM_GW_02	10	25	-	NC
003	BHOM_GW_03	10	25	-	NC

"<" means "less than" ; "mg/L" means "milligram per litre;"

(02) Phosphate (PO₄)

Test Method: Analysis by Photometric Method

Sample ID	Ref. Sample ID	Detection limit, mg/L	Result, mg/L	Requirement, mg/L	Comment
001	BHOM_GW_01	0.1	<0.1	-	NC
002	BHOM_GW_02	0.1	<0.1	-	NC
003	BHOM_GW_03	0.1	<0.1	-	NC

"<" means "less than" ; "mg/L" means "milligram per litre;"

(03) Nitrate (NO₃)

Test Method: With reference APHA/SM 4500N-C

Sample ID	Ref. Sample ID	Detection limit, mg/L	Result, mg/L	Requirement, mg/L	Comment
001	BHOM_GW_01	5	<5	-	NC
002	BHOM_GW_02	5	<5	-	NC
003	BHOM_GW_03	5	<5	-	NC

"<" means "less than" ; "mg/L" means "milligram per litre;"

(04) Color

Test Method: With reference ISO 7887 Method B

Sample ID	Ref. Sample ID	Detection limit (Hazen, Pt/Co Unit)	Result, (Hazen, Pt/Co Unit)	Requirement, (Hazen, Pt/Co Unit)	Comment
001	BHOM_GW_01	5	<5	-	NC
002	BHOM_GW_02	5	<5	-	NC
003	BHOM_GW_03	5	<5	-	NC

"<" means "less than" ;

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(05) Turbidity

Test Method: With reference Nephelometric

Sample ID	Ref. Sample ID	Detection limit, NTU	Result, NTU	Requirement, NTU	Comment
001	BHOM_SW_01	5	6.18	-	NC
002	BHOM_SW_02	5	25.1	-	NC
003	BHOM_SW_03	5	49.5	-	NC

(06) Oil & Grease

Test Method: With reference USEPA 1664

Sample ID	Ref. Sample ID	Detection limit, mg/L	Result, mg/L	Requirement, mg/L	Comment
001	BHOM_SW_01	0.5	<0.5	-	NC
002	BHOM_SW_02	0.5	<0.5	-	NC
003	BHOM_SW_03	0.5	<0.5	-	NC

* "<" means "less than" ; "mg/L" means "milligram per litre" ;

(07) Chloride (Cl)

Test Method: Analysis by Titrimetric Method

Sample ID	Ref. Sample ID	Detection limit, mg/L	Result, mg/L	Requirement, mg/L	Comment
001	BHOM_SW_01	10	15.0	-	NC
002	BHOM_SW_02	10	12.5	-	NC
003	BHOM_SW_03	10	12.5	-	NC

* "<" means "less than" ; "mg/L" means "milligram per litre" ;

(08) Sulphate (SO₄)

Test Method: Analysis by Photometric Method

Sample ID	Ref. Sample ID	Detection limit, mg/L	Result, mg/L	Requirement, mg/L	Comment
001	BHOM_SW_01	10	22	-	NC
002	BHOM_SW_02	10	24	-	NC
003	BHOM_SW_03	10	45	-	NC

* "<" means "less than" ; "mg/L" means "milligram per litre" ;

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(09) Total Iron (Fe)

Test Method: Acid Digestion with ICP analysis

Sample ID	Ref. Sample ID	Substance name	CAS No.	Detection limit, mg/L	Result, mg/L	Requirement, mg/L	Comment
001	BHOM_GW_01	Iron (Fe)	7439-89-6	0.5	<0.5	-	NC
002	BHOM_GW_02	Iron (Fe)	7439-89-6	0.5	<0.5	-	NC
003	BHOM_GW_03	Iron (Fe)	7439-89-6	0.5	0.5	-	NC

* < means "less than" ; *mg/L* means "milligram per litre,"

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Annex E: Summary of FGD and List of Attendees

a) Benapole Land Port

Issues discussed	Participants, Opinion, comments and suggestions
<p>The general perception about the project</p>	<p>Port Labor Union: They said that they knew about some projects but were unable to confirm whether it was ACCESS MPA or any other project. According to their information, plans are being developed to more than double the size of the present land port, with an additional 85 feet wide land along the parking road suggested for road development. There have already been 25 acres acquired for the chassis terminal, and a second letter of acquisition is in the process of being issued for additional 16 acres located to the south (Gatipara)</p> <p>Community elite persons: Participants in the discussion stated that they had not heard of such a project, but that a team from the Asian Development Bank (ADB) had come to this port to conduct a survey roughly 5/6 years ago. Some representatives from the Ministry of Trade and Commerce had visited to conduct interviews with the local people about port development and land acquisition.</p> <p>Female: They are not aware of the ACCESS MPA project, but they have heard from various sources that roadside land worth 65 feet in width will be acquired for the purpose of road extension. They want the government to take over the entire area, rather than just a few specific areas. As a result, they will be freed from their miserable existence.</p> <p>Male: There is a rumor spreading that the port road will be upgraded to a 6-lane thoroughfare. According to reports, the port will also acquire land from terminal gate no. 9 to Chassis Terminal for the purpose of expanding the existing port road. Furthermore, we are unaware of the specifics.</p>
<p>Advantages and Disadvantages (Who will directly be affected directly/indirectly)</p>	<p>Community elite persons: They believe that any port development project is a boon to the inhabitants of Benapole Land Port. Locals, on the other hand, will benefit if there is transparency and accountability in this type of development project. They claimed that the area on the south side of the scanning machine is near to the acid shed / TTI, and a boundary wall on the side of the road had made the residents' 'horrendous. They claimed that if the area is considered for acquisition, their suffering would be alleviated. Many problems, they believe, will arise if there is insufficient management in place throughout the project's construction phase.</p> <p>Female: Those of us who reside along boundary walls near terminal gate no. 9 will be benefited greatly from the project's impact. They will be relieved if this property is acquired in the interest of the project, and they are given the opportunity to live somewhere else. The families that live in this area are living inhumane lives along with the port walls on both sides. Furthermore, if the port develops, people who are directly connected to the port will benefit the most.</p> <p>Male: Residents of the Terminal para-area will be impacted in several different ways if their land is not included in the acquisition process. Congestion will worsen as more vehicles and workers will arrive during the project period. Increased criminal activity will arise because of such congestion. If the port is adequately developed, the area's source of income will increase significantly. The more people who visit this port, the more economic opportunities there are.</p>
<p>Impacts due to this project and how safe is the Environment for women and children</p>	<p>Community elite persons: The project will have no direct effect on women or children. The neighborhood's sorrow will be increased further by the temporary inconvenience created by the project activity nearby. However, if there are fewer restrictions on strolling in adjacent neighborhoods, women may face harassment from some of them.</p> <p>Female: When the initiative first gets underway, it doesn't appear to be a problem that only affects women and children. As a result, the environment in our neighborhood is safe for children and women. However, this location is a little less safe for the residents of the neighborhood who live near the port terminal's boundary walls. Because they are positioned directly across the street from the</p>

Issues discussed	Participants, Opinion, comments and suggestions
	<p>port's loading-unloading area and transport labor/port labors are constantly on the move in our neighborhood. They have reported sometimes, some of the Indian driver/Halper harass women.</p> <p>Male: The impact of the project will not be on women and children individually. The challenges that may develop because of the project's beginning are the same for all, women and children alike.</p>
<p>Incidents of violence/torture/sexual harassment of local women and female workers who works in Land port.</p>	<p>Community elite persons: There was no mention of sexual harassment, assault, or torture throughout the conversation.</p> <p>Female: There have been no reports of violence or abuse against women in the neighborhood, except for a few isolated incidents in the past.</p> <p>Male: This type of incidence has not occurred in our locality. Women are not subjected to any form of harassment.</p>
<p>Impact of non-local workers who will join these project activities and employment opportunities for Local workers to this project</p>	<p>Labor Union: They believe that if there is any development activity in the port and locals are given employment opportunities, the people's living standards will improve in this area. Because there are no suitable public restrooms or facilities in Benapole, workers urinate in public areas across the port area. Respondents believe that the free mobility of project related workers will jeopardize the area's security and environment. There should be some strong constraints on their freedom of movement, particularly in the current Corona pandemic, where spreading the virus is extremely dangerous.</p> <p>Community Elite Person: There is frequently conflict among the workers, but it never reaches the level of a faction. There may be a disagreement, but Labor leaders can work out a solution. There is, however, no considerable difference of opinion. This type of incident will remain quiet and steady if effective labor management is in place.</p> <p>Male: Almost all the people who work as workers in any project in the area are from other parts of the country. Because the tender owners hire people from their local community to work as laborers in such projects. Even within our own community, it is possible to give many workers for the project. Although some people previously had the option to work as laborers in the port, all the people who worked as construction workers were from outside the area. Most of the employees came from the surrounding areas of Jhenaidah, Pabna, and Sirajganj districts. Because of a lack of lobbying, local contractors do not have the opportunity to work on large-scale projects.</p> <p>Female: Contractors hire non-local laborers from various locations to work on the project. If they are not properly monetized, there is a considerable probability of illicit activity. Transport employees who travel to the Benapole port stay in hotels or inside trucks, particularly the transport workers. They dine at local Hotel establishments. Some people, particularly most Indian truck drivers, prepare their own food. The area's women never work as construction workers or in any other type of labor; instead, they earn a living by working in hotels and other people's homes.</p>
<p>Land Acquisition and compensation</p>	<p>Female: According to the participants, if their current residence is considered for acquisition for the sake of the port, it would be extremely helpful for them. People in this neighborhood near terminal gate no. 9 would benefit greatly if the government would acquire the entire area (adjacent to the Acid shed TTI residence).</p> <p>Community elite persons: In 2015 a team had come from ADB to get locals opinion about land acquisition for a project and they mentioned that 9.56 acre (adjacent to the acid /TTI shed) will be acquired for road extension, but this are not in operation yet. Residents of this area are trapped with no way out. It was necessary to break the port's boundary wall to make way for their road. The area around these buildings experience serious vibration while heavy metals are unloaded. This creates monstrous sound that causes even children to wake up in the middle of the night. The toxic water that was washed away with the rainwater</p>

Issues discussed	Participants, Opinion, comments and suggestions
	<p>and brought to the area has caused skin diseases. Almost everyone requested that the government take their land into consideration for port extension.</p> <p>Male: They will lose land of residence and cultivation when land is acquired. The port authority has already begun the process of acquiring 16 acres of land for the port, which has been ongoing for three years. They were mostly arable lands. The value of the land in question has been determined, but no one has been compensated as of yet. People here, on the other hand, will assist the government if proper compensation is paid for the project.</p>
<p>Perception about grievance resolving committee</p>	<p>Labor Union: According to them, there is no chance of a conflict occurring between local people and the workers from other places. Even if it's a minor issue, they generally resolve it by first discussing it amongst themselves.</p> <p>Community Elite Person: They had never heard of a grievance resolution committee before, but they suggested that if one exists, it should include community leaders, labor representatives, port officials, and other stakeholders.</p> <p>Male: The port authorities are responsible for resolving any disputes that may emerge in the project area. Furthermore, most of the time, labor problems are resolved by the contractors and labor leaders themselves.</p>
<p>Management of construction resources and Materials</p>	<p>Labor Union: All project supplies, such as bricks, sand, cement, rods, and so on, should be enclosed. Contractors must take appropriate precautions to ensure that these materials are properly maintained, and that frequent monitoring is conducted to ensure that the environment is not contaminated.</p> <p>Community Elite Person: It's best if supplies and materials are kept in a designated area within the project area. However, they have never seen these kept in the proper manner during port development work.</p> <p>Male: They claim that while working on the port, various items were kept in a disorganized state. Keeping these objects in this manner makes it harder for individuals to move, and it also increases the risk of injury or accident. In the port, there isn't enough space. When these resources are maintained in a certain location, it is common to notice that authorities must first rent the property and then use it. Furthermore, the location where the construction is being done may not have the ability or space to store the goods. So the contractor works by scattering the goods everywhere, on the roadside, on the sidewalks. But to reduce the cost, leaving the construction materials in such a messy condition increases the suffering of the common man.</p> <p>Female: The women participating in the discussion did not say anything in this regard.</p>
<p>Impact on Environment due to this project</p>	<p>Labor Union: All materials to be used in the project such as bricks, sand, cement, rods etc. should be enclosed. Contractors need to take proper steps to ensure that these materials are properly maintained and there should be regular monitoring so that the environment cannot be polluted.</p> <p>Community Elite Person: The environment may be polluted because of improper building material management. The presence of a large amount of dust in the air of this land port causes respiratory problems in the surrounding community. The amount of air pollution will rise if the project authority does not develop a plan to mitigate air pollution before the project construction operations begin. Furthermore, if chemicals are not properly packaged, water pollution will be increased.</p> <p>Male: During rainy days, harmful chemicals wash out into the neighborhood due to a lack of drainage, causing water pollution. As a result, infrastructure as well as human health are severely hampered.</p> <p>Female: The women participating in the discussion did not say anything in this regard.</p>

Issues discussed	Participants, Opinion, comments and suggestions
Educational Institutions	<p>Community Elite Person: In Benapole there are 2 High School, 6 Primary School, 9 Madrasha, 5/6 kindergarten, 1 College.</p> <p>Male: We have no educational institution in this village. There are some educational institutions to go to from Benapole Bazar to Navaran.</p> <p>Female: The quality of education in Benapole is not very satisfactory. Many of the students here go to Jessore, Dhaka to get quality education.</p>
Effect on ethnic group	<p>There are no ethnic group in Benapole, according to the locals.</p>
Damage of Educational/religious/cultural institutions or heritage sites	<p>No educational institution in the area is likely to be affected due to the project.</p>
Health care	<p>Labor Union: When asked about the availability of health services in the Benapole port area, the participants stated that there is no medical center in the immediate vicinity of the port. Locals must be transported to Navaran or Jessore Sadar Hospitals to get the medical support they require. People must remain on the road for an extended period of time as a result of severe traffic congestion. It goes without saying that the local authority is unconcerned about the medical facilities.</p> <p>Community Elite Person: They must rely on hospitals in Navaran, Jessore, or even Dhaka if they want to obtain medical attention. The medical facilities in this region are not very user-friendly, which is unfortunate. Several quacks and medicine shop proprietors give treatment for common maladies. In the event of an accident, they will have to move to Navaran or Jessore. Even in the existing port, there are no primary medical facilities available.</p> <p>Male: Except for a few quacks, there are no medical facilities in the Benapole area. If anyone needs medical assistance, they must travel to Navaran. Even if a worker sustains an injury while on the job, they are not provided with primary medical care in port. The sick individual must frequently remain on the road for an extended period to reach Navaran or Jessore, which is due to significant traffic congestion in the area. Furthermore, because of this activity, the patient's condition deteriorates further. Several accidents, including the death of a patient while a vehicle is delayed in traffic, are also brought up during their discussion.</p> <p>Female: There are only a few quacks in the neighborhood, and there is no certified doctor in the vicinity. They must travel to Navaran, Jessore, Khulna, or even Dhaka to receive proper medical attention. Patients have died while going to and from the hospital in a few instances, primarily because of the intense traffic congestion.</p>
Child marriage and Dowry system	<p>Female: Child marriage and dowry are presently at an all-time low. In some households, the practice of dowry is followed in the event of a marriage.</p> <p>Community Elite Person: Although it is hard to say that child marriages do not occur in this region, it is highly unlikely that they do. However, in recent years, it has decreased because of increased social awareness. There is no practice of dowry in their community as they said. Some families, however, may be able to assist the boy in earning a living if the girl's family is able to do so.</p> <p>Male: Child marriage is not permitted in our region. More importantly, the government is currently very rigorous in this regard. There is no practice of dowry in their region. Some families, however, may be able to assist the boy in earning a living if the girl's family is able to do so.</p>
Communication system	<p>Community Elite Person: People from the elite of the community claim that the communication system at Benapole is better than that of any other land port in Bangladesh. When there is a traffic gridlock, it can be a nightmare situation. Vehicles become immobilized for several hours or even days. If an alternative</p>

Issues discussed	Participants, Opinion, comments and suggestions
	<p>road cannot be constructed, the situation will deteriorate following the start of project development. Road accidents occur on a regular basis in this area.</p> <p>Male: They stated that their communication system is pretty good... There are local buses, auto-rickshaws, Mahindras, and other modes of transportation. However, a lot of traffic jams are generated here. When huge cargo cars arrive at the port, it becomes nearly impossible to move along this stretch of road in Navaran. And because Benapole is the busiest port in the country, this horrific traffic bottleneck occurs on a nearly daily basis there. To give the impression that there is no traffic jam when senior government officials arrive, the administration or the police providing their protocol removes all vehicles from the road and keeps the road clear, allowing the senior officials to come to the port and believe there is no traffic jam. However, we ordinary citizens are subjected to horrific traffic congestion daily. A detour from the truck terminal to the scanning machine, as well as a bypass from Shikri/Kharidanga Battala to Gatipara Central Mosque, which we can take to go to Benapole Road, are both necessary.</p> <p>Female: Even though the roads in the Benapole port area are in decent shape, traffic congestion is a major issue in this area. We also have a lot of difficulties getting out of the community in where we live, which is a major concern for the entire community. Because there are port walls on both sides of this community. Their residence is bordered on two sides by port walls, which is shaped like the letter 'L' in English. We must utilize such a narrow road within the neighborhood that when someone dies, we have to deal with a great deal of bother in order to carry the dead body.</p>
Labor Law	<p>Labor Union: They have a limited understanding of labor law, which is limited to issues such as child labor, worker safety, and fair wages, among other things. They do not, however, know whether anyone has attempted anything in the past with labor Law. They even claimed that except labor union there is no one who support labors of the Benapole Port.</p>
Labor Safety	<p>Labor Union: There are no safeguards in place to ensure the safety of workers in the port area. There is no safety equipment in place to ensure the safety of the current port laborers currently. Even though these concerns have been mentioned numerous times, neither the contractors nor the port officials have taken them into consideration. In fact, there aren't enough bathrooms, toilets, or first aid facilities to accommodate all the laborers. Workers are exposed to different poisons that might accumulate in their bodies while working here. The workers who are exposed to these harmful compounds, on the other hand, do not have proper safety precautions in place. They believe that there should be at least one medical center for primary medical assistance in the immediate proximity of this port facility.</p>
Livelihood of residence	<p>Labor Union: Port employees are involved in a wide range of port-related operations. Products that are exported and imported Transportation of commodities is done through loading and unloading. Products for export and import, transportation etc. The laborers of this port who are registered with the contractor receive a pay of TK. 4,000 per month in cash. Additionally, they make an average of TK 100-400 per day, though this varies depending on the number of vehicles entering the port from India. Women are not directly involved in port-related activities, however there are a handful of women who are active in smuggling Indian items into Benapole.</p>



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for "The Development of Benapole, Bhomra And Burimari Land Ports in Bangladesh."



List of Participants in Public Consultation (Female)

Address: Terminal Para, West, Dora Anchra, Gate 9, Benapole

GPS:

Date: 06-02-2022 Time: 3:30 PM - 4:30 PM

Sl. No.	Participant's Name	Age	Occupation	Telephone No.	Signature
01	Mst. Papiya Khatun	28	Housemaker		
02	Mst. Kulsum Begum	36	" "		
03	Mst. Jakamara	45	" "		
04	Mst. Rahima Khatun	45	" "		
05	Mst. Mahfaza	55	" "		
06	Mst. Ira Akter	25	" "		
07	Moyma	60	" "		
08	Nur nakes	55	" "		
09	Mst. Parvina Begum	45	" "		
10	Mst. Fali Nesson	50	" "		
11	Rubina Sabeto	25	" "		
12	Sabeto	40	" "		
13	Kulsum Duri	60	" "		
14	Shabura Khatun	38	" "		

Facilitated By: Sabbir Ahmed Dhale

Note Taken By: Md. Redwan Hossain Bhuiyan

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List of Participants in Public Consultation FGD (Female)

Address: Terminal Para, West. Birsa Anura, Gak-9, Benapole

GPS:

Date: 06-02-2022 Time 3.30PM - 4.30PM

Sl No.	Participant's Name	Age	Occupation	Telephone No.	Signature
15	Tara Begum	35	Housemaker		
16	Ayesha Khatun	24	"		
17	Fatima Begum	35	"		
18	Momotar Begum	45	"		
19	Mojma Begum	50	"		
20	Selina Khatun	35	"		
21	Anjara Begum	40	"		

Facilitated By Sabbir Ahmed Dhalci

Note Taken By Md. Redwan Hossain Bhuiyan

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List of Participants in FGD

Address: Benapole Labor Union office.

GPS: _____

Date: 09.02.2022 Time 3.00 pm - 4.00 pm

Sl. No.	Participant's Name	Age	Occupation	Telephone No.	Signature
01	Md. AKERuzzaman	36	President, Labor Union		AKER
02	Md. Jahangir Alam	57	General Secy Labor Union	2	Jahangir
03	Md. Hafizur Rahman	38	office Sec. Labor Union	3	Hafiz
04	Md. Afil uddin	57	Treasurer, Labor Union	1	Afil
05	Md. Amarul Islam	45	Organization Sec. Labor Union	5	Amarul
06	Md. Shukur Ali	65	Member	5	Shukur
07	Md. Milon Hossain	36	Member	6	Milon
08	Md. Abdul Kader	62	UNO office Sec. Labor Union	9	Kader
09	Md. Hossainuzzaman	35	Organization Sec. Labor Union	3	Hossain
10	Md. Jahangir Alam	40	Member		Jahangir

Facilitated By Sabbir Ahmed Dhali

Note Taken By Md. Redwan Hossain Bhuiyan

Arranged By-





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for "The Development of Benapole, Bhomra And Burimari Land Ports in Bangladesh."

List of Participants in FGD (community people)

Address: Nazmul Islam's House, Ghatipana, Benapole, Jessore

GPS:

Date: 06-02-2022 Time: 11:30 AM - 12:30 PM

Sl. No.	Participant's Name	Age	Occupation	Telephone No.	Signature
01	Md. Nazmul Islam	37	Business		
02	Md. Atiq Ojswash	72	Freedom fighter		
03	Md. Abdur Rahman	59	Business		
04	Md. Kawsar Akemollik	70	Agriculturist	0	
05	Md. Jashim Uddin	45	Agriculturist		
06	Mr. Nur Mohammad	47	Agriculturist		
07	Md. Shomul Hossain	27	Mobile network		
08	Md. Kawsar Akemollik	64	Agriculturist		
09	Md. Shaimon Hossain	26	Agriculturist		
10	Md. Raqon Uddin	25	student		
11	Md. Ariful Islam	22	Easy Dice Driver		

Facilitated By: Sabbir Ahmed Dhale

Note Taken By: Md. Redwan Hossain Bhuiyan

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b) Bhomra Land Port

Issues discussed	Participants, Opinion, comments and suggestions
<p>The general perception about the project</p>	<p>C&F Agents/Port Labor Union: Most respondents stated that they were unaware of the ACCESS MPA program. However, according to their projections, there will be some further development work at the Port.</p> <p>Community elite persons: Participants in the conversation stated that they had never heard of such a program before. They do, however, desire proper development in that area.</p> <p>Female: Participants in the conversation admitted that they were completely unfamiliar with such initiative. On the other hand, people have been aware of something since the commencement of the environmental and socio-economic survey for the ACCESS project.</p> <p>Male: In their responses, the participants stated that they were unaware of any new development initiatives undertaken by the land port authority. An earlier discussion with the residents was placed to discuss a location on the other side of the BGB camp that would be suitable for obtaining land for the Port. They have stated that they have no objections to acquiring land other than their current residence.</p>
<p>Advantages and Disadvantages (Who will be affected directly/indirectly)</p>	<p>Community elite persons: Because of the large number of construction activities that will take place over the project's duration, and because of the inadequate drainage system, the residents and the Environment will be adversely affected, as will the people whose property and infrastructure are being considered for the project. But, on the other hand, the traders will be able to enhance their business circumstances and increase their profits.</p> <p>Female: According to the participants, those adamant about losing their land would suffer the most. Apart from that, no one has said anything regarding the advantages of this initiative.</p> <p>Male: Participants stated that if their home and land are taken away, they will have nowhere to go because there is a lack of household land in Bhomra, according to the participants. As a result, these folks will experience a great deal of hardship. They are also concerned about environmental contamination due to a lack of effective management. But on the other hand, locals will gain from the project if it is realized since they will be able to engage in various income-generating activities.</p>
<p>Impacts due to this project and how safe is the Environment for women and children</p>	<p>Community elite persons: Women and children will not be specifically impacted by the initiative. The misery of the entire neighborhood will be exacerbated by the temporary inconvenience caused by the project activity in the vicinity.</p> <p>Female: There is a considerable risk that construction workers will harass neighboring women on the project. The number of occurrences of women being harassed by transport workers/labor (driver/helper) coming to the Port has not decreased. As a result, the project authorities should establish tight rules and restrictions for the laborers to ensure that they do not wander within the neighborhood.</p> <p>Male: There is no unique impediment on women and children in the development project in the Bhomra land port area. The issues that may occur because of the project's initiation are the same for all, women and children alike.</p>

Issues discussed	Participants, Opinion, comments and suggestions
<p>Incidents of violence/torture/sexual harassment of local women and female workers who works in Land port.</p>	<p>Community elite persons: Several local females have been employed in the Port. However, they did not hear anything about sexual harassment, assault, or torture in Bhomra area.</p> <p>Female: Except for a few isolated occurrences, there were no reports of violence or abuse against women in the neighborhood. On the other hand, women work at the Port's storage (Godown) for imported onions, ginger, garlic, and other vegetables. Some of them are also employed as cleaners at the Port. However, there has never been anything like this before.</p> <p>Male: It is their Opinion that there are only a limited number of women who work in the port area and that there has never been an incident of violence against female employees at the job.</p>
<p>Impact of non-local workers who will join these project activities and employment opportunities for Local workers to this project</p>	<p>C&F Agents/Port Labor Union: They stated that workers coming to work on the project would have no difficulty working or living in the region. Residents will be motivated to work if they have the option to be involved in any initiative.</p> <p>Community Elite Person: There is frequently a disagreement among the workers, but it does not escalate to the faction level. Perhaps there is a disagreement, but they can resolve the dispute because the workers have a leader. Again, many times, local UP members can resolve the situation. However, there is no significant disagreement. If adequate labor management is in place, the situation will remain calm and stable.</p> <p>Male: As a result of their previous experiences, contractors frequently hire non-local labor for development projects. If they are not provided with adequate salaries and working conditions, there is a good likelihood that conflict will arise; nonetheless, there will be no conflict between locals and migrant workers.</p> <p>Female: They believe hiring locals to work on the project is preferable. According to them, the construction company frequently hires workers from other locations as laborers for any work in the Port, where local workers cannot find work. According to the respondents, locals should be provided job chances based on their skills.</p>
<p>Land Acquisition and compensation</p>	<p>Female: They were opposed to acquiring privately owned land and structure for the project's site, which they considered unethical. They will never, ever leave the comfort of their own houses. They urged the government to explore acquiring agricultural land, excluding residential areas, for the sake of development. In the event of an acquisition, in addition to paying the current market value of the settled land, job possibilities for at least one member of the family whose land will be acquired shall be provided.</p> <p>Community elite persons: They will not, under any circumstances, leave their own houses. They suggested the acquisition of befalls land rather than their personal property. Considering many agricultural fields surrounding the Port, their homestead land and infrastructure may remain safe, they believe.</p> <p>Male: Respondents stated that they had heard of land acquisition to expand the size of the Bhomra port at various periods in the past. Previously, in 2005, some individuals arrived claiming to be representatives of the AC Land Office. In several locations, they erected flags and snapped photographs of residences. As a result, they have been subjected to harassment on several occasions. As a result, the representative team was advised to acquire Agri-</p>

Issues discussed	Participants, Opinion, comments and suggestions
	Land/Khash Land in 'Datvanga Bil' instead in place of their household land.
Perception about grievance resolving committee	<p>C&F Agents/Port Labor Union: The officials stated no likelihood of a dispute arising between local employees and employees from other places. Even if it is a tiny issue, we can usually settle it by talking about it amongst us first.</p> <p>Community Elite Person: They had never heard of a grievance resolution committee before, but they advised that if there is one, it should include representatives from the community, labor, port officials, and other stakeholders.</p> <p>Male: The port authorities have the authority to settle any grievance that may arise in the project area. In addition, most of the time, the contractors and labor leaders themselves resolve any disputes between the workers.</p>
Management of construction resources and Materials	<p>C&F Agents/Port Labor Union: Because there is a scarcity of space in the Port, it is possible to keep certain resources or materials utilized in the project by leasing privately owned land from the government. The assignment of personnel to the security of these assets will ensure that no damage occurs and that the resources are not wasted in the process.</p> <p>Community Elite Person: It would be preferable to keep supplies and materials inside a defined region within the project area.</p> <p>Male: Any equipment, machinery, vehicle, or other piece of equipment that is employed in the project can be maintained within a particular perimeter. Then the construction materials will not be overlooked, and the migration of the local population will be less of a problem as a result.</p> <p>Female: Those who responded stated that establishing a specific storage area within the Port for products will not pose an issue for the locals.</p>
Impact on Environment due to this project	<p>C&F Agents/Port Labor Union: The claimed absence of adequate management of construction materials may result in environmental pollution as a result of the aforementioned.</p> <p>Community Elite Person: The Environment may be polluted as a result of a lack of adequate management of construction materials. The presence of a large amount of dust in the air of this land port causes respiratory problems in the surrounding community. If the project authority does not implement a plan to reduce air pollution before the project construction works begin, the level of air pollution will rise.</p> <p>Male: They stated that their current environmental status is horrible, and that if there is no effective plan for environmental management, there is a risk of pollution increasing even further.</p>
Educational Institutions	<p>Community Elite Person: In this area there are two primary schools in ward number 5 and one primary school in ward number 6. There is no primary school in ward 4. There is a high school in ward 4. There are no colleges in this area. There is an Ebtedayi Madrasa in Ward No. 3.</p> <p>Male: Standard school colleges are not being developed appropriately due to a lack of interest in education. They believe, however, that girls have a considerably greater rate of education than boys. Girls, on the other hand, are more likely to marry after completing their SSC or HSC. Even if someone continues to study for higher education on a regular basis, many people marry when in their second or third year of graduation/honors. The state of</p>

Issues discussed	Participants, Opinion, comments and suggestions
	education in this area was dire until the founding of Rashida Begum Secondary School in 1996. Because the high school was around 5-6 kilometers from Bhomra at the time.
Effect on ethnic group	They said that Bhomra does not have any ethnic groups.
Damage of Educational / religious / cultural institutions or heritage sites	Bhomra Zero-point primary school, Rasheda Begum High School, Zero Point Mosque are likely to be affected by the project as these are in this project area.
Health care	<p>C&F Agents/Port Labor Union: In Bhomra, the participants expressed their dissatisfaction with the medical system. Those who live in this area must go to Satkhira Sadar Hospital if they require medical attention. If there is no suitable treatment system in place, it is necessary in many situations to travel to Khulna or Dhaka. And, in most situations, people are now traveling to India for medical treatment because people believe that the quality of care there is superior to that in Bangladesh.</p> <p>Community Elite Person: To receive medical care, one must rely on Satkhira Medical, Khulna Medical, or Dhaka Medical Centers. The medical system in this region is not particularly user-friendly. Several village doctors and a pharmacy provide care for common ailments, with most patients coming from the surrounding area.</p> <p>Male: The distance between Bhomra and Satkhira Sadar is approximately 16 kilometers. Many times, because of heavy traffic congestion, the sick person must remain on the road for an extended period to reach Satkhira. Additionally, the patient's condition worsens because of this action. Accidents such as the death of a patient while stalled in traffic were also brought up during their conversation.</p> <p>Female: With the exception of a few Quacks in the area, there is no proper doctor nearby. They need to visit Satkhira Sadar Hospital. Due to heavy traffic congestion, there have been a few instances where patients have died while traveling to the hospital. They claim that none of the health centers in the area is equipped with necessary medical equipment.</p>
Child marriage and Dowry system	<p>Female: Child marriage used to be common, but it has significantly decreased in recent years. Although there is no direct dowry in marriage, the participants stated that items, products, and money are exchanged with both parties' consent.</p> <p>Community Elite Person: Although it is impossible to say that child weddings do not occur in this area, the prevalence has steadily decreased to less than a tenth of a percent. This is something that members take extremely seriously. Even yet, many people go to court on their own and marry. In that circumstance, no one is required to take any action.</p> <p>Male: The rate of child marriage in the area has significantly decreased thanks to the efforts of UNO, local Upazila Chairman, Union Chairman, and Members. Even in the previous 4/5 years, some child marriages took place in secret, but child marriages no longer take place in this area, or if they do, they are minor. The use of dowry in marriage is also uncommon.</p>
Communication system	Community Elite Person: To go to the city, they must take this major thoroughfare. According to them, the road was constructed in 2006 and reconstructed the following year. Since 2009, they have been traveling on this damaged road. If the existing bypass route from the Fultala intersection to Ansar's house is widened during the project's construction, it will alleviate traffic congestion for the

Issues discussed	Participants, Opinion, comments and suggestions
	<p>residents of the surrounding area while also reducing environmental damage. This is because when port trucks, project goods vehicles, and people all travel on the same route, the pollution on that road grows significantly, and we are forced to deal with numerous issues while traveling on that road, as a result.</p> <p>Male: The highway connecting Bhomra land port Zero Point and Satkhira Sadar is approximately 14 kilometers long. Everything has been shattered. When going in any car, one must contend with a great deal of tremors because of uneven roads. When big vehicles transporting products are in motion, there is a significant risk of losing their balance and crashing. Furthermore, because of the poor condition of the roads, a great deal of dust is blown around while vehicles are driving, increasing the danger of road accidents in the evening. There is a lot of mud on the roadways during the rainy season and individuals must suffer a lot of abuse while walking around during this time.</p> <p>Female: Their claim is that the roads in this area are growing worse. The road is not very wide. Also, heavy traffic bottlenecks impede travel. They believe that widening the route will reduce road accidents. They also reported road accidents occur frequently here. The government is currently repairing the Bhomra Zero Point major road. As repairs began on one side of the road and moved to another, the condition on the other side deteriorated. The lack of frequent street water spraying creates a lot of dust in the air, causing respiratory issues.</p>
<p>Labor Law</p>	<p>C&F Agents/Port Labor Union: They are completely clueless when it comes to labor Law. Some of them stated that they were aware of the labor law but were unclear as to why it existed or how it is enforced. Even now, no one or organization has come forward to tell us anything about this, they said. They stated that the employees in this area are required to labor for their own benefit.</p>



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List of Participants in FGD (Community Male)

Address: In front of Jalangi Market, Bhomra, Satkhira

GPS: _____

Date: 25.01.2022 Time 10.30 AM - 11.30 AM

Sl No.	Participant's Name	Age	Occupation	Telephone No.	Signature
1.	Md. Shahidul Islam	60	Business		
2.	Khushenjo kanta Chatterjee	76	Agriculturist		
3.	Fariqul Kumer Ghosh	54	"		
4.	Gobinda Chatterjee	35	Agriculturist		
5.	Abdul Romi	42	Business		
6.	Md. Sirajul Islam	60	CRF Jobholder		
7.	Susanta Sarder	46	Business		
8.	Anondo Chatterjee	40	Labor Port		
9.	Shafiqul Islam	40	Labor Port		

Facilitated By Sabbir Ahmed Deka

Note Taken By Md. Redwan Hossain Bhuiyan

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List of Participants in FGD (community Male)

Address: Uzlam Mujib's house, North side of Bhomra zero point, Satkhira.

GPS:

Date: 27.01.2022

Time 4.30 PM - 5.30 PM

SL No.	Participant's Name	Age	Occupation	Telephone No.	Signature
1	গোলাম মজাহিদুল	41	চাকুরীজীবী		গোলাম মজাহিদুল
2	শ্রী মৃগন অবদার	40	শিক্ষক		মৃগন
3	মুহাম্মদ কামাল	57	কৃষক		মুহাম্মদ কামাল
4	আব্দুল গাফী	23	দিনমজুর		আব্দুল গাফী
5	বিকশিত অবদার	36	কৃষক		বিকশিত
6	রাজু আহম্মদ	25	দিনমজুর		রাজু
7	শ্রী দেহলু কামাল	22	কৃষক		দেহলু
8	মুন্সুর অবদার	56	কৃষক		মুন্সুর অবদার
9	মুন্সুর হোসেন মুন্সুর	32	কৃষক		মুন্সুর
10	শ্রী মনজুর কামাল	33	কৃষক		শ্রী মনজুর

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Note Taken By Md. Redwan Hossain @hiya.

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List of Participants in FGD (Community female)

Address: Golam Ayazdin's House, North side of Bhomra Deep point, Satkhira.

GPS: _____

Date: 26.01.2022 Time 4.30 PM - 5.30 PM

Sl. No.	Participant's Name	Age	Occupation	Telephone No.	Signature
1	Mst. Shamima Khatun	30	Housewife		শামিম
2	Margina Begum	52	"		মার্জিনা
3	Jobeda Begum	40			জবেদা
4	Asma Khatun	35	"		আসমা
5	Amema Begum	30	Port Labor		আমেমা
6	Parvin	36	"		পারভিন
7	Indu Bala	50	"		ইন্ডু বাল
8	Nomita dengupta	50	"		নমিতা দেবগুপ্ত

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List of Participants in FGD with community Elite

Address: Punbopara Jame Masjid, Tower Hat, Bhomra, Satkhira

GPS:

Date: 24.01.2022 Time 4.45 PM - 6.00 PM

SL No.	Participant's Name	Age	Occupation	Telephone No.	Signature
1.	<u>Mr. Sajjad Ali</u>	<u>50</u>	<u>Business (Member, YMC)</u>		<u>(Signature)</u>
2.	<u>Mr. Motia Rahman</u>	<u>45</u>	<u>Agriculturist</u>		<u>(Signature)</u>
3.	<u>Mr. Zakir Hossain</u>	<u>33</u>	<u>Business trader</u>		<u>(Signature)</u>
4.	<u>Mr. Redwan Hossain</u>	<u>55</u>	<u>Agriculturist</u>		<u>(Signature)</u>
5.	<u>Mehedi Hossain</u>	<u>33</u>	<u>Imam</u>		<u>(Signature)</u>
6.	<u>Mostafa Aminul Haque Babel</u>	<u>50</u>	<u>Business</u>		<u>(Signature)</u>
7.	<u>Ansari Ali</u>	<u>48</u>	<u>UP Member S no. Dhara UP</u>		<u>(Signature)</u>
8.	<u>Mr. Abdel Acim</u>	<u>49</u>	<u>Agriculturist</u>		<u>(Signature)</u>

Facilitated By Sabbir Ahmed Bhalai

Note Taken By Mr. Redwan Hossain Bhuiyan

Arranged By-



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Annex F: Surrounding and Sampling pictures of Benapole and Bhomra Land Port

a) Benapole Land Port

Air Quality Monitoring in the Sub Project Site (Benapole Land Port)



AAQ_01 (Starting Point near Terminal Gate- East Side, Benapole, Jashore)



AAQ_02 (Boro Anchra Aam Bagan, Benapole, Jashore)



AAQ_03 (In front of Brac School, Gatipara, Benapole, Jashore)



AAQ_04 (Gatipara -West Side, Benapole, Jashore)



AAQ_05 (Purbo Bhavarber - East Side, Benapole, Jashore)



AAQ_05 (Near Taltola BGB Checkpost, Gatipara, Benapole, Jashore)

Noise Level Monitoring in the sub-Project Site (Benapole Land Port)



Starting Point Near Terminal Gate (East Side), Benapole, Jashore



Near Railgate BGB CheckPost, Benapole, Jashore



Boro Anchra Aaam Bagan, Boro Anchra, Benapole, Jashore



In front of Brac School, Gatipara, Benapole, Jashore



Gatipara(West Side), Benapole, Jashore



Purbo Bhavarber (East Side), Benapole, Jashore



Pacchim Bhavarber (West Side), Benapole, Jashore



Gatipara (East Side), Benapole, Jashore



Bhavarber Moddo Para, Benapole, Jashore



Near Taltola BGB Checkpost (Gatipara), Benapole, Jashore

Surface water tested at the sub project location (Benapole Land Port)



SW_01_ Bhavarber Moddo Para



SW_02_ Beside MP Market, Boro Anchra



SW_03_Gatipara West Side



SW_04_Boro Anchra

Ground water tested at the sub project location (Benapole Land Port)



GW_01_ Bhavarber Moddo Para



GW_02_ Purbo Bhavarber (East Side)



GW_03_ Near MP Market, Boro Anchra



GW_04_ Gatipara (West Side)

Commonly found homestead plants in the Benapole sub-project area



Commonly found roadside plants in the Benapole sub-project area





Commonly found agricultural plants in the Benapole sub-project area



Commonly found fauna in the Benapole sub-project area



Different types of fishes observed in the Benapole sub-project AOI



Ilish



Rui



Tilapia









Shing







Pangas	Poa
	
Dahuk/ Chiring	

Environmental Sensitive area within the Benapole sub-project corridor

SL	Name	GPS Location	Photo
Benapole Land Port AOI			
1	Graveyard	23.036501°N 88.886706°E	
2	Family Graveyard	23.037943°N 88.885653°E	

SL	Name	GPS Location	Photo
3	Family Graveyard	23.030617°N 88.883997°E	
4	Family Graveyard	23.034746°N 88.885795°E	
5	Brac Primary School	23.031334°N 88.883835°E	
6	Baitussalm Mosque	23.031098°N 88.884357°E	

SL	Name	GPS Location	Photo
7	Family Graveyard	23.031045°N 88.884369°E	
8	Family Graveyard	23.030172°N 88.880892°E	
9	Family Graveyard	23.031236°N 88.881046°E	
10	Vobarber Purba Para Baitus Salam Jame Mosque	23.040845°N 88.911685°E	

SL	Name	GPS Location	Photo
11	Vobarber Pachim Para Jame Mosque	23.042535°N 88.905492°E	
12	Vobarber Pachim Para Graveyard	23.042457°N 88.905662°E	
13	Darul Sunnah Koimi Madrasha o Etim Khana	23.042433°N 88.905490°E	
14	Sardarbari Jame Mosque	23.035447°N 88.887017°E	

SL	Name	GPS Location	Photo
15	Boro Anchra Hazrat Abu Bakker Siddique Dhakil Madrasha	23.035443°N 88.887140°E	
16	Boro Anchara Eid Gha Math	23.035394°N 88.887190°E	
17	Taltola BGB Checkpost	23.034167°N 88.884185°E	
18	Railgate BGB Checkpost	23.038054°N 88.884322°E	
19	Doulotpur BGB Checkpost	23.031281°N 88.880668°E	

b) Bhomra Land Port

Air Quality Monitoring in the Sub-project Site (Bhomra Land Port)



AAQ_01 (Beside BGB Camp, Bhomra)



AAQ_02 (Near Sub-Director's Office, Bhomra)



AAQ_03 (Lakshmidari Bazar Area-West side, Bhomra)



AAQ_04 (Near C&F Agent Association, Bhomra)



AAQ_05 (Lakshmidari bazar-East side, Bhomra)

Noise Level Monitoring in the Sub-project Site (Bhomra Land Port)



NM_01_Beside BGB Camp, Bhomra



NM_02_Near Sub-Director's Office, Bhomra



NM_03_Lakshmidari Bazar Area-West side, Bhomra



NM_04_Infront of 2nd gate of Land port, Bhomra



NM_05_Near C&F Agent Association, Bhomra



NM_06_Lakshmidari bazar-East side, Bhomra



NM_07_Lakshmidari Middle, Bhomra



NM_08_Bhomra Purba Para, Bhomra



NM_09 Infront of Near C&F Agent Association, Bhomra



NM_10_BGB Checkpost, Bhomra

Surface water tested at the sub-project location (Bhomra Land Port)



SW_01_Bhomra Purba Para



SW_02_Pond Water, Lakshmidari village



SW_03_Pond Water, Lakshmidari village (East side)

Ground water tested at the sub-project location (Bhomra Land Port)



GW_01_Bhomra Purba Para



GW_02_Lakshmidari Bazar



GW_03_Near BGB Camp

Commonly found homestead plants in the Bhomra sub-project area





Commonly found roadside plants in the Bhomra sub-project area



Commonly found agricultural plants in the Bhomra sub-project area



Commonly found fauna in the Bhomra sub-project area





Different types of fishes observed in the Bhomra sub-project AOI



Tengra Fish



Bata Fish



Grass Carp







Rupchada




Environmental Sensitive area within the Bhomra sub-project corridor

SL	Name	GPS Location	Photo
1	Bhomra Land Port Transport Owners Cooperative Society Ltd.	22.66902°N 88.95851°E	
2	Sub-Director Office of Agriculture Extension	22.66905°N 88.95830°E	

SL	Name	GPS Location	Photo
3	Livestock Quarantine Station	22.66919°N 88.95805°E	 A photograph of a large, single-story building with a reddish-brown facade and a central entrance. Two people in high-visibility vests are standing in the foreground on a dirt path.
4	Rashida Begum Secondary School	22.66998°N 88.95751°E	 A photograph of a school entrance with a dirt path leading to a gate. Two people in high-visibility vests are standing near the gate. There are trees and a building in the background.
5	Bhomra Customs Cleaning and Forwarding Agent Association	22.66878°N 88.95525°E	 A photograph of a building with a yellow facade and a metal gate. Two people in high-visibility vests are standing in front of the gate. There are posters on the wall.
6	Bhomra Land Port Handling Workers Unions	22.66876°N 88.95346°E	 A photograph of a building with a red facade and a sign. Two people in high-visibility vests are standing in front of the building. There are bicycles parked nearby.

SL	Name	GPS Location	Photo
7	BGB Camp	22.66894°N 88.95307°E	
8	Bhomra Land Port	22.66885°N 88.95074°E	
9	Bhomra Complaint Center and Satkhira Polli Biduyt Somiti	22.66894°N 88.95119°E	
10	Family Graveyard	22.669503°N 88.950997°E	

SL	Name	GPS Location	Photo
11	Family Graveyard	22.670670°N 88.950372°E	
12	Bhoma Border Model Govt. Primary School	22.669576°N 88.949333°E	
13	Baitun Nur Jame Mosque	22.669462°N 88.947981°E	
14	Modinatul Ulum Nurani Hafizia Koimi Madarasha	22.669392°N 88.948249°E	
15	BGB CheckPost	22.669350°N 88.947708°E	

SL	Name	GPS Location	Photo
16	Immigration Police Check Post	22.669031°N 88.947357°E	

Annex G: Sample GRM Checklist

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

Annex H: Sample Waste Management Plan

Waste Management Plan

1. GENERAL

Considerable quantities of waste (general & construction) will be generated due to the construction of water supply schemes. Three types of wastes will be generated during construction:

- General Waste: Organic waste (foods, fruits, tree leaves etc.) and Inorganic (such as papers, plastic and glass bottles & containers, polythene etc.);
- Construction wastes: construction materials such as sand, pieces of rocks, bricks, rods, geotextiles etc.
- Hazardous waste: chemicals, Oil, grease etc. from construction machinery etc.

2. OBJECTIVES

The main objective of the WMP is to organize disposal of all wastes generated during construction in an environmentally acceptable manner specially consider the following:

- Health hazards of the sub-project personnel as well as community people should not be occurred.
- Manage the wastes in such a way that environment (specially air, soil, water etc.) will not be polluted;
- Odor means bad smell should not be generated;
- Always friendly environment at the construction sites and construction camps.

3. SITE FOR DISPOSAL OF WASTES

The contractor will select the site for disposal of general wastes at the area within the construction camp at some site which is as much as possible far away from the sub-project workers' and community residents & cultural site.

4. METHOD OF DISPOSAL OF WASTES

4.1 General Waste

The contractor will collect the general waste in separate waste bins at sources (means organic waste in one bin & inorganic waste in another bin) and dumped at the designated waste disposal site. The contractor will construct a concrete waste disposal site (means concrete floor and wall and covered by shed to avoid air, bad smell, soil, and ground water pollutions. Based on the quantity of general waste (organic & inorganic waste), the following three chambers (rooms) of the concrete disposal site will be constructed by contractor-

- Two chambers for organic waste;
- One Chamber for inorganic waste.

Just after filling one chamber (say after 6 months) with organic waste through pocket gate, it should be covered by earth (soils) properly & keeps it for about 6 months for converting organic fertilizer for the agricultural lands. After filling the 1st chamber with organic waste, disposing of waste will be started for 2nd chamber.

In the same way, inorganic waste will be dumped in the chamber, designated for inorganic waste. Just after filling, these inorganic wastes can be given to the vender free of cost. Contractors collect construction waste separately & dump it into the room at the designated area. The contractor will maintain a logbook for the measurement of quantity of the waste, disposed every day.

4.2 Construction Waste

- Organize disposal of all waste generated during construction in an environmentally acceptable manner. This will include consideration of the nature and location of disposal site, to cause less environmental impact.
- Train and instruct all personnel in waste disposal practices and procedures as a component of the environmental induction process.
- Make sure all containers, drums, and tanks that are used for storage are in good condition and are labeled with expiry date. Any container, drum, or tank that is dented, cracked, or rusted might eventually leak. Check for leakage regularly to identify potential problems before they occur.
- Minimize the production of waste materials by 3R (Reduce, Recycle and Reuse) approach.
- Segregate and reuse or recycle all the wastes, wherever practical.
- Prohibit burning of solid waste.
- Provide reuse containers at each worksite.
- Request suppliers to minimize packaging where practicable.
- Maintain all construction sites in a cleaner, tidy and safe condition and provide and maintain appropriate facilities as temporary storage of all wastes before transportation and final disposal.

4.3 Hazardous Waste

- Transport waste of dangerous goods, which cannot be recycled, to a designated disposal site.
- Provide absorbent and containment material (e.g., absorbent matting) where hazardous materials are used and stored, and personnel trained in the correct use.
- Provide protective clothing, safety boots, helmets, masks, gloves, goggles, to the construction personnel, appropriate to materials in use.
- Provide protective clothing, safety boots, helmets, masks, gloves, goggles, to the construction personnel, appropriate to materials in use.
- Avoid the use of material with greater potential for contamination by substituting them with more environmentally friendly materials.
- Organize disposal of all waste generated during construction in an environmentally acceptable manner. This will include consideration of the nature and location of disposal site, to cause less environmental impact.
- Train and instruct all personnel in waste disposal practices and procedures as a component of the environmental induction process.

5. INSTITUTIONAL ARRANGEMENT

The Contractor will mainly be responsible for environmental monitoring for the waste management. The PMU-BLPA will set up a 'Waste Management Committee' with the representatives of the contractor to effectively dispose of the waste. The committee is also responsible for monitoring procedures for the collection and carrying of waste without causing any environmental hazards.

Annex I: Accident/Incident Reporting Form

Site Name and References		Site Address	
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Details of Person Completing the Form		
Name		Date
Job Title		

Accident	Dangerous Occurrence	Near Miss	Illness
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Details of the Injured Person		
Name of the Injured Person		Age
Address of Injured Person		
Telephone		Occupation
Employers Name		
Site Engineers Name		Telephone
Address		

Accident/Incident Details	
Location of Accident/Incident	
What work was occurring at the time of accident/incident	
Summary of the Accident/Incident and the Injury caused (Parts of Body and Severity) (attached additional pages if necessary)	

Annex J: COVID-19 Awareness campaign

Keep Our Workplace Safe!

Practice good hygiene



Stop hand shakes and use **non-contact greeting methods**



Clean hands at the door and schedule **regular hand washing reminders**



Disinfect surfaces like doorknobs, tables, and desks regularly



Avoid touching your face and cover your coughs and sneezes



Increase ventilation by opening windows or adjusting air conditioning

Limit meetings and non-essential travels

Use **video conferencing** instead of face-to-face meetings

When video calls are not possible, hold your meetings in **well-ventilated rooms and spaces**

Suspend all non-essential travels and trips



Stay home if...

- You are **feeling sick**
- You have a **sick family member** at home



SOURCE: CDC.GOV

Take care of your emotional and mental well-being

Outbreaks are a stressful and anxious time for everyone. We're here to support you! Reach out to hr.unc.edu/totalwellbeing/ anytime.





করোনাভাইরাস প্রতিরোধে করণীয়

করোনাভাইরাস কীভাবে ছড়ায়

আক্রান্ত ব্যক্তির হাঁচি, কাশির মাধ্যমে বা তাদের সংস্পর্শে আসলে।



করোনাভাইরাসের লক্ষণ

- ▶ জ্বর (৯৯ ডিগ্রির বেশি)
- ▶ শুকনো কাশি
- ▶ শ্বাসকষ্ট
- ▶ ক্লান্তি
- ▶ কারও কারও শরীর ব্যথা, সর্দি এবং সর্দিতে নাক বন্ধ হওয়া, গলা ব্যথা এবং ডায়রিয়া হতে পারে।

করোনাভাইরাস সংক্রমণের ঝুঁকি রোধে করণীয়

১



ঘন ঘন দুই হাত সাবান ও পানি দিয়ে কমপক্ষে ২০ সেকেন্ড যাবৎ পরিষ্কার করুন। প্রয়োজনে হ্যান্ড স্যানিটাইজার ব্যবহার করতে পারেন।

করোনা আক্রান্ত দেশ থেকে আসা অথবা সংক্রমিত ব্যক্তির সংস্পর্শে আসার ১৪ দিনের মধ্যে করোনার কোনো লক্ষণ দেখা দিলে



২

যেখানে সেখানে কফ ও থুতু ফেলবেন না। হাত দিয়ে নাক, মুখ ও চোখ স্পর্শ থেকে বিরত থাকুন।



৩

হাঁচি-কাশির সময়ে টিস্যু অথবা কাপড় দিয়ে বা বাহর ভাঁজে নাক-মুখ ঢেকে ফেলুন। ব্যবহৃত টিস্যু ঢাকনামুক্ত ময়লার পাশে ফেলুন ও হাত পরিষ্কার করুন।



- ▶ নাক-মুখ ঢাকার মাস্ক ব্যবহার করুন।
- ▶ অন্যদের কাছ থেকে অন্তত তিন ফুট দূরে থাকুন।
- ▶ আইইডিসিআর-এর হটলাইনে ফোন করুন।



বিদেশফেরত বাংলাদেশিদের জন্য করণীয়

▶ বাড়িতে থাকুন

বিদেশ থেকে আসার পর করোনার কোনো লক্ষণ না থাকলেও ১৪ দিন ঘরের বাইরে যাওয়া থেকে বিরত থাকুন।

▶ নিজেকে আলাদা রাখুন

বাড়ির অন্যদের কাছ থেকে আলাদা থাকুন। তা সম্ভব না হলে মাস্ক ব্যবহার করুন এবং অন্যদের কাছ থেকে অন্তত ৩ ফুট দূরে থাকুন। আলাদা বিছানা, বিছানার চাদর, বাসনপত্র, তোয়ালে এবং পোশাক ব্যবহার করুন।

▶ জনসমাগম এড়িয়ে চলুন

জনসমাগম (বাজার, সামাজিক অনুষ্ঠান, ধর্মীয় জমায়েত, খেলাধুলা, সভা, সিনেমা হল, মেলা ইত্যাদি) এবং গণপরিবহন এড়িয়ে চলুন।

করোনার লক্ষণ দেখা দিলে আইইডিসিআর-এর হটলাইনে ফোন করুন



৩৩৩, ০১৯৪৪৩৩৩২২২
ও স্বাস্থ্য বাতায়ন-১৬২৬৩

Protect yourself and others

from infectious diseases including

novel coronavirus (Covid-19) outbreak

■ PRACTICE HAND HYGIENE (Wash your hands frequently)

- ☑ Both hands
- ☑ Both sides at least up to wrist
- ☑ Fingertips

Wash with soap and water (40-60 seconds)



Wet hands with water



Apply enough soap to cover all hand surfaces

or

Clean with alcohol-based hand sanitiser (20-30 seconds)



Apply a palmful of the product in a cupped hand and clean all surfaces of your hand



■ PRACTICE RESPIRATORY HYGIENE



When coughing and sneezing, cover mouth and nose with flexed elbow or tissue



Discard tissue immediately into a closed bin and clean your hands

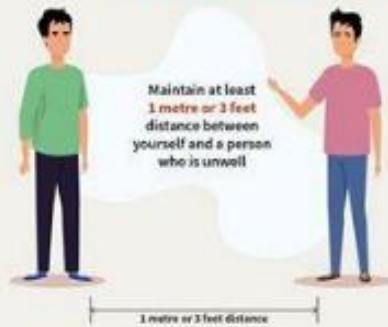
■ AVOID TOUCHING EYES, NOSE AND MOUTH WITH UNWASHED HANDS



■ POLITELY AVOID SHAKING HANDS OR HUGGING PEOPLE



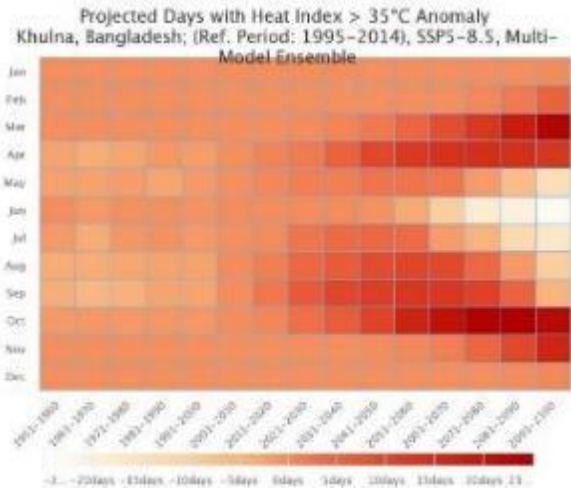
■ MAINTAIN SOCIAL DISTANCING



Annex K: Climate projection maps

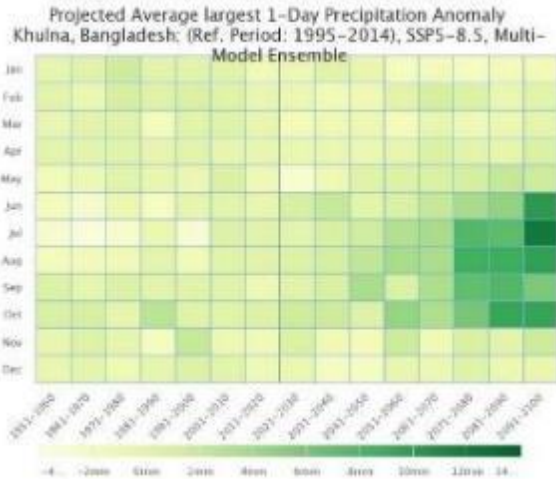
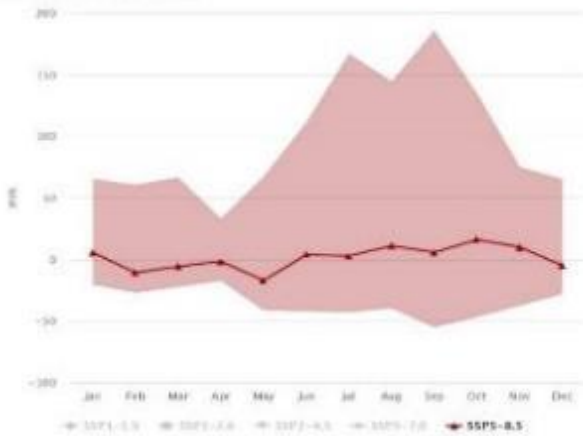
Days with heat index >35°C

Projected Days with Heat Index > 35°C Anomaly for 2020–2039
Khulna, Bangladesh; (Reference Period: 1995–2014), SSP5–8.5, Multi-Model Ensemble



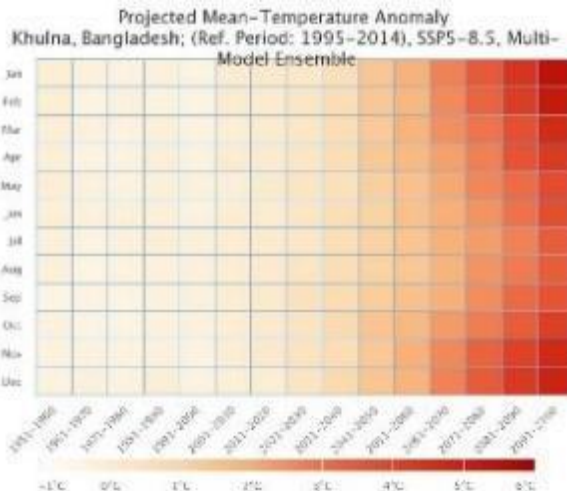
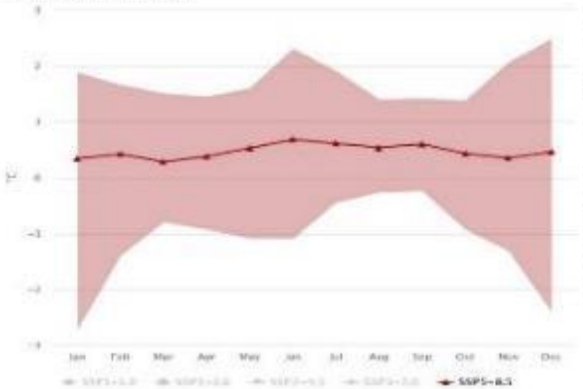
Average largest 1-day precipitation

Projected Average largest 1-Day Precipitation Anomaly for 2020–2039
Khulna, Bangladesh; (Reference Period: 1995–2014), SSP5–8.5, Multi-Model Ensemble



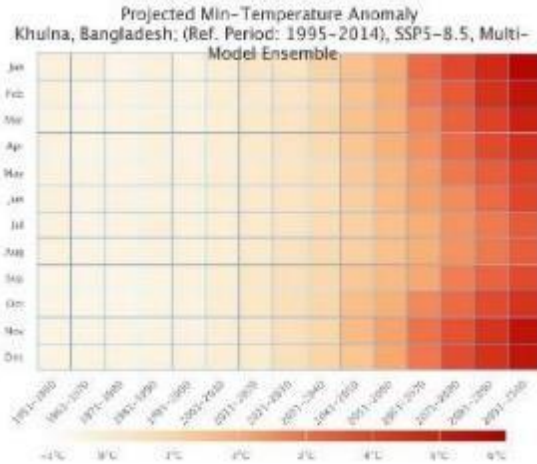
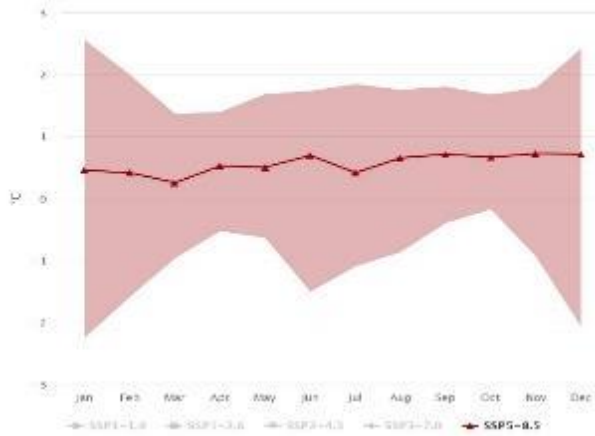
Mean Temperature

Projected Mean-Temperature Anomaly for 2020–2039
Khulna, Bangladesh; (Reference Period: 1995–2014), SSP5–8.5, Multi-Model Ensemble



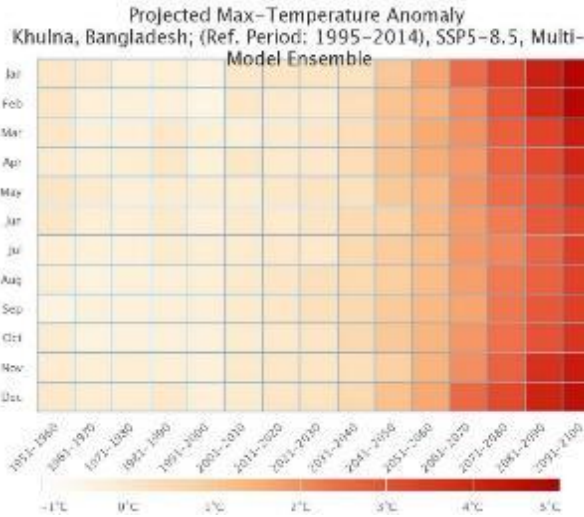
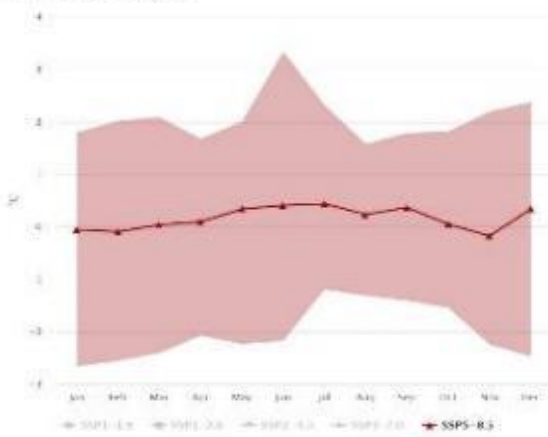
Min Temperature

Projected Min Temperature Anomaly for 2020-2039
Khulna, Bangladesh; (Reference Period: 1995-2014), SSP5-8.5, Multi-Model Ensemble



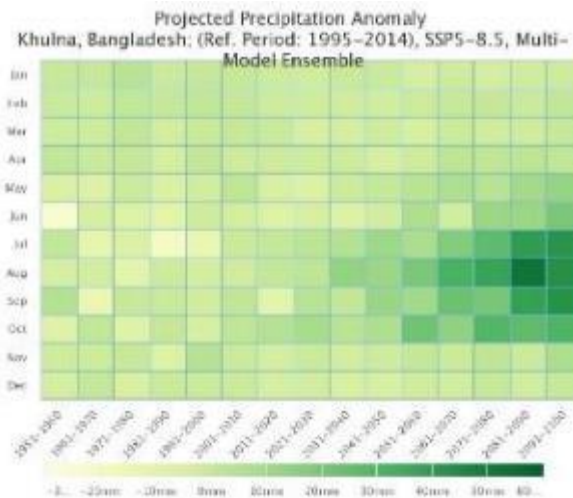
Max Temperature

Projected Max Temperature Anomaly for 2020-2039
Khulna, Bangladesh; (Reference Period: 1995-2014), SSP5-8.5, Multi-Model Ensemble



Precipitation

Projected Precipitation Anomaly for 2020-2039
Khulna, Bangladesh; (Reference Period: 1995-2014), SSP5-8.5, Multi-Model Ensemble



Annex L: Labor Management Plan

ENGAGEMENT AND MANAGEMENT OF CONTRACTORS AND SUB-CONTRACTORS

Contractors Requirements

Any Contractor selected for the Project must be a legitimate and reliable entity and must have their labor management procedure and practice materially consistent with the requirement of ESS2. The requirement of ESS2 will be incorporated in the bidding documents and contractual agreement and will also include non-compliance remedies. Any subcontractors engaged will also have similar requirements in their agreement, including non-compliance remedies.

The project requires that contractors monitor, keep records and report on terms and conditions related to labor management. The contractor must provide all project workers with evidence of all payments made, including social security benefits, pension contributions, or other entitlements regardless of the worker being engaged on a fixed-term contract, full-time, part-time, or temporary. The application of this requirement will be proportionate to the activities and the size of the contract, in a manner acceptable to the IAs and the World Bank. An outline of the contractors' labor management plan in the Contractors ESMP is attached at Annex-1.

The contractual agreement will also require the inclusion of Contractors' measures in light of the COVID-19 situation. They will include:

- Provision of adequate measures for the workers working under the COVID-19 situation, including free PPEs and sanitization. Provision of workers needing to report COVID-19 symptoms and referral to health facilities and not forcing them to work.
- Provision of medical insurance covering treatment for COVID-19, sick pay for workers who either contract the virus or are required to self-isolate due to close contact with infected workers, and payment in the event of death.
- Requirement of safe working conditions and the conduct of the work (e.g., creating at least 6 feet between workers by staging/staggering work, limiting the number of workers present).
- Procedures and measures deal with specific risks, for example, for health care contractors: infection prevention and control (IPC) strategies, health workers exposure risk assessment and management, developing an emergency response plan, per [WHO Guidelines](#).

Appointing a COVID-19 focal point responsible for monitoring and reporting COVID-19 issues and liaising with other relevant parties.

Project Workers

The contractors and sub-contractors, who will be primarily engaging the contracted workers at field level and possibly community workers, will be overseen and managed by the respective PIUs- under the overall guidance of the PIU of this project. At the field level, every contractor will be mandated by contract to deploy at least one EHS officer (Environment, Health, and Safety) per construction package to oversee workers' supervisors managing workers daily. The sub-contractor workers will be supervised by their supervisors and report to EHS Officers of the main contractor. Table 2 provides details about the engagement and management of project workers.

Table 6: Engagement and Management of Project Workers

Category of Project Workers	Project Workers by Role	Responsible Staff for Executing and Implementing Agencies	Responsible Work Unit
Direct Workers	All IA staff drafted for the project at the PIU and sub-PIUs	Project Director (PD) reporting to the World Bank	PIU
		Additional Project Directors at (APDs) sub-PIUs reporting to PD	Sub-PIU

Category of Project Workers	Project Workers by Role	Responsible Staff for Executing and Implementing Agencies	Responsible Work Unit
Contracted Workers	Subject matter specialists and experts supporting PIU	Project Director reporting to IA	PIU
	Subject matter specialists and experts serving with the PMC firm(s)	Project Director reporting to IA	PIU
	All managerial and professionally qualified staff deployed by contractors	APDs, sub-PIUs reporting to PIU	Contractor
	All workers deployed by contractors	APDs, sub-PIU reporting to PIU	Contractor
	All workers of specialized agencies engaged by contractors	APDs, sub-PIU reporting to PIU	Contractor
Primary Supply Workers	Skilled and unskilled laborers for material production, handling, and loading operations at sales stackyards	APDs, sub-PIU reporting to PIU	Contractor

Primary Supply Workers

The project involves civil works for which construction materials (brick, cement, sand, iron bars, etc.) may be sourced from primary suppliers. Suppliers of electrical and sanitary equipment, IT, and communication equipment are not known to involve significant risks of child labor and forced labor.

In the case of construction material suppliers, Contractors shall be required to carry out due diligence procedures to identify if there are significant risks that the suppliers are exploiting child or forced labor or exposing the worker to serious safety issues. In instances where foreign suppliers are likely to be contracted, the Contractor will be required to inquire during the procurement process whether the supplier has been accused or sanctioned for any of these issues and their corporate requirements related to child labor, forced labor, etc. safety. If any risks related to child and forced labor and safety are identified, the Contractor will notify national PIU and address these risks and avoid such suppliers, where possible.

Outline of Contractor’s LMP

Introduction	<ul style="list-style-type: none"> • Contract Package and authorization
Workforce Management	<ul style="list-style-type: none"> • Profile of workforce – work activities, schedule, contract duration, workforce rotation plan, workers' place of stay, workers with underlying health issues • Measures to mitigate risks on account of COVID 19 • Measures to prevent waterborne, airborne diseases and diseases spread by insects (dengue, malaria, etc.) • Contingency plan covering – pre-health check-up, access restrictions, hygiene, waste management, accommodation arrangements, PPE provision, and usage • Reporting and handling of incidents of accidents and COVID-19 cases, training and communication with workers, training, and SOPs on communicating and contact with community
Occupation Health & Safety and Emergency Management	<ul style="list-style-type: none"> • List of work locations, hazards/risks with PPE requirement and numbers • Lists of tasks and work zone critical for hazard prevention • Location of warning signage for hazard prevention • Requirement of first aid boxes and fire extinguishers – task and location wise • Provision of drinking water at worksite • Key person(s) to be contacted during emergency • Protocol for deciding the level of emergency – need for hospitalization, information to authorities, etc. • Process of accident analysis, corrective and preventive measures, and need for reporting
Addressing SEA/SH Risks	<ul style="list-style-type: none"> • Preventive measures – provision of lighting, separate toilet areas for men and women, increased vigil and security arrangement for community sensitive SEA/SH hotspots, if identified by dam authorities. • Sensitizing and awareness of labor on SEA/SH issues, including penalties and legal action against offenders • Awareness about the sensitivity of SEA/SH related complaints management • Notification requirements and method of reporting SEA/SH incidents
Workers Code of Conduct	<ul style="list-style-type: none"> • Preparation of Code of Conduct • Making labor aware of conduct with all the provisions, dos, don'ts, penalties for non-compliance, etc. • Displaying CoC at prominent locations • Signing of CoC by workers
Awareness and Training	<ul style="list-style-type: none"> • Plan for training and awareness covering pollution prevention, OHS, Rights of labor, use of PPEs, accident reporting and emergency management, CoC, SEA/SH, GRM, etc. • Training schedule • Training records
Workers Grievance Mechanism	<ul style="list-style-type: none"> • Details of GRM including contacts • Linkage with centralized GRS of the GoB • Process of receiving, redressing, escalation, reporting back • Consolidated statement on Grievances (segregated by non-COVID related & COVID related) • Contacts of nearest labor offices of the Department of Labor in the Ministry of Labor and Employment
Monitoring and Reporting	<ul style="list-style-type: none"> • Scope, methodology, and outcomes of supervision and monitoring of LMP, attention issues

Annexure 2: Staff/Consultant Resources for PIUs [under construction]

The following staffing of E&S experts in the respective PIUs is proposed in the ESMF. However, this will be further reviewed before appraisal with IAs before finalizing the ESMF before the appraisal.

SL	Expert's Position	BLPA	RHD	NBR	Remarks
1	Environmental Specialist (1)	Yes	Yes	Yes	Full-time
2	Social Development and Stakeholder Engagement Specialist (1)	Yes	Yes	Yes	Full time
3	Land Acquisition and Involuntary Resettlement Specialist (1)	Yes	Yes	=	Total time for BLPA and RHD
4	OHS and Labor Management Specialist (1)	Yes	Yes	Yes	Full time
5	Gender/SEA-SH Specialist (1)	Yes	Yes	Yes	Full time
6	Lab Analyst (1)			Yes	Total time from the beginning of operation of the laboratory
7	Lab Technician (2)			Yes	Ditto

Annexure 3: Suggested Due Diligence for Social and Environmental Mitigation Measures

in Labor Contracts

Stage of Contractual Process	Due Diligence
Before bidding	<ul style="list-style-type: none"> • Ensure that the terms of reference clearly define the supervision engineer’s responsibilities regarding oversight and reporting. • Ensure the team skills in terms of reference include key staff qualified and experienced in managing similar projects and demonstrated capacity to manage social and environmental issues, including community health and safety. • Ensure that the project GRM is established, and its use is widely publicized.
Preparation of bidding documents	<ul style="list-style-type: none"> • Review contract conditions included in bidding documents to: <ul style="list-style-type: none"> (i) Ensure that the relevant mitigation measures in the ESMP are reflected and budgeted in the contract, (ii) Ensure the ESMP forms part of and is explicitly referred to in the bidding documents. (iii) Identify relevant provisions (workers, camps, child and forced labor, safety, grievance redress, etc.) regulating the contractor’s responsibility and identify any gaps, inconsistencies, or areas of concern that could be addressed through additional provisions in the “particular conditions of contract” and/or technical specifications (iv) Include a requirement that all workers sign ‘Codes of Conduct’ governing behavior and identify sanctions (v) Identify that training projects on implementing the Codes of Conduct, etc. will be undertaken by external providers • Ensure the contract conditions specify what type of penalty the contractor will face if the provisions of the ESMP and CESMP are not adhered to—including by sub-contractors. This may include direct incentives to contractors in penalties for poor performance on social and environmental matters or specific Performance Securities for ESMP and CESMP compliance. • Ensure bidding documents clarify the contractor’s responsibilities to prepare and adhere to a CESMP based on the ESMP and that no civil works will commence until the supervision engineer has approved the CESMP. • Ensure the bidding documents detail how the contractor and supervision engineer will be required to monitor and report on the impacts on the local community, issues related to labor influx, and workers’ camps. • Propose Key Performance Indicators (KPIs) for Contract Management, reflecting issues and risks specific to the contract and the monitoring plan.
Bidding evaluation	<ul style="list-style-type: none"> • Review the Borrower’s bid evaluation report and request to review the bids where appropriate to verify that documents related to the ESMP implementation capacity for the recommended bidder. Other contractor obligations required to submit the bid are sufficiently detailed and cover the contractual requirements. • Require the contractor’s representative or dedicated community liaison staff to have the ability to communicate in the language of the Borrower and/or the local language.

Stage of Contractual Process	Due Diligence
	<ul style="list-style-type: none"> • Verify that the contract management framework identifies lines of communication and that these are formalized, and that a consistent record is provided. • Ensure that the contractor meets the project’s OHS requirements for capability and experience.
<p>After contract signing</p>	<ul style="list-style-type: none"> • Before commencing works, the contractor submits site-specific CESMP(s) based on the ESMP, which includes specific management plans for (i) work activities; (ii) traffic management; (iii) occupational health and safety; (iv) environmental management; and (v) social management.

(Sample) Code of Conduct (CoC)

Preamble

The BLPA/RHD/NBR Code of Conduct defines labor standards to achieve decent and humane working conditions. The Code's standards are based on national law and accepted good labor practices.

Companies affiliated with the BLPA/RHD/NBR are expected to comply with all relevant and applicable laws and regulations of the country in which workers are employed and implement the Workplace Code in their applicable facilities. When differences or conflicts in standards arise, affiliated companies are expected to apply the highest standard.

The BLPA/RHD/NBR monitors compliance with the Workplace Code by carefully examining adherence to the Compliance Benchmarks and the Monitoring Principles. The Compliance Benchmarks identify specific requirements for meeting each Code standard, while the Principles of Monitoring guide compliance assessment. The BLPA/RHD/NBR expects affiliated companies to improve when Code standards are not met and to develop sustainable mechanisms to ensure ongoing compliance.

The BLPA/RHD/NBR provides a model of collaboration, accountability, and transparency and catalyzes positive change in workplace conditions. As an organization that promotes continuous improvement, the BLPA/RHD/NBR strives to be a global leader in establishing best practices for the respectful and ethical treatment of workers and promoting sustainable conditions through which workers earn fair wages in safe and healthy workplaces.

Employment Relationship

Employers shall adopt and adhere to rules and conditions of employment that respect workers and, at a minimum, safeguard their rights under national and international labor and social security laws and regulations.

Non-discrimination

No person shall be subject to discrimination in employment, including hiring, compensation, advancement, discipline, termination, or retirement, based on gender, race, religion, age, disability, sexual orientation, nationality, political opinion, social group, or ethnic origin.

Harassment or Abuse

Every employee shall be treated with respect and dignity. No employee shall be subject to physical, sexual, psychological, or verbal harassment or abuse.

Forced Labor

There shall be no use of forced labor, including bonded labor or other forms of forced labor.

Child Labor

No person shall be employed under the age of 14 or the age to complete compulsory education, whichever is higher.

Freedom of Association and Collective Bargaining

Employers shall recognize and respect employees' right to freedom of association and collective bargaining.

Health, Safety, and Environment

Employers shall provide a safe and healthy workplace setting to prevent accidents and injury to health arising out of, linked with, or occurring in work or due to the operation of employers' facilities. Employers shall adopt responsible measures to mitigate the negative impacts that the workplace has on the environment.

Hours of Work

Employers shall not require workers to work more than the regular overtime hours the country's law allows. The regular work week shall not exceed 48 hours. Employers shall allow workers at least 24 consecutive hours of rest every seven days. All overtime work shall be consensual. Employers shall not request overtime regularly and compensate for all overtime work at a premium rate. Other than in exceptional circumstances, the sum of regular and overtime hours in a week shall not exceed 60 hours.

Compensation

Every worker has a right to compensation for a regular work week that is sufficient to meet the worker's basic needs and provide some discretionary income. Employers shall pay at least the minimum wage or the appropriate prevailing wage, whichever is higher, comply with all legal requirements on wages, and provide any fringe benefits required by law or contract. Where compensation does not meet workers' basic needs and provide some discretionary income, each employer shall work with the BLPA/RHD/NBR to take appropriate actions to realize a level of compensation that does progressively.

Annex M: Occupational Health and Safety Plan

Purpose and Scope

The occupational health and safety management plan is a systematic process of identifying the impact of existing, new, or substantially related to health, safety and/or the environment. The proposed plan aims to achieve the following objectives:

- Identification of hazards, associated risks and control measures for each activity;
- Define responsibilities to ensure effective implementation of health and safety (H&S) risk control measures;
- Mitigate potential impacts of project related activities that may affect the health, safety and security of workers and communities within the Project area;
- Maintain healthy workforce and labor pool with safe and healthy working environment;
- Reduce human injury and damage to property and environment in case of emergency;
- Contribute to the improved health and wellbeing of the local community in the Project area.

The plan is applicable to all employees, direct as well as contracted workers/ laborers employed on the project site. It shall be applicable to both construction and operation phases of the project. The responsibility of implementing and modifying the plan, if necessary, lies with the company.

Terms and Definition

Confined Space: “Confined Space” means a compartment small size and limited access which by its small size and confined nature can readily create or aggravate a hazardous exposure.

Emergency: An unforeseen occurrence, a sudden and urgent occasion for action.

Fire Watch: Workers assigned as fire watch are the first line of defense in protecting other workers and property from harm during hot work.

First Aider: A person who has received training and who holds a current first aid certificate from an organization or employer whose training and qualification for first aiders are approved by the authority.

Hazard: A source, situation, or act with a potential for harm in terms of:

- Ill health
- Damage to property, plants etc.
- Production losses or increased liabilities

Hazardous Substance: The term “hazardous substance” means a substance which by reason of being explosive, flammable, poisonous corrosive, oxidizing, irritant or otherwise harmful is likely to cause injury.

Hot Work: The term “hot work” means riveting, welding, burning or other fire or spark producing operations.

Applicable Standards and Legislation

The standards applicable to the proposed project have been enumerated below:

- IFC Performance Standard 3: Resource Efficiency and Pollution Prevention
- IFC Environmental, Health, and Safety General Guidelines
- Bangladesh Labor Act, 2006 (as amendment through July 22, 2013)
- Bangladesh Factories Act, 1965

BLPA shall ensure that all conditions, pertaining to health, hygiene, safety, and welfare are met in accordance with the below acts-

Hazard Identification, Risk Assessment and Risk Control

Identification of hazard, risk assessment and risk control measure must be part of a company’s management system to fully ensure that all systems, procedures, and processes of protection are in place

for all employees. It is important for the organization to consult with all employees and external emergency services to establish a risk management program.

Training

Main responsible person should ensure that every person is aware of the OHS risks associated with the work being carried out at the workplace and is trained and competent in the relevant work practices and maintained procedures.

The Management should establish procedures to identify training needs and provide adequate safety training for all levels of employees including contractors. The safety training should provide management staff with the knowledge and skills necessary for organizing and managing occupational safety and health programs; team leaders with leadership skills and knowledge to lead, implement and apply occupational safety and health activities; and workers with the knowledge, skills and right attitudes to enable them to work safely without harming them, or others, health and the environment.

Types of SHE Training

Mandatory Training

Mandatory training is a requirement for all staff on first arrival at the site. It is necessary for them who hold the first managerial role with SHE responsibility for others and on appointment to the Director/Senior Managerial role. Manager (OHS), Workers, Contractors etc. should cover the mandatory requirements.

Job or Hazard Specific training

Consideration of specific hazards arising from the work the line management can be identified and recorded the training need through the Safety, Health, and Environment (SHE) department.

SHE Orientation and Awareness

Should conduct safety and health orientation courses for new employees as well as direct and indirect (contract) workers.

Skill Training

Workers should also be given training in the skills appropriate to their work so as to improve their individual performance in their respective fields.

SHE Is training Program

There should be an in-house training program for SHE related training which shall be implemented by Workplace Safety Supervisor on a regular basis for apprising the project staffs and workers about management of H&S risks entailed in the project activities. These are generic training programs. may customize the programs and/or undertake additional training programs pertaining to project activities as identified necessary.

Table: Proposed Training Modules

SN	Training Name	Frequency	Description	Responsibility
1.	<ul style="list-style-type: none"> Induction Training on Health and Safety should cover the Company- SHE policy; Hazards and risks associated with operation and workplace; 	-	All Company Staffs and contractors at the time of joining/engagement	Workplace Safety Supervisor

SN	Training Name	Frequency	Description	Responsibility
	<ul style="list-style-type: none"> Control measure to be taken to eliminate or minimize SHE risks, including safe working systems and procedures; use of personal protective equipment; action to be carried out during emergency; Emergency response procedures, such as firefighting, extinguisher use and evacuation procedure 			
2.	Tool Box Training or pre-task briefings, highlighting hazards and the method of dealing with them	Daily	Held at each work location by foreman of contractor to discuss day's activities and specific hazards	Contractor Supervisor
3.	Foreman Safety Training	Fortnightly	Review Safety Performance for week and discuss the safety for upcoming operations	Contractor Supervisor
4.	Mass Training	Monthly	Presentation of significant safety issues	Workplace Safety Supervisor
5.	Special Job Hazard Training including Entry into Confined Space and Other Hazardous Environment	Half Yearly	Training about safety measures to be incorporated related to specific jobs	Workplace Safety Supervisor
6.	Safety Bulletins	Weekly	Specific issues visible through jobsite for constant awareness	Workplace Safety Supervisor
7.	Fire Safety	Half Yearly	Presentation of fire safety measures	Workplace Safety Supervisor
8.	Emergency Response	Half Yearly	For emergency preparedness	Workplace Safety Supervisor
9.	First Aid	Half Yearly	For emergency preparedness	Site Doctor
10.	Use of Personal Protective Equipment	Half Yearly	For workplace safety	Workplace Safety Supervisor, Contractor, Supervisor

Documentation and Record Keeping

Manager (OHS) should maintain documented procedures for the identification, maintenance, and disposition of OHS records (hazards, assessment, and control of risks) of the ongoing activities. OHS records shall be stored and maintained in such a way that they are readily retrievable and protected against damage, deterioration, or loss. Their retention times shall be established and recorded. Such documents are as following-

- SHE policy;
- Hazard identification records;

- Risk register;
- Legal register;
- License, certificates, permits;
- Control methods including process control and machine design, safe work procedures, in-house work rules;
- Design drawings;
- Organization structure;
- SHE groups meeting records;
- Training records;
- Drill reports;
- Inspection and audit reports;
- Medical and health surveillance records

Communication and Provision of Information

The authority should communicate and inform any persons affected by the risk about:

- The nature of the risks involved; and
- The control measures or safe work procedures to be taken to address the risks involved

Review

The risk assessment should be reviewed and revised:

- At least once in every 3 years; and
- Upon the occurrence of any injuries to any person as a result of exposure to a hazard in the workplace; or where there is a significant change in work practices or procedures.

Safe Work Practices

In the WTP area many hazards can be generated which should be identified and eliminated or minimized to an acceptable level to achieve a safe and healthy work environment. The BLPA should establish safe work practice for workers including but not limited to the following:

Fitness for Duty

Fitness for duty incorporates (but is not limited to) the promotion of physical, mental, and emotional health. At the time of engagement, WTP employees should undergo a medical assessment to ensure they are medically fit to perform their role.

Health Surveillance

Management must ensure that health assessments are carried out in respect of all personnel who engage in specific tasks with the potential for occupational exposure, if:

- An identifiable disease or other adverse effect on the health of the employee may be related to the exposure;
- There is a reasonable likelihood that the disease or adverse effect may occur under the conditions of work; and
- There are recognized techniques for detecting indications of the disease or adverse effect.

Alcohol and Drugs

All personnel are required to undergo a pre-employment drug and alcohol test prior to commencing work with BLPA. Personnel must not commence work if they are not fit for duty or if they are impaired by alcohol, illicit drugs, or medication.

Fatigue Management

Fatigue may arise from hours and patterns of work and activities although it is also influenced by factors outside of work, such as family responsibilities, stress, lifestyle, personal health etc., the management of fatigue is a shared responsibility between Management and the individual.

General Hazard Prevention

The BLPA should prevent the following hazards-

Working Alone

Where Personnel are required to work alone, the activities and conditions shall be risk assessed and a safe system of work should be developed.

Manual Handling

Where a manual handling task is required, by doing a risk assessment appropriate control should be implemented and organized manual handling training as appropriate. Management must ensure suitable powered mechanical equipment and lifting aids are provided to enable personnel to avoid heavy manual tasks.

Ergonomics

All personnel must consider ergonomics when designing or arranging workstations, products, and systems so that they fit the personnel who use them. Management should be ensured that where ergonomic hazards are identified and pose a threat to personal safety, a risk assessment is completed by a competent person. Special consideration should be given to ergonomics in confined spaces, awkward or difficult to access spaces, using heavy or awkward tools and equipment, and using repetitive or high force actions.

Hygiene and Sanitation

The BLPA should be supplied suitable facilities for personnel including:

- Toilet facilities within a reasonable distance from each workspace;
- Sanitation and hygiene facilities that are properly maintained;
- Eating places that are dry, clean, well-ventilated and have adequate seating, tables, hand washing and waste disposal facilities; and
- Potable water supplies available to all personnel.

Occupational Hygiene

must ensure commitment to monitoring and reporting of occupational health hazards and hazardous occupational environments and implement controls to reduce risk in accordance with all applicable regulations and, wherever practicable, with regard to accepted best practices.

Ongoing assessments should be conducted and as required, controls implemented for the following occupational health hazards:

- Airborne contaminants such as metal dusts, respirable silica and asbestos fibers;
- Occupational noise exposure.

Risk assessment, evaluation and control of occupational hazards should be undertaken in consideration of the following broad hazard categories:

- Chemical hazards – such as fumes and vapours;
- Physical hazards – those related to heat, cold, noise, vibration, ionizing radiation, ultra-violet light and workplace lighting;
- Biological hazards – including mosquito borne viruses, potable water contaminants and other water borne hazards such as legionella; and
- Ergonomic hazards – including manual handling hazards.

The anticipation, recognition, evaluation, communication and control of occupational health hazards underpin to protect personnel from occupational related injury, illness and impairment.

Hazardous Substances

Management must ensure the safe control of hazardous substances and reduce the level of exposure to personnel, property and the environment. A risk assessment with health surveillance should be required to monitor the health of personnel who are at significant risk of exposure to hazardous substances.

Smoking

Management must be provided with a safe working environment by reducing the effects of Environmental Tobacco Smoke (ETS) to all personnel. Smoking is only permitted in designated smoking areas identified with signpost. The designated areas must be:

- Located outdoors;
- In well-ventilated areas with no possibility that the redundant smoke will contaminate indoor areas;
- Located (where possible) away from pedestrian traffic areas and where personnel may be required to work; and
- Provided with cigarette butt bins to control litter and reduce potential fire risk.

Heat Stress

BLPA should take all necessary measures and precautions to ensure that employees do not suffer harm to their health from the adverse effects of extreme heat or cold. If conditions in any workplace are, or are likely to be, hot and humid, Safety Supervisor must ensure that:

- All employees are provided with instruction on measures to be taken to avoid any harmful effects from those conditions;
- Appropriate workplace environmental controls such as ventilation, and monitoring are implemented; and
- If appropriate, a program for monitoring the health of employees in the workplace is implemented.

Lightning

BLPA should manage the risks associated with personnel being exposed to lightning. Workplace Safety Supervisor must continually monitor the surrounds for changes to weather conditions and factor the

difficulty of seeing conditions change or hearing thunder in a busy operational environment. Personnel must be prepared to respond to lightning immediately should an alert be received, thunder heard, or lightning observed.

Personal Protective Equipment (PPE)

The BLPA should ensure that all personnel and visitors wear or use personal protective clothing or equipment provided if it is necessary to protect them from harm. All personnel should use personal protective clothing and equipment where a sign is displayed to do so or as identified by risk assessment. Primarily, PPEs are required for the following protection-

- Head protection (Safety helmets)
- Foot protection (Safety footwear, gumboot etc.)
- Body protection (High visibility clothing, apron etc.)
- Personal protection (Full body harness, rope grab fall arrester etc.)
- Eye protection (Goggles, welder glasses etc.)
- Hand protection (Gloves, finger coats etc.)
- Respiratory protection (Nose mask, Self-Contained Breathing Apparatus (SCBAs) etc.)
- Hearing protection (Ear plugs, earmuffs etc.)

First Aid

- All premises must be provided with adequate first aid facilities with a full-time qualified doctor and at least two trained first aiders during working hours;
- All employers must provide or ensure that there is appropriate and adequate equipment are rendered in the circumstances for enabling first aid to his employees if they are injured or become ill at work.

Hand Tools

Where personnel are required to use hand tools in the course of their job, the tools should be inspected before use. Certain damaged hand tools are prohibited from been used on project sites, refer to the Prohibited Tools Register for further information.

Safety Signs

BLPA should be ensured that the sufficient Safety Signs are posted in workplaces and travel ways to prevent incidents, identify hazards, indicate the location of safety and fire protection equipment, and provide guidance and instruction in emergency procedures. Safety Signs must be sited in that place from where they can be readily seen and maintained in a clean and readable condition.

Fall Prevention

BLPA should ensure that all personnel undertaking activities where there is a risk of a person falling from one level to another do so in a controlled manner to reduce the risk of personal injury. Specific regulations set out certain mandatory methods that are required to control the risk such as fall prevention systems, edge protection, and protection of holes and openings.

Working On, Over, In or Near Water

Management should manage the risk of drowning when personnel are required to work on, over, in or near water.

Task Specific Hazard Prevention

High Risk Work

Management should be identified with High-Risk Work and implement a procedure or risk assessment specific to that task to ensure hierarchical controls are in place to eliminate, prevent or control the risk to as low as reasonably practicable (ALARP). At a time, the authority should ensure that personnel performing High Risk Work requiring a High-Risk Work License, do hold a current license in that class, and are competent in that particular High-Risk Work.

Electrical Work

The measures suggested above for electrical work includes-

- Qualified electrical supervisors must be appointed to carry out the duties;
- An electrical logbook must be kept at each operational site to record plans, work carried out and other relevant information;
- Electrical equipment must be provided with full current isolating devices capable of being secured in the isolating position wherever practicable. Where such features are not practicable, a risk assessment shall be conducted to establish suitable alternative controls, and outcomes communicated to impacted personnel.

Confined Space

Cutting, burning, and welding often take place in confined spaces. Regular checking and gas-free space should be taken into consideration to permit the work. The supervisor should make the arrangements for working in a confined space including but not limited to-

- A confined space permit to work procedure should be established that allows work to be carried out in the confined space without risk to the health and safety of workers;
- A supervisor should accompany the worker. It shall be ensured that the supervisor has been provided adequate training;
- Establishing the testing of the atmosphere prior to entry were identified in the risk assessment and ongoing monitoring of the atmosphere whilst work in the confined space is being carried out;
- Ensuring good ventilation in the confined space to prevent stale air and ensure the air quality remains breathable.
- Removing any residues that may be present in the confined space which may give rise to risk or increase the risk to those working in the confined space;
- Isolating the confined space from any gases, liquids or other flowing materials that may enter the confined space. This isolation should be in the form of a lock-off and isolation permit in order to prevent any accidental flow into the confined space;
- Ensuring that safe access and egress are provided into and out of the confined space. Where multiple accesses are required to a confined space a tally must be kept of the names of the workers in the confined space for emergency purposes;
- Ensuring that where there is excessive temperature in the confined space, the working shift is reduced, and frequent breaks are provided. Arrangements must also be made to ensure that workers do not become dehydrated whilst working in excessive temperatures.
- Establishing an emergency procedure to deal with the rescue or recovery of any workers who become injured or endangered in the confined space.

All personnel required to enter a confined space will undergo confined space entry training. Personnel who have not taken this training are prohibited from entering a confined space. For any activity in a confined space, the permit to work shall need to be obtained from the supervisor.

Hot Work

Hot work presents an increased risk of the fire and explosion hazards because it is most often performed in confined and enclosed spaces. These operations include riveting, welding, burning, grinding or use of powder actuated tools or similar fire or spark producing operations. Before beginning hot work, the following task must be performed-

The permit to work must demonstrate that the appropriate precautions have been taken to ensure the area is free of gas, flammable sludge or film adhering to surfaces, and that no other structure or operation is at risk from the cutting, burning, or welding. There should be a person available at the fire watchman to raise the alarm in the event of the fire and apply immediate fire frightening measures.

Protection against Fire

Check that there is no flammable material, gas or dry woodwork which could catch fire; and that surfaces which have been in contact with hydrocarbons or toxic substance are completely clean.

Driving Safety

Management must ensure that Personnel permitted to drive either a vehicle in controlled areas or a vehicle on public roads, hold a current driving license and comply with the relevant road rules for that class of vehicle. All Personnel driving vehicles on land must obey all traffic directions, drive to conditions, and in accordance with relevant Traffic Management Plans.

Measurement and Evaluation

Systematic Monitoring

OSH Performance

The BLPA should be established and reviewed OSH Performance indicators on an annual basis. These performance indicators are monitored and communicated to personnel through regular meeting forums and in writing.

Internal OSH Audit

Internal health and safety audits should be conducted annually. Audit evidence is documented, and findings recorded in the Health & Safety Audit Report Form.

OSHMS (Occupational Safety & Health Management System) Audit

BLPA must be established, implemented and maintained an audit program and procedure for periodic OSHMS audits. Audits need to be carried out by a competent person, to determine whether the OSHMS:

- Is in line with the City Seed Crushing Industries (Unit-2) Ltd. OSH Policy; and
- Meets the objectives and targets for continual OSH improvement.

Workplace Monitoring

Workplace Inspections

Management must ensure that each work area is inspected regularly to ensure the work area is safe. Workplace Inspections must be undertaken to identify and rectify hazards, communicate hazard types and controls put in place, monitor the effectiveness of controls, and identify means of reducing risks to ALARP.

System and Process Improvement

Preventative and Corrective Actions

Management should be monitored and measured on a regular basis the key characteristics of the operation and activities that can cause illness and injury.

Continual Improvement

Management should regularly be reviewed and continually improved the OSH performance.

Safety plan for COVID-19

The Occupational Health and Safety (OHS) Plan will be prepared and implemented by each contractor based on the WBG EHS Guidelines (2007), ECoPs, and other relevant standards. The Plan will also be submitted during the detailed design phase. Proponent will take necessary environmental mitigation measures also considering present COVID-19 pandemic and its expenses for the environmental management not only at the construction and operation phases but also at the closing, termination, and after termination phases in accordance with their EIA study. World Health Organization (WHO), gives the following guidelines of simple precautions to reduce the chances of being infected or spreading COVID-19:

- Cleaning and spray disinfections at Construction site, disinfect frequently touched objects and surfaces, construction equipment, construction material including all reusable PPEs
- The Project site will be barriered by fencing and entrance of non-listed persons in the site will not be allowed to protect health and safety of surrounding communities
- The PPE as required for C-19 protection and as required for safety from construction work will be available
- A fruitful plan will be set up to minimize in person meetings and encourage remote meeting for taking decisions on construction and site management.
- A tracking mechanism of worker's status on-site and off-site will be set up (e.g. fit to work, list of all quarantined workers, sick, etc.).
- Guideline on effective 'site operation plan' will be set up to minimized workforce
- How supervisor/contractors conduct periodic audits to verify that the appropriate measures have been implemented and are maintained.
- Effective Screening mechanism at entry of construction site based on the boundaries of construction sites.
- Regularly and thoroughly clean hands with an alcohol-based hand rub or wash them with soap and water. Because washing hands with soap and water or using alcohol-based hand rub kills viruses that may be on the hands.
- Maintain at least 1 metre (3 feet) distance between two persons. Because when someone coughs, sneezes, or speaks they spray small liquid droplets from their nose or mouth which may contain virus. If someone is too close, he can breathe in the droplets, including the COVID-19 virus if the person has the disease.
- Avoid going to crowded places. Because, where people come together in crowds, people are more likely to come in close contact with someone that has COVID-19, and it is more difficult to maintain physical distance of 1 metre (3 feet).
- Avoid touching eyes, nose, and mouth. Because hands touch many surfaces and can pick up viruses. Once contaminated, hands can transfer the virus to people's eyes, nose, or mouth. From there, the virus can enter the body and infect the person.

- Make sure every person will follow good respiratory hygiene. This means covering the mouth and nose with bent elbow or tissue during cough or sneeze. Then dispose of the used tissue immediately and wash hands. Because Droplets spread virus. By following good respiratory hygiene, everybody can protect the people around themselves from viruses such as cold, flu and COVID-19.
- Stay home and self-isolate even with minor symptoms such as cough, headache, mild fever, until the person recovers. Have someone bring the supplies. If these people need to leave his house, wear a mask to avoid infecting others. Because avoiding contact with others will protect them from possible COVID-19 and other viruses.
- If anybody have a fever, cough, and difficulty breathing, seek medical attention, but call by telephone in advance if possible and follow the directions of their local health authority. Because national and local authorities will have the most up to date information on the situation in their area. Calling in advance will allow their health care provider to quickly direct them to the right health facility. This will also protect people and help prevent spread of viruses and other infections.
- Keep up to date on the latest information from trusted sources, such as WHO or the local and national health authorities. Because local and national authorities are best placed to advise on what people in everybody's area should be doing to protect themselves.

Advice on the safe use of alcohol-based hand sanitizers by WHO is as following:

- To protect everybody against COVID-19, clean hands frequently and thoroughly. Use alcohol-based hand sanitizer or wash hands with soap and water. If someone uses an alcohol-based hand sanitizer, make sure to use and store it carefully.
- Keep alcohol-based hand sanitizers out of children's reach. Teach them how to apply the sanitizer and monitor its use.
- Apply a coin-sized amount on the hands. There is no need to use a large amount of the product.
- Avoid touching eyes, mouth, and nose immediately after using an alcohol-based hand sanitizer, as it can cause irritation.
- Hand sanitizers recommended to protect against COVID-19 are alcohol-based and therefore can be flammable. Do not use before handling fire or cooking.
- Under no circumstance, drink or let children swallow an alcohol-based hand sanitizer. It can be poisonous.
- Remember that washing hands with soap and water is also effective against COVID-19.

Annex N: Sample Table of Content for “Sexual Exploitation & Abuse (SEA)/Sexual Harassment (SH) Prevention Plan including Gender Based Violence (GBV)”

1. Introduction

2. Country and Sector Context

2.1 Female Labor Force Participation in Bangladesh

2.2 Gender-Based Violence in Bangladesh

2.3 Status of Gender Based Violence (GBV) in the Project Areas

2.4 Legal and Institutional Environment for Gender Equality and GBV Prevention in Bangladesh

2.5 Relevant Legal Framework of WB

3. Potential SEA/SH Risks Assessment in the Project Areas

4. GBV Prevention Plan

4.1 Grievance Mechanism

Annex

Annex I: Sample Labor Code of Conduct covering the GBV/SEA/SHA related risks

Annex II: Project Grievance Mechanism to address SEA/SH Allegations (this model will be further tailored to the project needs)

Annex III: Operating Procedures and Response Protocol for SEA/SH Allegations

Annex P: Summary of Consultations
Summary of FGD in Benapole Land Port Area

Issues discussed	Participants, Opinion, comments and suggestions	Clarification of feedback incorporation
<p>The general perception about the project</p>	<p>Port Labor Union: They said they knew about some projects but could not confirm whether it was ACCESS MPA or any other project. According to their information, plans are being developed to more than double the size of the present land port, with an additional 85 feet wide land along the parking road suggested for road development. There have already been 25 acres acquired for the chassis terminal, and a second letter of acquisition is in the process of being issued for additional 16 acres located to the south (Gatipara)</p> <p>Community elite persons: Participants in the discussion stated that they had not heard of such a project, but that a Asian Development Bank (ADB) team had come to this port to conduct a survey roughly 5/6 years ago. Some representatives from the Ministry of Trade and Commerce had visited to conduct interviews with the local people about port development and land acquisition.</p> <p>Female: They are not aware of the ACCESS MPA project, but they have heard from various sources that roadside land worth 65 feet in width will be acquired for the purpose of road extension. They want the government to take over the entire area, rather than just a few specific areas. As a result, they will be freed from their miserable existence.</p> <p>Male: There is a rumor spreading that the port road will be upgraded to a 6-lane thoroughfare. According to reports, the port will also acquire land from terminal gate no. 9 to Chassis Terminal for the purpose of expanding the existing port road. Furthermore, we are unaware of the specifics.</p>	<p>The participants in the discussion said that they do not know anything about the project. It is known from them that 25 acres of land has already been acquired for the port and the terminal has been prepared, another 16 acres of land is being planned to be acquired, some have heard that a 6-lane road will be constructed here, etc. Besides, some representatives of Asian Development Bank and Ministry of Commerce visited this place 5/6 years ago. The discussion provided participants with ideas on upgrading and modernizing the Benapole land port area. They congratulated this development program.</p>
<p>Advantages and Disadvantages (Who will directly be affected directly/indirectly)</p>	<p>Community elite persons: They believe that any port development project is a boon to the inhabitants of Benapole Land Port. On the other hand, locals will benefit if there is transparency and accountability in this type of development project. They claimed that the area on the south side of the scanning machine is near the acid shed / TTI, and a boundary wall on the side of the road made the residents' 'horrendous. They claimed that their suffering would be alleviated if the area was considered for acquisition. They believe many problems will arise if there is insufficient management throughout the project's construction phase.</p> <p>Female: Those of us who reside along boundary walls near terminal gate no. 9 will be benefited greatly from the project's impact. They will be relieved if this property is acquired in the interest of the project, and they are given the opportunity to live somewhere else. The families in this area live inhumane lives along with the port walls on both sides. Furthermore, if the port develops, people who are directly connected to the port will benefit the most.</p> <p>Male: Residents of the Terminal para-area will be impacted in several different ways if their land is not included in the acquisition process. Congestion will worsen as more vehicles and workers will arrive during the project period. Increased criminal activity will arise because of such congestion. If the port is adequately developed, the area's source of income</p>	<p>They believe that if the port development work starts, the quality of life of the local people will improve, their trade facilities will increase, and the transportation system will improve. Besides, the people who are living in the area adjacent to terminal gate 9 and acid shed wall are living a kind of inhumane life. So they feel that if this land is acquired for port development, it will also affect their quality of life. Participants are assured that their suggestions will be mentioned in the report.</p>

Issues discussed	Participants, Opinion, comments and suggestions	Clarification of feedback incorporation
	will increase significantly. The more people who visit this port, the more economic opportunities there are.	
Impacts due to this project and how safe is the Environment for women and children	<p>Community elite persons: The project will not directly affect women or children. The neighborhood's sorrow will be increased further by the temporary inconvenience created by the project activity nearby. However, if there are fewer restrictions on strolling in adjacent neighborhoods, women may face harassment from some of them.</p> <p>Female: When the initiative first gets underway, it doesn't appear to be a problem that only affects women and children. As a result, the environment in our neighborhood is safe for children and women. However, this location is a little less safe for the residents of the neighborhood who live near the port terminal's boundary walls. Because they are positioned directly across the street from the port's loading-unloading area and transport labor/port labors are constantly on the move in our neighborhood. They have reported sometimes, some of the Indian driver/Halper harass women.</p> <p>Male: The impact of the project will not be on women and children individually. The challenges that may develop because of the project's beginning are the same for all, women and children alike.</p>	<p>The impact of the project on the local population will be equal for all irrespective of women, men and children. There will be no impact on women and children separately from the project. Since many workers will come from outside the project area to participate in the project work, an effective GRC will be constituted in this regard to avoid any untoward incident.</p>
Incidents of violence/ sexual harassment of local women and female workers who works in Land port.	<p>Community elite persons: There was no mention of sexual harassment, assault, or torture throughout the conversation.</p> <p>Female: There have been no reports of violence or abuse against women in the neighborhood, apart from a few isolated incidents in the past.</p> <p>Male: This type of incidence has not occurred in our locality. Women are not subjected to any form of harassment.</p>	<p>These issues are discussed during discussions with local community people, or they are asked about it. They think, there will be no impact on women and children separately from the project.</p>
Impact of non-local workers who will join these project activities and employment opportunities for Local workers to this project	<p>Labor Union: They believe that if there is any development activity in the port and locals are given employment opportunities, the people's living standards will improve in this area. Because there are no suitable public restrooms or facilities in Benapole, workers urinate in public areas across the port area. Respondents believe that the free mobility of project related workers will jeopardize the area's security and environment. There should be some strong constraints on their freedom of movement, particularly in the current Corona pandemic, where spreading the virus is extremely dangerous.</p> <p>Community Elite Person: There is frequently conflict among the workers, but it never reaches the level of a faction. There may be a disagreement, but Labor leaders can work out a solution. There is, however, no considerable difference of opinion. This type of incident will remain quiet and steady if effective labor management is in place.</p> <p>Male: Almost all the people who work as workers in any project in the area are from other parts of the country. Because the tender owners hire people from their local community to work as laborers in such projects. Even within our own community, it is possible to give many workers for the project. Although some people previously had the option to work as laborers in the port, all of the people who worked</p>	<p>The suggestion of having proper toilet facilities for workers and vehicle drivers in the area adjacent to the port has been accepted from the discussion. Besides, it has been mentioned to make a policy for the project contractor regarding how the workers coming to the project will move, what rules will be followed while staying in the area during the work. They also suggest that although contractors usually bring in workers from outside the project, there is a large section of the local population that can be used in the project. This will increase the</p>

Issues discussed	Participants, Opinion, comments and suggestions	Clarification of feedback incorporation
	<p>as construction workers were from outside the area. Most of the employees came from the surrounding areas of Jhenaidah, Pabna, and Sirajganj districts. Because of a lack of lobbying, local contractors do not have the opportunity to work on large-scale projects.</p> <p>Female: Contractors hire non-local laborers from various locations to work on the project. If they are not properly monetized, there is a considerable probability of illicit activity. Transport employees who travel to the Benapole port stay in hotels or inside trucks, particularly the transport workers. They dine at local Hotel establishments. Some people, particularly most Indian truck drivers, prepare their own food. The area's women never work as construction workers or in any other type of labor; instead, they earn a living by working in hotels and other people's homes.</p>	<p>employment of local people.</p>
<p>Land Acquisition and compensation</p>	<p>Female: According to some participants, if their current residence is considered for acquisition for the sake of the port with proper compensation, they would not regret to give their land. People in this neighborhood near terminal gate no. 9 would benefit greatly if the government would acquire the entire area (adjacent to the Acid shed TTI residence).</p> <p>Community elite persons: In 2015 a team had come from ADB to get locals opinion about land acquisition for a project and they mentioned that 9.56 acre (adjacent to the acid /TTI shed) will be acquired for road extension, but this are not in operation yet. Residents of this area are trapped with no way out. It was necessary to break the port's boundary wall to make way for their road. The area around these buildings experience serious vibration while heavy metals are unloaded. This creates monstrous sound that causes even children to wake up in the middle of the night. The toxic water that was washed away with the rainwater and brought to the area has caused skin diseases. Almost everyone requested that the government take their land into consideration for port extension.</p> <p>Male: They will lose land of residence and cultivation when land is acquired. The port authority has already begun the process of acquiring 16 acres of land for the port, which has been ongoing for three years. They were mostly arable lands. The value of the land in question has been determined, but no one has been compensated yet. On the other hand, people here will assist the government if proper compensation is paid for the project.</p>	<p>Yes, those living in the area between terminal gate 9 adjacent to the port's scanning machine and the acid shed have earnestly requested that the port authorities take over their current residence. Being in the middle of the port infrastructure made it extremely miserable for them to live there.</p>
<p>Perception about grievance resolving committee</p>	<p>Labor Union: According to them, there is no chance of a conflict between local people and workers from other places. Even if it's a minor issue, they generally resolve it by first discussing it amongst themselves.</p> <p>Community Elite Person: They had never heard of a grievance resolution committee before, but they suggested that if one exists, it should include community leaders, labor representatives, port officials, and other stakeholders.</p> <p>Male: The port authorities are responsible for resolving any disputes that may emerge in the project area. Furthermore, most of the time, labor problems are resolved by the contractors and labor leaders themselves.</p>	<p>The participants feel that if there is an effective committee to deal with worker dissatisfaction or any untoward incident related to it, identification of affected persons, determination of compensation, proper compensation etc., the whole project can be implemented smoothly.</p>

Issues discussed	Participants, Opinion, comments and suggestions	Clarification of feedback incorporation
		<p>They were informed that there will be a GRC committee for the project which will play a key role in maintaining transparency and fair environment from the beginning to the end of the project.</p>
<p>Management of construction resources and Materials</p>	<p>Labor Union: All project supplies, such as bricks, sand, cement, rods, and so on, should be enclosed. Contractors must take appropriate precautions to ensure that these materials are properly maintained, and that frequent monitoring is conducted to ensure that the environment is not contaminated.</p> <p>Community Elite Person: It's best if supplies and materials are kept in a designated area within the project area. However, they have never seen these kept in the proper manner during port development work.</p> <p>Male: They claim that while working on the port, various items were kept in a disorganized state. Keeping these objects in this manner makes it harder for individuals to move and increases the risk of injury or accident. In the port, there isn't enough space. When these resources are maintained in a certain location, it is common to notice that authorities must first rent the property and then use it. Furthermore, the location where the construction is being done may not have the ability or space to store the goods. So, the contractor works by scattering the goods everywhere, on the roadside and sidewalks. But to reduce the cost, leaving the construction materials in such a messy condition increases the suffering of the common man.</p> <p>Female: The women participating in the discussion did not say anything in this regard.</p>	<p>Various types of construction materials (such as bricks, sand, rods, cement etc.) will be covered in the project area instead of being kept in the open. If there is not enough space, arrangements will be made to rent privately owned space to stock these materials. During the construction work in the project area, enough regular water sprinkling will be kept controlling the excess of dust.</p>
<p>Impact on Environment due to this project</p>	<p>Labor Union: All materials to be used in the project such as bricks, sand, cement, rods etc. should be enclosed. Contractors need to take proper steps to ensure that these materials are properly maintained and there should be regular monitoring so that the environment cannot be polluted.</p> <p>Community Elite Person: The environment may be polluted because of improper building material management. The presence of a large amount of dust in the air of this land port causes respiratory problems in the surrounding community. The amount of air pollution will rise if the project authority does not develop a plan to mitigate air pollution before the project construction operations begin. Furthermore, if chemicals are not properly packaged, water pollution will be increased.</p> <p>Male: During rainy days, harmful chemicals wash out into the neighborhood due to a lack of drainage, causing water pollution. As a result, infrastructure as well as human health are severely hampered.</p> <p>Female: The women participating in the discussion did not say anything in this regard.</p>	<p>All the participants in the discussion expressed the opinion that such a large project would increase the level of pollution in their area. Moreover, they feel that such mishaps are more due to mismanagement in construction work. They are assured that there will be proper monitoring and management of the project work. They agree that the environmental pollution caused by the project work is temporary.</p>

Issues discussed	Participants, Opinion, comments and suggestions	Clarification of feedback incorporation
Educational Institutions	<p>Community Elite Person: In Benapole there are 2 High School, 6 Primary School, 9 Madrasha, 5/6 kindergarten, 1 College.</p> <p>Male: We have no educational institution in this village. There are some educational institutions to go to from Benapole Bazar to Navaran.</p> <p>Female: The quality of education in Benapole is not very satisfactory. Many of the students here go to Jashore, Dhaka to get quality education.</p>	
Effect on ethnic group	There are no ethnic group in Benapole, according to the locals.	No ethnic groups living within the project area
Damage of Educational / religious / cultural institutions or heritage sites	No educational institution in the area is likely to be affected due to the project.	
Health care	<p>Labor Union: When asked about the availability of health services in the Benapole port area, the participants stated that there is no medical center in the immediate vicinity of the port. Locals must be transported to Navaran or Jashore Sadar Hospitals to get the medical support they require. People must remain on the road for an extended period of time as a result of severe traffic congestion. It goes without saying that the local authority is unconcerned about the medical facilities.</p> <p>Community Elite Person: They must rely on hospitals in Navaran, Jashore, or even Dhaka if they want to obtain medical attention. The medical facilities in this region are not very user-friendly, which is unfortunate. Several quacks and medicine shop proprietors give treatment for common maladies. In the event of an accident, they will have to move to Navaran or Jashore. Even in the existing port, there are no primary medical facilities available.</p> <p>Male: Except for a few quacks, there are no medical facilities in the Benapole area. If anyone needs medical assistance, they must travel to Navaran. Even if a worker sustains an injury while on the job, they are not provided with primary medical care in port. The sick individual must frequently remain on the road for an extended period to reach Navaran or Jashore, which is due to significant traffic congestion in the area. Furthermore, because of this activity, the patient's condition deteriorates further. A few accidents, including the death of a patient while a vehicle is delayed in traffic, are also brought up during their discussion.</p> <p>Female: There are only a few quacks in the neighborhood, and there is no certified doctor in the vicinity. They must travel to Navaran, Jashore, Khulna, or even Dhaka to receive proper medical attention. Patients have died while going to and from the hospital in a few instances, primarily because of the intense traffic congestion.</p>	They have been assured of providing health care to the workers coming for the benefit of the project.
Child marriage and Dowry system	<p>Female: Child marriage and dowry are presently at an all-time low. In some households, the practice of dowry is followed in the event of a marriage.</p> <p>Community Elite Person: Although it is hard to say that child marriages do not occur in this region, they are unlikely to do.</p>	

Issues discussed	Participants, Opinion, comments and suggestions	Clarification of feedback incorporation
	<p>However, in recent years, it has decreased because of increased social awareness. There is no practice of dowry in their community as they said. Some families, however, may be able to assist the boy in earning a living if the girl's family is able to do so.</p> <p>Male: Child marriage is not permitted in our region. More importantly, the government is currently very rigorous in this regard. There is no practice of dowry in their region. Some families, however, may be able to assist the boy in earning a living if the girl's family is able to do so.</p>	
<p>Communication system</p>	<p>Community Elite Person: People from the elite of the community claim that the communication system at Benapole is better than that of any other land port in Bangladesh. When there is a traffic gridlock, it can be a nightmare situation. Vehicles become immobilized for several hours or even days. If an alternative road cannot be constructed, the situation will deteriorate following the start of project development. Road accidents occur on a regular basis in this area.</p> <p>Male: They stated that their communication system is pretty good... There are local buses, auto-rickshaws, Mahindras, and other modes of transportation. However, a lot of traffic jams are generated here. When huge cargo cars arrive at the port, it becomes nearly impossible to move along this stretch of road in Navaran. And because Benapole is the busiest port in the country, this horrific traffic bottleneck occurs nearly daily. To give the impression that there is no traffic jam when senior government officials arrive, the administration or the police providing their protocol removes all vehicles from the road and keeps the road clear, allowing the senior officials to come to the port and believe there is no traffic jam. However, we ordinary citizens are subjected to horrific traffic congestion daily. A detour from the truck terminal to the scanning machine, as well as a bypass from Shikri/Kharidanga Battala to Gatipara Central Mosque, which we can take to go to Benapole Road, are both necessary.</p> <p>Female: Even though the roads in the Benapole port area are in decent shape, traffic congestion is a major issue in this area. We also have a lot of difficulties getting out of the community in where we live, which is a major concern for the entire community. Because there are port walls on both sides of this community. Their residence is bordered on two sides by port walls, which is shaped like the letter 'L' in English. We have to utilize such a narrow road within the neighborhood that when someone dies, we have to deal with a great deal of bother in order to carry the dead body.</p>	
<p>Labor Law</p>	<p>Labor Union: They have a limited understanding of labor law, which is limited to issues such as child labor, worker safety, and fair wages, among other things. They do not, however, know whether anyone has attempted anything in the past with labor Law. They even claimed that except labor union there is no one who support labors of the Benapole Port.</p>	<p>They have been assured of proposing a provision regarding recruitment, contract, remuneration, health care, etc. of the project workers.</p>
<p>Labor Safety</p>	<p>Labor Union: There are no safeguards in place to ensure the safety of workers in the port area. There is no safety equipment in place to ensure the safety of the current port</p>	

Issues discussed	Participants, Opinion, comments and suggestions	Clarification of feedback incorporation
	<p>laborers at this time. Despite the fact that these concerns have been mentioned numerous times, neither the contractors nor the port officials have taken them into consideration. In fact, there aren't enough bathrooms, toilets, or first aid facilities to accommodate all of the laborers. Workers are exposed to different poisons that might accumulate in their bodies while working here. The workers who are exposed to these harmful compounds, on the other hand, do not have proper safety precautions in place. They believe that there should be at least one medical center for primary medical assistance in the immediate proximity of this port facility.</p>	
<p>Livelihood of residence</p>	<p>Labor Union: Port employees are involved in a wide range of port-related operations. Products that are exported and imported Transportation of commodities is done through loading and unloading. Products for export and import, transportation etc. The laborers of this port who are registered with the contractor receive a pay of TK. 4,000 per month in cash. Additionally, they make an average of TK 100-400 per day, though this varies depending on the number of vehicles entering the port from India. Women are not directly involved in port-related activities, however there are a handful of women who are active in smuggling Indian items into Benapole.</p>	

Summary of FGD in Bhomra Land Port

Issues discussed	Participants, Opinion, comments and suggestions	Clarification of feedback incorporation
<p>The general perception about the project</p>	<p>C&F Agents/Port Labor Union: Most respondents stated that they were unaware of the ACCESS MPA program. However, according to their projections, there will be some further development work at the Port.</p> <p>Community elite persons: Participants in the conversation stated that they had never heard of such a program before. They do, however, desire proper development in that area.</p> <p>Female: Participants in the conversation admitted that they were completely unfamiliar with such initiative. On the other hand, people have been aware of something since the commencement of the environmental and socio-economic survey for the ACCESS project.</p> <p>Male: In their responses, the participants stated that they were unaware of any new development initiatives undertaken by the land port authority. An earlier discussion with the residents was placed to discuss a location on the other side of the BGB camp that would be suitable for obtaining land for the Port. They have stated that they have no objections to acquiring land other than their current residence.</p>	<p>They were briefed about the project and told that their port area would see a great development and change if the project is implemented. Project team also informed them about the project objectives, activities, potential impacts, mitigation measures and GRM. Team also discussed on the E&S documents that are published.</p>
<p>Advantages and Disadvantages (Who will be affected directly/indirectly)</p>	<p>Community elite persons: Because of the large number of construction activities that will take place over the project's duration, and because of the inadequate drainage system, the residents and the Environment will be adversely affected, as will the people whose property and infrastructure are being considered for the project. But, on the other hand, the traders will</p>	<p>Due to the development project, there may be some pollution or damage to the environment and nature in the project area temporarily, but the project activities may not</p>

Issues discussed	Participants, Opinion, comments and suggestions	Clarification of feedback incorporation
	<p>be able to enhance their business circumstances and increase their profits.</p> <p>Female: According to the participants, those adamant about losing their land would suffer the most. Apart from that, no one has said anything regarding the advantages of this initiative.</p> <p>Male: Participants stated that if their home and land are taken away, they will have nowhere to go because there is a lack of household land in Bhomra, according to the participants. As a result, these folks will experience a great deal of hardship. They are also concerned about environmental contamination due to a lack of effective management. But on the other hand, locals will gain from the project if it is realized since they will be able to engage in various income-generating activities.</p>	<p>have any serious harmful effects on the area. The participants are informed that ESMP will be followed during the construction period. They will be consulted on a regular basis.</p> <p>In case of acquisition of privately owned land due to the project, provision is made to provide compensation according to the replacement cost to the affected person for their property.</p>
<p>Impacts due to this project and how safe is the Environment for women and children</p>	<p>Community elite persons: Women and children will not be specifically impacted by the initiative. The misery of the entire neighborhood will be exacerbated by the temporary inconvenience caused by the project activity in the vicinity.</p> <p>Female: There is a considerable risk that construction workers will harass neighboring women on the project. The number of occurrences of women being harassed by transport workers/labor (driver/helper) coming to the Port has not decreased. As a result, the project authorities should establish tight rules and restrictions for the laborers to ensure that they do not wander within the neighborhood.</p> <p>Male: There is no unique impediment on women and children in the development project in the Bhomra land port area. The issues that may occur because of the project's initiation are the same for all, women and children alike.</p>	<p>A GAP and SEA/SH prevention plan is prepared for this project which also contains grievance mechanism. There will be a Code of Conduct for the all labors including the contractual labors. Moreover, a separate GRM will be formed to deal cases like SEA/SH.</p>
<p>Incidents of violence/torture/ sexual harassment of local women and female workers who works in Land port.</p>	<p>Community elite persons: Several local females have been employed in the Port. However, they did not hear anything about sexual harassment, assault, or torture in Bhomra area.</p> <p>Female: Except for a few isolated occurrences, there were no reports of violence or abuse against women in the neighborhood. On the other hand, women work at the Port's storage (Godown) for imported onions, ginger, garlic, and other vegetables. Some of them are also employed as cleaners at the Port. However, there has never been anything like this before.</p> <p>Male: It is their Opinion that there are only a limited number of women who work in the port area and that there has never been an incident of violence against female employees at the job.</p>	<p>same as above.</p>
<p>Impact of non-local workers who will join these project activities and employment opportunities for Local workers to this project</p>	<p>C&F Agents/Port Labor Union: They stated that workers coming to work on the project would have no difficulty working or living in the region. Residents will be motivated to work if they have the option to be involved in any initiative.</p> <p>Community Elite Person: There is frequently a disagreement among the workers, but it does not escalate to the faction level. Perhaps there is a disagreement, but they can resolve the dispute because the workers have a leader. Again, many times, local UP members can resolve the situation. However, there is no significant disagreement. If adequate labor management is in place, the situation will remain calm and stable.</p>	<p>Unskilled laborers will be hired locally. Contractors will prepare labor management plan, OHS plan and disclose to the community. A labor GRM will be formed before the construction starts.</p>

Issues discussed	Participants, Opinion, comments and suggestions	Clarification of feedback incorporation
	<p>Male: As a result of their previous experiences, contractors frequently hire non-local labor for development projects. If they are not provided with adequate salaries and working conditions, there is a good likelihood that conflict will arise; nonetheless, there will be no conflict between locals and migrant workers.</p> <p>Female: They believe hiring locals to work on the project is preferable. According to them, the construction company frequently hires workers from other locations as laborers for any work in the Port, where local workers cannot find work. According to the respondents, locals should be provided job chances based on their skills.</p>	
<p>Perception about grievance resolving committee</p>	<p>C&F Agents/Port Labor Union: The officials stated no likelihood of a dispute arising between local employees and employees from other places. Even if it is a tiny issue, we can usually settle it by talking about it amongst us first.</p> <p>Community Elite Person: They had never heard of a grievance resolution committee before, but they advised that if there is one, it should include representatives from the community, labor, port officials, and other stakeholders.</p> <p>Male: The port authorities have the authority to settle any grievance that may arise in the project area. In addition, most of the time, the contractors and labor leaders themselves resolve any disputes between the workers.</p>	<p>The participants in the discussion were assured that a Grievance committee would be constituted to deal with any kind of conflict/issues related to the project area.</p>
<p>Management of construction resources and Materials</p>	<p>C&F Agents/Port Labor Union: Because there is a scarcity of space in the Port, it is possible to keep certain resources or materials utilized in the project by leasing privately owned land from the government. The assignment of personnel to the security of these assets will ensure that no damage occurs and that the resources are not wasted in the process.</p> <p>Community Elite Person: It would be preferable to keep supplies and materials inside a defined region within the project area.</p> <p>Male: Any equipment, machinery, vehicle, or other piece of equipment that is employed in the project can be maintained within a particular perimeter. Then the construction materials will not be overlooked, and the migration of the local population will be less of a problem as a result.</p> <p>Female: Those who responded stated that establishing a specific storage area within the Port for products will not pose an issue for the locals.</p>	<p>Various types of construction materials (such as bricks, sand, rods, cement etc.) will be covered in the project area instead of being kept in the open. If there is not enough space, arrangements will be made to rent privately owned space to stock these materials. During the construction work in the project area, enough regular water sprinkling will be kept in order to control the excess of dust.</p>
<p>Impact on Environment due to this project</p>	<p>C&F Agents/Port Labor Union: The claimed absence of adequate management of construction materials may result in environmental pollution because of the aforementioned.</p> <p>Community Elite Person: The Environment may be polluted because of a lack of adequate management of construction materials. The presence of a large amount of dust in the air of this land port causes respiratory problems in the surrounding community. If the project authority does not implement a plan to reduce air pollution before the project construction works begin, the level of air pollution will rise.</p> <p>Male: They stated that their current environmental status is horrible, and that if there is no effective plan for environmental management, there is a risk of pollution increasing even further.</p>	<p>All the participants in the discussion expressed the opinion that such a large project would increase the level of pollution in their area. Moreover, they feel that such mishaps are more due to mismanagement in construction work. They are assured that there will be proper monitoring and management of the project work. They agree that the environmental pollution caused by the project work is temporary.</p>

Issues discussed	Participants, Opinion, comments and suggestions	Clarification of feedback incorporation
Educational Institutions	<p>Community Elite Person: In this area there are two primary schools in ward number 5 and one primary school in ward number 6. There is no primary school in ward 4. There is a high school in ward 4. There are no colleges in this area. There is an Ebtedayi Madrasa in Ward No. 3.</p> <p>Male: Standard school colleges are not being developed appropriately due to a lack of interest in education. They believe, however, that girls have a considerably greater rate of education than boys. Girls, on the other hand, are more likely to marry after completing their SSC or HSC. Even if someone continues to study for higher education on a regular basis, many people marry when in their second or third year of graduation/honors. The state of education in this area was dire until the founding of Rashida Begum Secondary School in 1996. Because the high school was around 5-6 kilometers from Bhomra at the time.</p>	
Effect on ethnic group	They said that Bhomra does not have any ethnic groups.	There are no ethnic groups living in the project area.
Damage of Educational / religious / cultural institutions or heritage sites	Bhomra Zero-point primary school, Rasheda Begum High School, Zero Point Mosque are likely to be affected by the project as these are in this project area.	The participants were informed that if any educational institution is damaged in the project area, compensation/reconstruction arrangements will be made by the project.
Health care	<p>C&F Agents/Port Labor Union: In Bhomra, the participants expressed their dissatisfaction with the medical system. Those who live in this area must go to Satkhira Sadar Hospital if they require medical attention. If there is no suitable treatment system in place, it is necessary in many situations to travel to Khulna or Dhaka. And, in most situations, people are now traveling to India for medical treatment because people believe that the quality of care there is superior to that in Bangladesh.</p> <p>Community Elite Person: To receive medical care, one must rely on Satkhira Medical, Khulna Medical, or Dhaka Medical Centers. The medical system in this region is not particularly user-friendly. Several village doctors and a pharmacy provide care for common ailments, with most patients coming from the surrounding area.</p> <p>Male: The distance between Bhomra and Satkhira Sadar is approximately 16 kilometers. Many times, because of heavy traffic congestion, the sick person must remain on the road for an extended period to reach Satkhira. Additionally, the patient's condition worsens because of this action. Accidents such as the death of a patient while stalled in traffic were also brought up during their conversation.</p> <p>Female: Except for a few Quacks in the area, there is no proper doctor nearby. They need to visit Satkhira Sadar Hospital. Due to heavy traffic congestion, there have been a few instances where patients have died while traveling to the hospital. They claim that none of the health centers in the area is equipped with necessary medical equipment.</p>	They have been assured of providing health care to the workers coming for the benefit of the project.
Child marriage and Dowry system	Female: Child marriage used to be common, but it has significantly decreased in recent years. Although there is no direct dowry in marriage, the participants stated that items, products, and money are exchanged with both parties' consent.	

Issues discussed	Participants, Opinion, comments and suggestions	Clarification of feedback incorporation
	<p>Community Elite Person: Although it is impossible to say that child weddings do not occur in this area, the prevalence has steadily decreased to less than a tenth of a percent. This is something that members take extremely seriously. Even yet, many people go to court on their own and marry. In that circumstance, no one is required to take any action.</p> <p>Male: The rate of child marriage in the area has significantly decreased thanks to the efforts of UNO, local Upazila Chairman, Union Chairman, and Members. Even in the previous 4/5 years, some child marriages took place in secret, but child marriages no longer take place in this area, or if they do, they are minor. The use of dowry in marriage is also uncommon.</p>	
<p>Communication system</p>	<p>Community Elite Person: To go to the city, they must take this major thoroughfare. According to them, the road was constructed in 2006 and reconstructed the following year. Since 2009, they have been traveling on this damaged road. If the existing bypass route from the Fultala intersection to Ansar's house is widened during the project's construction, it will alleviate traffic congestion for the residents of the surrounding area while also reducing environmental damage. This is because when port trucks, project goods vehicles, and people all travel on the same route, the pollution on that road grows significantly, and we are forced to deal with numerous issues while traveling on that road, as a result.</p> <p>Male: The highway connecting Bhomra land port Zero Point and Satkhira Sadar is approximately 14 kilometers long. Everything has been shattered. When going in any car, one must contend with a great deal of tremors because of uneven roads. When big vehicles transporting products are in motion, there is a significant risk of losing their balance and crashing. Furthermore, because of the poor condition of the roads, a great deal of dust is blown around while vehicles are driving, increasing the danger of road accidents in the evening. There is a lot of mud on the roadways during the rainy season and individuals must suffer a lot of abuse while walking around during this time.</p> <p>Female: Their claim is that the roads in this area are growing worse. The road is not very wide. Also, heavy traffic bottlenecks impede travel. They believe that widening the route will reduce road accidents. They also reported road accidents occur frequently here. The government is currently repairing the Bhomra Zero Point major road. As repairs began on one side of the road and moved to another, the condition on the other side deteriorated. The lack of frequent street water spraying creates a lot of dust in the air, causing respiratory issues.</p>	<p>A bypass road has been suggested or proposed to facilitate traffic flow in the project area.</p>
<p>Labor Law</p>	<p>C&F Agents/Port Labor Union: They are completely clueless when it comes to labor Law. Some of them stated that they were aware of the labor law but were unclear as to why it existed or how it is enforced. Even now, no one or organization has come forward to tell us anything about this, they said. They stated that the employees in this area are required to labor for their own benefit.</p>	<p>They have been assured of proposing a provision regarding recruitment, contract, remuneration, health care, etc. of the project workers.</p>