ENVIRONMENTAL AND SOCIAL MANAGEMENT FRAMEWORK (ESMF)

BD RURAL WATER SANITATION AND HYGIENE (WASH) FOR HUMAN CAPITAL DEVELOPMENT PROJECT

DEPARTMENT OF PUBLIC HEALTH ENGINEERING (DPHE)

PALLI KARMA SAHAYAK FOUNDATION (PKSF)

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EXECUTIVE SUMMARY

Government of Bangladesh (GoB) intends to implement BD Rural Water, Sanitation and Hygiene for Human Capital Development Project with financial support from the World Bank (WB) and Asian Infrastructure Investment Bank (AIIB) to reform institutions and improve WASH services that meet the 'safely-managed' services in line with SDG 6.1 and 6.2 in selected rural areas of Bangladesh. Department of Public Health Engineering (DPHE) and the Palli Karma Shahyak Foundation (PKSF) jointly are the Implementing Agencies (IA) of this project.

The Agreement between the World Bank and the AIIB in 2016 (as amended in 2018) stipulats that the World Bank will supervise the project and administer both IDA and the AIIB loans in accordance with the World Bank's policies and procedures. World Bank's Environmental and Social Framework (ESF) will be applied and AIIB will rely on the ESF and World Bank's due diligence to assess and manage ES risks and impacts. All E&S assessments and documents will be prepared as per the ESF and the World Bank would review the same.

Along with WB ESF requirements, the project also needs to comply with the national environmental regulations in accordance to the Environmental Conservation Act 1997 (GoB, 1997). As specific project locations and the specific sub-projects (including sub-project sites and design) are yet to be identified, a *framework approach* has been adopted through the development of thisEnvironmental and Social Management Framework (ESMF).The ESMF illustrates policies, procedures and directives on how to assess specific ES risks and provide guidance to mitigate them. The ESMF also provides guidelines for screening of sub-projects for ES risks and assessment of Borrower's capacity and institutional requirements. During implementation, site-specific ES assessments will be carried out in accordance ESMF, which will be prepared and implemented prior to the commencement of the specific work.

The project has provision for large scale piped water schemes for around 78 water scarce communities of 300-700 households in around 78 Upazilas of 18 Districts of 4 divisions (Mymenshingh, Rangpur, Chattogram and Sylhet) in Bangladesh, whose specific locations are not known yet. It has also small piped water schemes for 3,000 water scarce communities of 30-40 households. Sanitation facilities with two-pit latrine will also be provided under the project. The Project has further schemes to enable about 40,000 households to borrow from Micro Finance Institutions (MFIs) for household water facility improvements. Vulnerable people will be provided free of cost sanitation facilities.

The project has five major components:

Component 1: for Investments in water supply to support around 78 piped water schemes for water scarce communities of 300-700 households; 3,000 water scarce communities of 30-40 households; loans through MFIs for water improvements to about 40,000 households and local water entrepreneurs; and feasibility studies in high climate risk regions to identify sources for drinking water and examine technological options and their financial viability in five Districts in Southern Bangladesh.

Component 2: for Investments in sanitation and hygiene to improve public sanitation and hygiene facilities in high pedestrian traffic locations, community health clinics, and non-government schools; two-pit latrines and handwashing stations to households through MFI loans or grants, depending on their income level; MFI loans to local sanitation and hygiene entrepreneurs to expand their businesses and offer them training on proper installation and maintenance of SDG-6 compliant WASH facility products; localize innovation WASH technologies, especially in faecal

sludge management; and Behavioral change communication (BCC) campaign to change WASH behaviors and raise WASH awareness and willingness to pay tariff.

Component 3: Institutional strengthening will support drafting policy documents that would be critical in implementing the newly drafted National Strategy for Water Supply and Sanitation; capacity building through multi-year training to targeted central and local government officials working in the WASH sector.

Component 4: Project implementation and management will support key project management activities enabling the DPHE and PKSF to coordinate and implement the proposed project.

Component 5: Emergency response COVID-19 emergency response will provide quick, just-in-time WASH services where needed to cope with the fast changing COVID-19 situation; contingent emergency response component (CERC) will allow for rapid reallocation of loan proceeds from other project components during an emergency.

During preparation of this ESMF, potential beneficiaries and local stakeholders including Union Parishad, UpazilaParishad, MFIswere consulted, and their opinions were sought about the potentials risks and mitigation measures. Prior to COVID-19 related restrictions on movement were put in place, four stakeholder consultation meetings were held at Chattogram, Mymensingh and Rangpur divisions, instead of planned nine meetings. Opinion/concerns of the stakeholders, to the extent consulted, have been considered in thisESMF. Relevant information on COVID-19 following the WHO guideline were delivered to the people including guidance on regular hand washing, social distancing, behavioural change, isolation, etc. The Project has developed a Stakeholder Engagement Plan (SEP) proportionate to the nature and scale of the project and its potential risks and impacts. Considering the project nature, location, magnitude of impacts, etc. potential risks and mitigation measures have been suggested in this ESMF following the Word Bank ESF.

The anticipated environmental risks of the project will emanate from water contamination, discharge of sludge and untreated sewage. The anticipated major social risks will mostly be associated with exclusion of certain vulnerable groups and individuals and community health and safety issues. The proposed sanitation activities reduces open defecation, which is of significant importance. Without the project, the current practice of unhygienic and random disposal of fecal waste leads to pollution of natural resources and affects human health. Construction related impacts (noise, air and water pollution) will also need to be managed with proven best practices. The ESMF addresses these areas to propose policies and procedures regarding mitigation measures and recommends modalities to maximize project benefits for the target population by aligning the project design with the socio-cultural and context specific needs of communities.The expected ES impacts can be mitigated through implementation of appropriate environmental code of practice and ES management plans. Given the COVID-19 pandemic IA will need to put adequate measures for workers as well as local communities where project will be implemented so that spread of the virus does not deter the project implementation. Considering the ES risks and impacts associated with the proposed project activities, and the implementing agencies relevant past experience and capacity in managing identified risks, the overall ES risk of the project is rated Moderate.

Before implementation *of* Sub-projects, they be screened to get an idea about the degree and extent of potential risks and impacts, which will subsequently be used to assess the need for further ES assessment. The screening would involve: (i) reconnaissance of the sub-project area and its surroundings (ii) identification of the major sub-project risks; and (iii) preliminary assessment of the impacts of these activities on the ecological, physicochemical and socio-economic environment of the sub-project surrounding areas.

In line with the requirement of ESF, a Stakeholders Engagement plan (SEP), Labor Management Procedure (LMP), environmental and social commitment plan (ESCP) have been developed. Apart from these, a Grievance Redress Mechanism (GRM) for the potential affected and beneficiary groups have been designed. A separate GRM to deal with labor issues has been formulated. A specific section on COVID19 risks and awareness has also been formulated in the LMP. It is ensured in the ESMF that the labor and others associated with the WASH project implementation will be trained on COVID-19 protocols.

DPHE and PKSF, the two Implementing Agencies (IAs) of the project will have two separate Project Management Units (PMU). DPHEwill play the main role in the development of public infrastructure under the project. DPHE will be responsible for supporting piped water schemes, providing public WASH facilities, including in healthcare centers and community secondary schools, and offering sanitation grants for the poorest and other associated activities as per terms and condition. The PMU at DPHE will comprise a full-time project director, a deputy project director, and personnel with specialization in financial management, procurement, monitoring and evaluation, ES and others, posted from within the DPHE and recruited from the open market.

PKSF will play the main role in the development of private assets under the project. Under this project, PKSF will be responsible for offering wholesale capital to retail MFIs, which in turn will give loans to households to upgrade the WASH facilities at their home in the project areas. In addition, PKSF will extend capacity building support to retail MFIs and local entrepreneurs for creating demand and installing SDG-6 compliant WASH facilities. The PMU at PKSF will comprise a full-time project director and personnel with specialization in financial management, procurement, monitoring and evaluation, ES and others, posted from within the PKSFor recruited from the open market.

At the national level, a project steering committee (PSC) will be established in the Local Government Department (LGD) under the Ministry of Local Government, Rural Development and Cooperative (MoLGRD&C), chaired by the Secretary of the LGD, to provide overall guidance and policy direction. The PSC will consist of representatives from the DPHE, PKSF, the Financial Institutions Division and the Economic Relations Division (ERD) under the Ministry of Finance, the Ministry of Health and Family Welfare (MoHFW), and the Planning Commission. The Department of Environment (DoE) will approve subprojects.

Union Parishad (UPs) and Ministry of Health and Family Welfare (MoHFW) will also be involved in the project design and implementation process. Enhancing the sense of ownership and capacity of UPs to plan, deliver, and manage WASH services is a top priority.

Capacity assessment of the IAs have been carried out for implementing ES obligations as well as capacity development measures like manpower and training also have been recommended in the ESMF.

ABBREVIATIONS

ARIPA	Acquisition and Requisition of Immovable Property Act
BBS	Bangladesh Bureau of Statistics
BCC	Behavioral Change Communication
BDT	Bangladeshi Taka
BOT	Build-Operate-Transfer
CBO	Community Based Organization
CER	Contingent Emergency Response
CGR	Central Grievance Redress
DBO	Design, Build, Operate
DMD	Deputy Managing Director
DoE	Department of Environment
DPHE	Department of Public Health Engineering
DPO	Development Policy Operation
ECA	Environmental Conservation Act
ECR	Environment Conservation Rules
EHS	Environment Health Safety
EHSGs	Environmental, Health, and Safety Guidelines
EIA	Environmental Impact Assessment
ES	Environmental and Social
ESCP	Environmental and Social Commitment Plan
ESF	Environmental and Social Framework
ESMF	Environmental and Social Management Framework
ESMP	Environmental and Social Management Plan
ESS	Environmental and Social Standards
FIs	Financial Intermediaries
GHG	Green House Gas
GRC	Grievance Redress Committee
GoB	Government of Bangladesh
GR	Grievance Register
GRM	Grievance Redress Mechanism
HSSP	Health Sector Support Project
IEE	Initial Environmental Examination
IFC	International Finance Corporation
IPF	Informed, Prior, Free
KFAED	Kuwait Fund for Arab Economic Development
LE	Local Enterprise
LGD	Local Government Division
LGR	Local Grievance Redress
MFI	Micro Finance Institution
NOC	No Objection Certificate
O&M	Operation and Maintenance
OHS	Occupational Health and Safety
PDO	Project Development Objective
PIM	Public Investment Management
PKSF	Palli Karma-Sahayak Foundation
PMU	Project Management Unit
PO	Partner Organization
PPE	Personal Protective Equipment
SCP	Social Commitment Plan
SDC	Swedish Development Corporation
SDG	Sustainable Development Goal
SEA	Strategic Environmental Assessment
SEP	Stakeholder Engagement Plan
TA	Technical Assistance
TPP	Tribal Peoples Plan
UP	Union Parishad
WASH	Water, Sanitation and Hygiene
WB	World Bank

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INTRODUCTION AND PROJECT DESCRIPTION

Background

Bangladesh has seen significant progress on reducing extreme poverty and boosting shared prosperity, especially through human development. Nevertheless, significant human capital development challenges remain as the country aspires to meet its target of eliminating poverty by 2030 and attaining upper middle-income status by 2031. With 63 percent of the population living in rural areas, the population in Bangladesh is predominantly rural, so continued investment in rural areas is important to realize the country's human capital potential.

The Bank's Bangladesh Water, Sanitation and Hygiene (WASH) Poverty Diagnostics highlighted the implications of WASH access and quality on the country's human capital development and poverty reduction. It points out with more than one-third of children under five stunted and their ability to grow and learn subsequently limited, Bangladesh is not achieving its fullest potential. This is because children's inability to grow to their full physical and cognitive potential may have long-lasting effects on their future schooling and earnings, in turn reducing productivity through the associated costs of healthcare and time loss placed on the individual and their households. The poorest, especially poor women and girls, feel the greatest burdens of inadequate WASH because of its negative synergies with other life deprivations such as little income, poor access to health services, food insecurity, and low levels of education. In particular, menstrual hygiene practices can have impact on girls' health and human capital since times of menstruation can prevent some girls from attending school. Over time, evidence has suggested that successful WASH interventions may improve overall health and reduce stunting in children under-5 years of age. This occurs through multiple pathways that include: (i) fewer episodes of diarrheal disease; (ii) improved gut health; (iii) reductions in protozoa and helminthic infection; and (iv)reductions in anaemia. Furthermore, quality WASH services are an essential part of preventing disease and protecting human health during infectious disease outbreaks. Easy access to clean and reliable water supply is needed for hand washing and cleaning and disinfecting surfaces where germs and viruses settle. Hand washing with soap is one of the most important things to slow infectious diseases, such as diarrhoea, cholera, typhoid, and COVID-19. The Project is planned to address the given issues above.

Project Description

The Project aims to enhance living standards, overall environmental and social status of the project area and its population by strengthening water supply and sanitation system. The Project Development Objectives are to: (i) improve access and quality of water supply, sanitation, and hygiene (WASH) services in selected areas of rural Bangladesh; and (ii) strengthen sector policy and institutional capacity for delivery of Sustainable Development Goal (SDG)-6 on clean water and sanitation.

The project encompasses five main components:

Component 1: Investments in water supply.

(i) 1.1: Large piped water schemes will support 78 piped water schemes for water scarce communities of 300-700 households.

(ii) 1.2: Small piped water schemes will target 3,000 water scarce communities of 30-40 households.

(iii) 1.3: Household loans for water improvements will enable about 40,000 households to borrow from MFIs for household water facility improvements.

(iv) 1.4: Water supply market development will provide MFI loans to local water entrepreneurs.

(v) 1.5: Feasibility studies in high climate risk regions will identify sources for drinking water and examine technological options and their financial viability in five Districts in Southern Bangladesh.

Component 2: Investments in sanitation and hygiene.

(i) 2.1: Public sanitation and hygiene facilities will invest in sanitation and hygiene facilities in high pedestrian traffic locations, community health clinics, and non-government schools.

(ii) 2.2: Sanitation and hygiene facilities for households will provide two-pit latrines and handwashing stations to households through MFI loans or grants, depending on their income level.

(iii) 2.3: Sanitation and hygiene market development will provide MFI loans to local sanitation and hygiene entrepreneurs to expand their businesses and offer them training on proper installation and maintenance of SDG 6 compliant WASH facility products.

(iv) 2.4: Innovation will help localize innovation WASH technologies, especially in faecal sludge management.

(v) 2.5: Behavioral change communication (BCC) campaign will carry out activities to change WASH behavior and raise WASH awareness and willingness to pay.

Component 3: Institutional strengthening.

(i) 3.1: Strengthening of policies and regulatory frameworkwill support drafting policy documents that would be critical in implementing the newly drafted National Strategy for Water Supply and Sanitation.

(ii) 3.2: Capacity building will design and deliver a series of multi-year training to targeted central and local government officials working in the WASH sector.

Component 4: Project implementation and management. This component will support key project management activities enabling the DPHE and PKSF to coordinate and implement the proposed project.

Component 5: Emergency response.

(i) 5.1: COVID-19 emergency response will provide quick, just-in-time WASH services where needed to cope with the fast changing COVID-19 situation.

(ii) 5.2: Contingent emergency response (CERC).A provisional zero amount component is included, which will allow for rapid reallocation of loan proceeds from other project components during an emergency.To trigger this component, the GoB would need todeclare an emergency, a state of a disaster or provide a statement of fact justifying the request forthe activation of the use of emergency funding. Annex B covers list of subproject that will not be eligible under CERC.

This project will be implemented in around 78 Upazilas in 18 Districts (list atAnnex A and map provided below), where site specific information are not known yet. The Upazilas were chosen based on levels of water availability and quality, WASH coverage, and quality of MFI services.

Through this project, it is estimated that about 3.4 million people living in 78 Upazilas in Mymensingh, Rangpur, Chittagong, and Sylhet Divisions will have better access to 'safely-managed' WASH facilities in their home, and more people will have access to 'safely-managed' WASH facilities in public spaces and health facilities. Further 2.6 million people are expected to gain access to 'safely-managed' WASH facilities through a revolving fund that would be set up by PKSF using the capital provided by the project. The enhanced access to 'safely-managed' WASH facilities may especially benefit children, women, the vulnerable groups, since they are most susceptible to health consequences of non-access and subsequent deprivation of life-long economic and educational opportunities.

The project will also benefit national and local governments by supporting institutional reforms and capacity building activities. In addition, the private sector will benefit from the project through increased capital for WASH loans, and market creating and capacity building activities to deliver 'safely-managed' WASH facilities.

The most vulnerable people in project locations will be identified using the convergence approach. They include households with children under five and the poorest households, the latter of whom are important to achieve 100 percent sanitation coverage in project locations and, therefore, will receive the sanitation grants. The Project will also support provision of mini water supply with hand wash facilities in around 700 locations of 5 Districts of Bangladesh to address COVID-19 issues.

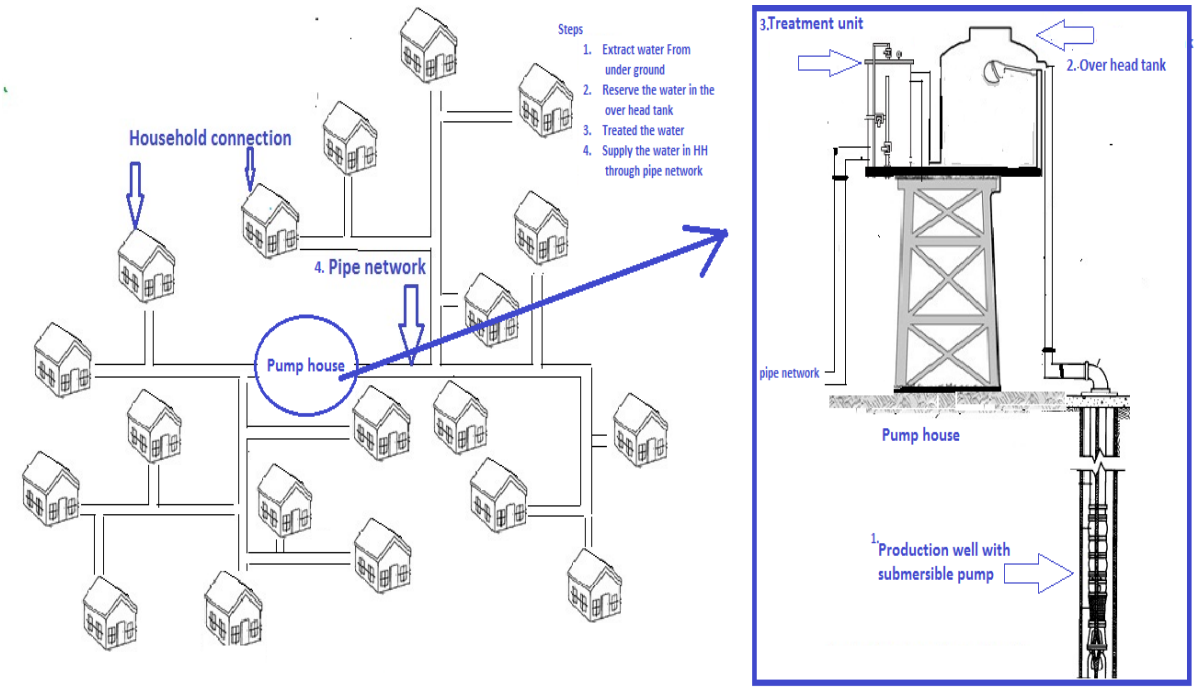
The Project will be funded by IDA ($200 million), Asian Infrastructure Development Bank (AIIB) ($200 million and the Borrowing Agency ($143.40 million). The Agreement between the Bank with the AIIB in 2016 (as amended in 2018) stipulates that WB will supervise the Project and administer both IDA and the AIIB loans in accordance with the WB's policies and procedures. Accordingly, it was agreed with AIIB that a common approach will be applied to the whole program/corridor regardless of source of financing. In this case, the WB's ESF will be applied and AIIB will rely on the ESF and Bank's due diligence to assess and manage ES risks and impacts. All preparation assessments and documents would be prepared as per the ESF and the Bank would review the same.The ESCP will record both the GoB's commitment to apply the ESF to the AIIB-financed works and to facilitate and support supervision which will be carried out by WB and AIIB. There will be a single Grievance Redressal Mechanism (GRM) covering the project.

In Component 1, the project plans to replace existing handpumps with electric tube well pumps—using solar power where feasible—combined with water treatment and nonstop pressurized piped water supply with fully subsidized household connections. Typical scheme setup is shown in the figure below. Sub-component 1.1 will target 78 water scarce communities of 300-700 households (1,350-3,150 people) and provide piped water to rural homes. The unit cost per schemes is estimated at US$450,000-500,000.There will be two implementation modalities:

(i) For a majority of the schemes, the DPHE will procure consultancies to design and supervise the construction of rural water schemes and subsequently engage operators to build-and-operate (BO) water schemes for seven years. The asset ownership will lie with the UPs, which will be responsible for securing the land for water infrastructure with support from a Technical Assistance (TA) firm. Economies of scale especially in the service provision of rural water schemes are essential. Such efficiencies and proportionate savings will be gained by clustering up to 20schemes into one service contract.

(ii) To pilot design, build, and operate (DBO) contracts, one cluster of water schemes under this sub-component will be procured via the DBO delivery model in which a single contractor/operator is

appointed to design-and-build rural water schemes and then operate it for seven years. The DBO firm could be a social business enterprise, or a consortium of NGOs and contractors. The DBO firm will be responsible for O&M of the cluster of water schemes.



Sub-component 1.2 will target about 1,300-1,700 communities with severe safe water shortages and water quality problems. Around 3,000 small piped water schemes, 1-3 schemes per community, will be invested, eachserving 30-40 households (135-180 people). The unit cost per small scheme is estimated at US$12,500-15,000. As per government policy, the community will be responsible for contributing an upfront payment of BDT7,000 (around US$82) in addition to the monthly water tariffs. To enhance the financial and operational sustainability, expedite project implementation, and fully benefit from economies of scale, design-build-operate (DBO) contracting will be used in clusters of 20-40 schemes per contract.

Sub-component 1.3will enable a targeted 60,000 households to borrow capital to upgrade their water facilitieson the premises, for example for handwashing and bathing. This may also comprise the electrification of the existing shallow and deep bores currently fitted with suction or positive displacement handpumps. The PKSF will develop certified quality household water and wastewater plumbing standards (to be approved by the DPHE) and train Local Enterprises (LEs) to install facilities to this standard. By the end of the project period, at least 80 percent of the MFIs will be required to issue a water loan policy and allocate some of their own capital to household water loans. Further 60,000 households are expected to borrow US$17.6 million from the revolving fund, which will be established using the household loan repayments.

Component 2 will focus on providing quality assured, climate resilient latrines and promoting hygiene, including through provision of handwashing stations. This will be achieved through interventions both in the public and private sectors.While low cost options have significantly increased access to 'improved' sanitation, in 2017, only 32 percent of the rural population had access to a 'safely-managed' sanitation service, and 35 percent still were using 'unimproved'

sanitation facilities.[1]Although inequality in access to at least 'basic' sanitation services has lessened since 2000,[2]the difference between the poorest and richest wealth quintile of the population was still stark in 2017, nationally at 23 percent and 75 percent respectively. Access to piped sewerage collection in rural areas is less than 1 percent, and there is no available household data on on-site faecal sludge management (FSM), such as information on pit or septic tank emptying practices or waste disposal and treatment. When offset pit latrines have two alternating pits, the pit that is offline can neutralize the pathogensgiven sufficient time, enabling the safe removal of the faecal sludge following WHO guidelines.[3] Adherence to the twin alternating offset pit latrine standard, along with the provision of training to households and local entrepreneurs on the correct procedures for O&M and safe disposal of faecal sludge, is considered to facilitate compliance to the SDG 6.2 'safely-managed' sanitation servicestandard. However, it is believed most of the faecal sludge is not properly disposed in rural areas, and consequently, contamination of shallow ground water tables and of surface water bodies is a significant policy concern.

Sub-component 2.1 will target 312 public toilet facilities in high pedestrian traffic locations, such as markets and bus station. Also, about 1,280 community clinics will receive support for renovation or new construction of their WASH facilities, both for patrons and medical purposes. Works will include the delivery of a quality source of piped water for handwashing, sanitation, and hygiene. Sub-component will finance 'safely-managed' sanitation and hygiene facilities for households. This will prioritize twin offset pit latrines which facilitate the safe management of faecal sludge and may also include handwashing, bathing, and drainage facilities. The PKSF will develop certified quality latrine facility standards (to be approved by the DPHE), train LEs to install facilities to this standard, and oversee two-step standards verification. Households will receive two different types of support based on their income level. The provision of a US$117.6 million capital loan by the government to the PKSF will enable a targeted 500,000 households to install twin offset pit latrines and hygiene facilities. Households will receive a rebate for the cost of the second pit as an incentive. By the end of the project period, at least 80 percent of MFIs will be required to issue a sanitation and hygiene loan policy and allocate capital to household sanitation and hygiene loans. Further 500,000 households are expected to borrow US$117.6 million from the revolving fund, which will be established using capital from the Bank and PKSF. Also, grants will be provided for fully subsidized toilets to about 304,000 poorest households (around 10 percent of the total households in the project locations). Sub-component 2.3 will facilitate MFI partners to lend an estimated US$7.1 million to 4,000 LEs to expand their capacity to respond to the increased household demand for latrine facilities. The PKSF will train LEs to install certified sanitation facilities and expand the business models of builders, masons, and hardware shops to offer turn-key sanitation facilities at households' doorstep. The PKSF is also targeting the extension of loans to an estimated 150 women entrepreneurs to market and sell sanitary napkins for menstrual hygiene management.

Sub-component 4.1 will include the establishment a WASH PMU within the DPHE including: the engagement of seven staff (financial management, engineering, hydrogeologist, environmental, social, procurement, M&E specialists) and resources for management of the project; a total of 12

[1] UNICEF and WHO.

[2] In 2000, the access rate to at least 'basic' sanitation for the poorest wealth quintile was 8 percent, while that for the richest wealth quintile was 63 percent.

[3]WHO. 2006.*Guidelines for the safe use of wastewater excreta and greywater. Volume IV: Excreta and Greywater Use in Agriculture.* Geneva: World Health Organization (WHO).

district coordinators with resources for project monitoring; and resources for improving water quality monitoring by DPHE laboratories in the project areas. Firms and/or individual consultants will be engaged for assignments that include the development of monitoring software and dashboard (including the training of PMU, UP staff, TA firms, contractors, and LEs); the design/supervision of piped water schemes and public toilets; the development of piped water system monitoring software/dashboard (including water quality) and training PMU, UP staff and LEs; the development of baseline and end-line monitoring of 'safely-managed' WASH status; the development of water quality laboratory monitoring systems; and an impact evaluation examining correlation between 'safely-managed' WASH investments and human capital outcomes.

Sub-component 4.2 will include: the establishment a WASH PMU within the PKSF including the engagement of estimated eight staff (engineering, environmental, social, procurement, and MIS specialists) for project implementation; the part-time deployment of a project director and three deputy project directors of audit, finance, and projects; and five independent verification consultants with resources for field visits, verification, and mobile monitoring. Firms and/or individual consultants will be engaged for assignments that include: the development of monitoring software and dashboard (including the training of PMU, MFIs, and independent verification personnel); the detailed design of the household water and sanitation facility standards (in compliance with SDG 6.1 and 6.2); the development of behavior change communication materials (including the training of PMU and MFI staff, LEs, and UPs); the engagement of firms to support the development of mobile phone monitoring software and dashboard; periodic review meetings and experience the sharing of good practices; and the undertaking of annual financial audits.

Purpose of the ESMF

As specific project locations and the specific sub-projects (including sub-project sites and design) are yet to be identified, a *framework approach* has been adopted through the development of an Environmental and Social Management Framework (ESMF). The *framework* for carrying out ES assessment of sub-projects to be implemented under the project has been prepared based on an *overall ES assessment* of the prelimenery selected sub-projects ares. This Environmental and Social Management Framework (ESMF) is an integral part of the project document.

The ESMF illustrates policy, procedure and directives on how to assess specific ES risks and provide guidance to mitigate them. The ESMF also provides guidelines for screening of sub-projects for ES risks and assessment of Borrower's capacity and institutional requirements. During implementation, site-specific ES assessments will be carried out in accordance ESMF, which will be prepared and implemented prior to the commencement of the specific work. The site specific assessments will help adoption of mitigation measures against the ES risk and impacts (through preparation of ESMP) and to address the issues of inclusion, social vulnerability of certain groups, gender and GBV, consultation and communication strategy and any other issues identified via the assessment and the stakeholder consultations.

The main purposes of this ESMF are to:

- Provide tools and guidelines for environmental and social (ES) risk categorization of all the sub-projects to be implemented under the project for which detail information are not available at this stage
- Set out the detailed procedures to be followed for various sub-project categories to assess and manage ESrisks

- Consider in an integrated manner, the potential ES risks, benefits and impacts of the project and help identify measures to avoid, minimize and manage risks and impacts while enhancing benefits
- Ensure all relevant ES issues are mainstreamed into the design and implementation of the sub-projects
- Provide guidance for preparation of various Environmental and Social Framework (ESF) related instruments
- Provide guidance for ensuring stakeholder engagement at various stages of sub-project implementation.

Once details of the project sites/ subprojects are available at later stages of the project, the need for and type of ES assessments and management plans, will be reviewed, according to World Bank (WB) policies and Government of Bangladesh (GoB) legislation.

Methodology

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

- Review Project documents and meeting/discussions with various stakeholders including IAsand the WB
- Review policy and regulatory requirements
- Initial scoping and screening to determine the key ES parameters and aspects that are likely to be impacted by the Project activities
- Collection and analysis of baseline ES data, with the help of secondary literature review, and field data collection
- Consultations with the stakeholders including beneficiary/ affected communities and developing the consultation process
- Review the potential and likely impacts of the program activities and carrying out the screening of the sub-project
- Outline the detailed procedures to be followed to comply with the WB and GoB rules and regulations including preparation of various ES documents, monitoring mechanism, stakeholder engagement, disclosure requirement, grievance redress and institutional arrangement.

Analysis ofAlternatives

An analysis of alternatives is presented below for the following scenario: with/ without project alternative.

At present, the water and sanitation services in the project areas are in poor condition and access to clean water and sewage services and sanitation is limited. This leads to high incidence of intestinal helminths, diarrhea and other water and sanitation related diseases. In areas without water supply systems, people use water from a variety of sources such as rivers, irrigation canals, and transported water by van etc. Especially in summer when the river water sources dry up, people use irrigation canals which can have contaminated water. The concept of safe sanitation is missing—rural residents construct pit latrines and manage sanitation issues on their own. In comparison to this situation, it can be expected that the project would improve the health conditions of the local population in the target area and also decrease unnecessary hard work (particularly for women and youth) caused by transporting water, sometimes over long distances. The importance of improved water supply was also highlighted by the local authorities and other stakeholders participating in various project stakeholder engagement events. Further, construction of twin pit latrines instead of

present open defecation/ rural latrine would also bring about better hygiene and safe disposal of human waste.

However, water usage efficiency and septage transportation etc. should be given focus too to ensure resource efficiency and community health and safety issues.

In conclusion, it is clear that the project implementation would improve access to safe water to the population of the selected sites as well as provide better alternatives through use of twin pit latrines and provision of household loan to setup the same. If potential ES problems can be further reduced in accordance with the mitigation to be defined in later stages of the project (ES assessments and management plans), the project would improve the water supply and sanitation and hygiene sector in the area.

LEGAL, REGULATORY AND ADMINISTRATIVE FRAMEWORK

Introduction

The nation is committed to socio-economic development through sustainable natural resources management and environmental conservation. GoBhas already incorporated environment and biodiversity conservation in its constitution in the 15th amendment (act no. 14 of 2011).GoBalso revised National Environmental Policy, 1992 and Environmental Conservation Rules (ECR), 1997 andadopted Environmental Conservation Acts in 1995. The National Environment Policy has integrated other sector's policies and those policies also integrated national environment policy as cross-cutting issue. Social policy regarding Labor Laws/Act, laws regarding women's rights, laws addressing contagious diseases etc. also come in to application in this project. Further WB's Environment and Social Framework (ESF) and Environment, Health and Safety Guidelines (EHSG) have their applicability in the project. A review of these policies and legal instruments are presented in this section.

Review of National Environmental & Social Acts, Rules, Polices and Strategies

Constitution of Bangladesh (Relevant sections)

Article 18A of the constitution of Bangladesh recognized the environmental conservation and natural resources management for the betterment of its present and future citizen. This article stated as "The State shall endeavour to protect and improve the environment and to preserve and safeguard the natural resources, bio-diversity, wetlands, forests and wild life for the present and future citizens".

National Environmental Policy, 2018

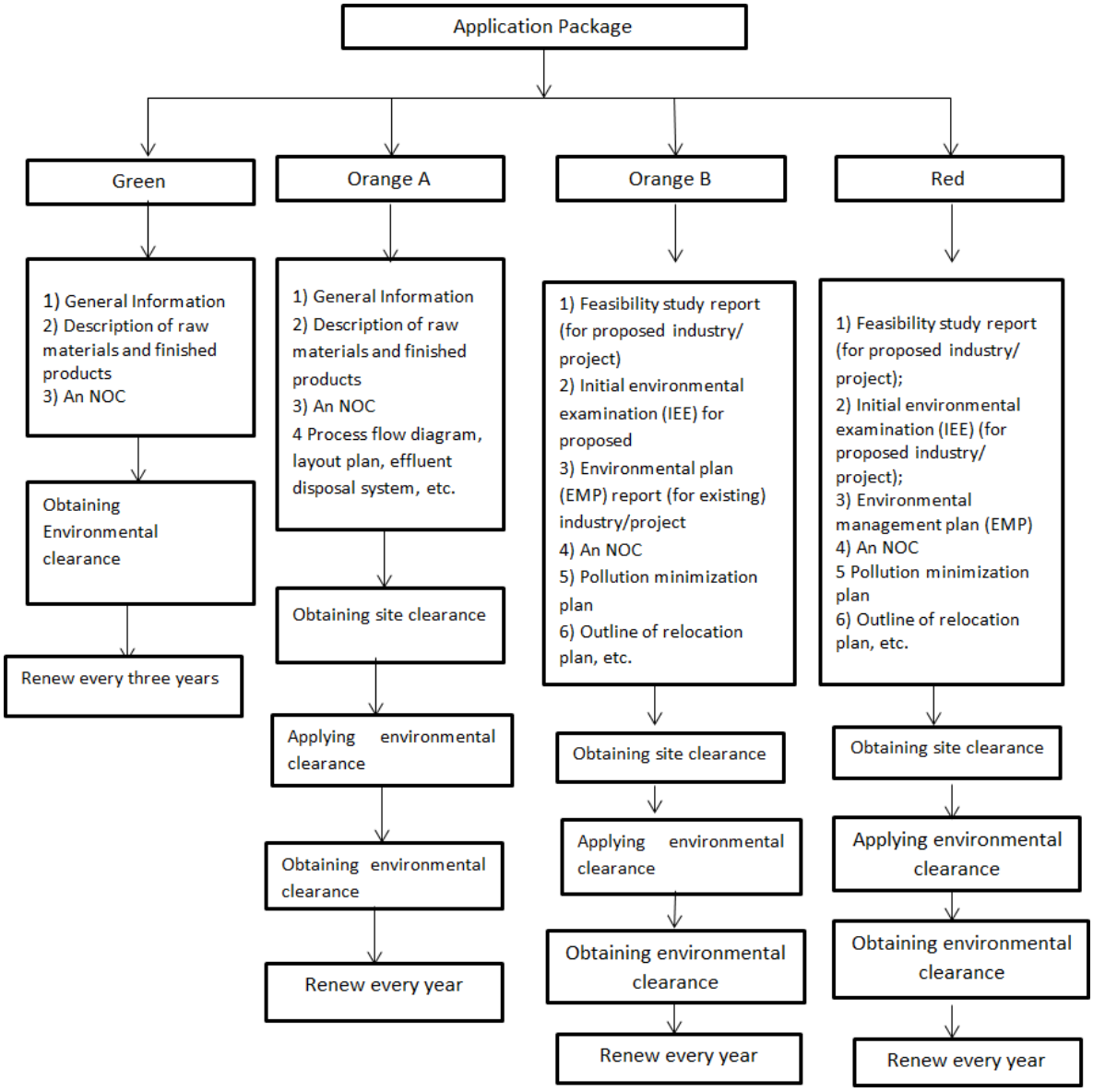
The policy has identified twenty four sectors of different attributes to ensure environmental conservation and management. 'Safe food and water' and 'Public Health and Health Services' are the two important sectors among them that the policy focuses on. This two sectors are closely linked with this project. 'Safe food and water' sector puts emphasis on ensuring healthy and environment friendly production, processing, storage, transportation, marketing etc. of food, water and other dinks. It also prohibits establishment of industries and waste discharge point and waste dumping centres, sanitary land fill etc. which are closed to water sources. The National Environment Policy recognizes that clean environment is the pre-requisite of good health. Hence, it includes environmental conservation issues related to plans, policies and other programs for the sake of public health in the country.

Environmental Conservation Act, 1995 (amended, 2010)

This umbrella Act includes laws for conservation of the environment, improvement of environmental standards, and control and mitigation of environmental pollution. It is currently the main legislative framework document relating to environmental protection in Bangladesh, which repealed the earlier Environment Pollution Control ordinance of 1977.

Environmental Conservation Rules (ECR), 1997 (amended, 2020)

The Environment Conservation Rules (ECR), 1997 and its amendment in 2010 provide a first set of rules under the ECA, 1995. These provide standards and guidelines for requirement for undertaking Initial Environmental Examination (IEE) and Environmental Impact Assessment (EIA), as well as formulating an Environmental Management Plan (EMP) according to categories of industries/development projects/activities.It is to be noted that the Department of Environment (DoE) will review/ approve few of each types of subprojects. Remaining subprojects will follow DoE guidelines accordingly. ESIA and ESMP will be reviewed by WB ES teams.Rule 7 of ECR has classified projects into Green, Orange A, Orange B and Red category basing on Environmental risk. Environmental Clearance Certificate is issued for projects of Green Category by Department of Environment (DoE) without a need for Environmental Impact Assessment (EIA). For other category projects, location clearance certificate followed by issuance of Environmental Clearance Certificate upon satisfactory submission of the required documents is necessary. Figurebelow showstheprocessofapplicationleadingtoenvironmentalclearanceforall fourcategoriesofprojects. It may be noted that all subprojects in the project are either Green or Orange Cat A category.



National Health Policy (NHP) 2011

National Health Policy (NHP) 2011 views access to health as a part of recognized human rights. In order to achieve good health for all people, equity, gender parity, disabled and marginalized population access in health care need to be ascertained.

National Water Policy, 1999

The water policy of the government aims to provide direction to all agencies working with the water sector, and institutions that relate to the water sector in one form or another, for achievement of specified objectives.

The policies set forth are considered essential for addressing the objectives of improved water resources management and protection of the environment. Every public agency, every community, village and each individual have an important role to play in ensuring that the water and associated natural resources of Bangladesh are used judiciously so that the

future generations can be assured of at least the same, if not better, availability and quality of those resources.

Bangladesh Labor Act, 2006

The Bangladesh Labour Act was adopted in 2006. The act consolidated the laws relating to employment of workers, relations between workers and employers, determination of minimum rates of wages, payment of wages, compensation for injuries to workers during working hours, formation of trade unions, raising and settlement of industrial disputes, health, safety, welfare and working conditions and environment of workers and apprenticeship and matters ancillary. The act has widened benefits of the workers particularly women workers

Sustainable Development Goal (SDG) sections 6.1 and 6.2

The Sustainable Development Goals (SDGs) are globally accepted development goals that focuses on 17 goals with 169 targets and 230 indicators. The project will contribute to achieving SDG6 i.e. 'Ensure availability and sustainable management of water and sanitation for all.' In particular, the project will directly contribute to achieve target 6.1: universal and equitable access to safe and affordable drinking water for all by 2030 and 6.2: access to adequate and equitable sanitation and hygiene for all and end open defecation, paying special attention to the need of women and girls and those in vulnerable situations by 2030.

The Acquisition and Requisition of Immovable Property Act (ARIPA), 2017

Land acquisition in Bangladesh is governed by 'The Acquisition and Requisition of Immovable property Act, 2017'. No Land Acquisition will be required for this project. It is unlikely (based on the experience of other similar projects) that physical displacement will occur, but temporary disturbances and impacts on businesses, access to and from homes (especially with regards to piped water and individual connections) may occur. After the proposed sites are identified and based on screening an Abbreviated Resettlement Action Plan (A-RAP) may be prepared, if required.

National Women Development Policy 2011

This policy was developed with the objective to establish equal rights of men and women in areas of state and public life, to ensure security and safety of women, to ensure the socio-economic, political, administrative and legal empowerment and to establish human rights of women.

Communicable Diseases (Prevention, Control and Eradication) Act 2018.

The Act was passed in 2018 and it repealed and merged some of the dated laws and ordinances regarding infectious disease control, including the Epidemic Diseases Act (1897), the Public Health (Emergency Provisions) Ordinance (1944), the Bangladesh Malaria Eradication Board Ordinance (1977) and the Prevention of Malaria (Special Provisions) Ordinance (1978). The objective is to protect the people from the national and international spread of infectious diseases, to prevent, control and eradicate such diseases, to issue global alerts and to increase mutual support for the outbreak of the disease, to increase the capacity for precise risk management and to spread related education, to review the progress of diseases, to protect rights including Systematic loss.

World Bank's Environmental and Social Framework (ESF)

The Environmental and Social Framework (ESF) has 10 Environmental and Social Standards (ESS) of them some are relevant to this project.

Table 1. ESF Requirement and Relevance with the Project

ESSs	Requirements	Extent of Relevance to the sub-projects/project
ESS-1 Assessment and Management of ES Risks and Impacts	The types of ES risk and impacts that should be considered in the ES assessment, provision of various ES instruments and use and strengthening of the Borrower's ES framework.	Relevant and providers basis for ES risk and impact assessment and mitigation measures
ESS-2 Labour and Working Conditions	Provisions on the treatment of Project workers, terms and conditions of work, non-discrimination and equal opportunity, provisions on child labour and forced labour management and occupational health and safety measures	Relevant and provides guidance for addressing labor related issues. The project will employ Direct and Contracted workers
ESS-3 Resource Efficiency and Pollution Prevention and Management	Requirements on management of wastes, chemical and hazardous materials and contains provisions to address historical pollution and overall use of resource efficiently.	Relevant and provides guidance addressing issues of waste pollution management
ESS-4 Community Health and Safety	Takes into account community safety, concept of universal access, traffic and road safety including road safety assessments and monitoring. Requirement of necessary protective measures against COVID-19 for the workers and others associated with the project construction.	Relevant and provides guidance on addressing community health and safety issues as well addressing the need for COVID-19 protocol application
ESS-5 Land Acquisition Restrictions on Land Use and Involuntary Resettlement	Illustrates land acquisition, requisition and resettlement issues	Project is not expected to involve land acquisition. However, in case of squatters, Abbreviated RAPs will be prepared, as needed
ESS-6 Biodiversity Conservation	Requirements for conservation of biodiversity and management of sustainable management of living natural resources, including primary production and harvesting, distinguishing between small-scale and commercial activities.	The project is not likely to affect biodiversity. Appropriate measures will be taken to avoid and minimize the effect of pipe laying and other service provision on bio diversity and habitats
ESS-7 Indigenous Peoples	Applies when the Indigenous Peoples are present or have a collective attachment to the land, whether they are affected positively or negatively and regardless of economic, political or social vulnerability.	Stakeholder engagement, coupled with field level assessments of identified sites will be used to determine impacts on Indigenous Peoples and address the same
ESS-8 Cultural Heritage	Illustrates the need to preserve and protect various types of cultural heritage in the project areas.	Every effort will be taken to make sure that the physical works are not located near any heritage sites. A chance finds

		procedure will be included in works contracts and in the bidding document
ESS-9 Financial Intermediaries	Specifies how FIs will assess and manage ES risks and impacts.	The ESS requires to have MFIs of the project to have an ESMS
ESS-10 Stakeholder Engagement and Information Disclosure	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.	The IA has prepared a Stakeholder Engagement Plan (SEP) identifying various stakeholders and assessing their needs and impacts of the project including setting up of a GRM

WBG Environmental, Health, and Safety Guidelines (EHSG)

The WBG EHSG are technical reference documents that provide information on environmental, health and safety issues, including acceptable pollution prevention and abatement measures and emission levels for WB projects. They contain both general guidelines and industry-specific guidelines in relation to Good International Industry Practice (GIIP).

The general guidelines include the following topics:

Environmental(AirEmissionsandAmbientAirQuality;EnergyConservation;Wastewaterand Ambient Water Quality; Water Conservation; Hazardous Materials Management; Waste Management; Noise; ContaminatedLand)

OccupationalHealthandSafety(GeneralFacilityDesignandOperation;Communicationand Training; Physical Hazards; Chemical Hazards; Biological Hazards; Radiological Hazards; Personal Protective Equipment (PPE); Special Hazard Environments;Monitoring)

Community Health and Safety (Water Quality and Availability; Structural Safety of Project Infrastructure; Life and Fire Safety; Traffic Safety; Transport of Hazardous Materials; Disease Prevention; Emergency Preparedness andResponse)

Construction and Decommissioning (Environment, Occupational Health & Safety; Community Health &Safety)

Environment, Health and Safety (EHS) issues should be incorporated into ES assessment and management process, which will include:

Identification of EHS risks early in the project, including the site selection process, design and engineeringaspects.

The likelihood and magnitude of EHS risks should be based on nature of the project activities.
Thereshouldbeanobjectiveofoverallreductionofrisktohumanhealthandtheenvironment, focusing on the potential impacts and elimination of cause of hazard at the source. Where impacts cannot be avoided, engineering and management controls should reduce or minimize magnitude ofimpacts.

Procedures for accidents should be prepared, including preparation of workers and communities.

EHS performance improvements, and ongoing monitoring performance andaccountability.

The industry-specific EHSG for Water and Sanitation are applicable for the operation and maintenance of

(i) potable water treatment and distribution systems,and

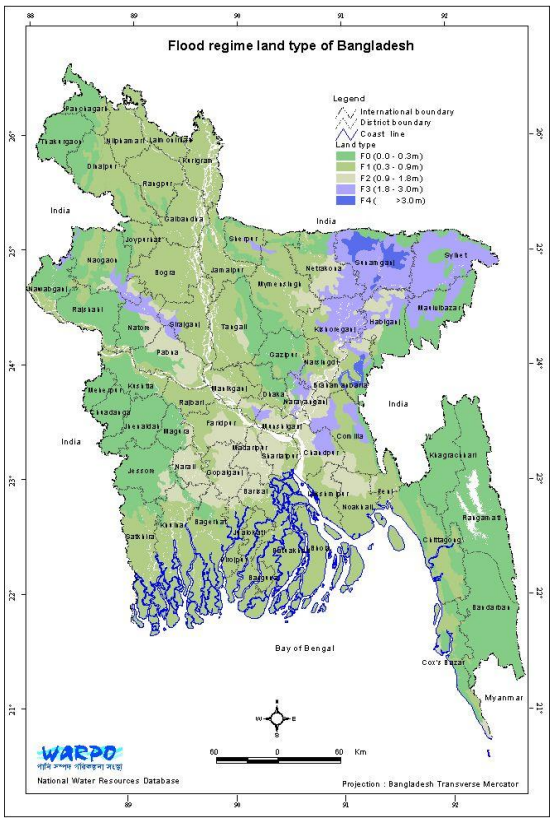
(ii) collection of sewage in centralized systems (such as piped sewer collection networks)or decentralized systems (such as septic tanks subsequently serviced by pump trucks) and treatment of collected sewage at centralizedfacilities.

Theguidelinescovermanagementofspecificimpacts(environmental,OccupationalHealthandSafety, Community Health and Safety) from activities related to sectors listed above, e.g. Water withdrawal, water treatment, water distribution. Performance Indicators, Industry Benchmarks and Monitoring are also covered by theguidelines.

ENVIRONMENTAL AND SOCIAL BASELINE DATA

Land Environment

As tentatively selected, the project activities will cover around 78 Upazilas across 18 Districts in 4 Divisions: Mymensingh, Rangpur, Chattogram, and Sylhet. This covers the northern and eastern parts of the country.



The land area of the country may be divided broadly into three categories i.e. floodplain (80 %), Pleistocene terrace (8%), and tertiary hills (12 %) based on its geological formation. The floodplain comprises of a succession of ridges (abandoned levees) and depressions (back swamps or old channels). Differences in the elevation between adjoining ridge tops and depressions range from less than 1 meter on tidal floodplains, 1 meter to 3 meters on the main rivers and estuarine floodplains, and up to 5 to 6 meters in the Sylhet Basin in the north-east[4]. Only in the extreme northwest do land elevations exceed 30 meters above mean sea level. The tertiary hill soil occupy the Chattogram hills in the south-east, and the low hills and hillocks of Sylhet in the north-east. The two major uplifted blocks (Pleistocene terrace) are known as Madhupur (in the central Bangladesh) and Barind tracts in the north-west.

The land type of the country has been classified according to depth of inundation with seasonality. All land types except highlands are exposed to monsoon flooding for part or whole of the year. Land area with different flood depths as well as seasonality is given in Table 1.

Table 2. Land Areas of Different Flood Phases

Land type	Maximum depth of flooding	Seasonally flooded	Permanently flooded
Medium Highland 1 (F0)	0.3m	16%	0%
Medium Highland 2 (F1)	0.9m	44%	1%
Medium Lowland (F2)	1.8m	23%	1%
Lowland (F3)	3.0m	11%	3%
Very lowland (F4)	>3.0m	1%	1%
Total		95%	6%

Source: WARPO (2001)

Physical Environment

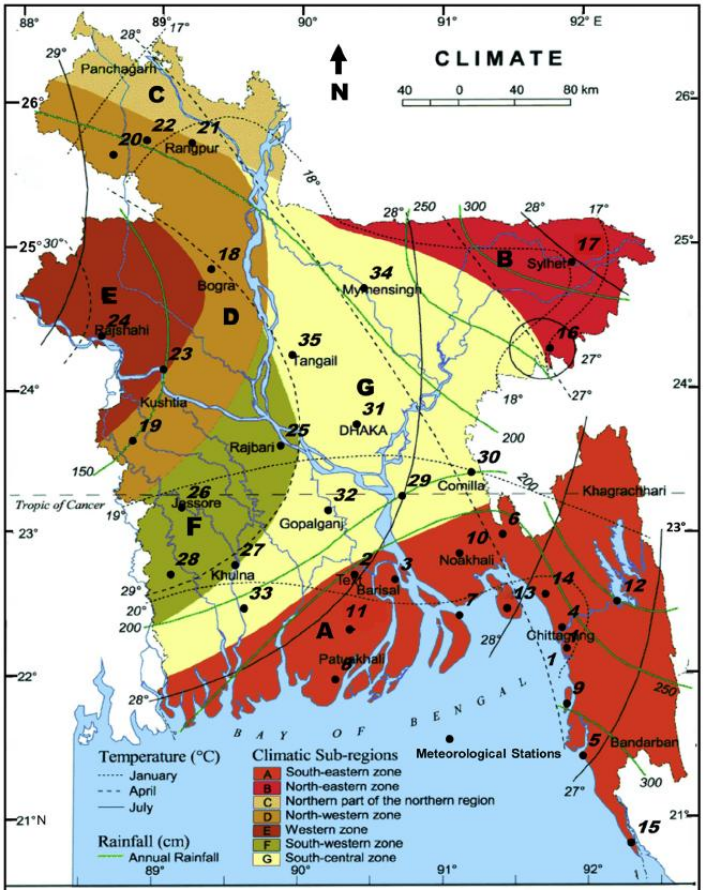
[4]Huq S., Karim Z., Asaduzzaman M. and Mahtab F., (2013) Vulnerability and Adaptation to Climate Change for Bangladesh, Springer-Science and Business Media, BV

Due to outbreak of COVID-19 and sudden restriction of movement and maintaining social distance, the extensive field assessment and consultation meetings were not possible. Some of the sites tentatively selected for the project were visited in order to obtain first-hand information and insight on the subproject baseline scenarios from secondary information. Primary data was not possible to collect due to outbreak of COVID-19 and sudden restriction. However, the ESMF will be updated again within 30 days of project effective date.

Bangladesh, except for the hilly regions in the northeast and southeast as well as terrace land in northwest and central zones, is one of the largest deltas in the world, formed by the dense network of the tributaries and distributaries of the mighty rivers namely the Ganges, the Brahmaputra and the Meghna. The total land area is 147,570 km^2 and the Project intervention would cover an area of 15% of total land scattered all over Northern, Central and Northeastern Bangladesh.

Climate

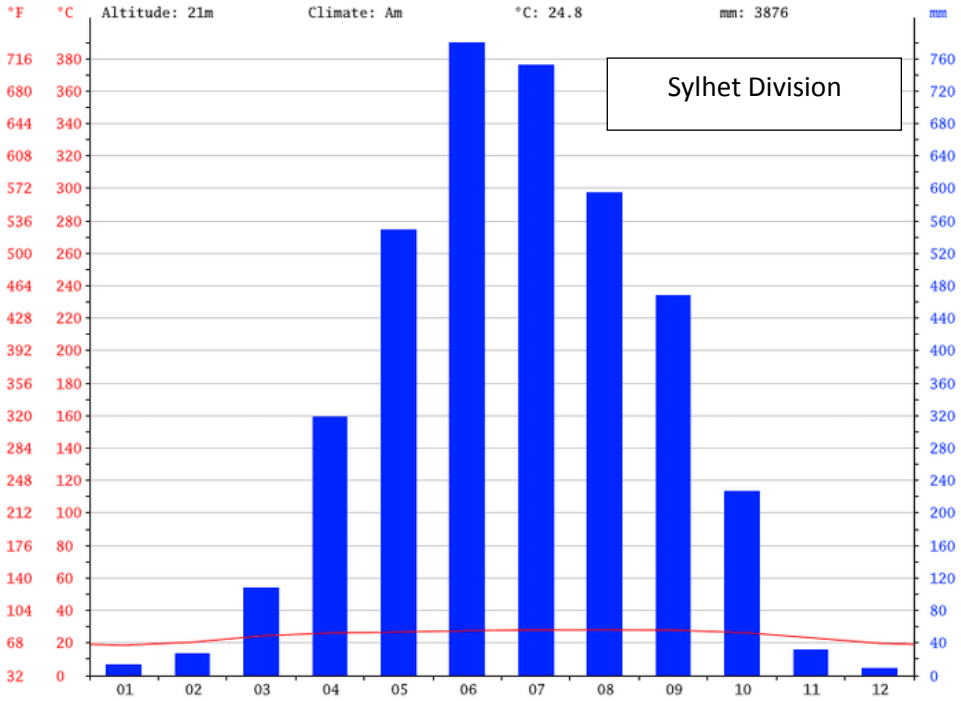
The overall temperature and rainfall patterns in Bangladesh are shown in the figures below. The different climatic sub-regions are also shown. In this project, the main regions of interest are: North-eastern zone (Sylhet), northern part of Central zone (Mymensingh), North-western zone (Rangpur), Western Zone (Rajshahi), South-eastern Zone (Chattogram).

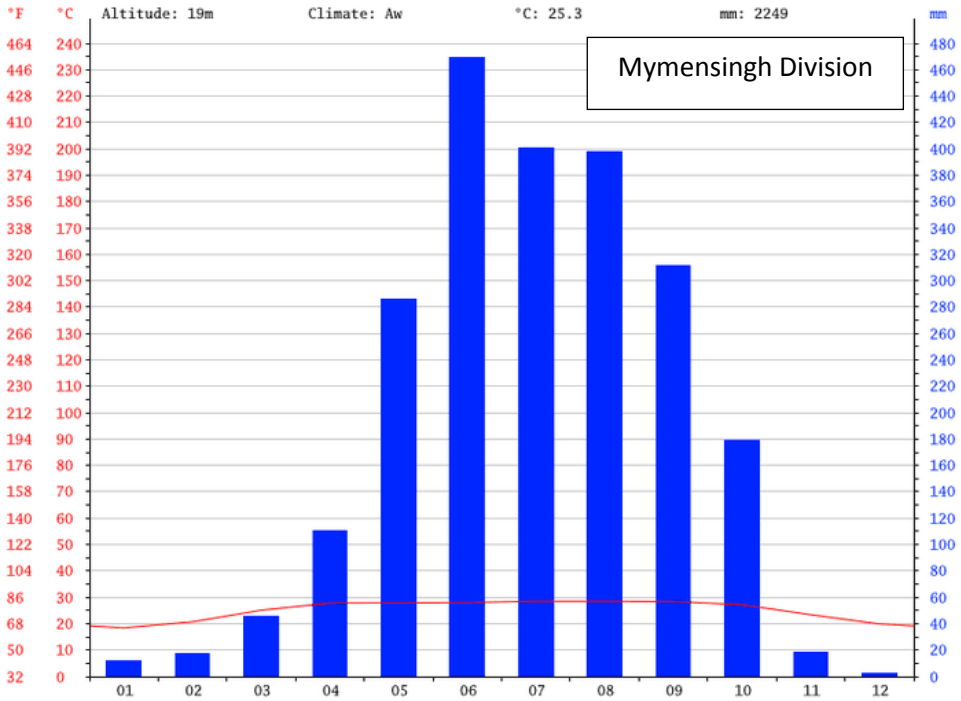


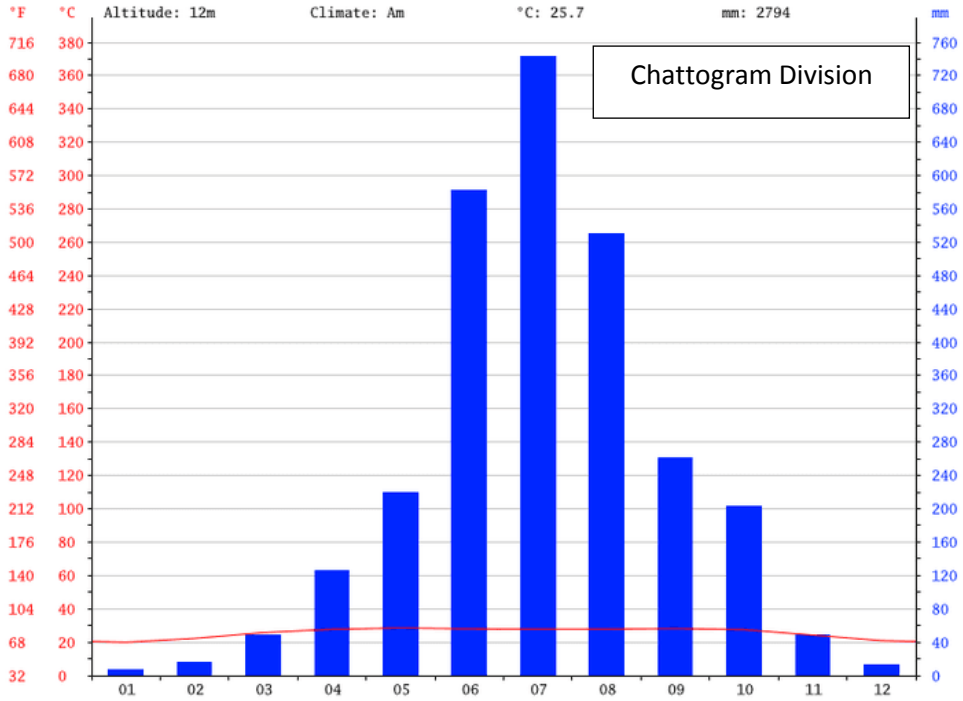
Source: Khan et al (2018)[5]

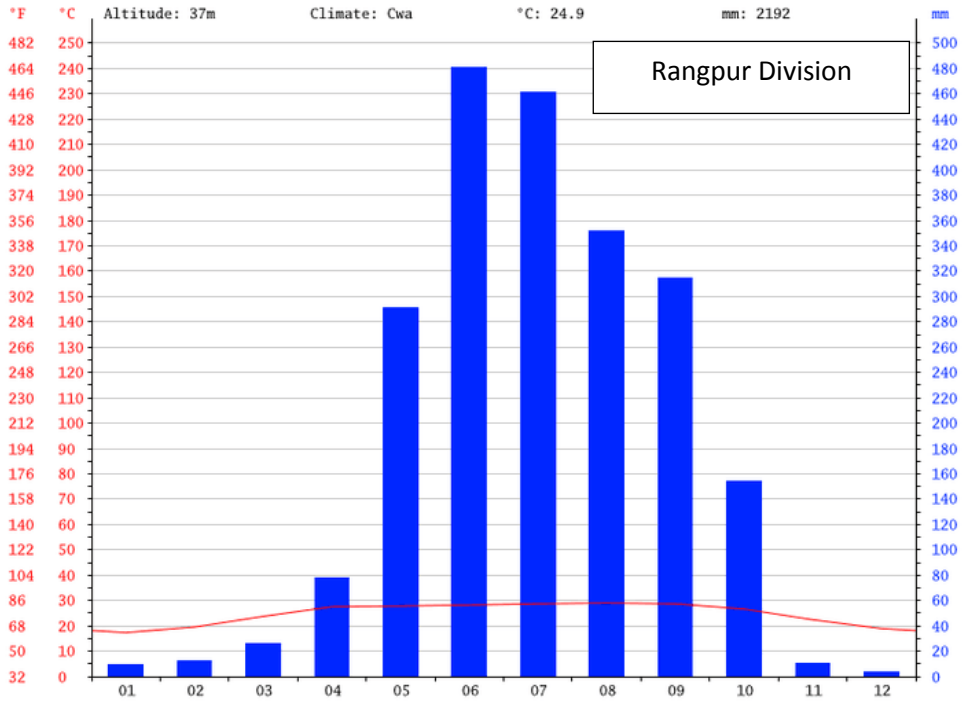
The basic climate parameters for the four Divisions (Sylhet, Mymensingh, Chattogram and Rangpur) under this project are shown in the figures below.

[5] https://www.sciencedirect.com/science/article/pii/S2405844018348928


°F °C Altitude: 21m Climate: Am °C: 24.8 mm: 3876 mm
Sylhet Division
716 680 644 608 572 536 500 464 428 392 356 320 284 248 212 176 140 104 68 32
380 360 340 320 300 280 260 240 220 200 180 160 140 120 100 80 60 40 20 0
760 720 680 640 600 560 520 480 440 400 360 320 280 240 200 160 120 80 40 0
01 02 03 04 05 06 07 08 09 10 11 12


°F °C Altitude: 19m Climate: Aw °C: 25.3 mm: 2249 mm
Mymensingh Division
464 446 428 410 392 374 356 338 320 302 284 266 248 230 212 194 176 158 140 122 104 86 68 50 32
240 230 220 210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0
480 460 440 420 400 380 360 340 320 300 280 260 240 220 200 180 160 140 120 100 80 60 40 20 0
01 02 03 04 05 06 07 08 09 10 11 12

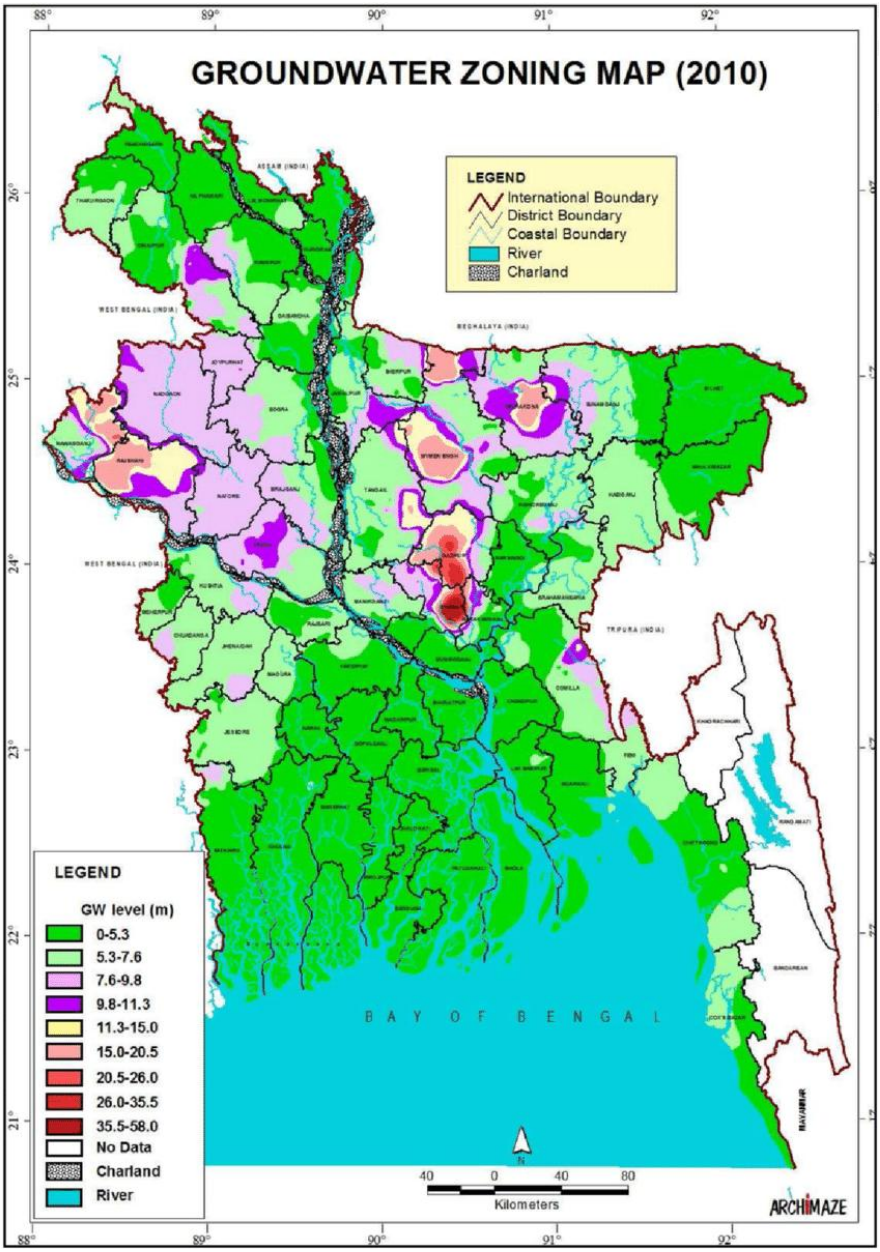




Source: www.en.climate-data.org

Groundwater

The figure below shows the groundwater depth in 2010 in different parts of Bangladesh. It can be seen that around Dhaka the water levels were particularly deep (>20m). Also in the Mymensingh and Rajshahi Divisions the groundwater was around 10-20m deep.



Source: Sarkar and Ghosh (2017)[6]

The table below shows the range of groundwater depth in deep aquifers for the year 2018 based on DPHE monitoring data. It can be seen that there is a large variation within Districts and also between Districts.

Table 3: Variation on Deep Groundwater Levels in Project Districts in 2018

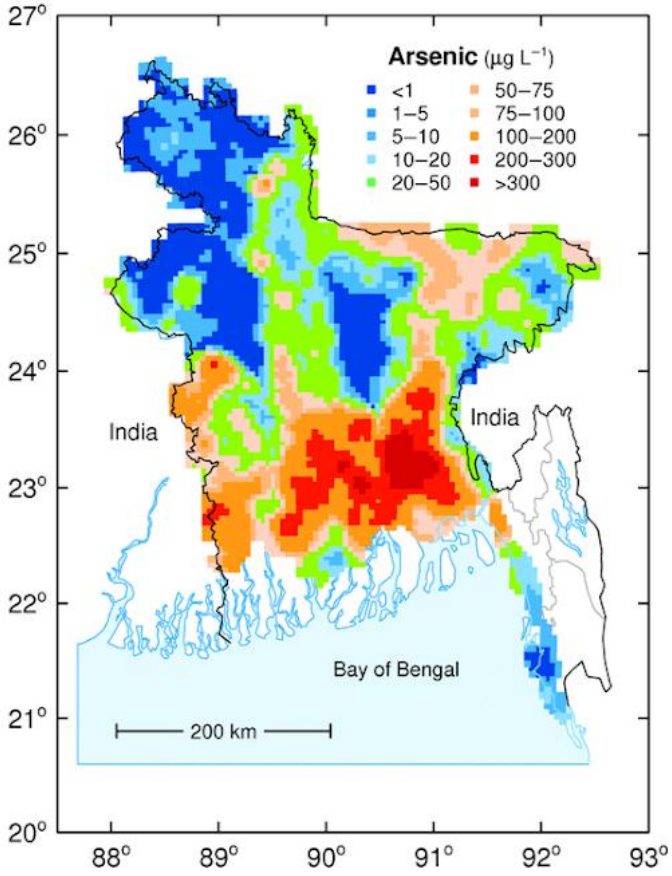
SN	Project Districts	No. of Data	Min. GW Depth (ft)	Max. GW Depth (ft)
1	Jamalpur	19	16.6	23.7
2	Mymensingh	147	14.0	78.0
3	Sherpur	52	13.1	144.3
4	Gaibandha	0	n/a	n/a
5	Kurigram	0	n/a	n/a

[6] https://www.researchgate.net/publication/313807249_Techno-economic_analysis_and_challenges_of_solar_powered_pumps_dissemination_in_Bangladesh/figures?lo=1&utm_source=google&utm_medium=organic

SN	Project Districts	No. of Data	Min. GW Depth (ft)	Max. GW Depth (ft)
6	Lalmonirhat	0	n/a	n/a
7	Nilphamari	0	n/a	n/a
8	Brahmanbaria	79	9.0	36.0
9	Chandpur	77	10.0	33.1
10	Chattogram	0	n/a	n/a
11	Cumilla	163	14.0	43.0
12	Feni	32	11.0	26.0
13	Laksmipur	0	n/a	n/a
14	Noakhali	0	n/a	n/a
15	Sylhet	105	4.5	45.3
16	Habiganj	76	2.4	32.5
17	Sunamganj	83	10.0	34.0
18	Moulvibazar	62	3.5	59.8

Source: DPHE (2020)

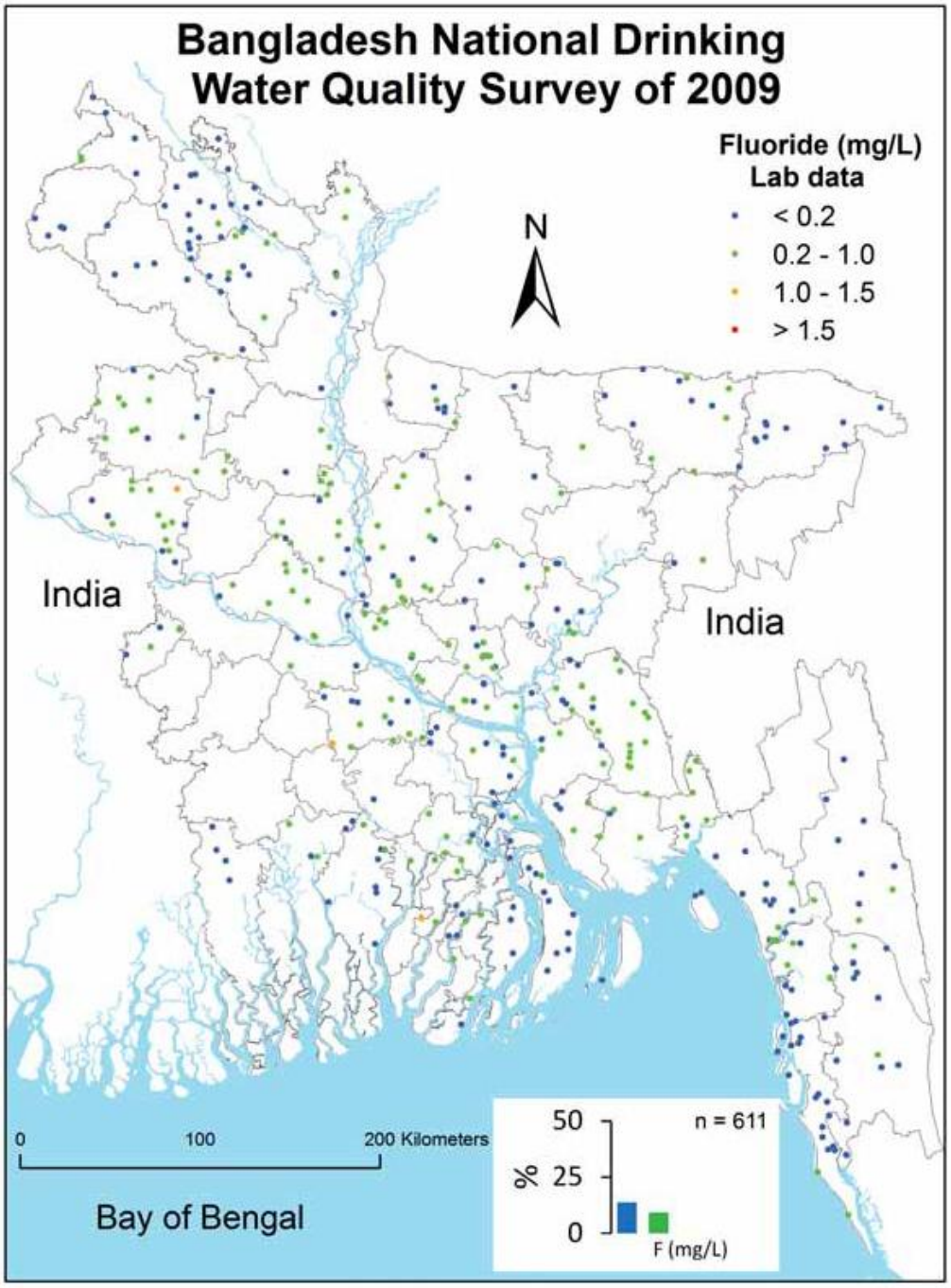
The figure below shows the concentration of arsenic in groundwater in different parts of Bangladesh. The main project Districts affected by arsenic contamination include: Noakhali, Cumilla, Feni, Sylhet, Chandpur, and Brahmanbaria.



Source: BGs and DPHE (2001)[7]

[7] https://www.bgs.ac.uk/arsenic/bangladesh/

The presence of fluoride in groundwater across Bangladesh is shown in the figure below. Although there is limited data and studies on the issues, it is not considered a major problem in Bangladesh[8].



Source: UNICEF (2011)[9]

Surface Water

[8]Hoque et al (2003) Fluoride Levels in Different Drinking Water Sources of Bangladesh, Fluoride Vol. 36 No. 1 38-44
Rahman et al (2020) Spatiotemporal distribution of fluoride in drinking water and associated probabilistic human health risk appraisal in the coastal region, Bangladesh, Science of The Total Environment Volume 724, 1 July 2020, 138316

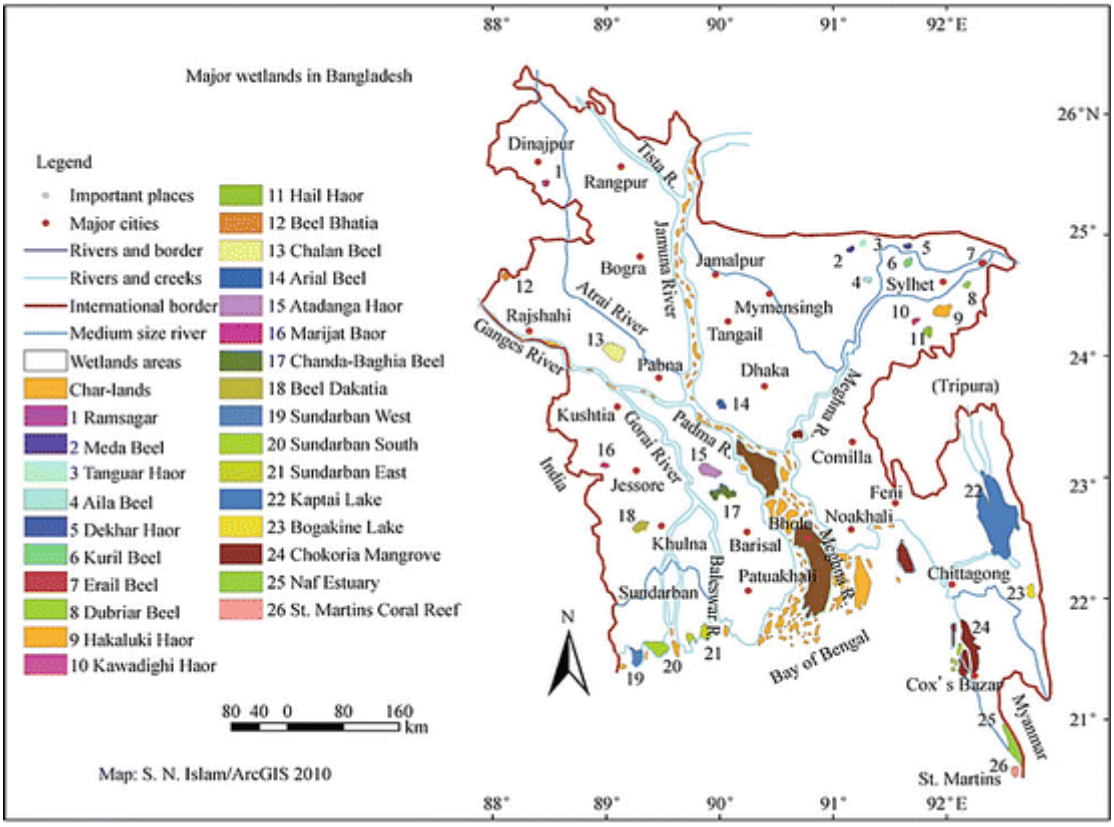
[9]UNICEF (2011) Bangladesh National Drinking Water Quality Survey 2009, Bangladesh Bureau of Statistics, MICS and UNICEF.

As shown in the figure below, Bangladesh has been divided into seven hydrological regions: Northeastern (mainly Sylhet Division); North Central (mainly Mymensigh and Dhaka Divisions); Northwestern (mainly Rangpur and Rajshahi Divisions); Southwestern (mainly Khulna Division); South Central (mainly Barishal Division); Southeastern (mainly Brahmanbaria, Cumilla, Noakhali and Chandpur Districts) and Eastern Hills (remaining part of Chattogram Division). The major rivers (Ganges, Brahmaputra/Jamuna and Meghna along with the estuary) is also considered another hydrologic region.

Source: Bangladesh Delta Plan 2100 (GED 2019)

The project activities will mainly fall under Northeastern, Northwestern, part of North Central, Southeastern and Eastern Hills regions.

The surface water resources of the Northeastern region are characterized by flashy rivers from hilly areas along the northern and northeastern border of Bangladesh as well as flat floodplains which have important wetlands. Surma and Kushiyara rivers are the main rivers in this region. The following figure shows the major wetlands of Bangladesh. The main wetlands near the project sites are in the Sylhet area.



Source: Haroon and Kbria (2017)[10]

The Districts with major wetlands (hoar) areas are listed in the table below. Several project Districts are included in the list: Sunamganj, Habiganj, Sylhet, Maulvibazar and Brahmanbaria.

Table 4: Main Districts with Haor Areas

District	Haor area (ha)	No of Haors
Sunamganj	268531	95
Habiganj	109514	14
Netrakona	79345	52
Kishoreganj	133943	97
Sylhet	189909	105
Maulvibazar	47602	3
Brahmanbaria	29616	7
TOTAL	858460	373

Source: Bangladesh Delta Plan 2100 (GED 2019)

[10] https://link.springer.com/chapter/10.1007/978-81-322-3715-0_17

The surface water resources of the Northwestern region are characterized by season rivers that tend to flow in the pre-monsoon, monsoon and post-monsoon season, i.e. from April to November. Teesta, Mohananda, Baral and Atrai rivers are the main rivers in this region.

The surface water resources of the North Central region depend on the monsoon spills from the Jamuna/Brahmaputra river right bank and also from the spills of the Old Brahmaputra River right bank. Many of the rivers in this region are silting up over time due to lack of flow after the monsoon season. The main rivers in this region are: Bangsi, Jhenai, Dhaleshwari and Sitalakhya.

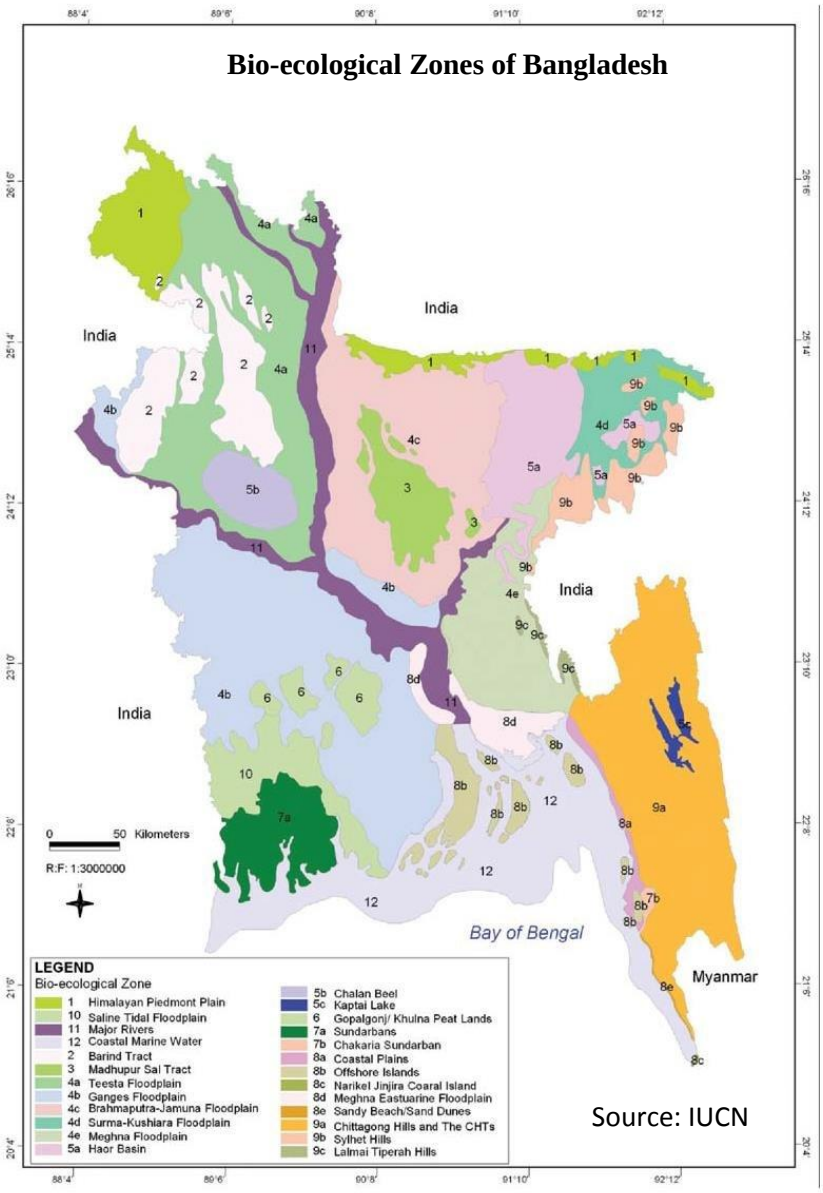
The surface water resources in the Southeastern region are characterized by tidal flows due to the close vicinity of the estuary and Bay of Bengal. Some of the rivers receive flood flows from the Meghnariver. The main rivers in this region are Titas and Feni rivers.

The surface water resources in the Eastern Hilly region consist of steep sloped streams. In the coastal area, the rivers suffer from salinity intrusion as well as storm surges during the cyclone seasons. The main rivers in this region include: Karnaphuli, Halda, Sangu and Naf.

Biological Environment

The Project area of 18 Districts supports diverse plant and animal as with the rest of the country. Birds, medicinal trees and wild animals are mostly seen in the hills of Chottogram. Migratory birds also flock in the haors of Sylhet and Mymensingh. The proposed project activities should avoid ecologically critical or sensitive areas, like forests and wetlands. In such context, the delineation of the bio-ecological zone is necessary to understand the biological and physical characteristics of the project areas and to identify the bio-ecological critical areas.

The figure shows the main forest zones of Bangladesh. Of the project areas, the areas with forest coverage include Sunamganj, Habiganj and Maulivibazar Districts in the Sylhet Division; Mymensingh District in Mymensigh Division and Noakhali, Feni and Chattogram Districts in Chattogram Division.



Source: IUCN

SOURCE: BANGLAPEIDA, 2015

Figure: Forest Zones of Bangladesh

Social Environment

Bangladesh's economy has grown well above the average for developing countries, averaging 6.5 percent since 2010, with an officially estimated growth of 7.9 percent in FY18, driven by manufacturing and construction. Per capita income is now US$1,670 (WB Atlas method, 2018), which is well above the lower middle-income country category threshold which it crossed in FY14. The country has seen significant progress on reducing extreme poverty and boosting shared prosperity, especially through human development.The poverty incidence based on the international $1.90 per capita per day poverty line (measured on the basis of the Purchasing Power Parity exchange rate) has declined from 44.2 percent in 1991 to a 14.8 percent in 2016 (latest available poverty data).

The current population of Bangladesh is 164,000,000 as of April, 2020, based on the latest United Nations data. Among them 60.60% population is living in the rural area. According to the population census report of Bangladesh Bureau of Statistics (BBS) 2011 the total enumerated population is 142,319,000, comprises of 71,255,000 males and 71,064,000 females, which yields a sex ratio of 100.3 indicating almost equal numbers of men and women in the country. In the project Divisions total estimated population (BBS 2011) is 65,111,909 (Male 32,204,070 and female 32,907,839) which is 45.75% of the total population. Sex ration in the project divisions varies from 96 to 104 and household size is also differed from one division to another (Table underneath) It is revealed that more than 60% of the population is within the age group 15-60 years (working force) in the project area.

Table 5: Demographic Information of the Project Area

Division	Population	Male	Female	Sex Ratio	HH Size	Population age group 15 to 60
Mymenshigh	10,990,913	5,455,542	5,535,371	99	4.27	60.65
Rangpur	15,787,758	7,881,824	7,905,934	100	4.11	65.20
Chattogram	28,423,019	13,933,314	14,489,705	96	5.01	61.40
Sylhet	9,910,219	4,933,390	4,976,829	99	5.52	60.10
Total	65,111,909	32,204,070	32,907,839	98	4.75	61.80

With more than 60 percent of the population living in rural areas, the population in Bangladesh is predominantly rural, so continued investment in rural areas is important to realize the country's human capital potential. For instance, an estimated 35 percent of the population in rural areas lives below the poverty line, while nationally it is 24 percent. At the same time, the rural population suffers insufficient access to quality basic services, such as education, health clinics, and adequate roads, and is most vulnerable to ever-increasing climate change threats, such as sea level rise, floods, droughts and extreme temperature, in one of the most vulnerable countries to climate change. As a result, about 38 percent of rural children under five are stunted or are too short for their age compared to 31 percent in urban areas; urban mothers and spouses are more educated than their rural counterparts.

Water Sanitation and Hygiene (WASH) condition in the project divisions represent the total scenario of the country. It is revealed that significant number of people use tube well water for drinking while maximum 6.5% in Chattogram division use pipe water supply followed by 5.02% in Sylhet division, 1.20% in Mymensingh division and 0.98% in Rangpur division. It is to be noted that such pipe water supply facility is existed in the urban area. In some cases, people use others sources such as bottled water and pond or river (after purification), for drinking. Therefore, supply water facility to the rural residents through the WASH project will eliminate water scarcity and promote health and hygiene condition.

Table 6:Drinking Water Facility in the Project Area

Division	Tap	Tube well	Other
Mymenshigh	1.2	93.1	5.7
Rangpur	0.98	96.17	2.85

Chattogram	6.54	77.10	16.36
Sylhet	5.02	78.65	16.33

The project is providing sanitation and hygiene facilities in high pedestrian traffic locations, community health clinics, and non-government schools to promote health and hygiene condition of the rural people and behavioral change including hand wash practice and other necessary precautions due to outbreak of COVID-19. Existing sanitation facility in the project divisions show that around 15-21% people use sanitary latrine, while in the Rangpur division around 19% people have no latrine or share others latrine. About 32 to 42% people use non-sanitary latrine in the project area which. It is to be noted that the rural people usually use sanitary (without sealed) or non-sanitary latrines and some of them have no latrine in their house. Implementation of the WASH project with proper sanitation facility will promote health and hygiene condition of the rural people.

Table 7: Sanitation and Hygiene Condition in the Project Area

Division	Sanitary (Water Sealed)	Sanitary (without Water Sealed)	Non-Sanitary	None
Mymenshigh	21.15	28.3	32.95	17.6
Rangpur	19.71	26.53	34.6	19.16
Chattogram	15.51	44.75	31.86	7.87
Sylhet	15.54	32.725	42.975	8.76

Hazard and Vulnerability Profile

Climatic Conditions

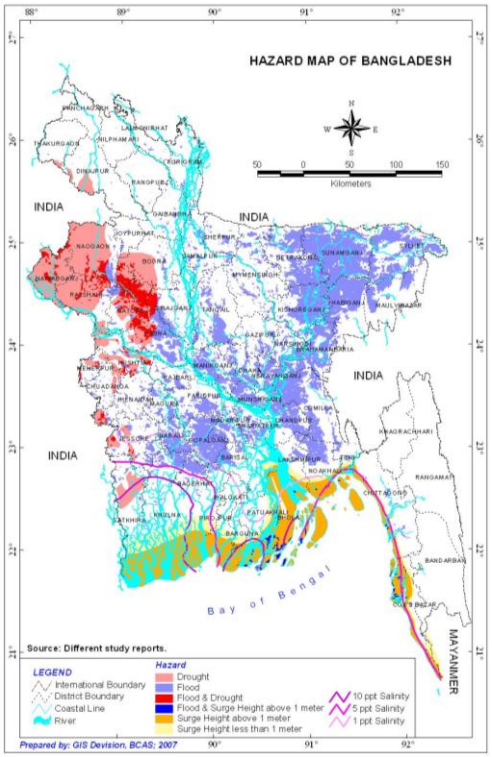
Bangladesh is situated in the sub-tropical regions but displays a tropical monsoon climate characterized by heavy summer rainfall and high summer temperatures. The reason for these climatic conditions is Bangladesh's geographic location; the Himalayan mountain range acts as a barrier to moisture-laden monsoon winds in the summer season which cause intense rainfall, and helps protect the country from extreme cold wind blowing towards it from the north. There are four distinct seasons: the cool dry winter from December to February; the hot pre-monsoon summer from March to May; the hot and humid rainy monsoon season from June to September; and the hot and humid but drier autumn from October to November, when the south-west wind retreats. The mean annual temperature in the country is about 25°C. The mean monthly temperature ranges between 18°C in January and 30°C from April to May. The highest temperatures throughout the year range between 38°C and 41°C. The average annual rainfall in the country is about 2,200 mm. About 80% of the total rainfall occurs from May to September.

Natural Disasters

Flood

Flooding is a common yearly phenomenon in Bangladesh that happens in the rainy season as a result of overtopping of the runoff from the rivers and canals and spreads over vast areas of floodplains. A normal flood that covers 22- 30% of the country serves a useful purpose as it carries useful soil nutrients which contribute to good crop yields.

Catastrophic floods destroy or damage houses, infrastructure and livelihoods. The major forces causing floods in Bangladesh are: pre-monsoon intense storms causing flash floods (particularly in



northern and eastern hilly areas); monsoon rainfall patterns; simultaneously peaking water levels in the Ganges, the Brahmaputra, and the Meghna rivers; tidal conditions (including wind) in the Bay of Bengal; and human interventions in floodplain areas. Climate change influences all of these forces and major floods are occurring with increasing frequency and with increasingly devastating consequences[11].

Cyclonic disturbances

Depressions, storm surges and tropical cyclones are natural hazards that occur in the Bay of Bengal as a result of temperature increase causing a drop in wind pressure. Bangladesh Bureau of Statistics (BBS) in its Statistical Yearbook of Bangladesh 2014 reports that altogether 21 tropical cyclones (wind speed >117 km/hr) and severe cyclones (wind speed between 87 to 117 km/hr) struck the Bangladesh coast between 1960 and 2010. Of these cyclonic disturbances, 33.33% happened in pre-monsoon seasons, while the remaining 66.66% occurred in post-monsoon seasons.

Sea level rise and associated risks

The coastal areas of Bangladesh have witnessed changing sea levels for at least the last 11,000 years. A third of sediments carried by the three major rivers is deposited in floodplains and in the channels of the delta, and waves and tides deliver a small portion of sediment to the inactive, tidal portion of the delta at a rate about of 10mm (highest) per year. This active delta coupled with the coastal zone's low elevation (one to three metres in the south-western and central part of the country and four to seven metres in the south-eastern part) make the coastal zone vulnerable to storm surges and submergence of land by sea water.

Salinity intrusion

One of the most immediate and long-term threats of climate change, especially in Chittagong region of the project area, is the salinity intrusion which occurs as a result of sea level rise and affects surface (i.e. river) as well as ground water systems and the soil. The nature of salinity intrusion in the coastal areas depends on a number of factors such as a reduction of fresh water flows from upstream and excessive groundwater extraction in coastal areas.

[11]Dewan TH (2015) Societal impacts and vulnerability to floods in Bangladesh and Nepal, Weather and Climate Extremes, Volume 7, March 2015, Pages 36-42.
https://www.sciencedirect.com/science/article/pii/S2212094714000930

IDENTIFICATION OF POTENTIAL ENVIRONMENTAL AND SOCIAL IMPACTS AND MITIGATION MEASURES

General

The Project will provide water supply and sanitation services to rural public areas and households. The major environmental risk will emanate from water contamination, discharge of sludge and untreated sewage. The major social risk will originate from exclusion of the disadvantaged and the vulnerable, and community health and safety issues. Given the labors will mostly be from the local area and level of supervision and training provision, the GBV risk is likely to be low. Construction related impacts (noise, air and water pollution) will also occur which needs to be managed with proven best practices. The ESMF addresses these areas to propose policies and procedures regarding mitigation measures and recommend modalities to maximize project benefits for the target population by aligning the project design with the socio-cultural and context specific needs of communities. The expected ES impacts can be mitigated through implementation of appropriate environmental code of practice and ES management plans. The consequence of COVID-19 may have adverse impact on social issues, including mass isolation and quarantine, lack of labor availability, transmission of disease, lack of social distancing measures etc. IA will need to put adequate measures for workers as well as local communities where project will be implemented so that spread of the virus does not deter the project implementation. Considering the overall risk and impacts related to the proposed project activities, the long-term experience and capabilities of the implementing agencies and subsequent measures, the ES risk is rated Moderate.

Potential Environmental Impacts

Potential environmental impact in the Project may include the following

- **Noise and Air pollution** and disturbance from operation of vehicles, machineries and equipment can cause disturbance to people and the fauna near the project interventions. For example, piling or drilling can generate excessive noise. Migratory birds coming in the project site may decrease due to noise. Air Pollution by dust or gaseous emissions from vehicles and land clearing can impact nearby people, fauna and flora. Odours and pollution caused by leaking latrines and faecal sludge impacting surrounding water bodies, flora and fauna.
- **Soils impact** by erosion or pollution from chemical spills or improper disposal of waste materials. The waste materials can be from latrines (faecal sludge); construction materials; etc.
- **Vibration impacts** can occur during piling, drilling and heavy vehicle movement. Vibration near steep slopes can also increase risk of landslides (during monsoon season, even several months after construction has finished). Excessive vibration can disturb the local sensitive fauna living near the construction sites or nearby forest areas.
- **Surface water impacts** can occur due to alteration of quantity or quality. For example, unintentional runoff from site can cause pollution to water bodies etc. Also abstractions of surface water for water supply purposes can alter the flow pattern in the source water body.

Runoff from sites where waste materials have been disposed improperly can cause water pollution.

- **Groundwater impacts** can occur due to various project activities. For example, there can be draw down of the groundwater table due to excessive water withdrawals for pipe supply schemes. Also, percolation from leaking latrines can cause pollution of aquifers.
- **Septage transportation impacts** can occur when septage will be transported from the twin pit latrines.

Typical Environmental Mitigation Measures

In this project, a Mitigation Hierarchy needs to be followed, as outlined in the following figure:

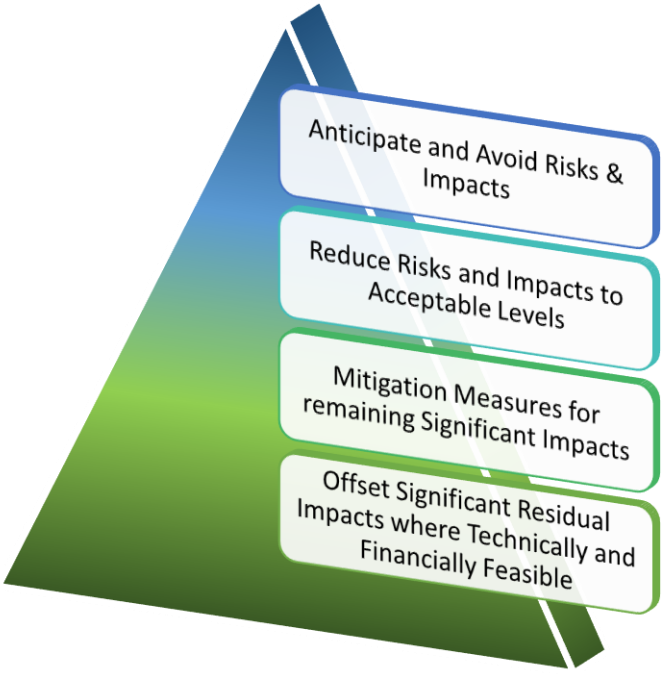


Figure: Mitigation Hierarchy

Avoidance is the first step in the Mitigation Hierarchy and this can be achieved through careful siting of the sub-project or design in such a way so that the impacts can be avoided. In this regard, analyses of alternatives are important and these include:

- Analyses of different locations/sites for the proposed sub-project/activity
- Evaluation of different design options that do not have significant social and environmental risks/impacts

However, in some situations, it is not possible to completely avoid risks and impacts. Therefore, the second step in the hierarchy is to reduce the potential risks and impacts of the proposed sub-project activity to acceptable levels through design considerations. When there are no further design solutions and the potential risks or impacts remain significant, then the third step in the hierarchy is to develop feasible mitigation measures.

The ESMF suggests a broad range of mitigation and enhancement measures to reduce negative impacts and enhance benefits of sub-project interventions. Suggested mitigation measures have been provided in the guideline ESMPs (Annex E). The final step in the Mitigation Hierarchy, is to offset any remaining significant residual impacts by technically and financially feasible means. This can be in the form of compensation or enhancement of similar ES component in another location. As with mitigation measures, the expected costs of the enhancement measures need to be included in the project costs. Furthermore, monitoring is required to not only ensure that the enhancement measures are being properly implemented but also to determine whether the benefits of these measures are being realized over time. Again, the costs of monitoring needs to be included in the project budget.

Some common mitigation measures (applicable for all sub-projects) are as follows:

- Use of Offset twin pit latrines to reduce the risk of broken 'p' traps of existing toilets, increase the convenience (e.g. enabling the commode to be situated within the house), and facilitate easier emptying. When offset pit latrines have two alternating pits, the pit that is offline can neutralize the pathogens given sufficient time, enabling the safe removal of the fecal sludge. Adherence to the twin alternating offset pit latrine standard, along with the provision of training to households and local entrepreneurs on the correct procedures for O&M and safe disposal of fecal sludge, is considered to facilitate compliance to the SDG 6.2 'safely-managed' sanitation service standard.
- Any organic wastes from construction site or any source at construction site should be properly collected and composted
- Emission of dust can be mitigated by a number of measures together or separately.
    - Ensure that all trucks and vehicles used in the project area will comply with technical and environmental safety regulations
    - Install dust cover on vehicles at the construction sites and during transportation. Dust control (watering dusty areas) on non-paved access roads
    - Use of adapted Protective Personal Equipment (ear plugs, goggles, helmets, gloves, masks) where necessary
    - Schedule the operation times for vehicles, machines working in the construction area to reduce air emissions
- Noise pollution may be mitigated to certain degrees following the measures:
    - Perform the pre-construction activities within the day time and minimize work done during the night.
    - Regulate the speed of traffic inside the site and in the surrounding areas in construction sites.
    - Construct sound walls as feasible in selected areas.
    - Regularly carry out maintenance and routine inspections on vehicles to ensure that they are meeting the technical standards. Old vehicles and construction machinery with poor quality shall be prohibited for being used within the project's activities.
    - Noise volume should not exceed 55 dBA at the nearest off-site reception location.
- Septage will be transported by septage hauler and no discharge or leakage will be allowed

during transportation. Further, after proper treatment of septage to remove hazardous pathogens/ destruction of infectious organisms they will also be disposed in suitable agricultural field since it contains nutrients that can reduce reliance on chemical fertilizer for agriculture. (Reference FAO, http://www.fao.org/3/T0551E/t0551e08.htm).Treated sewage sludge can providesome part of the nitrogen and phosphorus requirements of many crops. However, the numbers of pathogenic and parasitic organisms in sludge need to be treated before application to the land by appropriate sludge treatment.

Potential Social Impacts

A number of moderate potential social impacts can arise from the Project interventions:

Potential social risks and impacts will revolve around gender (design, safety, impact on women's health); exclusion from benefits and consultation (especially women, elderly, persons with disabilities, indigenous, marginalized and vulnerable communities), land use (common/private property, optimizing access through strategic location, resettlement impacts if any, community health and safety and the type of labor used and associated impacts.

The Project will entail use of labor for small scale civil construction in remote areas. Although labor will be mostly local incidence of GBV/SEA cannot be ruled out. Thus, there is a need for training and sensitization of workers on GBV issues, Contractor's Code of Conduct during bidding and monitoring in the field.

Community health and safety risks are also anticipated due to the removal and transportation of fecal sludge, and other minor construction related impacts if not properly managed. However, the Project is designed to reduce open defecation and improve the sludge management and transportation issues.

The outbreak of COVID-19 may also amplify community health and safety issues, especially related to interfacing labor. The consequence of COVID-19 may have adverse impact on social issues, including mass isolation and quarantine, lack of labor availability, transmission of disease, lack of social distancing measures etc. IA will to put in place adequate measures for workers as well as local communities where the project will be implemented to deter the spread of the virus.

Social Mitigation Measures

Following steps can be taken to reduce the risks and impacts from social point of view:

- From the outset ensure participation of the vulnerable, disadvantage and women in project planning, decision making as well as access to loans and finance. Loan/ access to finance for women and the vulnerable should have differentiated approach so that the terms and conditions for securing loan for women and the vulnerable are cognizant to their social standing and financial background.
- Design measures should take in to account universal access philosophy, safety and security of women (ability to lock doors from inside, strong door frames, well lit areas etc)
- To address the issue of GBV the PMUs and the Contractors will need to put mechanisms in place (C-ESMP, written and signed Code of Conduct, worker training and sensitivity) as well as a GRM to address this issue of potential GBV.

- Community health and safety must be ensured through proper design of toilets, haulage of septage, discharge of waste water etc.
- Workers must be provided with training and PPEs as well as they should require to follow COVID-19 protocol and keep social distancing from local communities. Provision of symptom reporting and medical evacuation also must be in place in case symptoms are seen in any workers.

STAKEHOLDER ENGAGEMENT AND INFORMATION DISCLOSURE

Introduction

Stakeholder refers to individuals or groups who are affected/ likely to be affected by the project and have interest in the project and the term "stakeholder engagement" refers to a way to describe the process of engagement between a project developer and those potentially affected by the subprojects or way of supporting the implementation. Stakeholder engagement can cover a range of activities and approaches and those are; consultation, engagement, external relations, information disclosure and dissemination, community participation etc. For this Project, the PMUs have already designed a Stakeholder Engagement Plan (SEP) for engagement and meaningful consultation with all the stakeholders. The SEP has details about identification and meaningful consultation with various stakeholders as well as an outline of GRM for the project.Due to outbreak of COVID-19 and sudden restriction of movement and maintaining social distance, the extensive field assessment and consultation meetings required for stakeholder engagement were not possible.During limited field visits, discussions were held with the public representatives and other stakehoders on different issues including major WASH challenges faced by the Unions, difficulties in project formulation, implementation and management. Discussions were also held with the relevant officials on recently completed/ ongoing projects, proposed subprojects to be implemented under BD Municipal Water Supply and Sanitation Project (BMWSSP), and capacity and institutional arrangement for ES management of the proposed subprojects. The sites tentatively selected for the project were visited in order to obtain first-hand information and insight on the subproject baseline scenarios from secondary information. Primary data was not possible to collect due to outbreak of COVID-19 and sudden restriction.

Stakeholder Identification and Analysis

The Project stakeholders have been primarily grouped into following three categories:

- Project Affected Parties: those who are or likely to be affected by the project, and
- Other Interested Parties: who may have an interest in the project and who could Influence the opinions of affected parties either positively or negatively, or affect the implementation process or the sustainability of the project's outcomes
- Vulnerable Group: Those, who for the specific conditions of vulnerability (women, person with disability, children, female-headed household) are likely share major impact of the project and will have less access to project benefit as well as will be less likely to participate in the engagement process.

Project Affected Parties

The Project Affected Parties include communities where the project activities will take place, households under the water supply and sanitation schemes, members of the public who use the public facilities that will come under project intervention, household who would take loan from MFIs, land donors, sweepers and septage haulers etc.

Other Interested Parties

The Project's *Other Interested Parties* include Government officials, members of PMUs, Micro Finance Institute (MFIs), mass media, various NGOs, researchers, local entrepreneurs and suppliers, sanitary napkin manufacturers etc.

Vulnerable Group

Vulnerable Groups include children in the community, women, female-led households, persons with disability etc.

Engagement Methods and Tools in Light of COVID-19 Outbreak

With the outbreak and spread of COVID-19, people have been mandated by national or local law, to exercise social distancing, and specifically to avoid public gatherings to prevent and reduce the risk of the virus transmission. Various restrictive measures, some imposing strict restrictions on public gatherings, meetings and people's movement, and others advising against public group events have been adopted.

At the same time, the general public has become increasingly aware and concerned about the risks of transmission, particularly through social interactions at large gatherings. Based on the above, specific channels of use for communication need consideration. The following are some considerations while selecting channels of communication, in light of the current COVID-19 situation:

- Avoid public gatherings (taking into account national restrictions), including public hearings, workshops and community meetings;
- If smaller meetings are permitted, conduct consultations in small-group sessions, such as focus group meetings. If not permitted, make all reasonable efforts to conduct meetings through online channels, including WebEx, Zoom and Skype;
- Diversify means of communication and rely more on social media and online channels. Where possible and appropriate, create dedicated online platforms and chatgroups appropriate for the purpose, based on the type and category of stakeholders;
- Employ traditional channels of communications (TV, newspaper, radio, dedicated phone-lines, and mail) when stakeholders to do not have access to online channels or do not use them frequently. Traditional channels can also be highly effective in conveying relevant information to stakeholders, and allow them to provide their feedback and suggestions;
- Where direct engagement with project affected people or beneficiaries is necessary, identify channels for direct communication with each affected household via a context specific combination of email messages, mail, online platforms, dedicated phone lines with knowledgeable operators;

Information Disclosure Method

The ESMF and other disclosed instruments in Bangla and English languages will be made available for public review in accordance with the World Bank and standard international requirements. Distribution of the disclosure materials will be through making them available online for the moment given COVID-19 situation. This will allow stakeholders with access to Internet to view information about the planned development and to initiate their involvement in the public consultation process. The website will be equipped with an on-line feedback feature that will enable readers to leave their comments in relation to the disclosed materials. Basing on the improvement

of situation, free copies may be available at PMUs office locations. The SEP will remain in the public domain for the entire period of project development. The methods of engagement will also be revised periodically to maintain their effectiveness and relevance to the project's evolving environment. The SEP contains a table outlining Stakeholder Engagement and disclosure methods which may be referred. The table illustrated the specificity of disclosure methods keeping in view the COVID-19 outbreak situation.Grievance Redress Mechanism (GRM)

The purpose of the GRM is to record and address any complaint that may arise during the life cycle of the project period effectively and efficiently. The GRM is designed to address concerns and complaints promptly and transparently with no impacts (cost, discrimination) for any reports made by project affected people (PAPs) and the other complainants. The overriding principle of any GRM is that it must be non-threatening, easily accessible, quick and impartial; delivering decisions to the complainant in an unbiased a-political manner. Considering the overall need for the total project period, the PMUs will establish GRM to address complaints and grievances. Based on consensus, the procedure will help to resolve issues/conflicts amicably and quickly, saving the aggrieved persons resorting to expensive, time-consuming legal actions. The mechanism will, however, not bar an aggrieved person to go to the courts of law. It is essential that an effective and transparent mechanism is designed and established at the earliest opportunity for all members of the community to be able to lodge complaints and grievances. Necessary sign posting/bill board would be placed at the central places/places where people gather for sharing detailed information of the GRCs at every level. The GRM will also be available online so that grievances can be submitted without th need for physical interaction, especially during the time of COVID-19 crisis.

Grievance Redress Committees (GRCs) will be formed in each District where project will be implemented. Prior to the start of project activities, IA officials will confirm establishment of such committees, with the understanding that they will have to meet when complaints are received. As a minimum the composition of the GRC in each District will be as follows:

- DPHE Regional Representative - GRC Chair and Convener
- DPHE Facilities Department Representative - GRC Committee Secretary
- District Civil Surgeon - GRC Committee member
- NGO representative (female) working for Gender and GBV issues - GRC Committee member
- Representative of Affected People (AP) from each UZ (preferably women) as nominated by UZ Chairman - GRC Committee member

For steps for dealing with GRM and provision of solution, refer to SEP.

World Bank Grievance RedressService (GRS)

Communities and individuals who believe that they are adversely affected by a World Bank (WB) supported project may submit complaints to the project-level GRM or the WB's Grievance Redress Service (GRS). The GRS ensures that complaints received are promptly reviewed in order to address project-related concerns. Project affected communities and individuals may submit their complaint to the WB's independent Inspection Panel which determines whether harm occurred, or could occur, as a result of WB non-compliance with its policies and procedures. Complaints may be submitted at any time after concerns have been brought directlytotheWorldBank'sattention,andBankManagementhasbeengivenanopportunitytorespo nd. Information on how to submit complaints to the World Bank's corporate Grievance Redress

Service (GRS) can be found at *http://www.worldbank.org/en/projects-operations/products-and-services/grievance-redress-service.*Information on how to submit complaints to the World Bank Inspection Panel, visit *www.inspectionpanel.org.*

METHODOLOGICAL FRAMEWORK FOR ENVIRONMENTAL AND SOCIAL MANAGEMENT

Introduction

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 ES impacts. The ES assessment of the sub-projects need to be carried out based on the provisions of the Environment Conservation Acts and Rules of GoB and the relevant WB's Environmental and Social Standards (ESSs).

Environmental and Social Management Procedure

Overall Procedure

The overall ES management procedure is shown in the figure below. After a sub-project's location and design is known, screening of ES risks can be done. The purpose of *screening* is to get a preliminary idea about the degree and extent potential risks and impacts of a particular sub-project, which would subsequently be used to assess the need for further ES assessment. The screening would involve: (i) reconnaissance of the sub-project area and its surroundings (ii) identification of the major sub-project activities; and (iii) preliminary assessment of the impacts of these activities on the ecological, physicochemical and socio-economic environment of the sub-project surrounding areas.

It is expected that most of the sub-projects will require some form of feasibility study. This will help in the preparation of ES instruments. The recommendations from these ES instrumentswill need to be incorporated by the design team and also incorporated into the tender (bidding) documents. DPHE&PKSF would then need to implement the proposed mitigation measures, monitor and report compliance.

The framework for assessing and managing ES issues in different sub-projects involves following necessary procedures and tools for screening and assessing ES impacts. These ES assessments of sub-projects need to comply with the Environment Conservation Rules 1997 and the World Bank's Environmental and Social Framework, including the 10 Standards (ESSs). The flow chart below outlines the necessary assessment procedures for construction related activities.

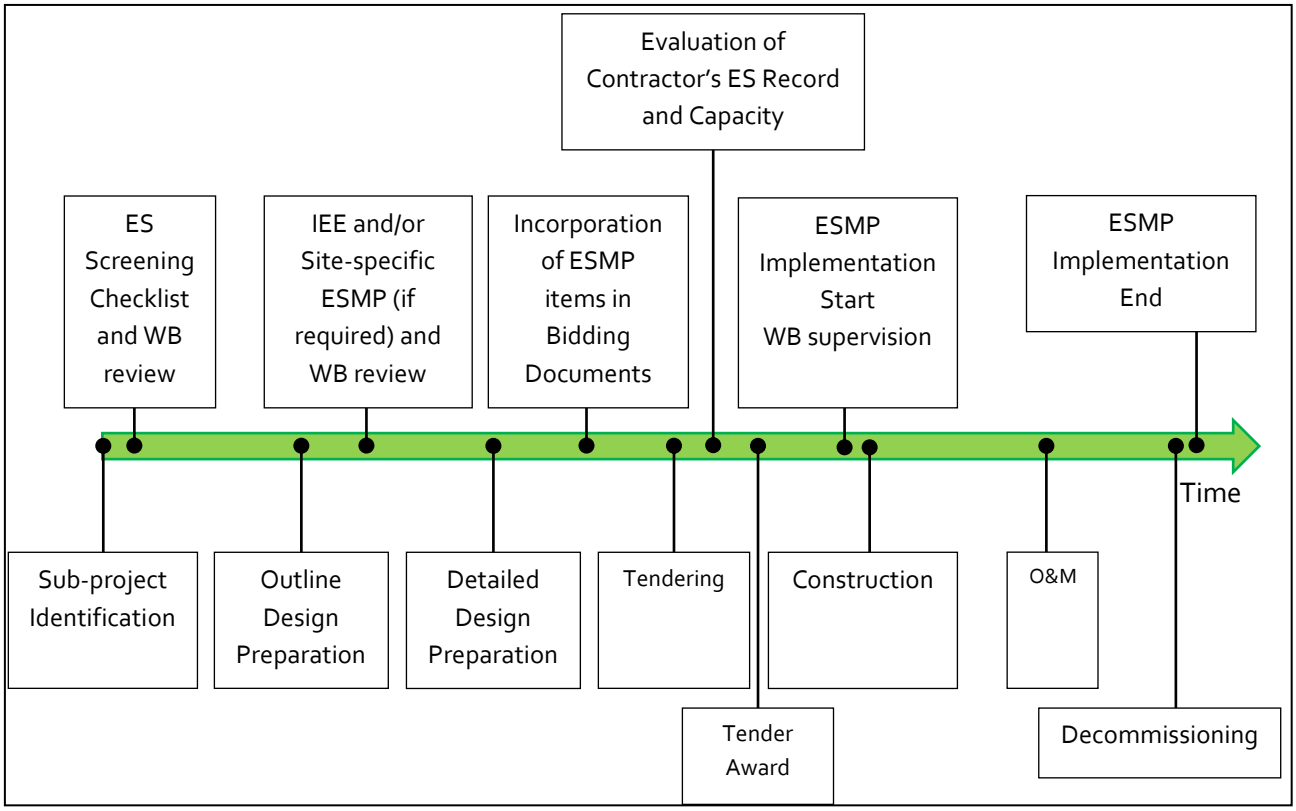


Figure. Overall ES Management Procedure for Construction Related Activities

Sub-project Screening and Categorization

The formal ES assessment will be done after identification of the sub-project' design and location. Sample ES checklists are provided in the Annexes. The purpose of the checklistsis to identify potential risks and concerns to be addressed in the design phase of the sub-projects. ES Screening will determine whether sub- project interventions will require an IEE or a site-specific ES management plan will suffice.

The outcome of the screening process is determination of the category of the sub-project in terms of its ES risks. Considering potential environmental and social impacts and their significance, proposed sub-project interventions identified in the initial stage of implementation can be categorized into four levels:

1) High Risk
2) Substantial Risk
3) Moderate Risk
4) Low Risk

The figure below describes the different risk levels. In this project, it is expected that most sub-projects will be of low or moderate risks.

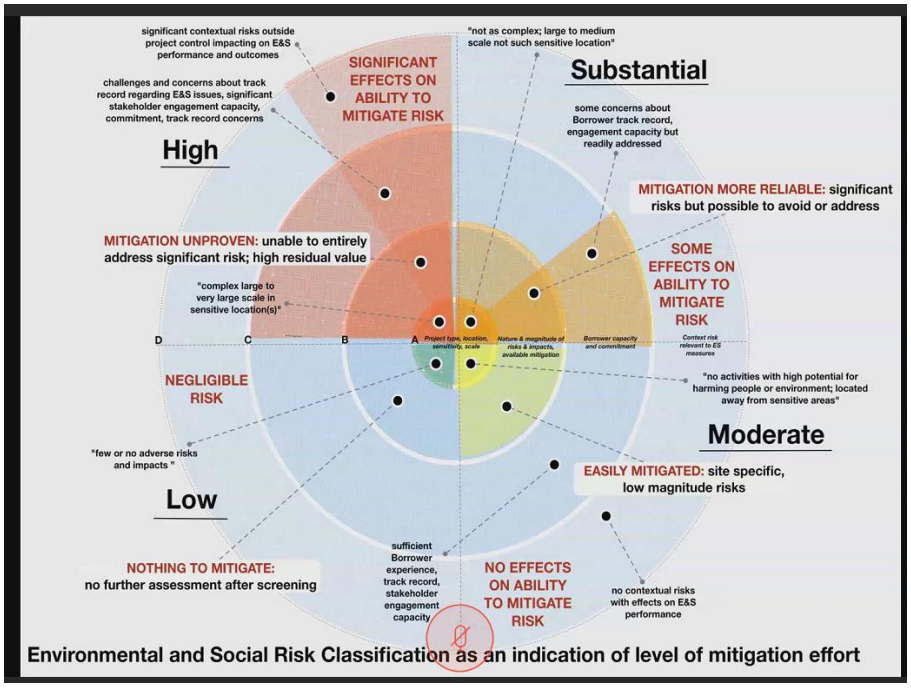


Figure: Environmental and Social Risk Classifications

The Project is categorized as Moderate from ES point of view.

Environment and Social Management Procedures for Moderate Risk Sub-Projects

As per the procedures provided in the table below, Moderate Risk Category sub-projects will require an IEE with a site-based management plan. The IEE is a review of the reasonably foreseeable effects of a proposed development intervention/activity on the environment. Participation and consultation with local communities are important in identifying the potential impacts and suitable mitigation measures. The major activities involved in carrying out an IEE include the following:

- Preparation of baseline within the sub-project influence area, against which impacts of the proposed sub-project would beevaluated;
- Assessment and evaluation of impacts of major project activities on the baseline during construction phase and operationalphase;
- Identification ofmitigationandenhancementmeasures
- Development of site-specific ES plansand monitoring measures.

Table 8: Procedures for Moderate Risk Sub-Projects

Sub-Project Phase	Procedure	Responsibility
Project Identification / Pre-Feasibility	ES Screening of sub-project	DPHE&PKSF Review by WB
Feasibility Study / Design	Conduct IEE/ESA and prepare ESMP Submission and clearance of the Sub-Projects by the Bangladesh	DPHE&PKSF Review by DoE

Sub-Project Phase	Procedure	Responsibility
	Department of Environment (DOE). Comments received from the DOE should be incorporated in the Sub-Projects.	and WB
	Public consultations (as per SEP)	DPHE&PKSF
Detailed Design & Tendering	Ensure Mitigation measures included in Design	DPHE&PKSF
	Ensure ES aspects are included in Bidding Documents	DPHE&PKSF
Construction Works	Implement and monitor of management plans	DPHE&PKSF
	Update IEEand other ES instruments as required	DPHE&PKSF
Post-Construction	ES Audit	DPHE&PKSF

Monitoring and Evaluation (M&E) Measures

M&E will be an integral part of the project under the responsibility of the PMUs. DPHE will be responsible for managing a common web-based platform, which will be developed to track the project's progress based on the results framework.[12] The platform will support a participatory M&E, which will allow project stakeholders—such as the MFIs, UPs, the local DPHE and PKSF officials, and consultants—to collect data on project progress. Collected data will include geospatial data with photographs of the outputs, along with the information on beneficiary households, to further analyze and verify the project outputs. PKSF will deploy a number of Independent Verification Consultants (IVCs) to continuously monitor and verify the project outputs during the entire project timeline. The DPHE and PKSF will also report quarterly on updated implementation schedules by component;commitment and disbursement by component and findings, recommendations, agreements reached on key implementation issues.

The quarterly progress report will be submitted by DPHE to the Bank and relevant line Ministries. In addition, the Bank, DPHE, PKSF, and other stakeholders will carry out annual progress reviews and a mid-term review (MTR) of project performance about three years after project effectiveness. In preparation for the MTR, the DPHE and PKSF will carry out their own review of the project progress and implementation performance and draft proposals for immediate and/or longer-term remedies of issues, if needed. An independent impact assessment will be conducted to examine the correlation between project activities and human capital outcomes.

Environmental and Social Instruments

Various ES instruments have been prepared in line with ESF requirements as under:

Stakeholders Engagement Plan (SEP)

Stakeholders Engagement (SEP) has been prepared to define a program for stakeholder engagement, including public information disclosure and consultation, throughout project lifecycle. The SEP outlines the ways in which various stakeholders will be identified and

[12] The adoption of the Rural Water Supply and Sanitation Information System (SIASAR), developed by the Bank, is being considered.

includes a mechanism by which they can raise concerns, provide feedback, or make positive and negative complaints about the project activities. This will begin very early in the project cycle and will be based on the prior disclosure and dissemination of relevant, transparent, objective, meaningful and easily accessible information in a timeframe that enables meaningful consultation with stakeholders in a culturally appropriate format, in relevant local languages and is understandable to stakeholders.

Labor management Procedure (LMP)

A Labour Management Procedure (LMP) for the Project has been prepared to meet the objectives and requirements of ESS 2 and ESS 4 as well as the national Labor Law. The LMP assesses the potential risks and impacts of assignment of labor for the implementation of the Project activities by the IAs and addresses them through mitigation measures in light of ESS and Labor policies and provisions.

Environmental and Social Commitment Plan (ESCP)

The IAs have developed the ESCP, which sets out measures and actions required for the project to achieve compliance with the ESSs over a specified timeframe and is a commitment measure from the Borrower's side. The ESCP takes into account the findings of the ES assessment and the results of engagement with stakeholders. It is an accurate summary of the material measures and actions required to avoid, minimize, reduce or otherwise mitigate the potential ES risks and impacts of the project.

Budget Estimates for ESMP Implementation

Cost of implementing ES management plan (ESMP) including monitoring activities needs to be estimated as a part of the preparation of ESMP. Many of the activities to be carried out as a part of ESMP would not involve any additional direct cost e.g., employing local work force, where appropriate; keeping sub-project vehicles in good operating condition; scheduling deliveries of materials/ goods in off-peak hours; good housekeeping, avoiding spills; prohibiting use of fuel wood for heating bitumen; etc. On the other hand, a number of activities would require additional cost like training, monitoring, budget for Consultants, etc. Cost estimates are prepared for all the mitigation and monitoring measures proposed in the ESMF. The cost estimates for some of the mitigation measures will be identified in the ESMP that are part of civil works contract. The table below provides an estimate which is not exhaustive. Final budget will be prepared when specific design and sites will be available.

Table 9: Tentative Cost Estimates for ESMP

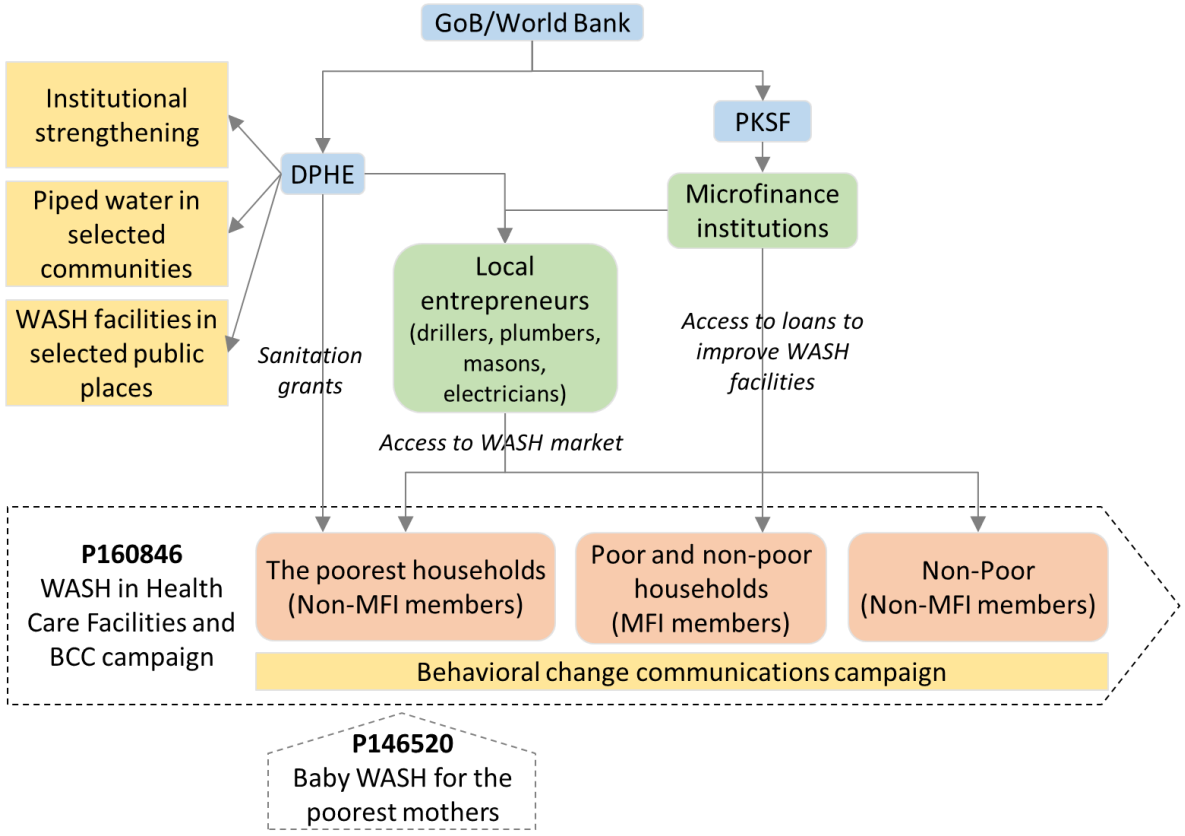
Activities	Amount (USD) Estimate
Budget for ES Consultants (Environmental, Social and Health Specialist) @$2000/month for three years	216,000
Implementation of SEP	180,000
Monitoring and Evaluation of ESMP	100,000
Training Requirements	300,000
EMP during construction	Will be included in Civil Works

The Development Project Proposal (DPP) of the Project should reflect the above activities with budget for successful ES management of the project.

INSTITUTIONAL FRAMEWORK AND CAPACITY ASSESSMENT

Institutional Framework and Roles in Project Implementation

DPHE and Palli Karma-Sahayak Foundation (PKSF) will be the implementing agencies of the project. The project will be managed by two PMUs collaborating closely. The Chart below illustrates the responsibilities of the DPHE and PKSF:



DPHEwill play the main role in the development of public infrastructure under the project. It has considerable experience in executing Bank projects, with capacity for design and procurement, construction, and commissioning of WASH facilities. The DPHE will be responsible for supporting piped water schemes, providing public WASH facilities, including in healthcare centersand community secondary schools and offering sanitation grants for the poorest. The DPHE will also carry out water supply feasibility studies in high climate risk areas, pilot innovations, implement most of WASH behavioral change communications (BCC) campaign and carry out institutional reforms and capacity building activities. The PMU will comprise a full-time project director, a deputy project director, and personnel with specialization in financial management, procurement, monitoring and evaluation, environment and social and other support staff, posted from within the DPHEor recruited from the open market. The DPHE will be the nodal agency responsible for project reporting.

PKSFwill play the main role in the development of private assets under the project. It is a 'not-for-profit' financing institution owned by the Ministry of Finance and works with MFIs that offer microcredits to poor and non-poor borrowers. The PKSF has considerable experience in managing Bank projects in various sectors and recently managed the OBA Sanitation Program. Under this project, PKSF will be responsible for offering wholesale capital to retailMFIs, which in

turn will give loans to households to upgrade the WASH facilities at their home in the project areas. In addition, PKSF will extend capacity building support to retail MFIs and local entrepreneurs for creating demand and installing SDG 6 compliant WASH facilities. The PMU will comprise a full-time project director and personnel with specialization in financial management, procurement, monitoring and evaluation, environment and social specialists and other support staff, posted from within the PKSFor recruited from the open market. A schematic illustration of the institutional arrangements for implementing the key project components and their relationship with converging Bank projects are shown in Chart 2 below.

Project Steering Committee (PSC). At the national level, a Project Steering Committee (PSC) will be established in the Local Government Department (LGD) under the Ministry of Local Government, Rural Development and Cooperative (MoLGRD&C), chaired by the Secretary of the LGD, to provide overall guidance and policy direction. The PSC will meet at least twice a year, or more frequently if needed, to take stock of project progress and make course corrections. The PSC will consist of representatives from the DPHE, PKSF, the Financial Institutions Division and the Economic Relations Division under the Ministry of Finance, the Ministry of Health and Family Welfare (MoHFW), the Planning Commission, Ministry of Environment Forests and Climate change and Ministry of Water Resources.

Ministry of Health and Family Welfare and Union Parishad (UP). Engaging the Union Parishad (UP) and Ministry of Health and Family Welfare (MoHFW) is central to the project's success. Enhancing the sense of ownership and capacity of UPs to plan, deliver, and manage WASH services is a top priority. The project intends to achieve this through clarifying the roles of UPs in WASH service delivery in policy documents and training responsible UP officials. The MoHFW will be leveraged through its health workers, who will be trained to deliver messages on WASH behavioral change through household visits, target group sessions, and community health clinics.

Coordination Committee. A WASH Coordination Committee will be formed at each UP with representatives from the DPHE, PKSF's MFI partners, and health workers. The committees will be led by the UPs to facilitate local level coordination needed for project implementation, especially of the behavior change communications (BCC) campaign. The committee members will meet every three months to plan and coordinate BCC activities within their UP and review quarterly progress.

Roles and Responsibilities of Key Entities

Roles and responsibilities of key organizations are listed in the following Table.

Table 10: Roles and Responsibilities of Various Entities

SN	Organization	Responsibility
1.	DPHE and PKSF (Implementing Agencies)	Would ensure ES compliance of the project as per the ESCP and ES assessments Would review and clear all ES documents prepared by consultants Provide guidance to PMU for successful implementation of ESMP Review progress of ESMP implementation

SN	Organization	Responsibility
		Co-ordinate with other agencies as and when required.
2.	Ministry of Health and Family Welfare (MoHFW)	Assess needs for training for WASH related behavioural change and communication Train and assign health workers in project areas to provide behavioural change and communication training related to WASH through household visits, target oroup sessions, and community health clinics
3.	Construction Contractor	The contractor shall develop site specific ESMP before construction, as part of their method statement and submit to PMU for reviewing and approval The contractor has to submit a monthly report on ES issues, mitigation, and results throughout the construction period. In case of unexpected problem, the contractor will consult PMU and PMC Ensure that the construction work complies with the approved ES Instruments and the site EMP Control and minimize environmental impacts Ensure COVID-19 protocol is maintained Ensure no social risks/impacts emanate from their workers Ensure that all staff and workers understand the procedure and their tasks in the ES management program; Ensure safe working condition.
4.	Project management Unit (PMU)	In order to effectively manage ES issues, the PMU will assign social and environmental specialists to oversee ESCP commitment as well as monitoring project progress in line with ES instruments. PMU will be overall responsible for monitoring, assessment and management of ES issues of the Project
5.	Project ES Consultants (Environment Specialist, Social Development Specialists and Health Specialist)	Be responsible to PD for respective ES issues including preparation of required ES instruments, monitoring and implementation of the same Review Contractor's ES instruments and should check adequacy as per the ESMP of the project Responsible for monitoring the contractor's activities and to ensure adequate implementation of the ESMP by contractor. Providing guidance to the PMU regarding any ES issues which may arise during Project implementation Keep track of contractor's day to day activities, their commitment for implementation of ESMP, quality of work, adherence to safety guidelines and method statements. Closely monitor the sanitation and hygiene at the construction sites, first aid facilities at sites, accident monitoring at the site, safety aspects, PPE usage, first aid box etc. Ensure that all construction and site vehicles should abide by the latest emission norms of the country. Monitor that all workers & labour of contractor should have valid ID cards to assess the site.

SN	Organization	Responsibility
		Monitor that adequate safety trainings are being given to the workers, adequate mock drills are conducted at site by contractor, availability of emergency evacuation plan, emergency assembly area, availability of certified first aid trainer at all the construction site Monitor COVID-19 outbreak in the area and ensure implementation of COVID-19 protocol. Ensure anyone with symptoms is reported and oversee evacuation Recommend to the PMU to take punitive action in non-compliance of ESMP Submit monthly performance report on the level of compliance & non-compliance by the contractor.
8.	**Coordination Committee at each Union Parishad**	Facilitate local level coordination needed for project implementation, especially of the behavior change communications (BCC) campaign. Meet every three months to plan and coordinate BCC activities within their UP and review quarterly progress.
9.	**Dept. of Environment**	Review of IEE and ESMP as well as annual Environmental Clearance Certificates.
10.	**World Bank**	Review of screening forms, IEE, ESMP and implementation monitoring.
11	**Third Part Audit Firm**	Independent, semi-annual audits of environmental and social documents of the project.

Assessment of Capacity of Implementing Agencies

Both the agencies have dealt with safeguards issues adequately in the past in WB financed projects and are currently implementing similar nature of Bangladesh Municipal Water Supply and Sanitation Project (BMWSSP) and Sustainable Enterprises Project respectively. However, the ESF will be new for both of them. There will be a need for training, deployment of adequate staffing and resources from the client side, and sustained assistance from the Bank side. To mitigate the risks, the DPHE and PKSF will be adequately resourced with personnel and expertise on clearly-defined TORs and with considerable autonomy. Three specialists are proposed to be recruited (Environmental, Social and health) for this project, who will assist the development of a long-term ES capacity building program for both agencies to be supported under the project as well as to ensure the overall ES risk management at the implementation stage. The Environmental and Social Commitment Plan (ESCP) records agreed actions that the IAs will adopt including capacity building activities and preparation of management plans and guidelines.

Action Plan to Strengthen Staffing, Capacity, Systems and Implementation

The proposed WASH PMU within the DPHE(under Sub-component 4.1) will include: engagement of seven staff (financial management, engineering, hydrogeologist, environmental, social, procurement, M&E specialists) and resources for management of the project; a total of 12 district coordinators with resources for project monitoring; and resources for improving water quality monitoring by DPHE laboratories in the project areas. Firms and/or individual consultants will be engaged for assignments that include the development of monitoring software and dashboard (including the training of PMU, UP staff, TA firms, contractors, and LEs); the design/supervision of piped water schemes and public toilets; the development of piped water system monitoring software/dashboard (including water quality) and training PMU, UP staff and LEs; the development

of baseline and end-line monitoring of 'safely-managed' WASH status; the development of water quality laboratory monitoring systems; and an impact evaluation examining correlation between 'safely-managed' WASH investments and human capital outcomes.

The proposed WASH PMU within the PKSF(Sub-component 4.2) will include the engagement of estimated eight staff (engineering, environmental, social, procurement, and MIS specialists) for project implementation; the part-time deployment of a project director and three deputy project directors of audit, finance, and projects; and five independent verification consultants with resources for field visits, verification, and mobile monitoring. Firms and/or individual consultants will be engaged for assignments that include: the development of monitoring software and dashboard (including the training of PMU, MFIs, and independent verification personnel); the detailed design of the household water and sanitation facility standards (in compliance with SDG 6.1 and 6.2); the development of behavior change communication materials (including the training of PMU and MFI staff, LEs, and UPs); the engagement of firms to support the development of mobile phone monitoring software and dashboard; periodic review meetings and experience the sharing of good practices; and the undertaking of annual financial audits.

During the project period, the ES Consultants will have to be deployed in PMU. Training shall be imparted, on a regular interval, to the IA/PMU officials and Staff on ES Issues. The ES Specialists will act as facilitators for the capacity building sessions. On-the-job training is essential for the capacity building of Contractors' people (Supervisors and Labour Supervisors of Contractor). PMUs, with support of third-party resources as needed (independent experts, NGOs, etc.), will design and implement training for targeted groups involved in the Project to improve their awareness of risks and mitigate the impacts of the project.

Table 11: Capacity Development Support (Training)

Specify Training to be provided	Targeted Groups and Timeframe	Training Completed
The IA, with support of third-party resources as needed (independent experts, NGOs, etc.) will design and implement training for targeted groups involved in the Project to improve their awareness of risks and mitigate the impacts.		
ESF. Training on ESF and the 10 ESSs—including preparation of ESMP	***Personnel directly related with project at the IA***	Prior to Project effectiveness
Issues Related to COVID-19: Use and disposal of PPE (for all) Working in COVID-19 environment (construction workers) COVID-19 Infection Prevention and Control mechanism Standard precautions for COVID-19 (social distancing etc) Risk communication, prevention and community engagement (Administrative and operational personnel) WHO and CDC guidelines on quarantine	***Officials of IA,*** Locally active NGOs, Civil Work Contractors, Workers	Prior to the Project effectiveness
Occupational Health and Safety Module: ESMP implementation Workplace risk management Prevention of accidents at work sites Health and safety rules	***Officials of IA,*** Locally active NGOs, Civil Work Contractors, Workers	Prior to the Project effectiveness and continue half yearly throughout the project

Solid and liquid waste management Preparedness and response to emergency situations		
Labor and Working Conditions: Terms and conditions of employment according to national working laws and regulations Contractor and sub-contractor Codes of Conduct Worker's organizations Child labor and minimum age employment rules	***IA Local officials***, Contractors Health Safety Officer, Labor Sardars (Leaders)	Prior to the Project effectiveness
Grievance Redress Mechanism Module: Registration and processing procedure Grievance redress procedure Documenting and processing grievances Use of the procedure by different stakeholders	***ES, SDS, HS,*** Local Governments, Civil Society, Local NGOs, Contractors,	Prior to Project effectiveness and thereafter once every six months
GBV Risk Module Raising awareness and measures to prevent and mitigate GBV risks. The topics and activities will be developed included in the Project GRM	***IA Local officials,*** Contractors Health Safety Officer, Labor Sardars (Leaders), Local NGOs, OCC Staffs	Prior to Project effectiveness and thereafter yearly

ANNEX A

LIST OF UPAZILAS FOR PROJECT INTERVENTION

(Project Intervention specific location not available yet)

Ser	Division	District	Upazila
1	Mymensing	Jamalpur	JamalpurSadar
2			Madarganj
3			Melanda
4			Sarishabari
5		Mymensing	Bhaluka
6			Fulpur
7			Haluaghat
8			Gouripur
9			Muktagacha
10			Trishal
11		Sherpur	Nalitabari
12			SherpurSadar
13			Sreebardi
14	Rangpur	Gaibandha	GaibandhaSadar
15			Gobindaganj
16			Palashbari
17			Sagatha
18			Sadullapur
19			Fulchari
20		Kurigram	KurigramSadar
21			Chilmari
22			Roumari
23			Char Rajibpur
24			Fulbari
25			Ulipur
26			Bhurangamari
27			Nageshwari
28			Rajarhat
29		Lalmonirhat	Hatibandha
30		Nilphamari	Jaldhaka
31	Chottogram	Brahmanbaria	Akhaura
32			Bancharampur
33			Nabinagar
34			Sadar
35		Chandpur	ChandpurSadar
36			Haimchar
37			MatlabDakshin
38			Matlab Uttar
39			Faridgonj
40			Kachua
41			Hajigonj
42			Shahrasti
43		Chottogram	Boalkhali
44			Mirersarai

45			Patiya
46			Sandwip
47			Chandanaish
48			Sitakunda
49			Bashkhali
50		Cumilla	CumillaSadar south
51			Daudkandi
52			Titas
53			Homna
54			Laksam
55			Monoharganj
56			Lalmai
57			Nagolkot
58		Feni	FeniSadar
59			Chagalnaiga
60			Dagonbhuya
61		Laksmipur	Ramganj
62			LaksmipurSadar
63			Raipur
64		Noakhali	Companyganj
65			Subarnachar
66			Kabirhat
67	**Sylhet**	Sylhet	Golapganj
68			Zakiganj
69			Kanaighat
70		Habiganj	Madhabpur
71			Chunarughat
72			Baniachog
73		Sunamganj	DaksinSunamganj
74			Dharmapasha
75			Tahirpur
76			Jagannathpur
77		Moulvibazar	MoulavibazarSadar
78			Rajnagar

ANNEX B

ENVIRONMENTAL AND SOCIAL SCREENING CHECKLIST AND NEGATIVE LIST

Date of Screening	**Union**
Upazila	**District**

A: IDENTIFY INTERVENTIONS

Category of Intervention	Name of the Interventions	Number of Beneficiaries

B: CHECKLIST FOR ENVIRONMENTAL AND SOCIAL SCREENING

Criteria	YES	NO	Remark
Will the activities involve associated facilities and require further due diligence of such associated facilities?	☐	☐	
Will the activities adversely affect working conditions and health and safety of workers or potentially employ vulnerable categories of workers including women, child labour?	☐	☐	
Will activities and deployment of labor cause potential GBV cases?	☐	☐	
Will the activities potentially generate hazardous waste and pollutants including pesticides and contaminate lands that would require further studies on management, minimization and control and compliance to the country and applicable international environmental quality standards?	☐	☐	
Will the activities cause interaction between labors and communities in view of COVID-19 situation?	☐	☐	
Will the proposed activities potentially involve resettlement and dispossession, land acquisition, and economic displacement of persons and communities?	☐	☐	
Will the activities be located in protected areas and areas of ecological significance including critical habitats, key biodiversity areas and internationally recognized conservation sites?	☐	☐	
Will the activities affect indigenous peoples that would require further due diligence, free, prior and informed consent (FPIC) and documentation of development plans?	☐	☐	
Will the activities be located in areas that are considered to have archaeological (prehistoric), paleontological, historical, cultural, artistic, and religious values or contains features considered as critical cultural heritage?	☐	☐	

NEGATIVE LIST OF SUBPROJECT THAT WILL NOT BE FINANCED UNDER CERC

Attributes of Ineligible Subprojects
GENERAL CHARACTERISTICS
Concerning significant conversion or degradation of critical natural habitats. Including,but not limited to, any activity within wildlife and forest reserves, national parks, conservation forests andsanctuaries.
Damages cultural property, including but not limited to, any activities that affect the properties inscribed in the World Heritage List and : • Other archaeological and historical sites; and • Religious monuments, structures andcemeteries.
Requires involuntary acquisition of land, or the resettlement or compensation of more than 200 people
Requiring pesticides that fall in WHO classes IA, IB, or II.
Affecting waters of riparian neighbors.
Roads New primary roads and highways.
Irrigation New irrigation and drainage schemes.
Dams Construction of any dams.
Power New power generating capacity of more than 10 MW.
Oil and Gas New exploration, production or distribution. Rehabilitation of production or distribution systems.
Income Generating Activities Activities involving the use of wood for fuel or as raw material from natural habitats. Activities involving the use of hazardous substances.

ANNEX C

INITIAL ENVIRONMENTAL EXAMINATION (IEE)

Date	Union
Upazila	District

SECTION I: GENERAL INFORMATION

Category of Intervention	Name of the Intervention	Number of Beneficiaries	Brief description of the design

Description of existing Environment: Describe the physical, biological and socio-economic conditions of the catchment area. (Use extra page detail description)

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SECTION II: ENVIRONMENTAL EXAMINATION

Sl	Environmental Issues/Parameters	Baseline/ Current Situation	Impact Assessment				Suggested Mitigation Measures
			Impacts? N/A, Yes, No	Magnitude Low, Moderate, High	Measure/Quantify impacts (if possible)	Describe possible impacts (if quantification is not possible)	
Issues related to homestead and plinth raise/land filling/school/community ground raise/ construction/renovation of connecting road							
1	Damage of cultivable/Agriculture land				Quantity of damaged land area (Decimal)		
2	Loss of fertile top soil				Quantity of land from where top soil collected(Decimal)		
3	Water stagnation/drainage congestion/water logging situation/affect storm run-off				# of probable affected point		
4	Destruction of trees and vegetation or orchard or plant garden				# of loss trees		

5	Negative effect on locally important or valued ecosystem				# of affected ecosystem		
6	Increased noise due to construction activities				# of noise pollution sources		
7	Obstruction of natural connection between river and wetlands.				# of obstacle		
Issues related to community latrine in village market or gathering place							
1	Damage of cultivable/Agriculture land				Quantity of damaged land area (Decimal		
2	Loss of fertile top soil				Quantity of land from where top soil collected(Decimal)		
3	Destruction of trees and vegetation or orchard or plant garden				# of loss trees		
4	Increased noise due to construction activities				# of noise pollution sources		
5	Run-off/waste water flow to/from water sources/water body				# of affected point		
6	Affect quality of surface water				# of affected surface water point		
7	Affect quality of ground water				# of affected ground water point		
8	Possibility of contamination of surface water source from waste or latrine pit				# of suspected source		
9	Possibility of damages of latrine pit from flood				# of suspected source		
10	Possibility of water-borne disease				# of suspected source		
11	Improper disposal of excreta				# of suspected source		
12	Odor				# of source		
13	Tested positive for Salinity				# of affected source		

ANNEX D

SOCIAL IMPACT ASSESSMENT SCREENING DATA SHEET

1. ***Location**:*

Village	**Union**
Upazila	**District**

2. ***Activities**. Description of the physical/construction activities that will be implemented under the project.*
3. ***Demography**. Status of female headed household, people living below poverty, illiterate people, people with disability. Male/female ration, occupation. Public safety and security concern, if any. People at the community leadership.*
4. ***Land**. Description and amount of lands used for the project: (Public/Private) and method of obtaining land.*
5. ***Labor**. Type and number of labor employed. Location of labor residence. Male and female labor ratio.*
6. ***Water/ Sanitation/Health/Safety**. Status of water supply and sanitation in the localities. Type and number of toilets. Source of water for drinking and other uses. Status of water-borne and vector-borne diseases. Method of faecal waste management, if any.*
7. ***Status of COVID-19 pandemic in the area**. Usage of PPE, social distancing, training/ knowledge. Infected cases. Recent visitors from abroad. Availability of medical assistance. Provision of information dissemination (TV, Radio, Internet, newspaper etc)*
8. ***Presence and number of indigenouspeoples**.*
9. ***Known location of cultural heritage**.*
10. ***Stakeholder Engagement**. Any communication and engagement carried out or not? Do people know the existence of GRM? Are they aware of any risk, impacts on them due to project intervention? Are they aware of the project components, provision of loan, provision of improved sanitary and water supply schemes?*

ANNEX E

SAMPLE ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN (ESMP)

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
Pre-Construction Stage	Loss of land / and other physical assets	• No land acquisition is allowed in this project • Carrying out screening of squatters, if any • Consultation required with all potentially affected households • Separate consultation with disadvantaged/ vulnerable people	PMU	Social Development Specialist of PMU, PSC
Pre-Construction Stage	Stakeholders Engagement	• All the project stakeholders will be consulted • Separate community level consultation meeting with the potential affected HHs • All the ES documents will be disclosed to all the relevant stakeholders • All the stakeholders will be informed about the GRM	PMU & Contractor	Social Development Specialist of PMU, PSC
Pre-Construction Stage	Loss of temporary access	• Project to ensure temporary alternative access tgo be given	PMU	Social Development Specialist of PMU
Pre-Construction Stage	Site Selection & implementing interventions: environmentally sensitive areas	• Selection of sub-project sites and all implementing interventions must take place outside of environmentally sensitive areas. • Forest department to be consulted during site selection if required	PMU	Environmental Consultant of PMU, PSC
Pre-Construction Stage	Site Preparation: Soil Erosion; Alteration of natural drainage	• Construction facilities to be placed away from water bodies, natural flow paths; • For tube-well sinking a minimum distance from latrines' soak well to be maintained • A minimum distance to be maintained among tube-wells for cone depression and optimizing the production of wells etc. • Minimize cut & fill operations, the site clearing and grubbing operations should be limited to specific locations only. • Any disruption of socially sensitive areas with regard to human habitation and areas of cultural significance will be avoided. • The existing slope and natural drainage pattern on the site should not be significantly altered. • The contractor shall ensure that site preparation activities do not lead to disruption of activities of the local residents.	PMU & Contractor	Environmental Consultant of PMU, PSC

Construction Activity	Noise from construction works	• Construction activity shall be restricted to daytime as far as possible to avoid disturbance to surrounding areas. • Wherever required, personal protective equipment (PPE) such as ear plugs, earmuffs, helmets, etc. should be provided to the persons working in high-risk areas.	Contractor	Environmental Consultant of PMU, PSC
Construction Activity	Dust	• Construction machinery shall be properly maintained to minimize exhaust emissions • Dust generated as a result of clearing, leveling and site grading operations shall be suppressed using water sprinklers. • Dust generation due to vehicle movement on haul roads/access roads shall be controlled through regular water sprinkling.	Contractor	Environmental Consultant of PMU, PSC
Construction Activity	Safety Issues	• Prevent entry of unauthorized personnel and proper storage and control of hazardous materials on site • Health and safety training to the labors • All the labors to wear ID cards • Child and forced labors are not allowed for any form of activities • Site(s) shall be secured by fencing and manned at entry points	Contractor	Environmental Consultant of PMU, PSC
Construction Activity	Traffic Management	• Adequate alternative arrangements to be made to minimize impact on motorist and pedestrians. • Adequate road signs to be planted on access roads to limit vehicular speeds • Traffic signs should be in Bangla language	Contractor	Environmental Consultant of PMU, PSC
Construction Activity	Increase in road accidents	• The movement of heavy machinery and equipment shall be restricted to defined routes. • Proper signage to be displayed at major junctions. • Road diversions and closures to be informed well in advance to the local community. • The vehicular movement to be controlled near sensitive locations viz. schools, colleges, hospitals, identified along designated vehicular transportation routes. • Local community will be trained on traffic management and awareness	Contractor	Environmental Consultant of PMU, PSC
Construction Activity	Labour Issues	• Awareness building about prevention of child abuse, child marriage, GBV, sexual harassment, trafficking of women and children as well as illegal drug trade • Work force should be prohibited from disturbing the flora, fauna including hunting of animals, wildlife hunting, poaching and tree felling. • Adequate facilities ensuring COVID-19 protocols (PPE etc)	Contractor	Social Development and Health Specialist of PMU, PSC

		• Treated water will be made available at site for labordrinking purpose. • Adequate training on COVID-19 issues • Evacuation facilities for symptomatic labors		
Construction Activity	Waste Management: Improper management and handling of hazardous and non-hazardous waste during construction.	Waste management issues covering the following aspects: • Residual waste from work site • Waste from equipment maintenance/vehicles on-site. • The scrap material generated from the erection of structures and related construction activities will be collected and stored separately in a stock yard and sold to local recyclers. • Hazardous waste viz. waste oil etc. will be collected and stored in the paved and bounded area and subsequently sold to authorized recyclers. • Waste from civil works • Wastes from disposal of PPE	Contractor	Environmental Consultant of PMU, PSC
Construction Activity	Health & Safety Risks: The potentialfor exposure to safety events such as tripping, working at height activities, fire from hot works, smoking, failure in electrical installation, mobile plant and vehicles, and electrical shocks. Exposure to health events during construction activities such as manual handling and musculoskeletal disorders, hand-arm vibration, temporary or permanent hearing loss, heat stress, and dermatitis.	• All construction equipment used for the execution of the project works shall be fit for purpose and carry valid inspection certificates and insurance requirements. • The risk assessment shall be prepared and communicated prior to the commencement of work for all types of work activities on site. • Signpost any slippery areas, ensure proper footwear with a good grip is worn for personnel working within slippery areas. • Day and night time safety protocol in construction areas where there are open trenches / ditches for pipe laying or drainage, open pits for construction of septic tanks or latrines, or open pits resulting from emptying / removal of old pit latrines, etc. The design and implementation of the safety measures should take into consideration the presence of children, old people and women. • Set up a system to alert workers on site. This may be temporary or permanent mains operated fire alarm. • Fire extinguishers should be located at identified fire points around the site. The extinguishers shall be appropriate to the nature of the potential fire. • Communicate emergency response procedures considering such things as specific foreseeable emergency situations, organizational roles and authorities, responsibilities and expertise, emergency response and evacuation procedure, in	Contractor	Environmental Consultant as well as Social Development Specialists of PMU, PSC

		addition to training for personnel and drills to test the plan • Electrical equipment must be safe and properly maintained; works shall not be carried out on live systems. • Only competent authorized persons shall carry out maintenance on electrical equipment, adequate Personal Protective Equipment (PPE) for electrical works must be provided to all personnel involved in the tasks. • An adequate number of staff and first aiders shall be on site in accordance with Bangladesh Labor Law requirements. • First aid kit with adhesive bandages, antibiotic ointment, antiseptic wipes, aspirin, non-latex gloves, scissors, thermometer, etc. shall be made available by the contractor on site. • Emergency evacuation response shall be prepared by the contractor and relevant staff shall be trained through mock-up drills. • Ensure all equipment is suitable for jobs (safety, size, power, efficiency, ergonomics, cost, user acceptability etc.), provide the lowest vibration tools that are suitable and can do the works. • Ensure all tools and other work equipment are serviced and maintained in accordance with maintenance schedules and manufacturer's instructions. • Regular noise exposure assessments and noise level surveys of noisy areas, processes and equipment shall be carried out in order to form the basis for remedial actions when necessary • Awareness training sessions should be established and provided to all personnel involved during the construction phase in order to highlight the heat related illnesses of working in hot conditions such as heat cramps, heat exhaustion, heat stroke, dehydration. • Ensure adequate quantities of drinking water are available at different locations within the site, • Eliminate the risk of exposure whenever possible, provide proper PPE wherever necessary and to ensure that there are satisfactory washing and changing facilities. • Ensure that all workers exposed to a risk are aware of the possible dangers. They should be given thorough training in how to protect themselves and there should be effective supervision to ensure that the correct methods are being used		

Operation & Maintenance	Noise disturbances to fauna	• Ensure operation & maintenance machinery and equipment has noise dampeners • Avoid night time activities as much as possible • Regular third-party monitoring of noise levels	PMU	Environmental Consultant of PMU, PSC
Operation & Maintenance	Odours and pollution caused by leaking latrines and faecal sludge impacting surrounding water bodies, flora and fauna	• Ensure preventative maintenance schedule is followed • Regular inspections of potential leaking points	PMU	Environmental Consultant of PMU, PSC
Operation & Maintenance	Withdrawal of groundwater	• Monitoring of extraction rates • Coordination with other development agencies	PMU	Environmental Consultant of PMU, PSC
Decommissioning	The impacts are similar to those listed in construction stage: • Pollution from waste materials • Health & Safety risks to workers and local community/DRPs	• The main mitigation and monitoring measures to minimize or reduce the environmental and social impacts during decommissioning are anticipated to be similar to those identified for the construction phase. • Regular third-party monitoring of air as well as receiving land and water bodies	PMU / Contractor	PSC