

Resilient Homestead and Livelihood Support to the Vulnerable
Coastal People of Bangladesh (RHL)

ENVIRONMENTAL AND SOCIAL MANAGEMENT FRAMEWORK (ESMF)

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Palli Karma-Sahayak Foundation (PKSF)

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List of Abbreviation

BCCRF	Bangladesh Climate Change Resilience Fund
BCCSAP	Bangladesh Climate Change Strategy and Action Plan
BDT	Bangladesh Taka
BECA	Bangladesh Environmental Conservation Act
CBO	Community Based Organization
CGR	Central Grievance Redress
DG	Director General
DoE	Department of Environment
EA	Environmental Assessment
ECA	Ecological Critical Area
ECC	Environmental Clearance Certificate
ECR	Environmental Conservation Rules
EDA	Enhanced Direct Access
ESIA	Environmental and Social Impact Assessment
EHS	Environmental Health and Safety
ESMF	Environmental and Social Management Framework
ESMP	Environmental and Social Management Plan
ES	Environmental Screening'
FGD	Focus Group Discussion
GCF	Green Climate Fund
GIS	Geographical Information System
GR	Grievance Register
GRM	Grievance Redress Mechanism
GoB	Government of Bangladesh
LDC	Least Developed Country
LGR	Local Grievance Redress
MD	Managing Director
MoEF	Ministry of Environment and Forest
NAP	National Agriculture Policy
NGO	Non-Government Organization
NEMAP	National Environmental Management Action Plan
NOC	No Objection Certificate
NSDWSSP	National Safe Drinking Water Supply and Sanitation Policy
O&M	Operation & Maintenance
IE	Implementing Partner
PKSF	Palli Karma-Sahayak Foundation
PMU	Project Management Unit
RHLP	Resilient Homestead and Livelihood Support to the Vulnerable Coastal People of Bangladesh (RHL) Project
SDGs	Sustainable Development Goals
SOD	Standing Orders on Disaster

1.0 Introduction

Bangladesh is recognized as one of the most vulnerable countries to climate change in the world. This is mainly due to physical and socio-economic characteristics of the country. On the one hand, the country faces new difficulties in maintaining its current rate of growth because to the COVID-19 pandemic and global economic instability; on the other, climate change places further strain on the lives and livelihoods of the rural vulnerable groups. The Bangladesh government has developed its own goals for reaching the SDGs. Climate change has been listed as one of the main obstacles to reaching the SDGs in these programs. The Palli Karma-Sahayak Foundation (PKSF) has been working as a national level accredited entity to the Green Climate Fund (GCF) to support the government in addressing climate change issues in addition to its core business (rural employment generation, enterprise development, capacity building, and other social development activities). For ensuring sustainability of its activities, PKSF has adopted Environment and Social Management Framework (ESMF). One of the requirements of the ESMF is to screen and assess environmental and social impacts of proposed project at the design phase. It is also a requirement of the GCF to prepare environmental and social management system of proposed project. This ESMF is prepared as part of the project on “Resilient Homestead and Livelihood Support to the Vulnerable Coastal People of Bangladesh (RHL).”

1.1 Purpose of ESMF

The purpose of this Environmental and Social Management Framework (ESMF) is to ensure that neither the project activities (both in terms of needs and quality) nor the environment are compromised through the project intervention. The ESMF will facilitate compliance with the PKSF's Environmental and Social Safeguard (ESS) policies which is fully consistent with GCF's safeguard policies and with policies, acts, and rules of the Government of Bangladesh. The ESMF will contribute to the goal of environmental sustainability by:

- Enhancing environmental and social outcomes of the proposed activities;
- Preventing and/or mitigating any negative environmental and social consequences that may arise at the community level; and
- Ensuring the long-term sustainability of the benefits of the proposed interventions by securing the natural resource base on which the selected communities are dependent.

More specifically, the objectives of the ESMF are:

- To identify the environmental and social impacts of the proposed interventions.
- To prepare an environmental and social management plan, and
- To prepare a monitoring and evaluation plan for environmental and social management activities.

1.2 Methodology

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

- Review the relevant literature for conceptualizing ESS in the context of the funding proposal.
- Review policy and regulatory requirements.
- Undertake initial scoping and screening to determine the key ES parameters and aspects that are likely to be impacted by the project activities.

- Collect and analysis of baseline ES data, with the help of secondary literature review, and field data collection.
- Consult with the stakeholders including beneficiary/ affected communities and developing the consultation process.
- Review the potential and likely impacts of the project 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.

1.3 Description of RHL project

The RHL project will fund community-based adaptation activities focusing on resilient settlement and climate-adaptive livelihood for the coastal vulnerable community of Bangladesh. The PKSF is the Executing Entity (EE) of the project while at least 15 (fifteen) Partner Organizations (POs) of PKSF will be selected as Implementing Entity (IE). IEs will be selected through a rigorous process and based on pre-defined criteria as stated in the funding proposal.

The primary goal of the project is to develop climate adaptive coastal community in Bangladesh through adopting resilient livelihood technologies and housing. The project will achieve the following outcomes to meet the primary goal:

1. Decreased risk of loss of assets and lives from extreme weather events.
2. Increased livelihood resilience to SLR/storm surge and salinity.
3. Improved climate planning and implementation by communities and local level institutions.

Summary of the project Component/Outcome

Component/Outcome 1: Decreased risk of loss of assets and lives from extreme weather events

Studies found that more than three-fourth of the households in coastal areas are vulnerable to intensive precipitation, cyclone and storm surge and coastal flooding due to perishable materials. For sustaining the livelihood, the proposed project will provide support to construct climate resilient housing. The concept of climate resilient housing under the project includes raising homesteads plinth above flood or tidal surge level, constructing and/or reconstructing houses with concrete pillars that are resilient to climate change and associated shocks (i.e. cyclone, storm surge, tidal surge, coastal flooding etc.), construction of climate resilient sanitary latrines, rainwater harvesting system, homestead gardening system, and tree plantation around the homestead area. Resilient housing is very important for building resilience of the affected community; because they have to spend much of their income in repairing their houses each year during post-monsoon period.

Component/Outcome 2: Increased livelihood resilience to SLR/storm surge and salinity

A large portion of the coastal population is highly exposed to climate change impacts due to increased sea level rise, salinity in water and soil, intensity of cyclones and coastal flooding. These pose a significant threat to agriculture, brackish aquaculture, and open water fishing. A recent study by UNDP shows that 16 and 35 percent of the people living in Khulna and Satkhira are extremely poor, whereas the national average is 12.9 percent. Gender inequality is

prevalent in these districts through various societal and cultural norms that shape women's day-to-day activities as well as their capacity to adapt to climate change. For example, women have less decision-making power within the household and the workplace and are expected to manage the household and care for the family. Compounding these factors, climate change aggravates the burden of unpaid care work, creating a cycle that undermines their climate change resilient livelihoods.

The proposed project will implement goat and sheep rearing in slatted houses; a fruit-fish-fibre model including crab hatchery and farming; homestead vegetable cultivation; and fruit trees and mangrove plantation. The elements that are crucial to the success of the proposed interventions have been identified as: a) capacity building of participants, particularly women; b) adequate and suitable access to resources for the participants and value chain actors; c) collaboration between government and local government institutions; d) private sector engagement; and improved climate change adaptation knowledge, attitudes, and practices. The project will provide technological support and capacity training to the selected beneficiaries in promoting saline-resilient technologies and practices, particularly in the agriculture sector. The project will provide technical support to the selected households and encourage them to cultivate vegetables at their own cost.

Component/Outcome 3: Improved climate planning and implementation by communities and local level institutions

Addressing climate change impacts at the community level requires specialized institutions. Local government institutions in Bangladesh mainly deal with regular development activities. Besides, there are experienced NGOs that have strong and long-term relationships with local communities due to credit programs. These organizations would play a crucial role in promoting climate change adaptation activities at the community level. The proposed project will select at least 15 NGOs as Implementing Entities in the proposed working areas and enhance their capacity through training and practicing adaptation activities. This will significantly contribute to achieving the objectives of the project. The local government departments and institutions will play a role in the decision-making process at the community level through participation in meetings and workshops during implementation. The Union Parishad (UP) chairman will be the focal person of the local GRM process.

PKSF always works with poor and vulnerable people in a group-based approach. For climate change adaptation projects, these groups are termed "Climate Change Adaptation Groups (CCAGs)." The group will consist of one representative from each chosen HH. About twenty-five (+/-) participants together will form a group. The objective of forming this group is to deliver the support services in groups in order to minimize the delivery cost as well as to ensure the participation and collective decisions of the affected community in implementing the proposed interventions. Because they will discuss climate change at regular intervals, typically fortnightly or monthly in groups, it will aid in the transfer of knowledge on climate change issues throughout society. Thus, they will be able to internalize the impacts of climate change on their lives and livelihoods. The groups will receive training on climate change issues and how to deal with these problems. They will be able to identify climate change problems in their lives and livelihoods and prepare plans accordingly to reduce the impacts of climate change. They will also look after community infrastructure beyond the project period. Besides, the group approach reduces the management cost of the project.

1.4 The physical interventions of the project

The project proposes the following physical adaptation activities that will require ES management:

- Activity 1.1.1 Design and building of homesteads
- Activity 1.1.2 Homestead tree planting
- Activity 2.1.1 Construction of slatted houses for goat/sheep rearing
- Activity 2.1.2 Provide financial support for goat/sheep rearing
- Activity 2.1.3: Introduce the cultivation of saline tolerant vegetables within homestead areas
- Activity 2.2.1: Development of crab hatcheries (1° stage)
- Activity 2.2.2 Financial support for producing crablets
- Activity 2.2.3 Technical and financial support for “crab nursers” (2° stage)
- Activity 2.2.4 Provide technical and financial support to crab farmers (3° stage)

2.0 Relevant Government Policies, Acts, Rules & Strategies

2.1 Constitution of the People's Republic of Bangladesh

The Constitution of Bangladesh guarantees equal rights and equality before law of its citizens. Article 27 of Bangladesh Constitution guarantees equality of citizens before the law and Article 28 prohibits discrimination on grounds of religion, sex, caste, race and place of birth. The same article also stipulates measures of 'affirmative actions' by the State in favour of the backward section of the citizens. The Constitution defines the rights of every citizen to have access to education where the State is responsible for the provision of Basic Necessities for the citizens. Article 17 of the Constitution indicates of Free and compulsory education where the State shall adopt effective measures by: (a) Establishing a uniform, mass-oriented and universal system of education and extending free and compulsory education to all children to such stage as may be determined by law; (b) Relating education to the needs of society and producing properly trained and motivated citizens to serve those needs; removing illiteracy within such time as may be determined by law. Article 19 (1) of the Constitution also stresses on Equality of opportunity where the State shall endeavor to ensure equality of opportunity to all citizens.

Article 23 stressing on National Culture demands that the State shall adopt measures to conserve the cultural traditions and heritage of the people, and so to foster and improve the national language, literature and the arts that all sections of the people are afforded the opportunity to contribute towards and to participate in the enrichment of the national culture. Besides the Constitution, there is also a corpus of legal, institutional and policy dispositions for the safeguards of the tribal peoples' rights in Bangladesh. Much of it is focused for the CHT; however, there are also specific laws for the tribal peoples in the plains. Some of these laws were enacted during the colonial period (but still in force), but most have been adopted in recent years and, in the case of the CHT, after the signing of the CHT Accord in 1997.

2.2 General Description of Environmental and Social Policies and Legislation in Bangladesh

A wide range of laws and regulations related to environmental issues are in place in Bangladesh. Many of these are cross-sectoral and partially related to environmental issues. The most important policies and strategies related to environmental and social management are the Bangladesh Environment Conservation Act, 1995 (BECA, 1995); the Environment Conservation Rules (ECR, 2023); Climate Change and Gender Action Plan, 2013; international treaties and conference related to gender based violence and sexual exploitation, abuse and harassment. The Bangladesh Environmental Conservation Act (BECA) 1995 is primarily an instrument for establishing the Department of Environment (DoE) and for controlling industrial and project-related pollution. The Act also defines in general terms that if any particular activity is causing damage to the ecosystem, the responsible party will have to apply corrective measures.

In addition to the Bangladesh Environmental Conservation Act and Rules, there are a number of other policies, plans and strategies, which deal with the water sector, agricultural development, coastal area, protected area disaster management and climate change. These are the National Water policy, 1999; the Forest Act 1927 (last modified 30th April 2000); National Forest policy, 1994; the National Conservation Strategy 1992; National Environmental Management Action Plan (NEMAP), 1995; Coastal Zone policy, 2005; Coastal Development Strategy, 2006; National Agricultural policy, 1999; National Fisheries policy, 1996; National Livestock Development Policy, 2007; Standing Orders on Disaster, 1999 (revised in 2010); Bangladesh Climate Change

Strategy and Action Plan, 2009; National Plan for Disaster Management, 2010-2015. Some of these policies and legislations are described in this chapter for reference.

2.3 Bangladesh Environment Conservation Act, 1995

The national environmental legislation known as the Environmental Conservation Act, 1995 (ECA'95) is currently the main legislative document relating to environmental protection in Bangladesh, which replaced the earlier environment pollution control ordinance of 1992 and has been promulgated in Environmental Conservation Rules, 2023 (ECR'23). This Act was amended in 2000, 2002 and 2010. The main objectives of ECA'95 are: i) conservation of the natural environment and improvement of environmental standards; and ii) control and mitigation of environmental pollution.

The main strategies of the act can be summarized as:

- Declaration of ecologically critical areas, and restriction on the operation and process, that can be continued or cannot be initiated in the ecologically critical areas.
- Regulation with respect to vehicles emitting smoke is harmful to the environment.
- Environmental clearances.
- Remedial measures for injuries to ecosystems.
- Regulation of projects and other development activities.
- Promulgation of standards for quality of air, water, noise and soil for different areas for various purposes.
- Promulgation of standard limit for discharging and emitting waste.
- Formulation and declaration of environmental guidelines.

Department of Environment (DoE) implements the Act. DoE is under the Ministry of Environment and Forest and is headed by a Director General (DG). The DG has complete control over the DoE. The power of DG, as given in the Act, may be outlined as follows:

- The DG has the power to shut down any activities considered harmful to human life or the environment. The operator has the right to appeal and procedures exist for this purpose. However, if the incident is considered an emergency, there is no opportunity for appeal.
- The DG has the power to declare an area affected by pollution as an ecologically critical area. The DoE governs the type of work or activities that can take place in such an area.
- Before beginning new development project, the project proponent must obtain environmental clearance from the DoE. The procedures to obtain such clearance are in place.
- Failure to comply with any part of ECA'95 may result in punishment by a maximum of 10 years' imprisonment or a maximum fine of BDT a million or both.

2.4 Environment Conservation Rules (ECR), 1997

The Environment Conservation Rules provide the first set of rules under the Environment Conservation Act, 1995. This rule was amended in 2002, 2003 and 2023. These provide, amongst other things, standards and guidelines for:

- Categorization of industries and development projects
- Procedure for obtaining environmental clearance

- Environmental quality standards in relation to water pollution, air pollution and noise, as well as permitted discharge/emission levels of water and air pollutants and noise by projects

The Rules incorporate "inclusion lists" of projects requiring varying degrees of environmental investigation. The Government is also empowered to specify which activities are permissible and which are restricted in the ecologically critical area. Under this mandate, MoEF has declared the Sunderbans (mangrove forest), Cox's Bazar-Tekhnaf Sea Shore, Saint Martin Island, Sonadia Island, Hakaluki Haor, Yanguar Haor, Marzat Baor and Gulshan-Baridhara Lake as ecologically critical areas and accordingly has prohibited certain activities in those areas. Government also declared four rivers surrounding Dhaka city namely Buriganga, Balu, Turag and Dhaleshwari as ecologically critical area.

Environmental Conservation Rules (2023) classify industrial units and development projects into four categories for the purpose of issuing an Environmental Clearance Certificate (ECC). These categories are:

- (i) Green (ii) yellow (iii) Orange and (iv) Red

Green Category projects are considered relatively pollution-free and hence do not require initial environmental examination (IEE) and Environmental Impact Assessment (EIA). An Environment Clearance Certificate (ECC) from the Department of Environment (DoE) is adequate.

Yellow and Amber yellow projects are required to submit general information, a feasibility report, a process flow diagram and schematic diagrams of waste treatment facilities along with their application for obtaining DoE environmental clearance. Amber projects are required to submit an IEE report, along with their application and the information and papers specified for Orange B projects.

Red Category projects are those which may cause 'significant adverse' environmental impacts and are, therefore, required to submit an EIA report. It should be noted that they might obtain an initial site clearance based on an IEE report, and subsequently submit an EIA report for obtaining environmental clearance along with other necessary papers, such as feasibility study reports and no objections from local authorities.

As per ECR, 2023 all existing industries and projects in Amber and Red categories require an Environmental Management Plan (EMP) to be prepared and submitted along with other necessary papers while applying for environmental clearance.

2.5 Bangladesh Climate Change Strategy and Action Plan (BCCSAP) 2009

The Government of Bangladesh prepared the Bangladesh Climate Change Strategy and Action Plan (BCCSAP) in 2008 and revised in 2009. This is a comprehensive strategy to address climate change challenges in Bangladesh. It is built around the following six themes:

- **Food security, social protection and health** to ensure that the poorest and most vulnerable in society, including women and children, are protected from climate change. All Programmes focus on the needs of this group for food security, safe housing, employment and access to basic services, including health.
- **Comprehensive disaster management** to further strengthen the country's already proven disaster management systems to deal with increasingly frequent and severe natural calamities.

- **Infrastructure** to ensure that existing assets (e.g., coastal and river embankments) are well maintained and fit for purpose and that urgently needed infrastructure (cyclone shelters and urban drainage) is put in place to deal with the likely impacts of climate change.
- **Research and knowledge management** to predict that the likely scale and timing of climate change impacts on different sectors of economy and socioeconomic groups; to underpin future investment strategies; and to ensure that Bangladesh is networked into the latest global thinking on climate change.
- **Mitigation and low carbon development** to evolve low carbon development options and implement these as the country's economy grows over the coming decades.
- **Capacity building and institutional strengthening** to enhance the capacity government ministries, civil society and private sector to meet the challenge of climate change.

44 specific programmes are proposed in the BCCSAP under the six themes.

2.6 National Water Policy 1999

The National Water Policy was promulgated in 1999 with the intention of guiding both public and private actions to ensure optimal development and management of water in order to benefit both individuals and the society at large. The policy aims to ensure progress towards fulfilling national goals of economic development, poverty alleviation, food security, public health and safety, a decent standard of living for the people and protection of the natural environment. According to the policy, all agencies and departments entrusted with water resource management responsibilities (regulation, planning, construction, operation and maintenance) will have to enhance environmental amenities and ensure that environmental resources are protected and restored while executing their activities. Environmental needs and objectives will be treated equally with the resources management needs. The policy has several clauses related to the protection and conservation of the natural environment to ensure sustainable development. The strategy of the policy to conserve environment and resources can be summarized as:

- Promoting modern eco-friendly technology and infrastructure for a safe and sustainable future;
- Biodiversity conservation and sustainable land & water management;
- Restricting the conversion of agricultural land for non-agricultural purposes.

2.7 National Safe Drinking Water Supply and Sanitation Policy 1998

The National Safe Drinking Water Supply and Sanitation Policy (NSDWSSP, 1998) was adopted in 1998, and sets out the basic framework for the improvement of public health quality and to ensure an improved environment, together with a set of broad sectoral action guidelines. The policy offered the following various objectives to achieve the goal:

- To manage water supply and sanitation related basic needs for all.
- To bring about a positive change of peoples' attitude towards water and sanitation.
- To reduce the outbreak of water-borne diseases.
- To increase the efficiency of the Local Government and associated communities for handling the problems related to water supply and sanitation.
- To improve sustainable water supply and sanitation system.

- To promote proper conservation, management and use of surface water and to control water pollution in light of the scarcity of groundwater.
- To take necessary steps to capture and use rain water.

2.8 National Agricultural Policy, 2010

The overall objective of the National Agriculture Policy is to make the nation self-sufficient in food through increasing production of all crops including cereals and ensure a dependable food security system for all. One of the specific objectives of NAP is to take necessary steps to ensure environmental protection as well as 'environment-friendly sustainable agriculture' through increased use of organic manure and strengthening of the integrated pest management Programme. The policy identifies that the available technologies for agricultural production is not sufficient to cope with the unfavorable environment (climate change, flood, drought, storm, salinity, pest and diseases, river erosion). The policy also suggests to create awareness so that the chemical fertilizers and pesticides used for increased crop production do not turn out to be responsible for environmental pollution. Water logging and salinity are identified as two serious problems in some parts of the country including the coastal areas for agricultural activities and environmental damage. The policy recommends for crop rotation and salt tolerant crop varieties.

2.9 National Fisheries Policy, 1996

The National Fisheries Policy, 1996 recognizes that fish production has declined due to environmental imbalances, adverse environmental impact and improper implementation of fish culture and management programmes. The policy suggests following actions:

- Shrimp and fish culture will not be expanded to the areas which damage mangrove forest in the coastal region.
- Biodiversity will be maintained in all natural water bodies and in marine environment.
- Chemicals harmful to the environment will not be used in fish shrimp farms.
- Environment friendly fish shrimp culture technology will be used.
- Control measures will be taken against activities that have a negative impact on fisheries, resources and vice-versa.
- Laws will be formulated to ban the disposal of any untreated industrial effluents into the water bodies.

2.10 National Livestock Development Policy, 2007

The National Livestock Development Policy has been prepared to address the key challenges and opportunity for a comprehensive sustainable development of the Livestock sub-sector through creating an enabling policy framework. The policy recognizes that there are no guidelines for environmental protection and bio-security when establishing poultry farms. The use of antibiotics in feed is thought to be common and a cause of public health concern. The policy recommends for developing and enforcing specific guidelines for establishing environment-friendly commercial poultry farms.

2.11 Standing Orders on Disaster, 2010

The 'Standing Orders on Disaster, 2010' is a substantial improvement over the previous edition (English 1999). New features introduced in this edition include, among others, the following: i) an outline of disaster management regulative framework, ii) an introduction of core groups for emergency response at various levels, iii) multi-agency disaster incident management system, iv) risk reduction roles and responsibilities for all committees and agencies, v) new outlines for

local level plans, vi) revised storm warning signals, vii) a report on cyclone shelter design. Conceptually, this edition follows a comprehensive approach emphasizing risk reduction as well as emergency responses relating to all hazards and all sectors.

The Standing Order is designed to enhance capacity at all tiers of government administrative and social structures for coping with and recovering from disasters. The document contains guidelines for construction, management, maintenance and use of cyclone shelters. According to the guideline, geographical information system (GIS) technology will be applied at the planning stage to select the location of cyclone shelter considering habitation, communication facilities, distance from the nearest cyclone-center etc. The advice of the concerned District Committee is to be obtained before final decision. The cyclone shelters should have effective communication facilities so that in times of distress there are no unnecessary delays. For this reason, the road communication from the cyclone shelters should link to cities, main roads and neighboring village areas. Provision of emergency water, food, sanitation and shelter space for livestock during such periods should also be considered for future construction of shelters.

The Standing Orders on Disaster (SOD) specifically focuses on community vulnerability and capacity development of the community to adapt disaster (cyclone, tidal surge, tsunami, earthquake, tornado, flood, water logging, salinity, high tide, cold wave) resistant features like disaster resistant agriculture and other livelihood options. The SOD also delineates the activity of different administration at pre, during and post disaster period.

2.12 Coastal Zone Policy, 2005

Coastal zone policy provides general guidance so that the coastal people can pursue their livelihoods under secured conditions in a sustainable manner without impairing the integrity of the natural environment. The policy framework underscores sustainable management of natural resources like inland fisheries & shrimp, marine fisheries, mangrove and other forests, land, livestock, salt, minerals, sources of renewable energy like tide, wind and solar energy. It also emphasis on conservation and enhancement of critical ecosystem- necessary measures will be taken to conserve and develop aquatic and terrestrial including all the ecosystems of importance identified by the *Bangladesh National Conservation Strategy* (Mangrove, coral reef, tidal wetland, sea grass bed, barrier island, estuary, closed water body, etc).

2.13 Coastal Development Strategy, 2006

Coastal Development Strategy has been approved by the Inter-Ministerial Steering Committee on ICZMP on February 13, 2006. The strategy is based on the Coastal Zone policy and takes into account the emerging trends: increasing urbanization, changing pattern of land use, declining land and water resources, unemployment and visible climate change impacts. The strategy has 9 strategic priorities and the following 3 are relevant priorities with proposed type of interventions: **Safety from man-made and natural hazards** - i) Strengthening and rehabilitation of sea dykes; and ii) reduction of severe vulnerability in the coastal zone through multi-purpose cyclone shelters-including coping mechanism. **Sustainable management of natural resources** - i) environmentally and socially responsive shrimp farming; ii) introduction of renewable energy in coastal areas; and iii) development of marine fisheries and livelihood. **Environmental conservation** – i) Marine and coastal environmental development; ii) strengthening of Coast Guard for improvement of coastal safety and security in coordination with other law enforcing agencies.

2.14 Implication of Government Policies, Acts and Rules on RHL project Activities

The regulatory requirement for environmental management is described in the Bangladesh Environmental Conservation Act'95 and Environmental Conservation Rules'2023. The ECR'23 is mainly intended for different industries and large scale projects. ECR'97 defined different sectors (industries and projects) as 'Green', 'Yellow', 'Amber' and 'Red' categories, without considering the extent and types of interventions. For example, construction/reconstruction/expansion of flood control embankment, polders, dikes etc. are classified as the 'Red' category project. However, it does not explicitly mention about the environmental category for community level small scale rehabilitation of those structures. Considering the IE implemented community level small scale projects, the RHLP requires a flexible approach on environmental categorization and clearance. However, as per ECR, the implementing IEs will screen all the proposals and further carry out IEE (if required) and take appropriate mitigation measures. It should be noted that proposals with significant environmental impact would not be funded through RHLP.

2.15 GCF Environmental and Social Policy

The GCF Environment and Social Policy is the GCF's commitment to integrate environmental and social issues into its decision-making and outcomes, and establishes the principles, requirements, and responsibilities to deliver on these commitments. Through this policy, GCF requires all projects it supports to: a. Enhance equitable access to development benefits; and b. Give due consideration to vulnerable populations, groups, and individuals (including women, children, and people with disabilities, and people marginalized by virtue of their sexual orientation or gender identity), local communities, indigenous peoples, and other marginalised groups of people and individuals that are affected or potentially affected by GCF-financed activities.

The project complies with the requirements of the GCF Environment and Social Policy. The GCF Environment and Social Policy has requirements as to information disclosure, stakeholder engagement and grievance redress which are included in the GCF Information Disclosure Policy. The project has and will continue to comply with these requirements.

2.16 GCF Indigenous Peoples Policy

The GCF Indigenous Peoples Policy recognizes that indigenous peoples often have identities and aspirations that are distinct from mainstream groups in national societies and are disadvantaged by traditional models of mitigation, adaptation and development. In many instances, they are among the most economically marginalized and vulnerable segments of the population. The economic, social and legal status of indigenous peoples frequently limit their capacity to defend their rights to, and interests in, land, territories and natural and cultural resources, and may restrict their ability to participate in and benefit from development initiatives and climate change actions. In many cases, they do not receive equitable access to project benefits, or benefits are not devised or delivered in a form that is culturally appropriate, and they are not always adequately consulted about the design or implementation of activities that would profoundly affect their lives or communities.

The GCF Indigenous Peoples Policy is supported by operational guidelines which have been assessed and used in determining the engagement of any indigenous peoples under this project. It protects rights, beliefs and culture of the indigenous people globally. This IPP not only

address the issues of indigenous people but also the ethnic minorities and geographically dissected single natural resource depended people who are not similar to the mainstream population. So, this RHL project will require to screen and assess the impacts of the project on the ethnic minority people in the project area if there is such community exists.

3 PKSF Safeguard Policies

3.1 PKSF's ESMF

PKSF has adopted safeguard policies and guidelines for Environmental and Social (ES) management of its projects and programme activities. The policy requires ES assessment of projects proposed for PKSF financing to help ensure that they are both socially and environmentally sound and sustainable, and thus to improve decision making. The guideline includes 10 Performance Standards that are globally recognized. These are:

- Environmental and Social Standard 1 (ESS1): Assessment and Management of Environmental and Social Risks and Impacts;
- Environmental and Social Standard 2 (ESS2): Labour and Working Conditions;
- Environmental and Social Standard 3 (ESS3): Resource Efficiency and Pollution Prevention and Management;
- Environmental and Social Standard 4 (ESS4): Community Health and Safety;
- Environmental and Social Standard 5 (ESS5): Land Acquisition, Restrictions on Land Use and Involuntary Resettlement;
- Environmental and Social Standard 6 (ESS6): Biodiversity Conservation and Sustainable Management of Living Natural Resources;
- Environmental and Social Standard 7 (ESS7): Tribal Peoples/Traditional Local Communities;
- Environmental and Social Standard 8 (ESS8): Cultural Heritage;
- Environmental and Social Standard 9 (ESS9): Financial Intermediaries; and
- Environmental and Social Standard 10: Stakeholder Engagement and Information Disclosure.

There are limited differences among the policies and standards of ESS of the government, the GCF and PKSF. The ESS of PKSF is very similar to the GCF. The GCF policies have several elements that are not directly mentioned in PKSF's policies i.e. SEAH, climate change etc. However, these are addressed in ESS 1 (Assessment of ES risks and impacts and management plan), 2 (Labour and working conditions), and 3 (Resource efficiency and pollution prevention) of PKSF's policies.

3.2 Requirements of the ESMF

Table 1: Requirements of the ESMF

ESSs	Requirements	Relevancy with the project
ESS-1 Assessment and Management of ES Risks and Impacts	Carry out ES screening, ES Categorization, identify ES risks and impacts, prepare management plan, prepare monitoring and reporting plan	Relevant and provides basis for ES risk and impact assessment and mitigation measures.
ESS-2 Labour and	Occupational health and safety measures, first aid box, options for the treatment of	Relevant and provides guidance for addressing

Working Conditions	project workers, ensure rights of the workers in the terms and conditions of work, non-discrimination and equal opportunity, ensure equal wage for male and female workers, protect force labour and child labour	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 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	Not relevant
ESS-6 Biodiversity Conservation	Requirements for conservation of biodiversity and sustainable management of living natural resources, including primary production and harvesting, distinguishing between small-scale and commercial activities.	Relevant and provides guidance on addressing biodiversity issues.
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.	Not relevant
ESS-8 Cultural Heritage	Illustrates the need to preserve and protect various types of cultural heritage in the project areas.	Not relevant
ESS-9 Financial Intermediaries	Specifies how FIs will assess and manage ES risks and impacts.	The ESS requires to implement the mitigation measures identified in this ESMF.
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 PKSF 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.
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4. Assessment of Environmental and Social (ES) Impacts of RHL Project

4.1 Introduction

Adverse E&S impacts of any intervention can be direct and indirect based on physical environment and scale of interventions. Although direct impacts often receive more attention, indirect effects can be equally significant, gradually inducing changes to the environment, population and use of land. Most of the project impacts would be localized due to the small-scale community-based activities. There are some issues of concern that cut across the range of proposed interventions. Field studies and lessons from similar projects show that issues such as community involvement, community ownership and selection of appropriate sites are some of the key concerns that influence project success and sustainability. This chapter provides a brief overview of the potential direct and indirect E&S impacts of the possible RHLP interventions. These effects are extremely general and could differ depending on where interventions are.

4.2 Physical environment of the project area

4.2.1 Land form

The zone is characterised by a vast network of tidal rivers and channels, enormous discharge of water with huge amounts of sediments, many islands, the Swatch of No Ground (underwater canyon located 45 km south of the Sundarbans in Bangladesh), shallow northern Bay of Bengal, strong tidal influence and wind actions, tropical cyclones and storm surges.

The coastal zone is a low-lying very flat delta. About 80% of it is floodplains, which have a very low mean elevation above sea level. The average elevation of the southwest coastal zone ranges from 1-2 m and in the southeast coastal zone 4-5 m (Figure 1). The flat topography, active delta and dynamic morphology play a significant part in its vulnerability to sea level change.

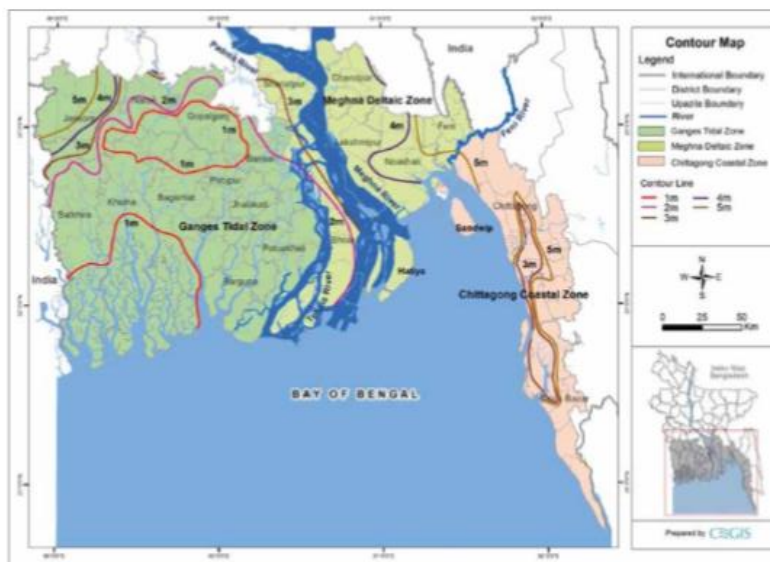


Figure 1: Physiography of Bangladesh coast

Throughout the centuries, the coast of Bangladesh has undergone massive changes due to the dynamic processes of erosion and accretion along the coastline and river estuaries. Based on the hydro-morphological characteristics, the coastal zone has been delineated into three regions: (i) the Ganges Tidal Plain or the Western Coastal Region, (ii) the Meghna Deltaic Plain or the Central Coastal Region and (iii) the Chittagong Coastal Plain or the Eastern Coastal Region (Pramanik, 1983 cited in Islam, 2001; BUET and BIDS, 1993). The coastal districts covered by these three regions are shown in Figure 2.

The Western Coastal Zone or Ganges Tidal Plain

The Western Coastal Zone or the Ganges Tidal Plain extends from the Bangladesh-India border in the west to the Tetulia River in the east. It is mainly covered by the Sundarbans mangrove forest, greater Khulna and part of Patuakhali district. The Sundarbans is the feeding and breeding grounds for fish, shrimps and other aquatic species. The zone is relatively stable because of the mangrove forest which acts as a natural barrier against cyclones, storm surges and soil erosion. Swamps, tidal flood plain and natural levees are found with numerous tidal creeks. The topography is low with an elevation between 0.9 to 2.1 m above mean sea level (Iftekhar and Islam, 2004). This zone is a semi active delta mostly composed of silty loams or alluvium washed down from the Himalayas (Islam, 2001).

The Central Coastal Zone or Meghna Deltaic Plain

The Central Coastal Zone or Meghna Deltaic Plain starts from the Feni river estuary to the eastern corner of the Sundarbans, covering Noakhali, Barisal, Bhola and Patuakhali (part) districts. A high amount of silt is deposited through a huge volume of discharge from the Ganges-Brahmaputra-Meghna river system. This is why the sediment load is mainly composed of silt (70%) and sand (10%) (Coleman, 1969; cited in Allison et al., 2003). This zone is a very active delta with high rates of both erosion and accretion. Many islands including the country's only island district Bhola are located here. Islands have formed as well as disappeared through the processes of accretion and erosion (Rahman et al. 1993; Pramanik, 1988 as cited in SDNP, 2004).

The Eastern Coastal Zone or Chittagong Coastal Plain

The Eastern Coastal Zone or Chittagong Coastal Plain extends from Teknaf upazila (the southern tip of mainland) to Mirsarai upazila along the estuary of the Feni River (Pramanik, 1983 as cited in Islam, 2001; BUET and BIDS, 1993). It is the most stable part of the Bangladesh coast and storm surge is less effective here (BUET and BIDS, 1993). The Naf River separates Bangladesh from Myanmar. The soil is mostly composed of submerged sands and mudflats (Islam, 2001). This submerged sand forms the 145 km long sandy beach from Cox's Bazar towards Teknaf. The beaches of Patenga and Cox's Bazar are situated in this zone.

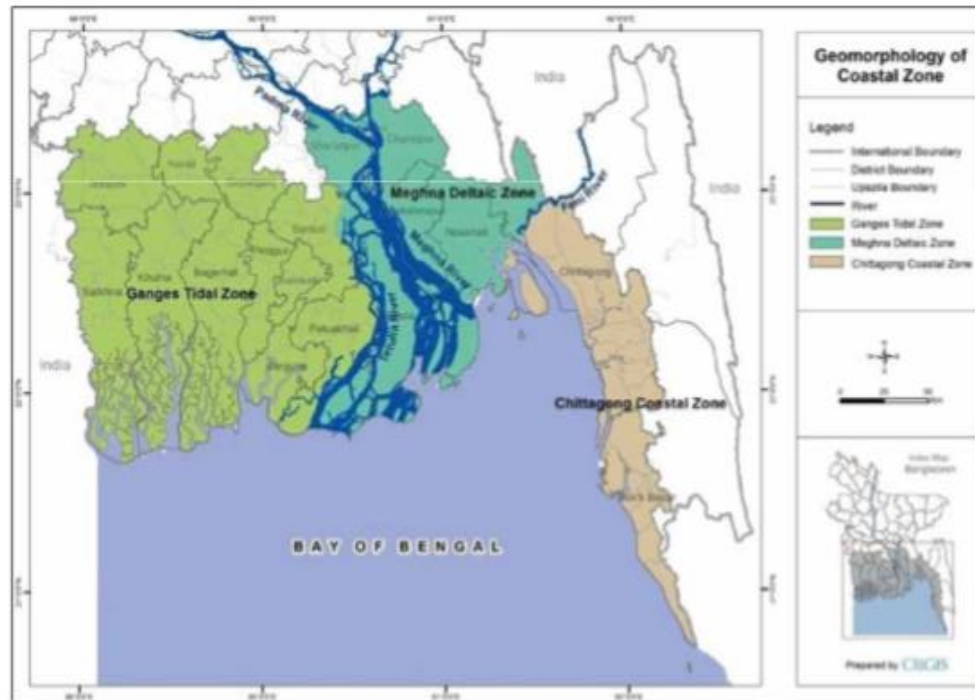


Figure 2: Geomorphology of Bangladesh coastal zone

4.2.2 Biodiversity (baseline)

The biodiversity of the project area is dominated by the Sundarban, the largest mangrove forest in the world. It is full of enormous variety of flora and fauna including aquatic resources, wild and domestic animals and bird species. The species represent estuarine, salinity and brackish water ecosystem. The coastal ecosystem supports diversity of fish as well as shrimp, oysters, crabs, and other invertebrates. The productivity of the ecosystem remains high because of existence of mangrove forest.

Mangroves are available in the form of natural forests (the Sundarbans) and planted (in Barisal, Noakhali, Chittagong and Cox's Bazaar Coastal Areas) forests together covering about 50% of the forest area of Bangladesh. The coastal mangrove forests constitute about 60% of the commercial productive forests including plantations, it covers 580 km². It extends along the coast in isolated groups with the exception of the Sundarban, which accounts for 74% of the reserve forest of the country. The Sundarban and mangrove forest in other parts of coastal area including offshore islands support a wide range of mammals, birds, amphibian, reptiles and crustacean.

4.2.3 Water quality (Baseline)

Water quality of the project area is pre-dominantly saline prone. The level of salinity varies by seasons and by locations. Continuous salinity ingress towards land is already evident. Dasgupta et al. (2014¹) found that salinity increased from 2ppt to 20ppt at Mongla (south-western coastal regions) in the Passur River from 1962 to 2008. The 5 ppt. isohaline line moves from the lower tip of Sundarbans (mangrove forest in Bangladesh) to the point of the lower Meghna river at Chandpur by the year 2100 under an assumed SLR of 88 cm due to global warming by 2°C by century. The salinity front will move about 60 km to the north in about 100 years. It is seen that sea level rise of 27 cm causes 6% increase of brackish water area compared to base condition. About an additional area of 327,700 ha would become a high saline water zone (>5 ppt) during the dry season due to 60 cm sea-level rise. In monsoon, about 6% of the sweet water area (276,700 ha) will be lost.

4.2.4 Air quality (baseline)

Air quality in Satkhira district is unhealthy compare to WHO provided air quality guideline value. Concentration of Particular Matter (PM_{2.5}) is 64.2 micro-grams/m³. This value is 12 times greater than WHO guideline.

4.3 Environmental and social screening and categorization

The 'environmental screening' is a mandatory requirement for the design of a project or sub-project. The purpose of the environmental screening is to get relevant concerns addressed early on before further decision and/or design of a sub-project and to ensure that actions to mitigate environmental impacts or enhance environmental opportunities are budgeted for. It is the first step to understand the possible environmental impacts and also to identify the environmental categorization of the project or sub-project. The participation and consultation with local communities are important in identifying the potential impacts of the project interventions. The PKSf has carried out screening of the project in consultation with experts as well as communities. The screening results are presented below:

Table 2: Environmental and Social Screening of the Project

Exclusion criteria	YES	NO	Remark
Will the activities involve associated facilities and require further due diligence of such associated facilities?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	The project will not involve associated activities because activities are known and impacts are also familiar to PKSf.
Will the activities involve trans-boundary impacts including those that would require further due diligence and notification to downstream riparian states?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	The activities will be implemented at the down stream of trans-boundary river and not built any dam or bridge across the rivers, i.e., means no impacts on rivers.
Will the activities adversely affect	<input type="checkbox"/>	<input checked="" type="checkbox"/>	The project will have small construction

¹ Dasgupta S., Kamal F. A., Khan Z. H., Choudhury S., Nishat A. (2014). River Salinity and Climate Change: Evidence from Coastal Bangladesh. Policy Research Working Paper No. 6817, Development Research Group, World Bank. March

Exclusion criteria	YES	NO	Remark
working conditions and health and safety of workers or potentially employ vulnerable categories of workers including women, child labour?			work like houses for vulnerable people as well as hatchery infrastructure. No children or vulnerable women will be engaged in this activity. The project will not require nay force labour.
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?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	The project will promote crab hatchery and crab culture. Hence, it has potential to increase soil and water salinity around the hatchery and crab ponds.
Will the activities involve the construction, maintenance, and rehabilitation of critical infrastructure (like dams, water impoundments, coastal and river bank infrastructure) that would require further technical assessment and safety studies?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	The project will have small scale construction activities like crab hatchery, resilient homestead, slatted houses for goat/sheep etc. But the project will not require critical infrastructure like dam, embankment, coastal infrastructure etc. So, the activities will not require further technical assessment and safety studies.
Will the proposed activities potentially involve resettlement and dispossession, land acquisition, and economic displacement of persons and communities?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	The project will not propose any activities which may include resettlement and dispossession, land acquisition, and economic displacement of persons and communities. Moreover, there is no temporary displacement issue. The households/families will be living in the same houses as the houses have alternative rooms. The rooms will be constructed one after another. So, families/HHs just have to be shifted from one room to another.
Will the activities be located in protected areas and areas of ecological significance including critical habitats, key biodiversity areas and internationally recognized conservation sites?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	The project will be implemented in existing settlement and farming areas.
Will the activities affect indigenous peoples that would require further due diligence, free, prior and informed consent (FPIC) and documentation of development plans?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	There are insignificant ethnic minorities found in the selected project area. Additional details are provided below this table. Please refer to Annex 24: Indigenous Peoples Plan Framework of the project.

Exclusion criteria	YES	NO	Remark
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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	In the project area, there is no archaeological paleontological, historical, cultural, artistic, and religious values or contains features considered as critical cultural heritage.
Will the activities affect human rights that would require further due diligence?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	The activities will not affect human rights because these are selected in consultation with the affected communities. Besides, these will be implemented on beneficiaries own land to avoid any dispute related to land.
Will the activities have potential to occur SEAH that require studies and due diligence?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	The activities may involve women labour in the crab farm and construction of crab hatcheries. So, they may be affected by other local people or co-workers during on the way to work place or vis-à-vis. However, as external workers will not be involved in the implementation process, the possibility of sexual harassment, abuse or exploitation is very limited.
Will the activities have potential to promote gender inequality?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	There is potential to pay lower wage to the female than male workers. But there is limited possibility of wage discrimination due to the nature of the project. Because the project will involve mostly women members of the community who will make decisions on wage rate, bargain with contractors etc. At the institutional level, HR policies of PKSF and IEs will be applicable to ensure equal wage of male and female staffs.

The above screening of the proposed project found that the project will have some impacts that will require some mitigation measures. For example, the project will construct crab hatcheries that will require water treatments facilities. The labour may require to wear personal protective equipment including masks, hand-gloves, helmet etc. For reducing dust, the construction activities will require water-spray etc. The cumulative impact of the project would be moderate. In this consideration, the project is categorized B.

As per the Environment Conservation Rules, 1997 (amended in 2023) the project will be classified under Yellow. As per ECR, 2023 all existing industries and projects in Yellow require an Environmental Management Plan (EMP) to be prepared and submitted along with other necessary papers while applying for environmental clearance. While preparing the project

proposal NOC (No Objection Certificate) was received from the NDA and relevant authority (e.g., the Department of Environment). So, no further environmental clearance certificates will be required.

We observed that category B of the GCF and PKSf is equivalent to Yellow of the Environment Conservation Rules, 2023 of Bangladesh. There are limited differences among the policies and standards of ESS of the government, the GCF and PKSf. The ESS of PKSf is very similar to the GCF. The GCF policies have several elements that are not directly mentioned in PKSf's policies i.e. SEAH, climate change etc. However, these are addressed in ESS 1 (Assessment of ES risks and impacts and management plan), 2 (Labour and working conditions), and 3 (Resource efficiency and pollution prevention) of PKSf's policies. We observed that category B of the GCF and PKSf is equivalent to Orange A of the ECR of the government. Thus the said policies and strategies are consistent to each other.

About 15 IEs will implement the project in various sub-districts of the selected districts. So, the project will ensure site-specific screening and due diligence by the IEs.

4.4 Typical environmental impacts

4.4.1 Loss of Top Soil of Agricultural Land

Homestead just a few of the many various tasks involved in establishing a homestead foundation or other small-scale infrastructure, such as housing, sanitation, community water supply system, and so forth. Earthen works play a part in each of these activities. Soil materials will be needed for this. Taking soil from the top soil layer of agricultural land diminishes agricultural production because it deprives the land of fertile nutrients. By gathering soil from waste land or storing topsoil and restoring it later, such an impact can be avoided. Additionally, surrounding borrow pits and ponds can be used to collect soil, which will assist those regions produce more fish.

4.4.2 Drainage Congestion/Water Logging

The construction of small infrastructure may interfere with cross drainage and can cause flooding or drainage congestion in adjacent areas during period of high rainfall. This may affect commercial activities in the market and cause potential risk to community health, crop damage and in extreme cases long-term loss of agricultural lands. Possible drainage congestion/water logging should be properly addressed and taken in consideration during design phase of the project.

4.4.3 Impacts on biodiversity

None of the project activities will require cutting trees or forests. As the plinth of the homesteads will be raised, some grasses and herbs may be damaged. The crab hatchery will reduce the capture of wild crabs and thus increase crab stock in nature, which is the most significant impact of the project interventions on biodiversity.

4.4.4 Dust and Noise Pollution

Dust pollution occurs as a result of soil handling during construction and, more specifically, a lack of watering of the earth's surface. Such pollution is also a function of weather conditions—in the dry season, nuisance is greater; during the rainy season, dust nuisance subsides. Pre-

construction and construction stages are more susceptible to dust accumulation. Noise pollution is normally due to some construction-related activities.

4.4.5 Water Pollution

The project will promote crab hatcheries and farming, which will require saline water. The hatchery will use deep sea water that contains more than 25 ppt. In addition, crab ponds will also require saline water. These two activities may cause changes in the present soil salinity condition of the specific sites.

4.4.6 Soil salinity

The project will promote crab hatcheries and farming, which will require saline water. The hatchery will use deep sea water that contains more than 25 ppt. In addition, crab ponds will also require saline water. These two activities may cause changes in the present soil salinity condition of the specific sites.

4.5 Social impacts

4.5.1 Labour and working condition (Occupational health and safety)

The project is only undergoing minor construction. As a result, the workers' risk of injury is quite low. The project intervention can be carried out with the help of local labor. The recipients typically carry out the suggested tasks themselves. Construction of hatcheries, dirt cutting for constructing plinths, the construction of goat or sheep barns, and the reconstruction of homes will all demand labor. Local resources exist for this labor. Therefore, no outside labor will be required for the project. Additionally, there is a very slim probability of engaging in forced labor or child labor.

4.5.2 Community health and safety

The building materials including bricks, cement, sand, corrugated sheets, etc. will be sourced from the local market because these materials are readily available at the union level growth centers. Local indigenous transports like manually-pulled van is generally used to transport these materials from the market to the locality. These markets are very short distant from the villages (union level growth centers). Hence, locally, the project won't necessitate extensive transportation and traffic. Burning fossil fuel will thus be restricted. Collecting deep sea water is the sole essential transport needed to run a crab nursery. However, because deep-sea water has already been accumulating from shrimp hatcheries, the contamination won't get worse. The hatchery operations will lower the mortality and associated illness concerns for the local Sundarban crab catchers. In addition, the beneficiaries will be living in the same houses while reconstruction activities will be going on. As a result, there is potential to occur accident. Odor may be spread over the villages due to rearing goat/sheep.

4.5.3 Impacts on indigenous/tribal people and cultural heritage

4.5.3.1 Indigenous/tribal people in Bangladesh

Bangladesh is by religiously, ethnically and linguistically homogeneous. Its population of nearly 165 million is roughly 90.39 percent Muslim, with about 8.54% Hindus and others mainly

following Buddhism and Christianity. Close to 99 percent speak Bangla and could be ethnically and culturally described as Bengali.

However, all across its territory, a large number of minority groups inhabit with their distinct ethnic traits, social institutions, linguistic and cultural traditions. In other words, many of them could be taken as 'indigenous people' as defined in various UN human rights instruments.

Tribal Peoples in Bangladesh are a small minority in Bangladesh. The government statistics are sketchy at best; the most recent census figures (2011) do not provide ethnically disaggregated data, but it provides the total population of ethnic people which is about 1.5 million. However, the representatives of the tribal peoples and their organizations have expressed disagreement with this figure. The Bangladesh Adivasi Forum, an apex advocacy and networking organization of the ethnic minorities, has given a figure of 3 million as their total population. In any event, tribal peoples should constitute no more than between 1-2% of the total population of Bangladesh.

District wise distribution of this population suggest that more than 50% of them concentrate in four districts including Khagrachari, Rangamati, Bandarban and Naogaon. 19 districts have ethnic population in between 10,000 and 100,000. Rest of the 41 districts have very small number of ethnic people. So, these people mainly live in a concentrated area. Out of proposed 7 districts, only Cox's Bazar has population over 10,000 which is 14,557 (BBS, 2011 in BBS 2020). In Cox's Bazar district, Rakhine mainly concentrates in Ramu and Teknaf upazila (sub-district). The RHL project has selected Cox's Bazar sadar sub-district for development of crab hatcheries. No hatcheries will be established in Ramu and Teknaf sub-district. So, this activity will not affect culture or land or livelihood of the people of those two sub-districts.

4.5.3.2 Defining the 'Tribal Peoples' under the RHL

Bangladesh has a rich and ethnically diverse population with ethnic minorities making up around 1.2 million of the total population. Although the Government recognizes the UN Declaration on the Rights of Indigenous Peoples (UNDRIP), it does not consider ethnic minorities as indigenous peoples. The terminology 'tribal peoples' in the case of RHL, will mean 'indigenous peoples' as defined in the GCF's Indigenous Peoples Policy. However, tribal peoples are found to live in varied and changing contexts and hence, no single definition can capture their diversity. As such, PKSf will use the GCF's guidelines to identify TPs in particular geographic areas by examining the following characteristics:

- a) Self-identification as members of a distinct indigenous social and cultural group and recognition of this identity by others;
- b) Collective attachment to geographically distinct habitats, ancestral territories, or areas of seasonal use or occupation as well as to the natural resources in these areas;
- c) Customary cultural, economic, social, or political systems that are distinct or separate from those of the mainstream society or culture; and
- d) A distinct language or dialect, often different from the official language or languages of the country or region in which they reside. This includes a language or dialect that has existed but does not exist now due to impacts that have made it difficult for a community or group to maintain a distinct language or dialect.

4.5.3.3 Screening of indigenous/tribal people

A screening checklist was developed considering the GCF IPP requirements for screening the impacts of the RHL project on the IP/TP. Following table shows the screening results.

Table 3: Screening of IP/TP for RHL project

Impacts on indigenous/tribal people and cultural heritage		
1.	Are indigenous peoples present in the Project area (including Project area of influence)?	No
2.	Is it likely that the Project or portions of the Project will be located on lands and territories claimed by indigenous peoples?	No
3.	Would the proposed Project potentially affect the human rights, lands, natural resources, territories, and traditional livelihoods of indigenous peoples (regardless of whether indigenous peoples possess the legal titles to such areas, whether the Project is located within or outside of the lands and territories inhabited by the affected peoples, or whether the indigenous peoples are recognized as indigenous peoples by the country in question)?	No
4.	Has there been an absence of culturally appropriate consultations carried out with the objective of achieving FPIC on matters that may affect the rights and interests, lands, resources, territories and traditional livelihoods of the indigenous peoples concerned?	No
5.	Does the proposed Project involve the utilization and/or commercial development of natural resources on lands and territories claimed by indigenous peoples?	No
6.	Is there a potential for forced eviction or the whole or partial physical or economic displacement of indigenous peoples, including through access restrictions to lands, territories, and resources?	No
7.	Would the Project adversely affect the development priorities of indigenous peoples as defined by them?	No
8.	Would the Project potentially affect the physical and cultural survival of indigenous peoples?	No
9.	Would the Project potentially affect the Cultural Heritage of indigenous peoples, including through the commercialization or use of their traditional knowledge and practices?	No

Screening result

There are insignificant number of ethnic minorities found (about 1% of the district's population) within the project area. Rakhaine communities/villages in Cox's Bazar live in highland area away from the project sites. Although this ethnic group is not in the project site, the RHL will extend knowledge on smart crab farming to this group. Where possible, these people will be involved in project design and implementation particularly with respect to the ecosystem based adaptation activities.

There is lack of data about the distribution of ethnic group by districts. However, this study provides percentage share of ethnic groups in Bangladesh population (Table 4). PKSF's field

observation suggests that Rakhaine and Munda communities exist in three districts including Cox's Bazar, Patuakhali and Satkhira. Some Munda community resides in Satkhira and Rakhain resides in Patuakhali and Cox's Bazar. They reside in a concentrated area which is different from the project location. As table 4 below shows, they are insignificant in numbers. However, the RHL project will take necessary measures if any of these ethnic groups reside in the selected villages.

Table 4: Share of Ethnic Group in Bangladesh Population

Ethnic Group	Share in Bangladesh Population (%)
Bengali	98
Bihari	0.3
Chakma	0.3
Meitei	0.1
Khasi	0.1
Santhal	0.1
Garo	0.1
Oraon	0.1
Munda	0.1
Rakhain	0.1

Source: <https://www.worldatlas.com/articles/ethnic-groups-in-bangladesh.html>

During the meetings with the community, it was discovered that there were no indigenous people in the project area. The Bangladeshi Constitution, the Hill District Local Government Council Acts of 1989 (Rangamati Hill District Local Government Council Act, Bandarban Hill District Local Government Council Act, Khagrachhari Hill District Local Government Council Act), the Chittagong Hill Tracts Peace Accord of 1997, and the Chittagong Hill Tracts Land Disputes Resolution Commission Act 2001 are some of the documents that are consulted for more information. For a variety of causes, including religious minorities, there may be some beneficiaries who are from minority groups and tribal community. As the percentage of these groups are insignificant compare to total population of the selected districts, the random based consultations might not reach to them. It is to be mentioned that according to Article 23A of the Constitution of Bangladesh, the state shall take steps to protect and develop the unique culture and tradition to all. In addition, PKSf has a policy on tribal people. If any tribal or ethnic community is found in the project area during implementation, PKSf will carry out due diligence including free, prior, informed consent with them prior to implement the activities.

An Indigenous Peoples Plan Framework is developed in Annex 23 which is consistent with the GCF's IPP. This plan will be applicable to address this issue.

4.5.4 Occupational Health and Safety

It is anticipated that there won't be any significant occupational health & safety issues because the project activities don't involve any significant construction or hazardous operations. However, attention should be paid to illnesses brought on by water contamination and contagious infections among workers. PKSf has adopted Environmental Health and Safety Guidelines. The AE will ensure the safety of the workers following this guideline. As, the workers will be locally arranged, temporary camps will not be required as there is no issue of

relocation. First Aid facilities advised handling any small mishaps that occurred while working on the project. In addition, the project will ensure hard hats, shoes and gloves for the labour as safety measure.

4.5.5 Human rights

Human rights in the country is protected by the Constitutions of Bangladesh. It is enshrined as fundamental rights in Part III of the Constitution. The government has established the Human Rights Commission to protect the rights of its citizen. The Human Rights Commission Act was enacted in 2009. The act defines human rights as “Right to life, Right to liberty, Right to equality and Right to dignity of a person guaranteed by the constitution of the People’s Republic of Bangladesh and such other human rights that are declared under different international human rights instruments ratified by the People’s Republic of Bangladesh and are enforceable by the existing laws of Bangladesh.” Bangladesh is a signatory of all UNHR related conventions and treaties. A list of some treaties and conventions are presented in the table below as an example:

Table 5: Bangladesh position on UNHR related conventions and treaties including tribal people

Sl. No	Name of treaty	Signature date	Ratification date
1	Convention against Torture and Other Cruel Inhuman or Degrading Treatment or Punishment		05 Oct 1998 (a)
2	Optional Protocol of the Convention against Torture (CAT-OP)		
3	International Covenant on Civil and Political Rights (CCPR)		06 Sep 2000 (a)
4	Second Optional Protocol to the International Covenant on Civil and Political Rights aiming to the abolition of the death penalty (CCPR-OP2-DP)		
5	Convention for the Protection of All Persons from Enforced Disappearance (CED)		
6	Interstate communication procedure 11 under the International Convention for the Protection of All Persons from Enforced Disappearance (CED, Art.32)		
7	Convention on the Elimination of All Forms of Discrimination against Women (CEDAW)		06 Nov 1984 (a)
8	International Convention on the Elimination of All Forms of Racial Discrimination (CERD)		11 Jun 1979 (a)
9	International Covenant on Economic, Social and Cultural Rights (CESCR)		05 Oct 1998 (a)
10	International Convention on the Protection of the Rights of All Migrant Workers and Members of Their Families (CMW)	07 Oct 1998	24 Aug 2011
11	Convention on the Rights of the Child (CRC)	26 Jan 1990	03 Aug 1990
12	Optional Protocol to the Convention on the Rights of the Child on the involvement of	06 Sep 2000	06 Sep 2000

	children in armed conflict (CRC-OP-AC)		
13	Optional Protocol to the Convention on the Rights of the Child on the sale of children child prostitution and child pornography (CRC-OP-SC)	06 Sep 2000	06 Sep 2000
14	Convention on the Rights of Persons with Disabilities (CRPD)	09 May 2007	30 Nov 2007

Any violation of these treaties by any person, groups, or organizations will be considered as criminal offenses and applies to national laws and acts as mentioned above. It is to be noted that some of the treaties like **Convention on the Elimination of All Forms of Discrimination against Women** (CEDAW), International Covenant on Economic, Social and Cultural Rights (CESCR), Convention on the Rights of the Child (CRC) and Convention on the Rights of Persons with Disabilities (CRPD) are closely linked with the project activities. These are also supported by the definition of Human Rights in the National Human Rights Commission acts, 2009 as stated above.

The project interventions are community based and will not require external labour. Hence, risks associated with violation of human rights, particularly women, disabled and other ethnic minorities (if any) are very limited or absent from external source. But, there are some internal risks to engage child labour in project interventions particularly crab farming and goat/sheep rearing. This may be occurred by the family members.

4.5.5 Sexual Exploitation, Abuse and Sexual Harassment (SEAH)

Sexual Exploitation, Abuse and Sexual Harassment are critical elements in the society of Bangladesh because empirical evidence is very limited. Almost two-thirds (72.6 per cent) of women who are, or have ever been, married have experienced some form of violence by an intimate partner.² It also found that over one-third (35.3 per cent) of women who have never been married faced non-partner physical or sexual violence, as did over one-quarter (28.3 per cent) of currently or formerly married women.² There are a number of studies that also show evidences of either sexual harassment or exploitation or abuse particularly in different work places.² above

The Penal Code of 1860 – Bangladesh’s key penal statute, inherited from the colonial period – contains provisions on protecting women from various forms of physical and sexual violence. In 1992, the Committee on the Elimination of All Forms of Discrimination Against Women issued its General Recommendation No. 19. It affirmed that sexual harassment is a form of gender-based violence and, therefore, a form of discrimination within the meaning of article 1 of the Convention on the Elimination of All Forms of Discrimination against Women (CEDAW).³ The Government of Bangladesh ratified the CEDAW on 6 November 1984. Article 11 commits Member States to eliminate discrimination against women in the field of employment, and to ensure the equality of women and men. As discussed above, the CEDAW Committee’s General Recommendation No. 19 (1992), entitled “Violence against women”, affirms that gender-based

² Bangladesh Bureau of Statistics, Report on Violence Against Women (VAW) Survey 2015, 2016.

³ CEDAW, adopted in 1979 by the United Nations General Assembly is regarded as the ‘international bill of rights for women’. More information is available on the UN’s website, <http://www.un.org/womenwatch/daw/cedaw>

violence, including sexual harassment, is a form of discrimination. Commenting on article 11 of CEDAW, which relates to discrimination against women in employment, the CEDAW Committee emphasized that equality in employment can be seriously impaired when women are subjected to gender-specific violence, such as sexual harassment in the workplace. In addition the government has ratified the UN Declaration on the Elimination of Violence against Women, 1993 and the Beijing Declaration and Platform for Action, 1995.

The government has enacted the Repression against Women and Children (Special Provision) Act, 1995, prescribing the death penalty as the punishment for killing a woman or child by committing rape. Five years later, the Act was repealed and replaced with the Women and Children Repression Prevention Act, 2000 (WCRPA).⁴

Honorable High Court adopted a policy on Sexual Harassment Free Educational and Working Environment and ruled to implement this policy at all types of organisations in the country. As per the policy, each organisation will form a Committee to receive, investigate and remedial measure against complains on sexual exploitation, abuse and harassment. PKSf strictly follow this policy.

However, there is less possibility to occur SEAH by the project interventions. Because, selected women members will directly involve many of the activities as these will be implemented at their homestead and neighbouring areas. In addition, some women may require to away to work in the crab farm. They might have risks to SEAH while working in the farm or traveling from home to farm and vice versa. However, the risk is very limited or negligible. But the challenge is that if any woman is affected, she does not want to disclose due to either shyness or fear of loss of dignity. At the IE level, there may be female staffs who will have to travel frequently in the selected villages. These staffs may also face similar types of difficulties. Similarly at the PMU level, female staffs may be recruited. These female staffs would require to frequent field visits in the remote areas of the country. Thus, they might be exposed to SEAH. High Court's guideline on sexual harassment will be applied in this project to project SEAH.

Assessment of SEAH related risks associated with the proposed activities

Different types of stakeholders will be involved during the implementation of the project. At the central level, PKSf will establish the project management unit (PMU) where the desired number of female staffs are expected to be recruited. These staff will be required to travel in the remote areas alone or with male colleagues. In this case, the female staff may be affected by SEAH-related risks. They have also possibility to get affected in the office. On the other hand, selected IEs also may recruit female staff who will also require to travel at the village levels for community mobilization, CCAG activities, monitoring physical interventions etc. They will also be required to travel to Dhaka or other areas for training under this project. All these travels may increase the risk of SEAH. Furthermore, at the community level female labour may take participate in the earthwork for re-excavation of ponds and canals. They may be affected in various ways that include but are not limited to lack of sanitation facilities at work place, eve teasing, sexual exploitation and harassment, wage discrimination etc.

Action plan matrix for protection of GVB and SEAH

⁴ ILO (2020). Overview of laws, policies and practices on gender-based violence and harassment in the world of work in Bangladesh, International Labour Office, CH-1211 Geneva 22, Switzerland,

SL#	Identified risks	Mitigation measures	Responsibility	Source of Budget
1.	Wage discrimination	<ul style="list-style-type: none"> • Awareness raising through CCAG meetings. • Ensure equal payment to male and female labour during earth work. • Establish grievance redress mechanism at union level (the lowest administrative unit of Bangladesh). 	IE and CCAG members	No additional budget is required
2.	Sexual harassment and/or eve teasing due to lack of sanitation facilities at work place	<ul style="list-style-type: none"> • Temporary separate sanitation facilities at the work place for both male and female members. • Establish grievance redress mechanism at union level (the lowest administrative unit of Bangladesh). 	IE and local contractors	Budget is built in the relevant activity.
3.	Sexual harassment and/or eve teasing on the way to and from work place	<ul style="list-style-type: none"> • Establish grievance redress mechanism at union level (the lowest administrative unit of Bangladesh). 	IE under the supervision of EE	
4.	Risks associated with SEAH at PKSf level	<ul style="list-style-type: none"> • PKSf's guideline will be applicable for this project (Annex 25) • For travel to remote areas, official vehicle will be ensured instead of public transport. 	PKSF	No additional budget is required
5	Risks associated with SEAH at IE level	<ul style="list-style-type: none"> • Training related to project management will incorporate SEAH and GBV related sessions to 	PKSF and IE	Existing training budget

		<p>enhance awareness.</p> <ul style="list-style-type: none"> • Accommodation of female staff will be arranged separately considering individual requirement of female staff. • Necessary security and privacy will be maintained. 		
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* In every case, gender policy and GRM of PKSf will be applicable. PKSf strongly follow the zero-tolerance policy on SEAH and GBV. It is applicable both for PKSf and IEs.

4.5.7 Gender equality

Traditionally women and men play clear distinct role in the society of Bangladesh. Usually men are related to income earning and responsible maintaining cost of living of the household and women usually maintain household works including child care, cooking, etc. As a result, a culture of men's guardianship and women's dependency prevails, with women traditionally restricted to the private sphere.⁵ Such inequality and power imbalances between women and men are among the root causes of gender-based violence in Bangladesh.⁶ However, women's labour force participation has increased persistently in recent years, emerging as one of the most noticeable changes in Bangladesh's labour market.⁷ This is happening mainly due to the governments recognition of the importance of women participation in the labour market for sustainable development of the country.

ILO Convention No. 111⁸ addresses discrimination in employment on a number of grounds, including sex, race, colour, religion, political opinion, national extraction, and social origin. It requires that Member States declare and pursue a national policy designed to promote equality of opportunity and treatment, with a view to eliminating discrimination. The Government of Bangladesh ratified the Convention in 1972. Bangladesh has ratified and enacted this convention.

Agreed conclusions of the Commission on the Status of Women on the elimination and prevention of all forms of violence against women and girls, 2013, In its agreed conclusions on "Women's economic empowerment in the changing world of work" ⁹, adopted in 2017, the Commission urged governments at all levels to enact, strengthen and enforce laws and policies to eliminate all forms of violence and harassment against women of all ages in the world of

⁵ Sohela Nazneen, "The Women's Movement in Bangladesh: A Short History and Current Debates", FES Bangladesh Country Study, 2017

⁶ UN General Assembly Human Rights Council, Report of the Special Rapporteur on violence against women, its causes and consequences, Rashid Manjoo: Mission to Bangladesh (20-29 May 2013), A/HRC/26/38/Add.2(2014).

⁷ Selim Raihan and Sayema Haque Bidisha, Female employment stagnation in Bangladesh: A research paper on Economic Dialogue on Inclusive Growth in Bangladesh (Asia Foundation, 2018).

⁸ 90 ILO, Discrimination (Employment and Occupation) Convention, 1958 (No. 111).

⁹ Commission on the Status of Women, Women's Economic Empowerment in the Changing World of Work: 2017 Commission on the Status of Women Agreed Conclusions, 2017.

work, in the public and private spheres. It also urged states to provide a means of effective redress in cases of non-compliance. The Commission's agreed conclusions in 2018 reiterated the call for government programmes and strategies for preventing and eliminating sexual harassment against all women and girls, including harassment in the workplace and in schools. These conclusions emphasized effective legal, preventive and protective measures for survivors/victims of sexual harassment or those who are at risk of sexual harassment.¹⁰

The basis of Bangladeshi laws on gender equality in workplaces stems from the Constitution itself. Article 28 enshrines the principle of equality and non-discrimination, with article 28(2) specifically stating that "women shall have equal rights with men in all spheres of the State and of public life". To ensure gender equality, the country has enacted constitutional law, Criminal laws (Penal Code, 1860), Nari O Shishu Nirjatan Daman Ain (Women and Children Repression Prevention Act), 2000; Domestic Violence (Prevention and Protection) Act, 2010; and Bangladesh Labour Act, 2006.

The project interventions have limited risk to make discrimination between male, female and other disadvantaged group of people in the project area due to gender sensitive design. The contractor may provide low wage to the female labours. Besides, children and adolescent girls may engage in the project interventions. These problems will be solved by implementing community based approached. The CCAG members are the key actors at the local level for implementing the proposed activities, the project will engage 80% female while forming the CCAGs. They will actively participate in the project. So discrimination should not take place.

¹⁰ Commission on the Status of Women, Challenges and Opportunities in Achieving Gender Equality and the Empowerment of Rural Women and Girls: 2018 Commission on the Status of Women Agreed Conclusions, 2018, p.11

5. Environmental and Social Management Plan

5.1 Environmental and Social Management Plan (ESMP)

Based on the E&S impacts carried out in chapter 4, the project has prepared an ESMP matrix. The ESMP matrix is presented below:

Table 6: Environmental and Social Management plan matrix

ES impacts	Mitigation measures	Budget	Responsibility		Level of Significance
			Implementation	Supervision	
Increasing the water salinity	Hatcheries will be designed with de-chlorination facilities.	Budget is built in construction of hatchery.	IE	PMU	Medium
Loss of productive land due to establishment of hatcheries	Salinity affected land will be chosen for establishment hatchery. No agricultural/ productive land will be used. Only barren & fallow land, surrounding borrow pits and ponds will be considered to install the hatchery plant and to collect soil.	Not required	IE	PMU	Low
Increasing soil salinity	Crab farming and hatchery operation will be conducted in already salinity affected lands.	Not required	IE	PMU	Medium
Loss of grasses and herbs at homestead area	Tree plantation and vegetable cultivation will be confirmed on the raised plinths.	Budget line item	IE	PMU	Low
As the project has minor construction activities, the workers may be injured.	PKSF has adopted Environmental Health and Safety Guidelines. The AE will ensure the safety of the workers following this guideline. As, the workers will be locally arranged, temporary camps will not be required	Local contractors procured by IE	Local contractors	IE and PMU	Low

	<p>as there is no issue of relocation.</p> <p>First aid box, hand gloves, hard hats and gumboot to the workers will be provided. The workers will be locally arranged, temporary camps will not be required for taking rest.</p>				
Reduced risks to death and injury of the crab catchers	Awareness raising activities in the CCAG meetings about the benefit of hatchery-produced crablets and negative effects of catching natural crab will be performed.	Budget line item	IE	PMU	Low
The beneficiaries may be injured as they will be living in the same houses while reconstruction activities will be implementing.	The contractors will take protection measure by making temporary partition between the room under construction and other one.	Budget line item	IE, CCAGs, Contractors and PMU	CCAG, IE and PMU	Low
Air pollution	Compressed natural gas-driven vehicle instead of petrol or diesel during transportation of materials for crab hatcheries will be used.	Not required	Contractor	IE	Low
Water Pollution due to construction of Latrines	Sanitary latrines that will be built will be semi-pucca and Y-chambered twin-pit latrine. These pits will be used one after another. Meanwhile, when one pit	Budget line item	IE	PMU	Low

	will be fill-up it will be cleaned and the treated waste will not be disposed of in any open water bodies. Moreover, a minimum 30 feet distance will be maintained between the latrine pit and nearby water sources to prevent surface water pollution.				
Loss of Biodiversity due to collection of Juvenile crabs	It will be ensured that the project beneficiaries will not go to Sundarban to catch juvenile crab for farming. Furthermore, the project will motivate other crab collector to use crablets and juveniles from hatcheries and crab nurseries to be produced under this project. The CCAG members will play significant role in promoting the sustainable practices of the crab farm.	Not Required	IE	IE and PMU	Low
Dust & Noise Pollution due to construction activities	Spraying water in the construction site will be ensured. Machineries will be used as less as possible.	Not Required	IE	IE and PMU	Medium
Pollution (e.g., water, odour) from goat and sheep rearing slatted houses and crab hatchery and farming	Goats' litter box and litter will be cleaned thoroughly regularly. Goat/sheep manure will be used to produce organic fertilizer. Polythene sheets will be provided under the goat house so that the urine and faces of the goats can be easily removed. Crab farming will be restricted only to those lands which have already	Not required	IE	PMU	Low

	been salinized. In addition, salinity-treatment mechanism will be built in the hatchery design.				
Using of construction materials that are not considered to be good practice	It will be ensured that the building materials i.e. bricks, sand, cement etc. are made in sustainable manner. Materials that are not considered to be good practice will not be used in any circumstances.	Not required	Local contractors	IE and PMU	Low
As the project will be implementing in the disaster prone coastal areas, the beneficiaries and project-supported structures have potential to get affected by cyclones and storm surges.	The government has adopted the Standing Order on Disaster (SOD) which is a legal mandate to respond to any disaster. The SOD defines roles and responsibilities of different levels of disaster management committees from central down to union level. The cyclone preparedness programmes (CPP) is a vibrant cyclone management programme under the SOD which is renowned as a model for disaster management for many other countries in the world. This existing programme has ability to reach door to door of the village people during a disaster. The emergency responses are carried out under this programme. Hence, this project does not need to prepare emergency plan. However, the project will increase awareness on	Not required	IE and CCAG members	CCAG members, IE and PMU	Medium

	early warning issued by the Bangladesh Meteorological Department (BMD) through CCAG meetings, information to get emergency supports which is centrally managed by the government, assist them to go to shelter in case of CAT 4 or 5 cyclone etc.				
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Details of the significance level is described in the G.1. section Environmental and social risk assessment (Paragraph 261-272) of the Funding Proposal.

The project will provide capacity building training to the IE's staff on ES safeguard and its implementation procedures including screening, ESIA, ESMP, roles and responsibilities of different stakeholders like IE itself, CCAG members and PMU at PKSf level.

Budget for implementing the ESMP: According to the ESMP matrix, most of the measures will not require budget. However, few health and safety measures may require some budgets. Approximately USD3,000 may require for the health and safety measures.

5.2 Environmental and Social Monitoring Plan

The environmental and social monitoring is another part of the ESMP. This monitoring involves: (i) planning a survey and realistic sampling programme for systematic collection of data/information relevant to environmental and social management; (ii) conduct of the survey; (iii) analysis of samples and data/information collected, and interpretation of data and information; and (iv) preparation of reports to ensure ES compliance. ES staff of PMU will carry out the monitoring activities whether the above mitigation measures are implementing properly at the field level. This monitoring will also ensure whether any new or additional negative or positive impacts are found during implementation of the project. Based on this, the ESS staff will suggest measures to address those new impacts. The following table provides the template for the ES monitoring Plan. The plan consists of two types of monitoring: 1) monitoring for effectiveness of mitigation measures; and 2) general ES effects monitoring. The information contained in the template needs to be completed by the IEs.

Templates for Environmental Monitoring Plan

A) MITIGATION MONITORING							
Mitigation, & Environmental Indicator	Location	Procedures / methods	Frequency / Duration	Baseline / ES Performance Standards	Responsibilities		Estimated Cost
					Implementation	Analysis/ Reporting	
Activities at the beginning of the sub project							
Mitigation/ Indicator							
Mitigation/ Indicator							
Activities at Implementation Stage							
Mitigation/ Indicator							
Mitigation/ Indicator							
Operation & Maintenance Phase Activities							
Mitigation/ Indicator							
Mitigation/ Indicator							

B) ENVIRONMENTAL AND SOCIAL IMPACT MONITORING							
ES Impact & Indicator	Location	Procedures / methods	Frequency / Duration	Baseline / Environmental Standards	Responsibilities		Estimated Cost
					Implementation	Analysis/ Reporting	
Activities at the beginning of sub project							
Impact/ Indicator							
Impact/ Indicator							
Operation & Maintenance Phase							
Impact/ Indicator							
Impact/ Indicator							

Frequency/ Duration monitoring:

The number of times (annual/biannual) biophysical or social samples will be collected, and the total time period during which the sampling occurs.

Baseline / Environmental Standards:

The baseline-preconstruction - condition of the indicator variable(s) will be determined with initial baseline sampling. The baseline level of the indicator will be used to gauge the effects of mitigation measure or impact when compared to monitoring data collected during and after construction phase. Existing environmental standards or criteria for the indicator variable are also identified and subsequently compared to the indicator during all phases of the sub-project to assist with determination of whether the mitigation measure is effective, or whether an impact has been registered.

Responsibility:***Implementation***

If IE lacks in-house expertise, it will outsource the implementation of the monitoring programme to an environmental specialist or firm.

Analysis / Reporting

The analysis and subsequent reporting of the results and recommendations of the environmental monitoring plan is a joint responsibility between the consultant of the plan, and the IE. The consultant is responsible to prepare a timely report which clearly indicates the performance of all mitigation measures, and whether other unpredicted impacts are occurring. IE then will prepare all necessary reports that need to be submitted to PKSf.

Estimated Cost:

It includes survey, laboratory works (if required) and reporting costs. The item-wise budget should be prepared for better cost estimation and accountability. If the works is outsourced, all the costs will be included in the consultant budget.

5.3 ES Monitoring at PKSf Level

In addition to the environmental monitoring plan prepared and implemented by the IE, PKSf will develop its own monitoring mechanism to ensure proper implementation of the environmental mitigation activities to avoid any negative environmental consequence from the sub-projects. The monitoring will be carried by 2 levels: i) internal monitoring and ii) external monitoring/evaluation.

5.3.1 Internal Monitoring

As part of their routine monitoring of the sub-project implementation, PKSf will strengthen the ability of the newly hired ES staff at PMU to do the environmental monitoring. Each quarter, the ES personnel will conduct monitoring visits to check on the implementation IEs' environmental monitoring efforts. Every ES employee will create their own monitoring report on a quarterly basis and share it with the PKSf's Environment and Climate Change Unit (ECCU). The ES staff will go over the report and may hold a separate conversation with other PMU staff members on ES monitoring data, applying IEs, and next steps. On a specific percentage, the Deputy Project Coordinator (ESS) will also conduct field visits. S/He will monitor the ES safeguard issues in the selected sub-projects and publish annual report on environmental compliance of sub-projects based on agreed monitoring indicators.

Role and responsibilities of Deputy Project Coordinator (ESS) will be the followings:

- a. Prepare an Environmental and Social Management Plan (ESMP) to identify and assess potential impacts
- b. Lead the Environmental safeguard related activities
- c. Assist the Project Management Unit in ensuring environmental sustainability during project implementation
- d. Review organizational guidelines for the management
- e. Prepare environmental impacts report to GCF and another related donor
- f. Prepare environmental protocol for the project
- g. Hold regular meetings with the project management unit and IEs
- h. Plan and organize environment-related training, workshop, and seminar for the organizational staff
- i. Design and implement capacity development initiative
- j. Regular Field visits to assess the quality and adequacy of screening, mitigation measures, EMP, and also supervision of environmental activities during proposal selection and implementation
- k. Provide follow-up services to monitor and ensure whether the recommendation is carried out during the implementation of work
- l. Recommend specific suggestions to improve the environmental management of project design, implementation, and O&M
- m. Prepare and submit regular environmental monitoring and implementation progress report
- n. Provide capacity building training to the IEs' staff on ESS of the project.

5.3.2 Third Party Assessment/External Monitoring/Evaluation

PKSF will hire the services of a consulting firm to carry out the external monitoring/evaluation of the project and its sub-project. The team will include an environmental specialist who will assess the implementation of environmental mitigation and monitoring activities and also evaluate impact on environment. Based on the evaluation result, PKSF will take remedial measures (if required). The timing and frequency of the external monitoring will be decided by the PKSF based on the number of the sub-project to be funded under RHLP. The independent environment evaluation will ensure correctness of the sub-project wise Environmental assessment and implementation of the environmental management plan (Monitoring and mitigation).

5.4 Stakeholder Analysis

5.4.1 Summary of the Stakeholder Consultations

PKSF has carried out consultation meetings at different levels of stakeholders including community people, crab catchers, crab traders and government and non-government representatives. Consultations at the community level suggest that mostly poor communities are engaged in crab-let collection from the Sundarbans area. This practice often threatens their lives to the wild animal as well as downing. Moreover, they do not get crab-lets in near-shore areas and have to go far away, which means crab stocks in nature are reducing. However,

these people are looking for secured livelihood options to increase their resilience against climate change. The crab traders suggested that demand for crab at national and global markets is growing and this sector has high potential to significantly contribute to the national economy. PKSf also organized two consultation meetings at the national level.

The participants in these meetings argued that crab farming is an effective adaptation option for salinity-affected areas and suggested putting emphasis on value chain interventions for crab.

Other issues regarding crab farming that came up in this consultation meeting are fair price of crab for the farmers; lack of GoB's policy on crab trade and export etc. Regarding resilient homestead, participants suggested to use ferro-cement as an alternative of brick for coastal zone, consideration of sanitation facilities, planting coconut and other trees around the homestead; vertical gardening, and hydroponic cultivation in the homestead area, etc. The participants also argued that water should be the most important element for making a house resilient to climate change in coastal areas of the country. They suggested installing solar powered desalination plants and supply bottle water to the community, water pricing, use of surface water for drinking purposes, rain water harvesting etc. Besides, the project was presented to the Advisory Committee of the NDA in Bangladesh for receiving 'No Objection Letter.' This committee includes climate scientists, civil society members, and government representatives.

In addition to these consultations, this project has used the experience of the earlier Community Climate Change Project (CCCCP). During the implementation of the project, many consultation meetings were held at the community level (October, 2012 to December, 2016). The purpose of these meetings was to monitor project progress, implementation quality and quantity, effectiveness and other project level indicators. These meetings and project evaluations also suggested that crab farming and goat/sheep rearing are the two effective livelihood options for the salinity-affected coastal communities. It was also found from field visits that people were satisfied having raised homestead grounds because of escaping tidal inundation.

More details on the stakeholder consultation, please refer to the Annex 1 & 2.

5.4.2 Stakeholder Engagement Plan

Stakeholder engagement during the project implementation will begin at the inception workshop to be held at the initial stage of the project. PKSf will organize a project launching ceremony at national level where National Designated Authority (NDA) representatives, representatives of relevant government ministries and departments including but not limited to Ministry of Environment, Forests and Climate Change (MoEFCCC), National Housing Authority (NHA), Housing and Building Research Institutes (HBRI), Department of Fisheries (DoF), Water Resource Planning Organization (WARPO), Water Development Board (WDB), Department of Public Health and Engineering (DPHE), Bangladesh Fisheries Research Institute (BFRI), Department of Environment (DoE), Bangladesh Climate Change Trust (BCCT), Universities, NGOs and civil societies will be invited to attend the ceremony. However, the three outcomes of the project will have the following stakeholders.

Outcome 1: Decreased risk of loss of assets and lives from extreme weather events

This outcome will engage multiple stakeholders ranging from the national level down to the community level. The Project Management Unit (PMU) at PKSf will lead the activities of the outcome. PKSf, as AE, will provide guidance on carrying out the baseline study and indicators. It will hire national level consultants who are experts in the climate change adaptation sector. It will engage Economic Relations Division (ERD) as the NDA to GCF for Bangladesh as respondents of layers of interviews and for sharing the research results. It will also engage the Department of Environment, HBRI and other relevant climate change actors including non-government organizations, IEs, LGIs, beneficiaries and civil society members. Finally, activities under this outcome will engage communities in drought-vulnerable areas to capture their views and status in terms of addressing climate change.

Outcome 2: Increased livelihood resilience to SLR/storm surge and salinity

This outcome will involve local offices of the Department of Fisheries, Department of Livestock, Bangladesh Fisheries Research Institute, Universities, Department of Agricultural Extension, CCAG members, union parishad representatives, and other local communities. The IE staff will ensure participation of these stakeholders during implementation of the activities under this outcome.

Outcome 3: Improved climate planning and implementation by communities and local level institutions

This outcome will involve the selected beneficiaries, local offices of the Department of Agricultural Extension (DAE), implementing entities, CCAG members, community people other than beneficiaries, consultants, and local government representatives.

Stakeholder engagement will be performed using best practices and principles so that the project demonstrates:

- **Commitment** when the need to understand, engage, and identify the community is recognized and acted upon early in the process;
- **Integrity** through mutual respect and trust;
- **Respect** for rights, cultural beliefs, values, and interests of stakeholders and affected communities are recognised;
- **Transparency** when community concerns are responded to in a timely, open, and effective manner;
- **Inclusiveness** when broad participation is encouraged and supported by appropriate participation opportunities; and
- **Trust** through open and meaningful dialogue that respects and upholds a community's beliefs, values, and opinions.

Table 7: Stakeholder Engagement Strategies

Type of stakeholders	Engagement Purpose	Proposed Strategy for stakeholder engagement of stakeholders
Government organisations	Share project information with relevant stakeholders, enhance transparency and accountability.	<p>1. Project website, online monitoring system, workshops, seminars. Another preferred medium is email.</p> <p>2. For official communications – Official Letters. These written communications can be sent via email and hard copy via courier or post office.</p> <p>3. Regular project updates are to be provided on a monthly and/or quarterly basis through meetings (face-to-face and/or Skype/zoom) at the project level. One assigned focal person and their alternate should be assigned by each organization to the project to ensure continuity.</p> <p>4. At the national level, project updates should be shared through seminars and websites.</p> <p>5. Annual presentations to stakeholders should also be conducted by the EE and Implementing Partners.</p>
IEs and communities	Increase knowledge and understanding of climate change, transfer technologies for increasing resilience	<p>1. Classroom training, group formation and group meetings, implementation of technologies, etc.</p>
NGOs, IEs and beneficiary communities	Successful implementation of the project and wider dissemination of its results	<p>1. Sharing of best practices among IEs, CCAGs needs to be conducted. Peer-to-peer learning will contribute to capacity building and scaling up of the project.</p> <p>2. Continued updating of evaluation data, maintenance of project-supported infrastructure, holding regular meetings, and capacity building and training activities will hold the interest and support of local communities, IEs even beyond project life.</p> <p>3. Conducting regular meetings and work planning with community stakeholders will increase transparency and ownership.</p> <p>4. Developing common communication materials and branding for unified messaging that will sustain the interest of end-users and stakeholders at the <i>upazila</i> and community levels.</p>

Type of stakeholders	Engagement Purpose	Proposed Strategy for stakeholder engagement of stakeholders
		<p>5. Closer coordination among PKSf and IEs in undertaking field work and site visits at the project sites is needed.</p> <p>6. Active participation and engagement at all project activities in the project sites will ensure continued support.</p>
All levels of stakeholders		<p>1. PKSf will follow its information disclosure policy, which is consistent with GCF.</p> <p>2. Website of PKSf and Implementation Partners should also provide access to data/information and recent news and developments of the project.</p> <p>3. For sharing technical and sensitive information, a closed social media group and email loop can be formed.</p> <p>4. Regular project management meetings should be held where substantive and implementation issues and concerns will be discussed.</p> <p>5. Meetings with the IEs and CCAGs on a regular basis should also be established.</p>

These strategies will be implemented through the stakeholder engagement plan during the implementation of the project. The SEP is summarised in Table 2.

Table 8: Proposed Stakeholder Engagement Plan (SEP)

Activity	Timing	Objectives of Engagement	Target stakeholders
Activity 1.1.1: Design and building of homesteads	Yr.1, 2, 3, 4 & 5	To promote climate-resilient homestead for the coastal communities in Bangladesh.	Ministry of Water Resources, Department of Public Health Engineering (DPHE), Economic Relations Division (ERD), House and Building Research Institute (HBRI), Department of Agricultural Extension, IE, Beneficiaries and local contractors.
1.1.2 Homestead tree planting	Yr.1, 2, 3, 4 & 5	To reduce storm effects on houses in	Department of Forest, Forest Research Institute, Department of

Activity	Timing	Objectives of Engagement	Target stakeholders
		the coastal areas.	Agriculture Extension (DAE), IEs and Beneficiaries.
Activity 2.1.1: Construction of slatted houses for goat/sheep rearing.	Yr.1, 2, 3, 4 & 5	To promote climate-adaptive livestock rearing technology for the coastal communities in Bangladesh.	Implementing Entities (IEs), CCAG members, other community people, and local offices of the Department of Livestock, local labour.
Activity 2.1.2: Provide financial support for goat/sheep rearing.	Yr.1, 2, 3, 4 & 5	To promote climate adaptive livestock rearing at household level.	CCAG members and beneficiaries, IEs staffs and PMU.
Activity 2.1.3: Introduce the cultivation of saline tolerant vegetables within homestead areas.	Yr.1, 2, 3, 4 & 5	To promote salinity adaptive vegetable cultivation in coastal areas of Bangladesh.	CCAG members and beneficiaries, Department of Agriculture Extension, IEs and PMU.
Activity 2.2.1.: Development of crab hatcheries (1° stage)	Yr.1, 2, 3, 4 & 5	To reduce extraction of natural crab and crab-lets.	Local entrepreneurs, local labours, IEs and PMU staff.
Activity 2.2.2 Financial support for producing crablets.	Yr.1, 2, 3, 4 & 5	To promote hatchery-based crab-let production.	PKSF, IE, hatchery entrepreneurs, crab nurturer and growers i.e. project beneficiaries.
Activity 2.2.3 Technical and financial support for “crab nursers” (2° stage)	Yr.1, 2, 3, 4 & 5	To promote hatchery-based crab farming	PKSF, IE, hatchery entrepreneurs, crab nurturer and growers i.e. project beneficiaries.
Activity 2.2.4 Technical and financial support to “crab farmers” (3° stage).	Yr.1, 2, 3, 4 & 5	To promote hatchery-based crab farming	PKSF, IE, hatchery entrepreneurs, crab nurturer and growers i.e. project beneficiaries.

Activity	Timing	Objectives of Engagement	Target stakeholders
Activity 3.1.1: Beneficiary selection and group formation.	Y1, Y2	To transfer knowledge and technology for adaptation to climate change in coastal areas of Bangladesh.	Beneficiaries, IEs, and PKSF.
Activity 3.1.2: Prepare Beneficiaries' socio-economic profile.	Y1, Y2	To keep socio-economic record of selected beneficiaries.	Beneficiaries, IEs, and PKSF.
Activity 3.1.3: Arrange monthly group meetings on climate change issues for CCAG	Y1, Y2, Y3, Y4 and Y5	To transfer knowledge on climate change and adaptation in the coastal areas of Bangladesh.	Beneficiaries, IEs, and PKSF.
Activity 3.2.1: Prepare training manual on adaptation technologies and crab value chain.	Y1, Y3, and Y4	To increase capacity of local institutions and develop technical persons for hatchery operation.	Beneficiaries, IEs, and PKSF.
Activity 3.2.2: Prepare guidelines on project management.	Y1	To ensure efficient implementation of project activities at the field level.	Beneficiaries, IEs, and PKSF.
Activity 3.2.3: Organize training for beneficiaries and stakeholders.	Yr. 1, 2, 3, 4	To increase capacity of beneficiaries and IEs on climate change and adaptation technologies.	Beneficiaries, relevant local government officers, IEs, and PKSF.
Activity 3.2.4: Organize training for IEs' staff.	Yr. 1	Ensure effective implementation of the project.	PKSF and IEs.
Activity 3.2.5: Implement workshops	Yr. 1, 2, 3, 4	To share the learning of the project with different stakeholders	PKSF, ERD, government ministries and departments, civil society

Activity	Timing	Objectives of Engagement	Target stakeholders
and seminars.		in Bangladesh.	representatives.
Activity 3.2.6: Organize Exchange visit for beneficiaries and IEs' staff	Y2, Y3, Y4 & Y5	To promote peer-to-peer learning in adaptation project.	Beneficiaries, relevant local government officers, IEs, and PKSf.
Activity 3.2.7: Improve data for crab research and development	Y1, Y2, Y3, Y4 & Y5	To develop knowledge base on crab farming and development	Beneficiaries, traders, universities, government officials, IEs and PKSf
Activity 3.3.1: Prepare and disseminate knowledge products.	Y1, Y2, Y3, Y4 & Y5	To document and share lessons learned.	Beneficiaries, relevant local government officers, GCF, other global communities, civil society representatives, NGOs, IEs, and PKSf.
Activity 3.3.2 Real time evaluation study of the project activities.	Y1, Y2, Y3, Y4 & Y5	To develop and share knowledge base.	Beneficiaries, relevant local government officers, GCF, other global communities, civil society representatives, NGOs, IEs, and PKSf

5.5 Responsibilities of various parties in the due diligence

Roles of PKSf:

- Prepare ESMF implementation guideline,
- Ensure ESS officer at PMU level,
- Ensure ESS focal person at IE level,
- Review screening of project activities by IEs,
- Assess capacity of IEs and provide training,
- Ensure reporting on ESS issues by IEs,
- Ensure grievance mechanism at community level and IE level.

Roles of IE:

- Screen the project activities in the context of their locality,
- Ensure health and safety measures,
- Implement mitigation measures included in the ESMP,
- Prepare quarterly monitoring report on ESS etc.

5.6 Grievance Redress System

Grievance Redress Mechanism (GRM) will be established at central (PKSF) and sub-project level to deal with any complaints/grievances about environmental issues. At the sub-project level, the Union Parishad (U/P) Chairman or his/her nominated representative from the U/P will be the Local Grievance Redress (LGR) focal Point. At the PKSF central level, the Deputy Project Coordinator (ESS) or any other person/staff nominated by the Project Coordinator will be Central Grievance Redress (CGR) focal Point. The aggrieved persons or entities will submit the complaints/grievances in sealed envelopes to the selected partner's office duly entered in the Grievance Register (GR) and will collect a receipt with entry reference to the GR. Partners will not open the envelopes, but inform the LGR focal point about receipt of complaints and schedule hearings as per his/her advice. In open meetings, the selected/implementing partner will facilitate the LGR focal Point to hear and discuss the complaints and resolve them in view of the applicable guidelines of the ESMF. The aggrieved person, if female, will be assisted by a female U/P member in hearing, and if from a tribal community, by a tribal representative. LGR focal Point with the help of IE will ensure sending a copy of the complaint by postal mail, fax or other means to the Project Coordinator at the PKSF headquarters.

The IEs will forward the unresolved cases with all proceedings to the CGR focal Point within 7 days of taking decision by the LGR focal Point. Unresolved cases forwarded by IEs will be registered in the office of the CGR focal Point and disposed within 15 days. If any decision made by CGR focal Point is unacceptable to the aggrieved persons, he/she will forward the complaints with all proceedings to the PKSF Managing Director (MD) through the Project Coordinator. The MD will review and resolve the cases which will be final for PKSF. The MD may seek advices from the PKSF Chairman for any critical issues as per his discretion. A decision agreed by the complainants at any level of hearing will be binding on the concerned IEs and PKSF. The GRM will, however, not pre-empt an aggrieved person's right to seek redress in the courts of law.

The aggrieved persons or entities will have the option to lodge the complaints directly to the CGR focal Point if they are against the IE, to the PKSF MD if they are against the PKSF project management or directly to the Management Committee at GCF Secretariat if there is any issue related to PKSF itself. The institutional arrangement of Grievance Redress Mechanism is illustrated in the following figure:

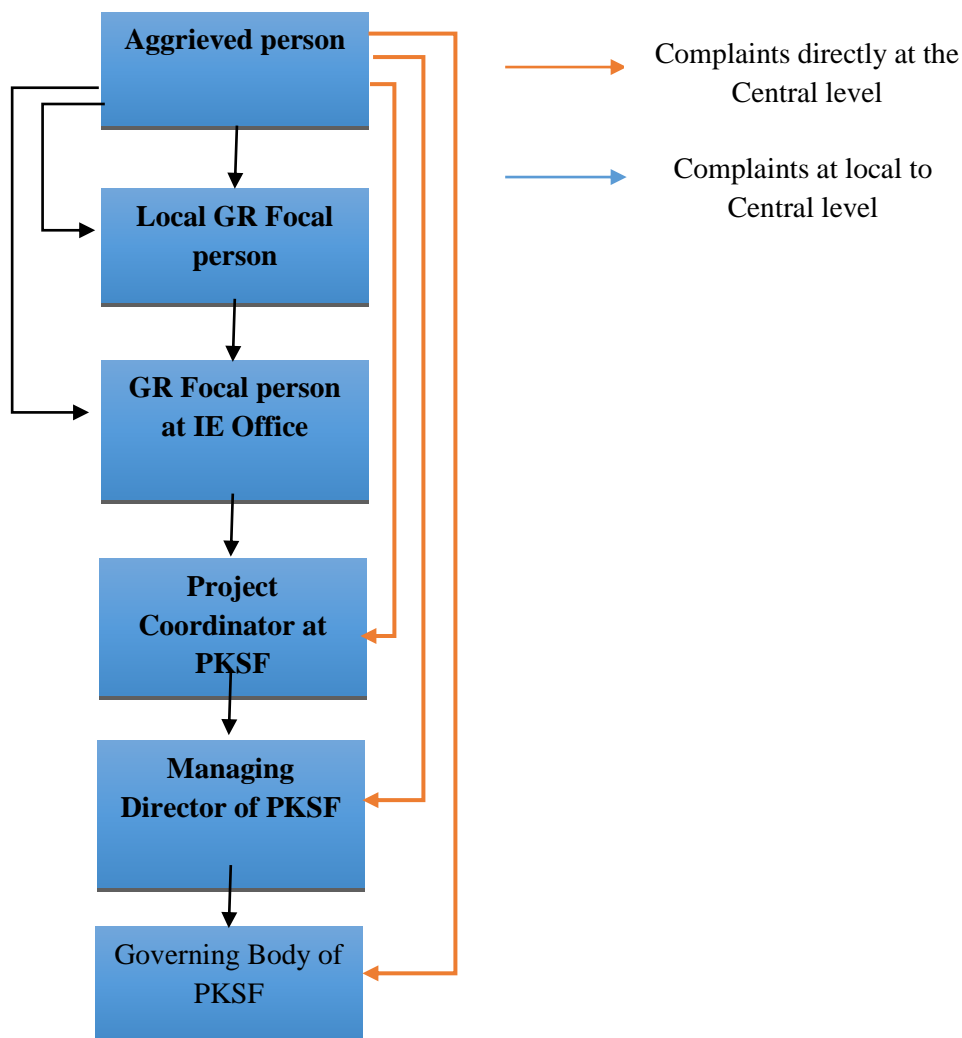


Figure: Institutional Arrangement of the GRM

PKSF and IEs will keep the records of all resolved and unresolved complaints and grievances and make them available for review -- as and when asked for by the development partners and others interested in climate change issues. The provision of GRM and the process will be well disclosed to the community and the likely affected persons before implementation of sub-projects. The disclosure will be done by the IEs and ensured by PKSf DPC (ESS).

GRM focal person at PKSf level:

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IRM focal person:

Paco Gimenez-Salinas

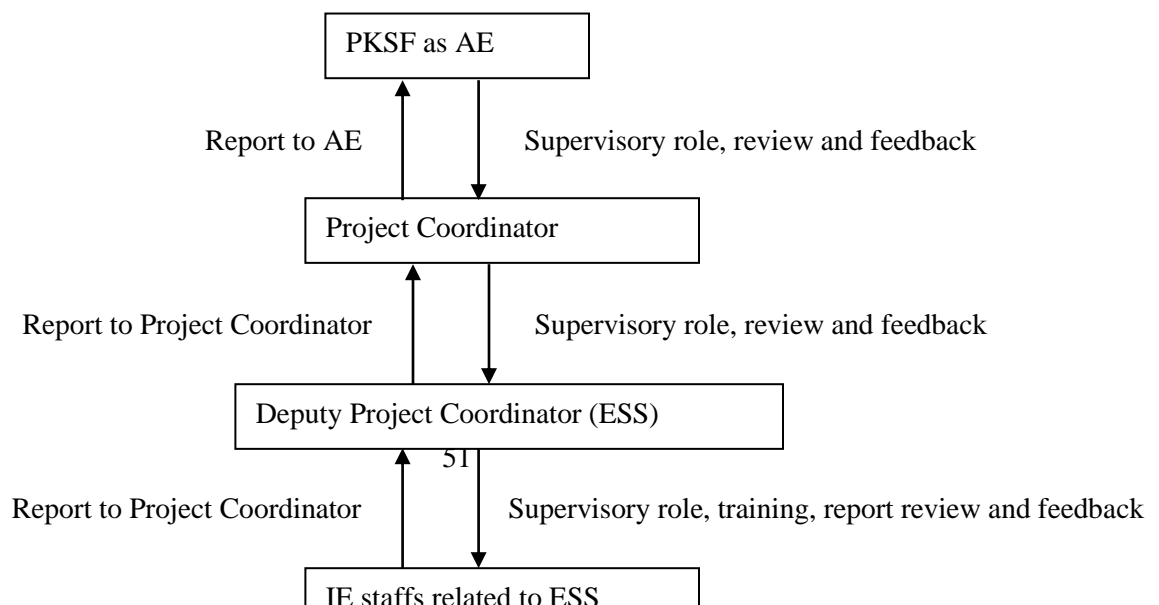
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5.7 Information disclosure

PKSF will follow the disclosure requirement of the GCF's information disclosure policies. In the case of Category B subprojects/ proposals, the ESIA and an ESMP will be disclosed at least 30 days in advance of the approving authority's decision. The safeguard reports will be available in both English and the local language (if not English). The reports will be submitted to GCF and made available to GCF via electronic links in both the AE and the GCF's website as well as in locations convenient to affected peoples in consonance with requirements of GCF Information Disclosure Policy and Section 7.1 of (Information Disclosure) of GCF Environmental and Social Policy]. The draft final version of the EMF will be posted in the website of PKSf and will be kept in the offices for further comments and inputs from non-governmental organization, civil society and general public. The EMF will be finalized taking into consideration of the comments received on draft version and will be available in PKSf websites. The IE's have to make the hardcopy available at their head and local offices. They will also upload the final version of the EMF in their website, if available.

5.8 Implementation arrangement

The PMU will be responsible to implement the ESMP. A Deputy Project Coordinator (ESS) will be recruited at the PMU who will carry out the environmental related activities of the project. It will include but not limited to prepare environmental and social management guideline, provide training to IEs staffs, prepare monitoring plan and monitoring tools, engage third party to evaluate effectiveness of the ES system, visit field level activities, ensure due diligence of IEs and so on. S/He will regularly report to the Project Coordinator who report to the senior management of PKSf. The CCAG members will also be involved in the ES management at local level. The IE staffs will provide training to the CCAG members on environmental and social consequences and management of the project's interventions. These issues will be discussed in the CCAG meetings so that community people become fully informed about environmental and social issues. A diagram of the implementation arrangement is provided below:



Stakeholders Consultation on

Resilient Homestead and Livelihood Support to the Vulnerable Coastal People of Bangladesh (RHL)

Date: 05 October 2017

Venue: Room No. 307, PKSF Bhaban

Organized By: Palli Karma-Sahayak Foundation (PKSF)

Introduction

PKSF organized a stakeholders' consultation on "Resilient Homestead and Livelihood Support to the Vulnerable Coastal People of Bangladesh (RHL)" on 5 October 2017 at PKSF Bhaban. Mr. Md. Fazlul Kader, Deputy Managing Director, PKSF chaired the workshop. Dr. Fazle Rabbi Sadeque Ahmed, Director (Environment and Climate Change Unit), PKSF presented the key paper. Representatives from local and national level NGOs and the private sector attended the meeting.

Welcome Speech

Mr. Md. Fazlul Kader, Deputy Managing Director of PKSF and the Chair of the workshop delivered the welcome speech. He said that climate change is a global political issue. The debate on climate change has been continuing for more than two decades between developed countries and developing and least developed countries under United Nations Convention on

Climate Change (UNFCCC). Initially, parties of the developed country would not acknowledge their responsibilities for global warming. After a long debate, parties of the developed country have acknowledged their responsibility for global warming through rapid industrializations, rapid economic growth, and luxurious live-styles in the developed world, which triggers the Green House Gas (GHG) emissions and causes climate change. He informed that Green Climate Fund (GCF) was formed in 2011 under UNFCCC in order to channel funds for implementing climate change related projects and programmes in its member countries.



Mr. Chair informed the participants accreditation

that of the

National Implementing Entity (NIE) is one of the important mechanisms of GCF for fund disbursement. He informed that PKSF has been accredited to GCF in its 18th board meeting held from 29 September to 02 October 2017. Mr. Kader also informed that getting accreditation to GCF is a challenging job. The NIE is selected following a rigorous process. PKSF had to submit about 250 documents and respond to about 150 queries with evidence. It took more than two years. Few organizations in the world have the capacity to get accreditation to GCF. It opened a new window of raising climate change funds in Bangladesh by Bangladeshi NGOs, private sectors and other types of organizations have the opportunity. He added that mitigation and adaptation projects or programmes are eligible to get funds from GCF. PKSF can receive support from GCF for a single project or programme worth up to 50 million USD.

Technical Session

Presentation and discussion on Concept Note format of GCF

Dr. Fazle Rabbi Sadeque Ahmed, Director, PKSF presented a customized concept note format of GCF. The concept note format was customized by Economic Relations Division (ERD), the National Designated Authority (NDA) of Bangladesh. He explained how to articulate the rationale of an adaptation project or programme i.e. how to explain the climate change-related problems and what to do to address those problems. He put emphasis that GCF will not support any project or programme which is not related to climate change (either adaptation or mitigation). Mr. Ahmed clarified the financing and co-financing issues and advised not to

propose loan finance for those activities which do not generate any revenue or profit. He suggested the participants focusing on adaptation projects and programmes. He informed that they might submit a single project of up to USD 50 million. Mr. Ahmed also clarified NIE and MIE. He said that the NGOs have the right to submit proposals through NIE or MIE. But as an NIE, PKSf encouraged them to submit through NIE.



Mr. Ahmed focused on PKSf's role as a NIE. He said that PKSf will facilitate NGOs and Private sectors to get access to Green Climate Fund through Economic Relations Division (ERD), the National Designated Authority (NDA) of Bangladesh. He added that presently NDA is preparing Country Programme (CP) for GCF. The CP will include projects and programmes for the next three years that would be communicated to GCF. He invited the participants to submit concept notes to PKSf to contribute to CP. He informed the participants that PKSf will take necessary action to compile the potential concepts and send those to NDA. He encouraged the participants that one organization might submit more than one concept note.

Presentation on Proposed Project

PKSf is preparing a project proposal on "Resilient Housing and Livelihood support to the vulnerable coastal people of Bangladesh (RHL)". Dr. Fazle Rabbi Sadeque Ahmed presented the goal and objectives, the context of the project, the components of the project and the anticipated impacts. He focused on the vulnerability of the coastal community to climate change and explained that the vulnerability of the coastal people is characterized in three ways i.e.

- 1) Climate sensitive livelihood- Coastal people primarily depend on seasonal subsistence agriculture and agriculture wage labor which are highly climate-sensitive

2) Weak human settlement in low-lying areas- the coastal poor community build their houses with mud and *goal pata* which severely affected by cyclone & storm surge and high tides and

3) Scarcity of safe drinking and irrigation water.

Considering these vulnerabilities of the coastal people, the proposed project aims to promote climate-resilient livelihoods through adopting improved technologies and practices and build climate-resilient housing for the vulnerable crab farmers, destitute women, and natural resource-dependent communities. Dr. Ahmed continued that activities are classified into three components which include climate-resilient livelihoods, climate-resilient housing and capacity building and knowledge management. The livelihood component focuses on establishment of crab hatchery and crab fattening while the housing component focuses on the construction of houses that are storm and flood-resistant. The housing also includes sanitation, water facilities and a solar home system. The capacity building component includes education and awareness on climate change, training on improved technology and management.

Open discussion

Mr. Md. Fazlul Kader, Deputy Managing Director facilitated the open discussion. Mr. Khairul Islam from TMSS opined that crab farming is an effective adaptation option for salinity-affected areas. He suggested putting emphasis on value chain interventions of crab. Mr. Shah Alam from Satkhira Unnayan Sangstha informed that crab farmers do not get the same price throughout the year. In the lean period from November to February, they do not produce crab. He added that the GoB has no crab export policy. As a result, farmers do not get fair prices. Mr. Philip Biswas from Rural Reconstruction Foundation (RRF) suggested including sanitation to the resilient housing concept. He also suggested ferro-cement as an alternate of brick for the coastal zone. Mr. Md. Fazlul Kader, Deputy Managing Director of PKSf said that ferro-cement requires specialized labor. He opined that before considering ferro-cement, we need to learn whether we have this type of labor in the coastal zone. He suggested to plant huge coconut and palm trees around the house rather to protect from cyclonic storms. Mr. Humayun Kabir from RDRS mentioned about some other adaptation options like vertical gardening, hydro phoenix, vegetable cultivation in gani bag etc. Mr. Shaon from Unnayan Procheta (UP) suggested including income-generating options in the housing concept.

Mr. Chair raised the issue of water-related problems in coastal areas of Bangladesh. Mr. Shamsul Huda from Dhaka Ahsania Mission suggested installing solar-powered desalination plants and supplying water in a container to the community to reduce system loss. He also suggested to introducing smart cards in the billing system. Mr. Huda added that river water can be purified on the boat and distribute by boat along the river. Mr. Yousuf from Sangram suggested using surface water for drinking purposes. Participants from NGO Forum suggested that rainwater can be harvested by constructing a catchment area. Mr. Kader opined that rainwater does not always contain all required minerals, so we have to focus on potable water.



Closing Session

In the closing session, Md. Fazlul Kader, Deputy Managing Director (DMD), PKSf and the Chair of the workshop said that PKSf has established Environment and Climate Change Unit (ECCU). We also get accreditation from GCF. So, PKSf will permanently work on climate change issues. He added that the quality performance of our NGOs will bring success in combating climate change in the long run.

He provided guidance to the participants on the follow-up activities of the workshop. These are:

1. Concept note(s) should be submitted to PKSf by 8 October 2017.
2. We have high-level experts on adaptation to climate change and need to seek their opinions on adaptation, if required.
3. PKSf will organize a consultation meeting on “climate-resilient housing”.

Finally, Mr. Md. Fazlul Kader thanked all the participants for their active participation and declares the closing of the workshop.

List of participants

Sl. No	Name and Designation	Organisation	Phone	Email
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Minutes of Stakeholders' Consultation Workshop on Climate Resilient Housing for Coastal Areas of Bangladesh

Date: 25 October 2017

Venue: Room No. 307, PKSF Bhaban

Organized By: Palli Karma-Sahayak Foundation (PKSF)

Introduction:

A Stakeholder Consultation Meeting on “Climate Resilient Housing in Coastal Areas of Bangladesh” was held on 25 October 2017 at PKSF Bhaban, Agaogaon, Dhaka. Dr. Fazle Rabbi Sadeque Ahmed, Director, Environment and Climate Change Unit of PKSF has presided over the meeting. NGO representatives particularly from coastal areas of Bangladesh, have participated in the workshop.

Welcome Speech

Dr. Fazle Rabbi Sadeque Ahmed, Director, Environment and Climate Change Unit has delivered the welcome speech. He welcomed the participants and explained the objective of the workshop. Mr. Ahmed said that PKSF is preparing a proposal to GCF where climate-resilient housing is an important component. Environment and Climate Change Unit of PKSF has developed and designed a concept on resilient housing for coastal vulnerable people. He added that the house was designed with transformative social potential. It will empower people through (a) ownership of resilient housing with its strong potential for social transformation, especially for the landless poor; (b) providing housing as the core asset on which poor people build on. The sole or joint entitlement of resilient houses would empower women and help them address other aspects of gender inequality. Dr. Ahmed said that the project will be implemented in highly climate change-impacted areas of coastal Bangladesh. The villages will be selected considering the level of climatic hazard exposure, the percentage of the population living in extreme poverty, and the presence of highly fragile housing structures due to climatic disasters. He then invited the participants to share their ideas and views through active participation.

Technical Session

Presentation on Proposed Project

Mr. Md. Rabi Uzzaman, Deputy Manager, Environment and Climate Change Unit of PKSF presented the concept of climate-resilient housing for coastal zone of Bangladesh. He explained why climate-resilient housing is important for poor and vulnerable coastal communities. He said that the houses of vulnerable coastal communities are made with mud and goal pata or mele which are highly vulnerable to intensive precipitation, coastal flooding, cyclones and storm surges.

He also said that intensive coastal flooding inundates homesteads and causes damage to mud walls and kancha roofs in low-lying areas. Cyclone and storm surge- wipes out roofs of kancha house. Mr. Rabi Uzaaman added that damage to a house causes damage to household resources including storage food, water supply system, sanitation etc. He also said that the poor have to spend a significant amount of their income each year on reconstructing their houses. Thus they cannot step out of poverty.

Then the presenter explained the concept of climate-resilient housing for coastal zones. He said that in coastal zones, resilient housing should include raised plinths above surge height levels, strong enough to resist cyclonic storms of category 4-5, resilient sanitation systems and water availability. He added that suitable tree species should be planted around the homestead to protect the house from storms. He then explained the design of the resilient house. It is shown in Figure 1 and 2.

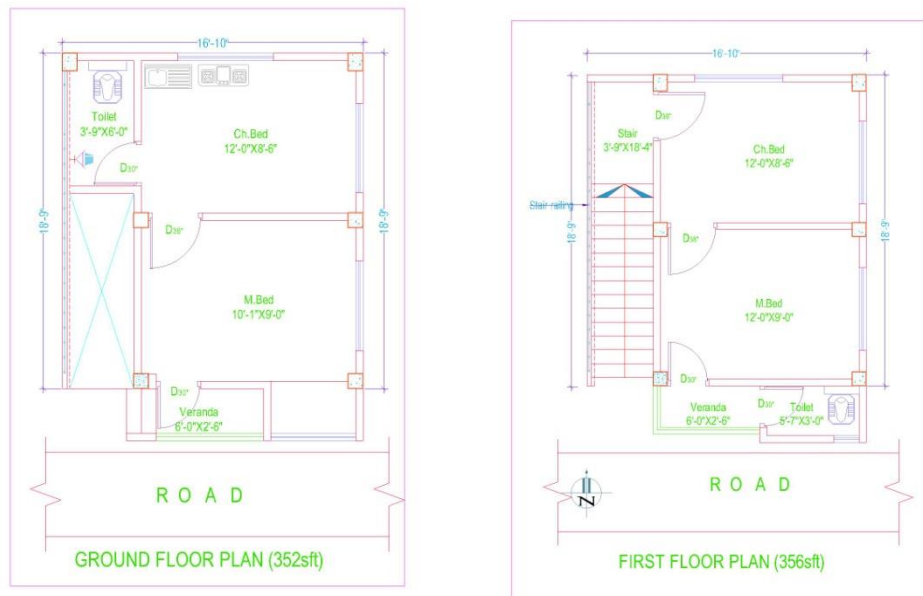


Figure 1: Design of climate resilient housing



Figure 2: 3-D view of climate resilient housing

He explained that it is a two-stored building having two rooms on each floor. The building will be built on a raised plinth. The project will support building ground floor only. The first floor would be built by the beneficiary in future when they achieve their capacity. This building can also be used as a shelter during emergency situations. This design also considers that the poor people have less land for building a house. This building requires less than one decimal of land.

Mr. Rabi Uzzaman also focused on the beneficiaries' criteria to avail the opportunity of climate resilient housing. The criteria are:

- At least 1 decimal own land
- Existing houses are inundated by high tides
- Having *Kancha* house at vulnerable condition
- Poor and ultra-poor women headed household
- Lowest income
- Limited livelihood options

The presentation also focused on the selection process of beneficiaries which are:

- Consultation in large group
- Prepare household profile
- Wellbeing analysis through focused group discussion
- Prepare draft list
- Verify the list and
- Prepare final list for approval

Open discussion

Dr. Fazle Rabbi Sadeque Ahmed, Director, PKSf facilitated the open discussion. Mr. Philip Biswas, Executive Director from Rural Reconstruction Foundation (RRF) opined that housing owners must own land. He said that in case of common land of a family, formal land demarcation documents should be made compulsory to support the housing. He suggested that the financial contribution of each of the recipient households should also be made compulsory. He added that houses should be built on a cluster basis or individual.

Mr. Saleh Mahmud, Director, Resource Integration Centre (RIC) opined that community must pay 10-15% of the total investment to build houses. The roof slope should be as long as possible because coastal people culturally build their houses with long slopes with the view that they would extend their houses in future. He emphasized on local or indigenous knowledge for building houses. The RCC and wood will be treated as local technology. He also suggested that tamarind and potassium permanganate could be used with building materials to protect it from salinity and to increase durability. He suggested using sweet water to make new bricks at brick fields and other housing materials for long durability. He also suggested considering prefabricated bricks for the longevity of the house. He added that Ferro-cement could be an alternative to brick for coastal zones.

The participants argue that the cost of house construction varies by different locations. Mr. Mahmud suggested to consider provision of repair costs in the budget. The participants also argued that appropriate distance between tube-well and sanitary latrine should strictly be followed for health safety.

Mr. Shahajan Gazi, Executive Director of Dak Diye Jay (DDJ) suggested to treat CI sheet and nut-bolt before using in house construction. Mr. Khairul Islam of TMSS opined that during procurement, it is better to involve beneficiaries for ensuring quality of materials and transparency. He also suggested that a cow shed or Killa should be built nearby the houses. The participants opined that multi-stored buildings may be considered provided that there is an opportunity to extend houses at the ground floor. Mr. Shahnewaj Kabir from Unnyan Prochesta suggested to keep options for income earning from the house. Some participants suggested options for rainwater harvesting or tube-well-adjacent houses. They also suggested installing desalination plants for safe drinking water in extreme saline-prone areas. Ms. Rulia Pervin from NDP opined that tree saplings would be local species that are tolerant to salinity. At this point, Dr. Fazle Rabbi Sadeque Ahmed asked the participants whether a housing loan for the poor was viable or not. Md. Moshir Rahman, Director of POPI opined that poor people could not afford housing loans. But in case of livelihood development, they may agree to take loan because it will create source of their earning.

Closing Session

In the closing session, Dr. Fazle Rabbi Sadeque Ahmed, Director, PKSF and the Chair of the workshop, said that discussion was very fruitful and the recommendation will be considered for final project proposal. He informed that the project would incorporate suggestions and recommendations from the workshop. He thanked the participants for their active participation in the workshop and valuable suggestions. He then declared the closing of the workshop.

List of participants

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