

**Terms of Reference (ToR)
for**

**Hiring Consulting Firm to Conduct Environmental and Social Impact Assessment (ESIA) and
Environmental and Social Management Plan (ESMP) Compliance and Effect Monitoring of the
Sustainable Coastal and Marine Fisheries Project (SCMFP)
Package No. SD5**

1.0 Background

The 'Sustainable Coastal and Marine Fisheries Project (SCMFP)' is a two-phased proposed investment by the Government of Bangladesh (GoB) and the International Development Association (IDA) of the World Bank Group. The project will be implemented in the coastal and marine areas of Bangladesh by the Department of Fisheries (DoF), as the lead executing agency, under the guidance of the Ministry of Fisheries and Livestock (MoFL). The project aims to sustainably increase coastal and marine fisheries' contribution to the economy, poverty reduction through improving management of coastal and marine fisheries and aquaculture and fishing communities' access to alternative livelihoods activities in an environment friendly manner. The phase I SCMFP is a 5 (five) years project, is being implemented by DoF since January 2019 covering 75 upazilas of 16 coastal districts. Phase I of the project will have four components focusing on: (i) enabling sustainable fisheries sector investments and growth; (ii) improving infrastructure and production practices; (iii) community empowerment and livelihoods transformation; and (iv) project management and monitoring.

Implementation of Phase I project is designed to address the complexity of the project by tapping in technical expertise from the Department of Fisheries, other agencies and organizations. The DoF is the implementation agency for the project and houses the Project Management Unit (PMU) responsible for day-to-day implementation. A Technical Implementation Group (TIG), consisting of DoF technical staff, will provide technical guidance on a case by case basis to DoF's front-line offices and outside executing partners at the district and sub-district levels, and overseeing technical implementation quality. MoFL has established a Program Steering Committee (PSC), chaired by the Secretary and including representation from the different Ministries to provide policy guidance and facilitate inter-ministerial collaboration on reform agenda. The PMU will operate based on a Project Operations Manual (POM) approved by the PSC and the World Bank. Project Components 1, 2 and 4 will be implemented directly by DoF through the PMU using the agreed implementation provisions spelled out in the POM. Component 3 will be implemented with the support of the Social Development Fund (SDF) as a co-implementing agency.

The project will take up certain infrastructure works as well as certain livelihoods interventions in the target communities. Though there will be no new private land acquisition, there is a possibility that these interventions might induce adverse and unintended environmental and social impacts. The number, type and locations of sub-component interventions will be decided over the project implementation stage. Beneficiary groups and sites for any small infrastructures will be known in the implementation level and therefore, social-ecological issues and impacts could not be identified and specified for mitigation at the preparation stage. Besides, DoF will screen sites for project interventions and identify the target group beneficiaries at the implementation level for preparation and implementation of any social action plans. Hence, there is a need for procedural guidance for social preparation and management. DoF has therefore prepared Environmental and Social Management Framework (ESMF) as a constituent part for guidance in the implementation stage to



ensure environmental and social safeguards following WB's safeguards policy and ECR'97, which was disclosed on 18 February 2018.

The legislations relevant for environmental assessment for SCMFP are the Environmental Conservation Act 1995 (ECA'95) and the Environmental Conservation Rules 1997, amended in 2010 (ECR'97). As per ECR'97, most of the components/sub-components and associated activities of SCMFP are likely to fall under *Green Category* as they have no significant impact on the environment, but some of the project activities are likely to have negative environmental and social impacts on air, soil, water and natural setting such as water bodies, vegetation, wildlife and fishes, and life and livelihoods of the marine dependent communities and **require Initial Environmental Examination (IEE) and if needed, ESIA (Please see Annex I for list of project activities those likely to have potential environmental and social impacts).**

Overall, the proposed project is targeting to intervene a wide range of environmental elements covering a vast area of coastal and marine environment, with construction of large quantity of small to medium scale infrastructures, re-excavation of canals, marine spatial planning and providing alternative livelihoods in 450 villages with introducing transformative governance falling under the schedule of 'Orange-A or B Category'. Therefore, SCMFP falls under the '**Orange B**' Category. Moreover, the World Bank's environmental safeguards policies by the project includes Environmental Assessment (OP/BP 4.01), Natural Habitats (OP/BP 4.04) and Pest Management (OP/BP 4.09) thus classified as **Category B**, full pledged ESIA will be carried out in accordance with the OP/BP 4.01. It is the responsibility of Project Management Unit (PMU) of DoF to conduct IEE and ESIA of the project activities, the responsibility to review of IEE and ESIA for the purpose of issuing Environmental Clearance Certificate (ECC) rests with the Department of Environment (DoE).

To this end, the SCMFP/DoF is soliciting the services for a competent Consulting Firm/Institution for conducting Environmental and Social Impact Assessment (ESIA) and preparation of Environmental and Social Management Plan (ESMP) including Resettlement Action Plan (RAP) and Small Ethnic Community Development Plan (SECDP), supervise ESMP compliance by the contractors and conduct effect monitoring of the project over the implementation period following the guidelines provided in the ESMF.

Project Objectives

The overall objective of the project is to explore greater opportunity from coastal and marine fisheries resources, while promote sustainable management of fisheries stocks and environment to reduce poverty and improve livelihoods of the coastal community. Specific objectives are:

- a) To strengthen stock surveys and assessment program for shrimp, demersal and pelagic stocks in the Exclusive Economic Zone (EEZ);
- b) To build and enhance capacity of DoF and relevant public research agencies to conduct science-based stock conservation and management to promote Blue economy;
- c) To develop mechanisms for effective implementation of Monitoring, Control and Surveillance (MCS) system for the artisanal and industrial fisheries;
- d) To develop infrastructure and enhance production facilities for coastal belt fisheries (capture and culture);
- e) To up-scale cluster farming for shrimp to disseminate best lessons learned from cluster farming approaches;
- f) To strengthen community led fisheries management and transform livelihoods in poor fishing communities by facilitating to recover fish stocks and reducing dependence on coastal fishing; and



- g) To develop National Marine Fisheries Management Plans for sustainable harvest of fisheries resources.

Project Development Objective(s)

The proposed Project Development Objective (PDO) of -SCMFP Phase I, is to improve the management of targeted coastal belt capture and culture fisheries.

Key development results of SCMFP Phase I will be measured by means of the proposed project level indicators (PDO indicators):

- I. Fisheries management plans adopted and under implementation (number)
- II. Share of artisanal and industrial vessels in targeted coastal belt fisheries under monitoring, control and surveillance (MCS) (percent, disaggregated by registered and non-registered)
- III. Share of landed catch and aquaculture production in targeted coastal belt fisheries in safe handling according to defined criteria
- IV. Share of targeted coastal belt fishing communities with access to project-promoted livelihood activities outside of fishing (percent, disaggregated by gender)
- V. Aquaculture farmers with access to productivity boosting packages (percent, disaggregated by gender)
- VI. Share of targeted beneficiaries that express satisfaction with project interventions (disaggregate by gender, youth) (livelihood aspects, management)

Project Components

The SCMFP Phase I has four components mentioned below focusing on:

Project Components	Sub-components
1. Enabling Sustainable Fisheries Sector Investment and Growth Intermediate Objective: Build Capacity of the Gob And Research Agencies To Conduct Evidence-Based Stock Management And Implement MCS For The Artisanal And Industrial Fisheries.	1.1. Stock Assessment and Development of National Fisheries Management Plan 1.2. Enabling Investments in Sustainable fisheries 1.3. MCS development for IUU Reduction
2. Improving Infrastructure and Production Practices Intermediate Objective: Improve Quality to Ensure Food Safety and Higher Value capture from export-oriented fishery and mariculture.	2.1. Infrastructure Improvements for Coastal Belt Capture and Culture Fisheries 2.2. Value Chain and Food Safety 2.3. Boosting Coastal Aquaculture Productivity
3. Community Empowerment and Livelihood Transformation Intermediate Objective: Stabilize Fish Stocks and Improve Coastal Communities and Poor Fishers' livelihoods	3.1. Fishing Community Institutions and Alternative Livelihood Development 3.2. Business Development and Market Linkages for Alternative Livelihoods Developments
4. Project Management and Monitoring	

2.0 Objective of the assignment

The objective of the study is to assess the impact of the proposed interventions to be implemented under different components/sub-components on the coastal and marine environment addressing the

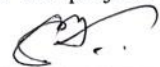
major social and ecological issues and provide suggestive management measures to adopt in the detailed project planning. This includes preparation of the Environmental and Social Impact Assessment (including preparation of ESMP), supervise ESMP compliance by the contractors and conduct effective monitoring of the SCMFP, Phase I. The project will have a number of small scale sub-projects under different components (including SDF's C3). ESIA will cover assessment of those as appropriate. The recommendations of the ESIA study thus will fulfill the inbound objective of SCMFP, Phase I by improving the management of natural resources in the coastal zone including Exclusive Economic Zone (EEZ) and mitigating against the negative effects of human-induced natural resources degradation (i.e. saline intrusion, water logging, erosion and deforestation), biodiversity and habitat loss (both marine and land based), climate change (sea level rise), environmental pollution and also creating opportunities for sustainable socio-economic development including sustainable livelihoods of the coastal fishers.

The consultant will work under the overall guidance of the Project Director (PD) and technical supervision of the Environmental and Social Safeguards Expert (ESSE) and the Project Management Specialist (PMS) of the Project Management Unit (PMU) and in close institutional monitoring and consultation of DoFs Social, Environmental and Communication Committee (SECC). ESIA of the sub-projects under the component 3 will be coordinated by the ESSE and Community Development and Mobilization Expert (CDME) of PMU in consultation with counterparts of SDF. The consultant will be responsible for delivery of the relevant ToR aspects (detailed below) and cross-cutting issues of the Project. The selected Consultancy Firm will keep track of the feasibility studies and design, maintain regular communication and share information with the technical design consultants to be able to understand specific design features of the infrastructure and production facilities of the project, to be able to scope the scale and area of social and environmental impacts, and equally importantly, to ensure integration of ESIA findings in the design and specifications of the subprojects.

3.0 Scope of services

Major scope of the assignment is to carry out Initial Environmental Examination (IEE), Environmental and Social Impact Assessments (ESIAs) and prepare Environmental and Social Management Plans (ESMPs) including Resettlement Action Plan (RAP) and Small Ethnic Community Development Plan (SECDP) for the project area covered under the SCMFP. The consultant will also be responsible for supervising the contractors for ESMP implementation, and environmental and social impact monitoring of the project activities at regular basis. It is suggested that the consultant should conduct IEE for specified activities at the initial stage and based on the IEE screening and assessment recommendation, ESIA should be carried out for the selected project activities. However, according to the project planning, the activities that would require ESIA will be implemented at different periods and hence multiple ESIA's will be required clustering the similar activities prior to commencement of actual interventions (maximum 3 ESIA's, 1 ESIA/year). Supervision of contractors for ESMP implementation/compliance and monitoring impacts of project activities will be done at regular basis. Supervising and monitoring activities will start following the impacts and mitigation framework of the existing ESMF from the very beginning (see Annex II). This will be updated during IEE/ESIA and ESMP preparation, which will then be followed by the consultant upon getting DoE approval.

The Consultant, in cooperation and consultation with the various sectors of the Government and other involved parties, will conduct the study and produce the ESIA study report and ESMP which will be presented to the Department of Environment (DoE) for getting Environmental Clearance Certificate (ECC). ESIA and ESMP will be prepared according to the World Bank Guidelines and Operational Policies and the GoB procedures. The Consultant shall familiarize themselves with the project



details, components and engineering design/specifications, for which they should interact with other experts and institutional consultants of PMU, design, construction and supervision consultant, baseline survey and mid-term evaluation consultant and members of the Social Environmental and Communication Committee (SECC) in the course of performing the assignment. Consultant shall appropriately plan for the timing of the deliverables during the inception.

The consultant will organize presentations and dissemination events as and when required to enable the monitoring of progress and study results by the PMU/SCMFP and SECC members.

The major activities to be carried out by the consultant will include, but not limited to the following:

A. Review ESMF

1. Review existing ESMF prepared for SCMFP.
2. Review preliminary baseline report prepared on the basis of reconnaissance field investigations carried out by DoF.
3. Review baseline survey report (if available) to be prepared by Baseline Survey and Mid-term Evaluation Consulting Firm (C1,2&4) and SDF (C3).
4. Review ESMF implementation roadmap and workplan of the project prepared by ESSE, PMU.
5. Determine any gaps particularly in the ESMF.

B. Understanding the Project

1. Review ProDoc, Project Appraisal Document (PAD), Project Operational Manual (POM), and Community Operational Manual (COM) of component 3 (C3).
2. Collect and review necessary information on project description from DoF and PMU consultants (ESSE, PMS, CDME, etc.).
3. Hold meetings with PMU team members to understand the scopes and nature of works.

C. Environmental and Social Screening

1. Conduct Environmental and social screening to gather information on existing baseline status and to assess potential environmental impacts of the project activities.
2. Develop simple screening matrix that includes a set of check list to identify the baseline status and proposed potential impacts of the project intervention.
3. Identify the consequence of the proposed project interventions in broader sense based on similar project experiences, stakeholder's perceptions and expert judgment, without having very much detailed investigation.
4. Identify critical issues through the screening which needs detailed investigation.
5. Recommend further environmental and social impact assessment to DoF based on the extent of impacts obtained from screening, the decision for further environment impact assessment will be taken.

D. Scoping

1. Carry out reconnaissance field visit. On the basis of this field visit and review of the project details, carry out scoping for the ESIA study. Screen out the impacts that are not likely to take place and prepare a list of potential impacts that are likely to take place.
2. Prepare criteria to be used to determine the program influence area for conducting ESIA.
3. Specify the boundaries of the study area for the assessment (project influence area): canal area, river basin/catchments, land use, the drainage area and patterns, aquaculture and other development interventions – current and proposed, watersheds, access to sensitive/remote areas such as parks/ reserves/forests/agriculture land, elements of transport development potential in the area due to project interventions.
4. Analyze alternative site and technological design for the proposed project interventions considering environmental, social, and technological criteria.



E. Describing Project Interventions

1. Provide information on the following: location of all project-related development sites and general layout and extent of facilities at project-related development sites; diagrams/drawings of proposed structures; design basis, size, capacity; preconstruction activities; construction activities (land clearing, land grading, worker camps, if any), schedule, staffing and support, facilities and services; operation and maintenance activities, staffing and support, facilities and services; management of risks, including health and safety; life expectancy for major components. Components may include any or all of the following: structural measures; dikes and levees; drainage, and nonstructural measures, service road and route(s), adjustments to alignments of canals, including earthworks; fish passes and regulator, repair/replacement of infrastructures; and resettlement sites. Also describe sources of materials used during proposed works; generation of wastes and their disposal, expected volume of use, construction-related vehicular traffic; resettlement, land acquisition, safety features; staffing and accommodation of employees, including site clearance, scheduling of project activities, approximate quantity and likely source of construction materials.
2. Provide maps and diagrams with appropriate scales to illustrate the general setting of project-related development sites and key project components. These maps and diagrams shall include overall project layout, details of individual components, project time schedule, and any related aspects.
3. Identify sub-project activities of the project including SDF-C3, prepare detail specification, maps, and layout.

F. Description of the Environment

1. Review the baseline report prepared as part of the ESMF, Baseline Consulting Firm (for C 1, 2 & 4) and SDF (C 3) of the SCMFP and identify gaps if any. Obtain additional data as needed including sub-projects intervention area.
2. Assemble and evaluate and baseline data on the environmental characteristics of the study area, including river basin/watershed, site of mariculture, aquaculture, construction, resettlement sites, inundation, floodplain, marine (pelagic and demarsal) and biological features (habitats and rare species, vegetation, fisheries, birds, terrestrial fauna), and floodplain (recession) agriculture. Include information on any changes anticipated before the project commences.
3. Physical environment: geology, topography, soils, climate, surface and ground water hydrology, annual peak discharge, ambient air quality; noise; vehicular traffic; recurrence intervals of various peak discharges and peak stages of various discharges, erosion and sediment loading, existing/projected pollution discharges and receiving water quality; instances of flooding, siltation/erosion, tide, wave, current, depth, bottom topography of the Bay of Bengal (BoB).
4. Biological environment: ecology: flora and fauna, including rare or endangered species; sensitive natural habitats, including sanctuaries and reserves; biological connectivity; potential vectors for disease; exotics and aquatic weeds; application of pesticides and fertilizers (current and projected as agriculture production is expected to be increased);
5. Socio-cultural environment: land use (including current crops and cropping patterns; fisheries and farm outputs and inputs; transportation; land tenure and land titling; present water supply and water uses (including current distribution of water resources); control over allocation of resource use rights; water and fisheries related human health problems; cultural sites, present and projected population; present land use/ownership; planned development activities; community structure; present and projected employment by industrial category; distribution of income, goods and services; recreation; public health; cultural properties; gender/GBV; indigenous



peoples, customs and aspirations; significant natural, cultural or historic sites, etc. Presence of HIV/AIDS and other sexually transmitted diseases.

6. Provide location wise and union/upazila wise information of the project intervention and identify any critical aspects that need special consideration during design, construction and operation.

G. Stakeholder Consultations

1. Consultations need to be carried out at least twice, in accordance with the WB requirements: (a) shortly after environmental screening and before the terms of reference for the ESIA is finalized; and (b) once a draft ESIA report is prepared.
2. Review the consultations carried out during the ESMF and Stakeholders Engagement Plan (SEP).
3. Carry out consultations with institutional stakeholders including but not limited to officials from DoE, DoF, BFD, Local Government, BWDB, LGED, and also with local, national, and international NGOs, and other organization as appropriate and relevant.
4. Carry out comprehensive consultations with primary stakeholders particularly with the communities to be positively and negatively affected by the project.
5. Relevant materials will be provided to affected groups in a timely manner prior to consultations and in a form and language that is understandable and accessible to the groups being consulted. The Consultant should maintain a record of the public consultations (written and video and pictorial proof) and the records should indicate: means other than consultations (e.g., surveys) used to seek the views of affected stakeholders; the date and location of the consultation meetings, a list of the attendees and their affiliation and contact address; and, summary minutes.

H. Determination of the Potential Impacts of and Impacts on the Proposed Project

1. Review the impact assessment carried out during the ESMF and identify gaps if any.
2. Review the ESMP compliance and effect monitoring plan of the ESMF, particularly review the institutional setup, implementation of mitigation measures, environmental monitoring and documentation, environmental monitoring reports, environmental quarterly progress reports, and other reports. Determine gaps if any; also determine impracticality and or inappropriateness of any ESMP aspect such as institutional set up, mitigation measures, monitoring measures, and others.
3. All the potential short and long term environmental impacts should be identified. The impacts can be graded qualitatively (e.g. high, medium, low) in order to identify major impacts and relevant components. In addition, cumulative and residual impacts of the project interventions need to be clearly addressed.
4. This analysis will require in depth interpretation. In this analysis, distinguish between significant positive and negative impacts, direct and indirect impacts, and immediate and long-term impacts. Identify impacts that are unavoidable or irreversible. Wherever possible, describe impacts quantitatively, in terms of environmental costs and benefits. Assign economic values when feasible. Characterize the extent and quality of available data, explaining significant information deficiencies and any uncertainties associated with predictions of impact. Compare the impact with the baseline. Provide ToRs for studies to obtain the missing information. Special attention should be given to the environmental impact those identified during the screening process of ESMF.

I. Development of an Environmental and Social Management Plan (ESMP)

1. Review ESMP guideline of the ESMF.
2. Identify key mitigation and enhancement approaches and prepare the impact specific mitigation measures. Estimate the impacts and costs of the mitigation measures and of the institutional and training requirements to implement them. If appropriate, assess compensation to affected parties for impacts that cannot be mitigated.



3. Prepare ESMP including proposed work programs, budget estimates, schedules, staffing and training requirements, and other necessary support services to implement the mitigating measures, implementation of the environmental code of practices (ECoPs), both compliance and effect monitoring, and provide necessary clauses to incorporate in the bid documents.
4. Include measures for emergency response to accidental events (e.g. entry of raw sewage or toxic wastes into rivers, streams, marine water).
5. Prepare a detailed plan to monitor the implementation of mitigating measures and the impacts of the project during rehabilitation and operation (e.g., emission and ambient levels of pollutants where these may be detrimental to human health, soil erosion, changes in the floodplain) including Pest Management Plan (PMP).
6. ESMP for the proposed project should be prepared mentioning the impact mitigation/enhancement measures with institutional responsibilities, monitoring parameters, frequency, method and responsible agencies. Include a regular schedule of monitoring the quality of surface and ground waters to ensure that mitigation measures are effective.
7. Preparation of 'Residual Impact List' (if any) of probable negative impacts those might not have any remedial measure and identification of further steps towards sustainability of the project.
8. Carryout detail survey and identify Project Affected Persons (PAPs)(if any), according to the guideline provided in RPF and survey the resettlement sites (if required), review the compensation packages describe in the Resettlement Plan Framework (RPF) and prepare Resettlement Action Plan (RAP).
9. Identify Small-ethnic communities in the project influence area and prepare SECDP following the guideline of the SECDP provided in ESMF.
10. Review responsibilities and capability of institutions at local, provincial/regional, and national levels and recommend steps to strengthen or expand them so that ESMP can be effectively implemented. The recommendations may extend to new laws and regulations, new agencies or agency functions, inter-sectoral arrangements, management procedures and training, staffing, operation and maintenance training, budgeting and financial support.
11. Providing on-the-job training to selected DoF officials to strengthen the organization for proper and efficient implementation of the mitigation and monitoring measures suggested in the ESMP.
12. An outline of the contents of the ESMP to be included in the project's Operational Manual should be provided along with environmental/social protection clauses for contracts and specifications.
13. Define the roles and responsibilities of officials, staff, consultants and contractors of DoF on environmental and social management.
14. Describe in details who will (a) implement the environmental mitigation activities (b) carrying out environmental monitoring; (c) supervise environmental mitigation and monitoring; (d) design, implement and apply the environmental management information system (EMIS); and (e) prepare quarterly progress report on environmental and social management.
15. Provide guidance for reporting and enforcement and conducting environmental audits.
16. Preparation of relevant maps including:
 - i. map illustrating location of the proposed intervention, the impact area
 - ii. map-set to illustrate all key environmental baseline data and all major constraints e.g. location of Hilsa breeding grounds, migration routes, seasonal movement, sanctuaries, mangroves forest, habitation of coastal avifauna, etc.;
 - iii. map-set clearly indicating the nature and locations for all site-specific mitigation measures and all other recommended site-specific actions;
 - iv. land use maps of the intervention sites; and
 - v. any other related maps that might be requested by PMU.

J. ESMP compliance and Effect Monitoring

1. The consultant will supervise implementation of ESMP activities during project operation, particularly to the contractors including environmental and social management requirements and measures on their execution of construction-related, infrastructural development and other activities that have significant negative environmental impacts identified in the ESMF/ESIA.
2. The consultant will also be responsible for monitoring of effects of these measures and interventions. In doing so, the consultant will ensure adherence to the monitoring parameters including quality requirements, as well as all ESMP measures. Existing ESMF has got a list of monitoring parameters/indicators furnished in Annex-II to be monitored, which will be updated by the consultant during ESIA.
3. The consultant is responsible to ensure that the contractors follow the ECoPs of the project mentioned in Annex F of the ESMF(<http://documents.worldbank.org/curated/en/857231518417445181/Environmental-and-social-management-framework>). They will assist contractors in preparing site-specific management plans before commencement of the actual ground activities.
4. Although, the project has no such plan and will try to avoid acquiring new lands and involuntary resettlement. However, in any case of land acquisition and involuntary displacement, the consultant will be liable to implement ESMP to be prepared for the resettlement sites by them during ESIA.
5. At the construction sites, the consultant will take the lead in implementing the capacity building plan, though the contractors will also be responsible to conduct trainings for their own staff and workers. The various aspects that are covered under the capacity building will include general environmental and social awareness, key environmental and social sensitivities of the area, key environmental and social impacts of the program, ESMP requirements, Occupational Health Safety (OHS) aspects, Environmental Health Safety (EHS) aspects and waste disposal. Table 6.5 of ESMF provides a summary of various aspects of the environmental and social trainings to be conducted at the construction site. PMU may revise the plan during the program implementation as required.
6. The consultant will also have environmental and social monitoring personnel who will supervise and monitor project interventions for effective ESMP implementation. The contractors in turn will also have Health, Safety and Environment (HSE) supervisors who will ensure ESMP implementation during implementation of different activities (including construction) and will be tasked to develop necessary detailed Health and Safety Executive (HSE) plans as per this ESMP, and oversee their implementation.
7. The Consultant shall ensure that the Civil Works Contractor's Environmental, Social, Health and Safety (ESHS) performance is in accordance with good international industry practice and delivers the Contractor's ESHS obligations. The ESHS related services include but are not limited to:
 - i. review and approve the Contractor's Environment and Social Management Plan (C-ESMP), including all updates and revisions (not less than once every 6 months);
 - ii. review and approve ESHS provisions of method statements, implementation plans, Gender Based Violence (GBV)/Sexual Exploitation and Abuse (SEA) prevention and response action plan, drawings, proposals, schedules and all relevant Contractor's documents;
 - iii. review and consider the ESHS risks and impacts of any design change proposals and advise if there are implications for compliance with ESIA, ESMP, consent/permits and other relevant project requirements;
 - iv. undertake audits, supervisions and/or inspections of any sites where the Contractor is undertaking activities related to the Works, to verify the



- Contractor's compliance with ESHS requirements including its GBV/SEA obligations, with and without contractor and/or client relevant representatives, as necessary, but not less than once per month
- v. undertake audits and inspections of Contractor's accident logs, community liaison records, monitoring findings and other ESHS related documentation, as necessary, to confirm the Contractor's compliance with ESHS requirements;
 - vi. agree remedial action/s and their timeframe for implementation in the event of a noncompliance with the Contractor's ESHS obligations;
 - vii. ensure appropriate representation at relevant meetings including site meetings, and progress meetings to discuss and agree appropriate actions to ensure compliance with ESHS obligations;
 - viii. check that the Contractor's actual reporting (content and timeliness) is in accordance with the Contractor's contractual obligations;
 - ix. review and critique, in a timely manner, the Contractor's ESHS documentation (including regular reports and incident reports) regarding the accuracy and efficacy of the documentation;
 - x. undertake liaison, from time to time and as necessary, with project stakeholders to identify and discuss any actual or potential ESHS issues;
 - xi. establish and maintain a grievance redress mechanism including types of grievances to be recorded and how to protect confidentiality e.g of those reporting allegations of GBV/SEA.
 - xii. ensure any GBV/SEA instances and complaints that come to the attention of the consultant are registered in the grievance redress mechanism.

K. IEE/ESIA, Compliance and Effect Monitoring and Other Reports Compilation and Environmental Clearance Certificate (ECC)

1. Finalization of the draft IEE report/s incorporating the comments from the consultation/s.
2. Finalize the draft ESIA report/s incorporating the comments from the consultation/s (see Annex B of the ESMF for the ESIA report structure at the following web link: <http://documents.worldbank.org/curated/en/857231518417445181/Environmental-and-social-management-framework>).
3. Translate and finalize the executive summary of ESIA in Bengali.
4. Assist PMU in getting ECC, submit reports of IEEs and ESIA for reviewing by the Department of Environment (DoE) and coordinate with DoE and DoF for getting Environmental Clearance Certificate from the DoE.
5. Quarterly and Bi-annual ESMP Compliance and Effect monitoring reports compiling the sub-reports of project partners, contractors, etc.
6. Assist PMU in getting site specific management plans of the contractors. and
7. Other relevant plans – RAP, SECDP, etc.

4.0 Methodologies and Approaches

It is the responsibility of the PMU to conduct IEE and ESIA of the project activities in close consultation of SECC, the responsibility to review IEE and ESIA for the purpose of issuing Environmental Clearance Certificate and ESMP compliance and effects monitoring rests on DoE. The consultant will follow the guidelines of ESMF, Phase I during each and every steps of IEE/ESIA.

DoE, the technical arm of the Ministry of Environment, Forest and Climate Change (MoEFCC) is the regulatory body and the enforcement agency of all environmental related activities. Like all other projects, this project also needs to meet the requirement of the DoE. The procedures for "Orange B" Category include submission of:

- An Initial Environmental Examination (IEE), and
- An Environmental Impact Assessment (EIA), if prescribed by DoE, and

- An Environmental Management Plan (EMP)

Environment clearance has to be obtained by the respective implementing agency or project proponent (private sector) from DoE. The environmental clearance procedure for Orange-B Category projects can be summarized as follows:

Application to DoE→Obtaining Site Clearance→Applying for Environmental Clearance→Obtaining Environmental Clearance→Clearance Subject to Annual Renewal.

Steps to be followed for obtaining ECC in connection with the construction/ reconstruction / re-excavation of canals from DoE are outlined in Figure 1. Public participation or consultation is not a condition in the ECR '97 and or IEE/EIA Guidelines, however, DoE prefers the proponent to engage in public participation and put conditions while providing site clearance or during the approval of the EIA ToR. Stakeholders Engagement Plan (SEP) guideline given in the ESMF has to be followed by the consultant.

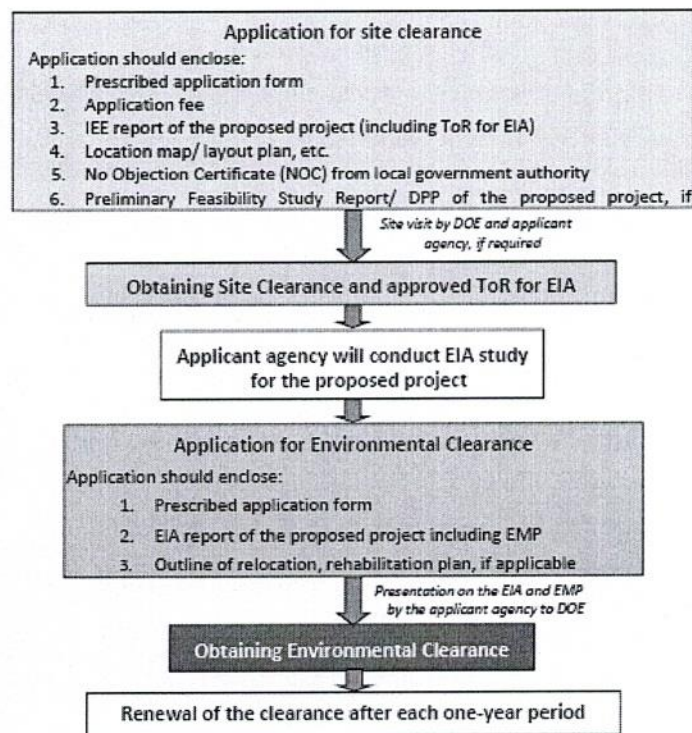


Figure 1: Process of obtaining Clearance certificate from DoE

A. Guideline to conduct IEE,ESIA and ESMP compliance and effect monitoring

Guideline for conducting IEE,ESIA and ESMP compliance & effects monitoring is elaborated in ESMF (<http://documents.worldbank.org/curated/en/857231518417445181/Environmental-and-social-management-framework>), which might need to improve in consultation with the PMU and SECC.

B. Environmental Assessment and Management Process

- The consultant will perform the environmental and social screening with assistance from PMU. The consultant will start the task during the initial months of its engagement.

- The consultant will update the Baseline condition, conduct IEE and ESIA for all 4 components (including sub-projects) of Phase I of SCMFP.
- PMU will share the IEE report and the ESIA ToR with DoE for Clearance, EIA/SIA consultant will provide necessary assistance in getting ECC.
- PMU will conduct ESIA in packages different activities those are have similarity and likely to have same environmental and social impacts at different points of project length, hence multiple ESIA will be carried out prior to the similar cluster activities by the consultant (maximum 3 ESIA, 1 ESIA/year). Clustering of sub-projects under SDF, BFRI and other research grants will be clustered during the first year of the assignment.
- PMU and SECC will review and clear screening and environmental assessment reports made by the consultant.
- DoF will conduct verification of some screening and assessment of the consultant engaging SECC members.
- The consultant will monitor that environmental considerations are given sufficient attention, weight and influence over selection of construction sites, re-excavation of canals, and improvement of infrastructures in both capture and aquaculture, and liable to report to PMU and SECC on ESMP compliance and impact of the activities on surrounding environment
- All the activities of consultant will be guided by the existing Environmental Code of Practices (ECoPs) given in ESMF/SCMFP.
- The consultant will ensure that impact assessment addresses all potential environmental and social direct and indirect impacts of the project and its interventions throughout its life: pre-project, during project and operation stages and mitigation measures to be taken.
- In case any conflict arise during ESIA and ESMP preparation in between ESMF and ECR'97, the guideline of ESMF will prevail.
- The consultant will take necessary measures and aware PMU about any changes in existing ECR'97 or any other laws that come into force by the GoB and also in the World Bank's procedures during preparation of the ESIA and ESMP.
- ESMF is an integral part of this ToR which can be found in following web link: <http://documents.worldbank.org/curated/en/857231518417445181/Environmental-and-social-management-framework>.

5.0 Project Area

The ESIA studies will cover a geographic area located in the 75 Upazila of the coastal belt spreading over 16 districts in 4 divisions. The 16 districts are Cox's Bazar, Chattogram, Feni, Noakhali, Laxmipur, Bhola, Barisal, Patuakhali, Jhalkathi, Barguna, Pirojpur, Bagerhat, Khulna, Satkhira, Gopalgong and Jashore.



6.0 Duration of Assignment and Type of Contract

The total duration of the consultancy service will be 12 months (1 year) from the date of commencement of the assignment on a lump-sum contract basis. The contract duration may be extended for the next 24 months (2 years). Continuation of contract for the remaining Year 2 and Year 3 is subject to providing satisfactory services and quality deliverables listed for the Year 1 in the Section 8, availability of budgetary provision, project needs and continuation of the project. Study team composition and qualifications.

7.0 Study team composition and qualifications

In order to complete the assignment, the Consultant will assemble a multi-disciplinary team of technical experts with substantial experience and adequate educational backgrounds to ensure the services are carried out in a professional and timely manner. Estimated input of key-experts' time-input is 25 person-months.

The team will include, but may not be limited to:

Position	Tentative Man-Months (Year 1)	Educational Qualifications and Experiences	Description of Input
Key Positions			
Environment and Climate change Expert (also act as Team Leader)- 1 Person	6 months	<p>MSc in Fisheries/ Marine Science/ Oceanography/ Environmental Science/ Development Studies/ Aquatic Resource Development/ Environmental Engineering/ Ecology/ Botany/ Zoology having 15 years of experience.</p> <p>Experience of conducting ecological study and environmental impact assessment compliance to relevant GoB and World Bank environmental and social safeguard issues is essential. S/He should have knowledge of marine and coastal wildlife, ecology and ecosystem.</p> <p>Experience of ECC procedure from DoE is preferable.</p> <p>Knowledge of MS Office, data analysis, collating and report writing is required. Fluency in Bangla and English is also required</p>	<p>The team comprise one team leader (TL) to Lead and coordinate/ manage inputs of consultant team; responsible for overall product delivery and for timely and quality execution of services; Technical capacity of Marine environment, and project management cycle to setting up screening, scoping, baseline survey, impact assessment, ESMP, RAP and SECDP. S/He will lead the stakeholder's engagement process and getting ECC from DoE. S/He will be the primary contact point for contract execution.</p> <p>Other than activities as TL, S/He will deliver technical support as environmentalist and CC expert.</p>
Marine Fisheries Specialist- 1 Person	5 months	<p>MSc in Fisheries/Marine Science/Aquatic Resource Development/Fisheries Management having 10 years of experience in marine and coastal</p>	<p>Responsible for carrying out IEE, ESIA and ESMP as a part of the multi-disciplinary team and provide technical inputs in EA of the project interventions</p>

Position	Tentative Man-Months (Year 1)	Educational Qualifications and Experiences	Description of Input
		<p>fisheries/aquaculture. Experience of ESIA study of GoB and donor funded project is essential.</p> <p>Knowledge of MS Office, data analysis, collating and report writing is required. Fluency in Bangla and English is also required</p>	that would impact on fisheries, fishermen, mariculture and aquaculture and other aquatic lives.
Sociologist- 1 Person	5 months	<p>M.Sc in Social Science/Sociology/Anthropology having 10 years working experience with the community, social assessment, livelihood management and Alternate Income Generating Activities (AIGAs) requirements for compliance to relevant GoB and World Bank social safeguard issues.</p> <p>Experience of preparing SIAs, PAPs, RPF/RAP and SECDP is essential.</p> <p>Knowledge of MS Office, data analysis, collating and report writing is required. Fluency in Bangla and English is also required</p>	Responsible for carrying out IEE, ESIA and ESMP as a part of the multi-disciplinary team and provide technical inputs in SIA of the project interventions that would impact on social and economic components of the project influence area.
Civil Engineer having Coastal and hydrological engineering knowledge-1 Person	5 months	<p>BSc in Civil Engineering/Oceanographic Engineering/Water resources engineering having 10 years of experience.</p> <p>Experience on coastal hydrology/ port/harbor designing/ construction and impact assessment of similar construction activities.</p> <p>Knowledge of MS Office, data analysis, collating and report writing is required. Fluency in Bangla and English is also required</p>	<p>Interpret engineering design and terminologies to the non-engineering team members.</p> <p>Assist project team members in understanding consequence of different structural interventions.</p> <p>Compliance monitoring of the ESMP in the design and supervision of the contractors to be engaged in different constructional activities e.g. aquaculture infrastructure rehabilitation and capture fisheries landing site rehabilitation, construction activities assessment, list of coastal landing centers/sites/linked with nearest fish markets/ MFSC/canal re-excavation/etc. discussing with</p>

Position	Tentative Man-Months (Year 1)	Educational Qualifications and Experiences	Description of Input
			PMU and DoF and other technical personnel of the project. Suggest PMU appropriate measures through team leader to comply the ESMF and ESMP in the design and construction of the contractors. Carry out data and sample collection for ESMP and ESMF compliance and effect monitoring. As a team member prepare environmental monitoring reports, etc.
Communication and Stakeholder Engagement Specialist- 1 Person	4 months	Masters in Communication and Journalism/Mass communication/Fisheries/Marine Science/Development Studies with 8 years of experience on designing, implementing and evaluation of multi-dimension trainings/stakeholders consultations/workshop. Experience in donor funded fisheries project is preferable. Knowledge of MS Office, data analysis, collating and report writing is required. Fluency in Bangla and English is also required.	Stakeholders assessment, engagement & communication; design and implementation of public consultations and mass communication of the project impacts; documentation of stakeholders opinions and produce reports out of the consultations.

Non-Key Position		
RS and GIS Analyst- 1 Person	Bachelor in GIS-RS Studies/Geography/Social Science/Statistics/Development Studies/Project Management/Environment/Fisheries /Marine Science/Economics/Aquatic Resource Development having 5 years of experience as GIS/RS analyst of large scale GoB and donor funded project/s. Experience of GIS data analysis of fisheries project will be given preference.	Support all required assessments, including activity site selection and prioritization. Mapping analysis of environment, ecological features, socio-economic and scientific data and information.
Assistant Engineer-1 Person	BSc in Civil Engineering/Oceanographic Engineering/Water resources engineering having 3 years of experience. Experience on coastal hydrology/	Assist lead Civil Engineer and other team members in conducting ESIA, IEE, and ESMP as part of multidisciplinary team. Assist in interpreting engineering design and terminologies to the non-engineering team members. Assist project team

	port/harbor designing/ construction and impact assessment of similar construction activities. Knowledge of MS Office, data analysis, collating and report writing is required. Fluency in Bangla and English is also required.	members in understanding consequence of different structural interventions. Assist in ESMP compliance monitoring in the design and supervision of the contractors to be engaged in different constructional activities. Assist in data and sample collection for ESMP and ESMF compliance and effect monitoring. Assist in preparing environmental monitoring reports, etc.
Research Assistant -4 Persons	B.Sc. (Hons) having 2 years' experience on collecting field data/conducting survey in remote coastal area of Bangladesh following structured questionnaire/checklist. Experience of data collection using PRA tools (FGD, KII) will be given preference.	Research Assistant will be deployed in the project field command Districts/Upazilas to collect data/information related to the IEE/ESIA baseline, scoping, impact assessment, and monitoring related data/information.

8.0 Reporting Requirements and Time Schedule for Deliverables

The consultant should conduct IEE for specified activities at the initial stage and based on the IEE screening and assessment recommendation ESIA should be carried out for the selected projected activities. According to the project planning, the activities those would require ESIA will be implemented at different periods and hence multiple ESIA's will be required clustering the similar activities prior to commencement of actual interventions (maximum 3 ESIA's, 1 ESIA/year). Environment Assessment required for the sub-projects under SDF, BFRI and other research grants will be clustered during the first year of the assignment. ESMP compliance and effect monitoring will be a continuous regular activities of the consultant and hence, will be commenced with awarding of the assignment. Consultant will provide a schedule of deliverables in the inception report based on the initial discussion with PMU. Following reports prescribed for a round of single IEE/ESIA exercise and compliance and effect monitoring for the year 1, and schedule for subsequent IEE/ESIA's and compliance and effect monitoring for the subsequent years (Y2 and Y3) will need to adjust on annual basis synchronizing with the SCMF project annual workplan:

- Inception Report - to be submitted at the end of 1st month of signing the contract.
- Draft Screening and Scoping Report – to be submitted at the end of 2nd month of signing the contract.
- Draft IEE Report - to be submitted at the end of 4th month of signing the contract.
- Draft ESIA Report with ESMP, RAP and SECDP –to be submitted at the end of 11th month of signing the contract.
- Final ESIA Report with a standalone Executive Summary – to be submitted at the end of 12th month of signing the contract.
- Bengali Translation of the Executive Summary - to be submitted at the end of 12th month of signing the contract.
- Quarterly ESMP compliance and effects monitoring report.
- Bi-annual ESMP compliance and effects monitoring report.
- Annual workplan –to be submitted at the end of 1st month of each year
- Subsequent IEE/ESIA Reports (maximum total 3 ESIA's, 1 ESIA report/year)

In addition to the above, quarterly progress reports (QPR) will have to be submitted by the consulting firm to monitor the progress of the study. All files with data, maps, analytical reports, and toolkits used in this assignment will be submitted to PMU of the project along with submission of the reports. After commencement of the study. The submission of the reports shall be both in printed hard (3 copies) and soft copy.



The Consultant shall also:

- a) Immediately notify the Client of any failure by the Contractor to comply with its SEA and SH obligations;
- b) Immediately notify the Client of any allegation, incident or accident, which has or is likely to have a significant adverse effect on the environment, the affected communities, the public, Client's Personnel, Contractor's Personnel or Experts. In case of SEA and/or SH, while maintaining confidentiality as appropriate, the type of allegation (sexual exploitation, sexual abuse or sexual harassment), gender and age of the person who experienced the alleged incident should be included in the information. The Consultant shall provide full details of such incidents or accidents to the Client within the timeframe agreed with the Client.
- c) Immediately inform and share with the Client notifications on ES incidents or accidents provided to the Consultant by the Contractor, and as required of the Contractor as part of the Progress Reporting;
- d) Share with the Client in a timely manner the Contractor's ES metrics, as required of the Contractor as part of the Progress Reports."

9.0 Institutional Arrangements

PMU represents the Client for this assignment. The consultant will work under the direct supervision of the Project Director, SCMFP, DoF, Dhaka. Project Director, SCMFP will be assisted by the Environmental and Social Safeguards Expert (ESSE) of PMU as and when required, particularly with regard to compliance of the Environmental and Social Safeguards compliance of the World Bank and ESMF guideline. The Project Director through ESSE and SECC will support the consultant with the objective of the study, as detailed in the ToR, would be achieved within the agreed time schedule, and the contents of the report are acceptable to the GoB and the World Bank.

Project Director, SCMFP with the assistance of the ESSE will arrange meetings and consultations between the consultant and PMU/DoF professional staffs to discuss technical issues. Any unresolved issues, either technical or otherwise, will be taken up with SECC or other GoB agencies as required.

The Project Director, will make its best efforts to make available the following data, services and facilities to the consultant as per existing rules of DoF and WB:

- All available district wise fisheries data and records of landing centers/sites/markets of first fish landing, fishers' information. Information related to Fishers' village, canal to upscale of shrimp cluster management, within the project command areas;
- Available reports and study related documents;
- Any other services, available with DoF to assist the consultant to carry out the data collection as per ToR.

10.0 Method of Selection:

The Consultant will be selected under Consultant's Qualification Based Selection method in accordance with the Bank's "Procurement Regulations for IPF Borrowers" July 2016 revised November 2017 ("Procurement Regulations"), which can be found at the website of the World Bank (www.worldbank.org).



Annex I: List of project activities likely have potential impacts

- Desilting and re-habilitation of existing canals of cluster shrimp farms,
- Repairing of water regulating structures to improve water quality and circulation water management canals of cluster shrimp farms,
- Infrastructure improvement for capture and culture fisheries, i.e.
 - improvement of landing sites, depots, collection centers,
 - road and reliable electricity infrastructures at the connecting to the landing sites, depots, collection centers,
 - renovation and upgradation of post-harvest service center,
 - small-scale fish packing facilities, transport boxes (plastic, polystyrene),
 - rehabilitation and construction of capture fisheries landing sites including Chittagong wholesale market landing sites, two semi-industrial fishery landing sites in each of the southeast, central and western coastal regions,
 - improvement of fish market facilities including access roads, drainage, etc.,
 - electrification of shrimp farms for facilitating pond aeration,
 - construction of chill stores to store iced fish at cool temperatures,
 - pond re-excavation in cluster shrimp farms,
 - feeds, chemicals and pest management in cluster shrimp farms,
 - construction of surveillance check posts,
- Construction of physical infrastructure of JMC (Joint Monitoring Center),
- Construction of Multi-purpose Marine Fishery Center in BFDC fish harbour in Chittagong,
- Basic community infrastructures in around 450 villages across 14 districts viz. small roads, tube wells, sheds, offices for FVGs, etc.,
- Providing alternative livelihoods to 55,000 coastal fishermen in 450 villages and developing 100 model fishers' villages,
- Promoting mariculture activities in coastal potential areas i.e. algae, oyster, mangrove poly culture, etc.
- Operation of cruises for stock assessment and survey by research vessels (Bilge water, Ballast water, Occurrence of accidents, etc.),
- Brood Management Center, Matching Grant for SPF Hatcheries, Fish Quarantine Laboratories, PCR Lab, Fish Health Diagnostic Lab, etc.
- Marine Spatial Plan (MSP), if adopted, and
- Research activities those will be undertaken to address climate change issues.



Annex II: Overview of Impacts and Mitigation Framework (Source: ESMF/SCMFP)*

Impacts/Issues	Mitigation Measures	Time Frame	Cost (USD x 10 ⁶)	Responsibility		Key Monitoring Indicators	Monitoring Frequency
				Implementation	Supervision		
ENVIRONMENTAL IMPACTS DUE TO PROJECT SITING							
Land cover and land use changes	Relevant ECoPs of site selection. Integrated Pest Management Plan; Linkages with ongoing pest management programs	2018 onwards	In budget of EMP	PMU	DCSC, ESIAC, PMU	- to be developed under IPM	Six-monthly
Loss of natural vegetation and trees	Compensatory tree plantation along reconstructed embankment	2018-2023	In budget of EMP	PMU	DCSC, ESIAC, PMU	- trees cut and trees planted	Monthly
Loss of aquatic habitat	Organic shrimp farming/aquaculture expansion Fish sanctuaries/MPA in BoB	2018-2023	In budget of EMP	PMU	DCSC, ESIAC, PMU	- abundance of fishes and species diversity in MPA/sanctuaries	Quarterly
Drainage congestion and water logging	Installation of regulators and culverts	2018-2022	Project design	Contractor	DCSC, ESIAC, PMU	- User committees are formed and trained, area water logged	Quarterly (Monthly during flood season)
ENVIRONMENT IMPACTS DURING IMPLEMENTATION PERIOD							
Impacts of burrowing of material from river beds, agriculture land and wetlands (if required)	Compliance with relevant ECoPs of sand extraction, agricultural top soil management and wetland digging	2018-2023	In budget of Contractor	Contractor	DCSC, ESIAC, PMU	Sites approved, ongoing visual inspection of sand extraction	At the beginning of works and through sand extraction
Air pollution	Pollution prevention and implementation of ECoPs	2018-2023	In budget of Contractor	Contractor	DCSC, ESIAC, PMU	Plan approved and implemented; community complaints	Quarterly
Noise	Noise control measures and relevant	2018-2023	In budget of Contractor	Contractor	DCSC, ESIAC, PMU	Plan approved and	Quarterly

Impacts/Issues	Mitigation Measures	Time Frame	Cost (USD x 10 ⁶)	Responsibility		Key Monitoring Indicators	Monitoring Frequency
				Implementation	Supervision		
	ECoPs		Contractor		PMU	implemented; community complaints	
Water pollution	Pollution prevention and control plan	2018-2023	In budget of Contractor	Contractor	DCSC, ESIAC, PMU	Plan approved and implemented	Quarterly
Soil contamination	Pollution prevention and control plan	2018-2023	In Contractors budget	Contractor	DCSC, ESIAC, PMU	Plan approved and implemented	Quarterly
Solid wastes and hazardous wastes	Waste management and pollution control plan	2018-2023	In budget of Contractor	Contractor	DCSC, ESIAC, PMU	Plan approved and implemented	Quarterly
Impacts on aquatic habitat	Treatment of waste effluents	2018-2023	In budget of Contractor	Contractor	DCSC, ESIAC, PMU	Sites approved and ongoing monitoring of plan implementation	Before and during expansion of mariculture, aquaculture
Impacts on wildlife habitats	No construction related activities on sensitive wildlife habitat, use of low wattage lights at construction sites	2018-2023	In budget of EMP	Contractor	DCSC, ESIAC, PMU	Biodiversity monitoring studies	Six monthly
Site clearance and restoration	Site restoration and landscaping	2018-2023	In budget of Contractor	Contractor	DCSC, ESIAC, PMU	Sites established and cleared	After construction
Occupational health and safety	Implement health and safety, and emergency response plan	2018-2023	In budget of Contractor	Contractor	DCSC, ESIAC, PMU	Plan prepared and implemented	Quarterly
ENVIRONMENTAL IMPACTS DURING POST PROJECT PERIOD							
Changes in water courses (canal)	Long term monitoring and biodiversity conservation measures	2023 on wards	In budget of the project	DoF	DoF	Biodiversity conservation measures	Quarterly
Generation of solid waste	Implementation of Health Safety Environment Plan	2023 on wards	DoF annual budget	DoF	DoF	Plan prepared and implemented	Six monthly
Air and noise pollution	Air and noise quality and appropriate measures	2023	DoF annual budget	DoF	DoF	to be developed	
Water pollution	Organic aquaculture, water treatment, etc.	2023 on wards	DoF annual budget	DoF	DoF	Working condition of connected canals, mariculture	Annually

Impacts/Issues	Mitigation Measures	Time Frame	Cost (USD x 10 ⁶)	Responsibility		Key Monitoring Indicators	Monitoring Frequency
				Implementation	Supervision		
						area	
Ecological connectivity	Implementation of relevant ECoPs of wetland connectivity	2023 on wards	DoF annual budget	DoF	DoF	Plan prepared and implemented	Annually
Marine habitat	Guideline for mariculture, sea grass and oyster beds	2023 on wards	DoF annual budget	DoF	DoF	Plan prepared and implemented	Annually
Loss of vegetation	Implementation of related ECoPs of plantation	2023 on wards	DoF annual budget	DoF	DoF	Plan prepared and implemented	Annually
Impact of avifauna	Implementation of related ECoPs of wildlife management	2023 on wards	DoF annual budget	DoF	DoF	Plan prepared and implemented	Annually

* This is a preliminary list of monitoring parameters and associated frequency for ESIAC, subject to change during ESIA.