Bangladesh Forest Department
Ministry of Environment, Forest and Climate Change

Inception Report

Strategic Environmental Assessment of South West Region of Bangladesh for Conserving the Outstanding Universal Value of the Sundarbans

March 2020

CEGIS
Center for Environmental and Geographic Information Services

in association with

integra CONSULTING

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Abbreviations and Acronyms

BDP	Bangladesh Delta Plan
BFD	Bangladesh Forest Department
CC	Climate Change
CCF	Chief Conservator of Forests
CEGIS	Center for Environmental and Geographic Information Services
CF	Conservator of Forests
DCF	Deputy Conservator of Forests
DoE	Department of Environment
DPSIR	Driving forces-Pressure-State-Impact-Response
DTL	Deputy Team Leader
ECA	Ecologically Critical Area
EIA	Environmental Impact Assessment
GHG	Greenhouse Gases
GMB	Ganges-Brahmaputra-Meghna
GoB	Government of Bangladesh
GRRPO	Gorai River Restoration Project
IWRM	Integrated Water Resources Management
M&E	Monitoring and Evaluation
MoA	Ministry of Agriculture
MoCAT	Ministry of Civil Aviation and Tourism
MoEFCC	Ministry of Environment, Forestry and Climate Change
MoF	Ministry of Finance
MoFL	Ministry of Fisheries and Livestock
MoI	Ministry of Industries
MoL	Ministry of Land
MoP	Ministry of Planning
MoPEMR	Ministry of Power, Energy and Mineral Resources
MoRTB	Ministry of Road Transport and Bridges
MoS	Ministry of Shipping
MoWR	Ministry of Water Resources
MPA	Mongla Port Authority
NAPA	National Adaptation Programme of Action (for Climate Change)
NBSAPB	National Biodiversity Strategy and Action Plan for Bangladesh
NSDS	National Sustainable Development Strategy

NWMP	National Water Management Plan
OECD	Organization for Economic Cooperation and Development
OECD-DAC	OECD Development Assistance Committee
OUV	Outstanding Universal Value
PPP	Policy, Plan, Programme
PSC	Project Steering Committee
RIMS	Resource Information Management System
SDG	Sustainable Development Goal
SEA	Strategic Environmental Assessment
SEMP	Strategic Environmental Management Plan
SW	South West
TL	Team Leader
UDD	Urban Development Directorate
UNESCO	United Nations Educational, Scientific and Cultural Organization
WHS	World Heritage Site
WR	Water Resources

1. Introduction

1.1 Background

Bangladesh is on a trajectory to become a developed economy by 2041. In contributing to achieving this goal, the South West region has significant prospects for development. Bangladesh is committed that such development should be sustainable and should not adversely affect the outstanding universal value of the Sundarbans.

The Sundarbans covers 10,000 km^2 of land and water in the Ganges delta. It contains the world's largest area of natural mangrove forests. 60% of these forests is in Bangladesh; the remaining in India. The area has both local, regional and global significance due to its diversity, uniqueness, biological productivity and rich ecosystems, with a number of rare or endangered species living in the forest, including tigers, aquatic mammals, birds and reptiles. The area provides essential ecological services such as nursery grounds for many fish species, and coastal erosion protection against storms, tidal surges and cyclones.

Some parts of the Sundarbans were proposed by the Government of Bangladesh and subsequently designated by UNESCO as World Heritage Sites in 1997 (Figure 1.1). But, recently, concerns have been raised about the potential impacts on the Sundarbans of existing and planned developments in the SW Region. In this regard, UNESCO suggested to the Government of Bangladesh (GoB) to undertake a Strategic Environmental Assessment (SEA) to assess the impacts of development at a landscape and regional scale to help Bangladesh uphold the Outstanding Universal Value (OUV) of the Sundarbans. The overall aim is to ensure the sustainable development of the SW region (Figure 1.2) whilst also ensuring the conservation of the Sundarbans.

The SEA will analyse the environmental and socio-economic impacts, existing and likely, of current and future Policies, Plans and Programmes (PPPs) for development and of important projects in the SW Region (Figure 1.2). In particular, the SEA will address PPPs covering all relevant sectors including, but not limited to the following: forestry, fisheries, transportation and communication, industry, power and energy, water resources, shipping, urbanisation and tourism.

The SEA will identify the positive and negative, direct and indirect, transboundary, cumulative, synergistic and antagonistic, impacts of development in the region and address how these are impacting on, or are likely to impact on (in the case of future PPPs) the region and the Sundarbans. It will also highlight the potential for enhancing positive impacts and for trade-offs. The SEA will result in a Strategic Environmental Management Plan (SEMP) for the region that sets out a framework for monitoring the implementation of PPPs and individual mega development activities, providing a valuable tool to help transition to sustainable development.

An overall objective is to engage widely with all relevant stakeholders to ensure that key concerns about development and environmental management in SW region can be raised and taken into account.

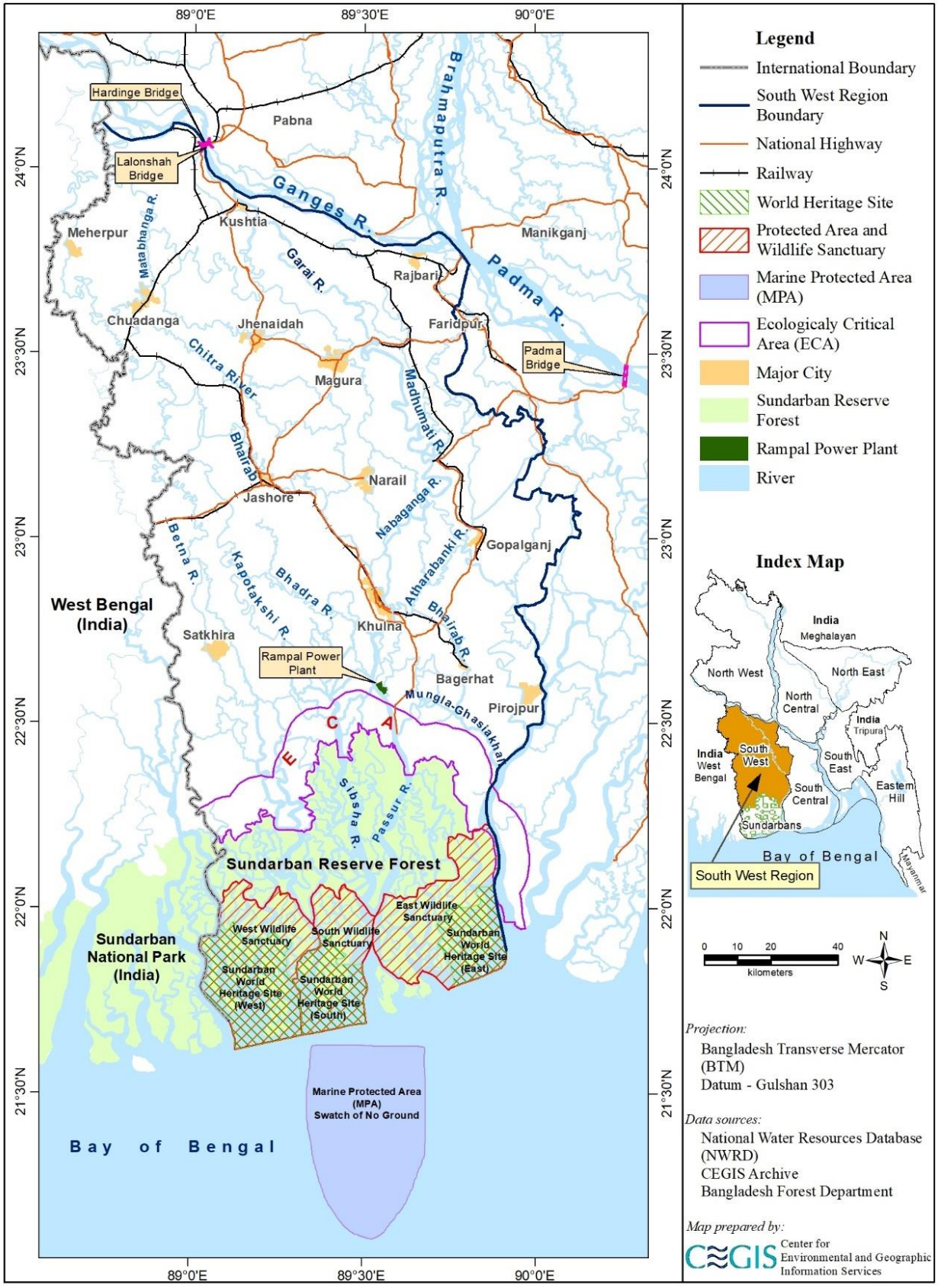


Figure 1.1: World Heritage Sites and Protected Areas in SW Region

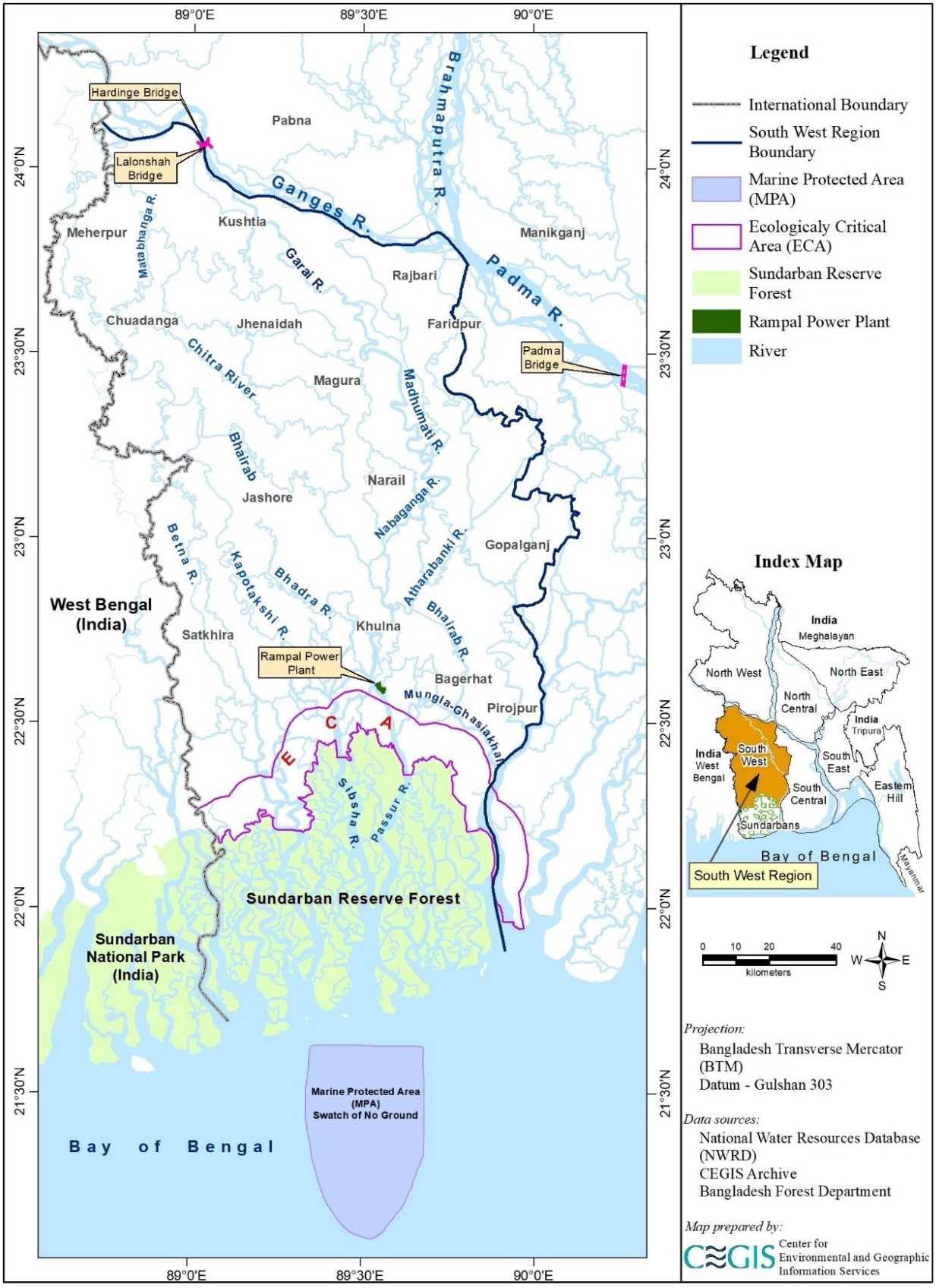


Figure 1.2: The SEA Area of Focus

1.2 SEA Objectives

The specific objectives of the SEA as set out in the revised Terms of Reference (Appendix 1) are:

- Consideration of ***environmental and socio-economic consequences*** of existing PPPs (national and SW region) that cover the SW Region and promoting that these issues be addressed when formulating and implementing future, as well as existing, PPPs with a view to promoting sustainable development in the region and conservation of the Sundarbans and its Outstanding Universal Value;

  [**Note**: some important -projects have such potential for impacts the SW division that they will be included with the PPPs for review]

- Simultaneous assessment of the ***impacts of development initiatives*** on existing bio-physical settings and socio-economic conditions to facilitate informed decision-making regarding transitioning towards a sustainable, resilient and resource efficient economy;
- Identification ***of key stakeholders*** relevant to selected sectors and organizing consultation meetings to obtain knowledge on existing bio-physical settings and socio-economic conditions, impacts of current and proposed developments, and potential strategies for future development of the SW region;
- Development of ***alternative strategies*** to minimize the direct/indirect, domestic/transboundary and cumulative impacts of development on the Sundarbans and more widely in the South West Region;
- Make ***recommendations to improve environmental performance management*** in both the public and private sectors as regards future development activities; and
- Formulation of a comprehensive framework in the form of a ***Strategic Environmental Management Plan (SEMP***) for the SW region to support decision making and monitoring of the implementation of policies, plans and programs that are likely to affect the environment and socio-economic conditions of the region and in particular the Sundarbans.

1.3 Strategic Environmental Assessment

There is a hierarchy of levels in decision-making comprising policies, plans, programmes and then individual projects (Figure 1.3).

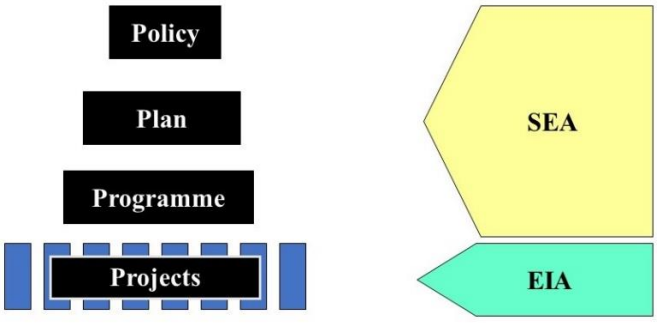


Figure 1.3: SEA, EIA and the Decision-making Hierarchy

Policies shape the subsequent plans, programmes and projects that put those policies into practice. Policies are thus top of the decision-making hierarchy. Policies, plans, and programmes (PPPs are more 'strategic' than projects as they determine the general direction or approach to be followed towards broad goals. SEA is applied to these more strategic levels and deals with assessing broadly-defined proposals with a wide range of options usually available for assessment. As one moves down

the hierarchy from policies to projects, the nature of decision-making changes, as does the nature of environmental and socio-economic assessment needed. Table 1.1 indicates how SEA differs from Environmental Impact Assessment (EIA) which is used to assess the impacts of individual projects. But as Table 1.1 shows, it differs considerably from SEA.

The experience gained from undertaking EIAs and SEAs of plans and programmes feeds into the design of policy SEAs. There is two-way flow between the four levels in Figure 1.2. Some major public instruments (e.g. White Papers) do not fit easily into the simplified hierarchy shown in Figure 1.3.

The uptake of SEA has grown since first introduced in the 1980s and it is now used in countries all over the world to support PPP preparation and implementation and over 60 countries now have formal legal and regulatory requirements for SEA. But there has been very little experience of its application in Bangladesh. So this SEA is playing a pilot role. It will help to raise awareness of the role, methods and value of the process, and hopefully will stimulate its wider uptake in the country.

In a nutshell, SEA involves analytical and participatory approaches for the environmental evaluation of proposed PPPs, also for evaluating the inter linkages with economic and social considerations. It is a planning tool that aims to improve strategic decision-making. It complements planning by (a) generating information on environmental and socio-economic issues, (b) providing a platform for stakeholder dialogue on these issues with well-structured debate involving government, the private sector and civil Society; and (c) offering a mechanism to take the results of the assessment and debate into account in institutions and governance.

Table 1.1: SEA and EIA Compared

Criterion	SEA	EIA
Level of application	Policies, Plans and Programmes	Specific projects
Alternatives	Broad range considered (e.g. to PPPs, scenarios, economic growth trajectories, etc.).	Considers limited range
Who does it?	Commissioned by government.	Usually prepared and/or funded by project proponents.
Focus	Decision on Policy, Plan and Programme implications for future lower-level decisions.	Obtaining project permission, and rarely with feedback to policy, plan or programme consideration.
Process	Multi-stage & iterative, with feedback loops.	Well-defined & linear, with clear beginning and end (e.g. from feasibility to project approval).
Emphasis	Meeting balanced environmental, social and economic objectives in policies, plans and programmes. Includes identifying macro-level development outcomes.	Mitigating impacts (environmental and social) of a specific project, but with identification of some project opportunities, off-sets, etc.
Consideration of cumulative impacts	Key component of assessment	Limited consideration

SEA uses a variety of tools in a flexible and adaptive way, rather than a single, fixed, prescriptive approach as is usually the case with EIA. SEA can complement and strengthen EIA at the project level by: (a) identifying prior information needs and potential impacts, providing the context and parameters for subsequent EIAs of projects designed to implement a PPP; and (b) making EIA and the project review process more streamlined and efficient by addressing many issues at a more strategic level - including concerns that may relate to project justification so that EIAs can be more effective by being designed to focus on local and site- or project-specific concerns.

1.4 Outline of Bangladesh's Environmental and Social Safeguards Framework

Bangladesh initiated environmental impact assessment (EIA) guidelines in 1992 for the water sector development. The country enacted Environmental Conservation Act (ECA) in 1995 (including amendments) followed by Environmental Conservation Rules (ECR) in 1997 (including amendments) to govern all development activities, requirements of IEE/EIA studies based on the project categories and also obtaining of Environmental Clearance Certificate for each project. A number of evaluations have concluded that although performance is improving, it is not making full use of the potential of environmental and social impact assessment (ESIA). Appendix 2 provides a description of the EIA system in Bangladesh.

A growing number of countries in the region that have introduced formal requirements for SEA, But Bangladesh currently has no legal or institutional framework for SEA. However, Some SEAs have been conducted with donor assistance and several SEA-related initiatives have been undertaken or are underway:

- Policies for Mainstreaming SEA in the Urban Development of Greater Dhaka (June 2008)
- SEA study of Dhaka City Urban Resilience Project (ongoing)
- A limited SEA (as a pilot initiative) in Haor area with focus on water management related infrastructure through Bangladesh Water Development Board, 2017.
- In March 2019, staff of MoEFCC attended SEA training provided by SIDA/Niras, and support for SEA is being provided to MoEFCC by the Netherlands Commission for Environmental Assessment.
- The Bangladesh Water Development Board (BWDB) conducted a Strategic Environmental and Social Assessment (SESA) of the River Stabilization Plan under the Flood and Riverbank Erosion Risk Management Investment Program (report in 2016).
- A call for bids has been issued (February 2020) to conduct an SEA for the ' Payra-Kuakata' Comprehensive Plan.
- Strategic Environmental and Social Assessment (SESA) of River Stabilization (2016) under by consultants under the Flood and Riverbank Erosion Risk Management Investment Program (FRERMIP), Project-1).
- Country Environmental Analysis (CEA) of Bangladesh = a joint project of the Ministry of Environment and Forests (MoEF) and the World Bank (World Bank, 2006, 2012).
- The World Bank (2007) conducted an SEA for the Dhaka Metropolitan Development Plan: Strategic Environmental Assessment.
- The GoB began using policy SEA as a decision-making tool in late November 2006 at the request of Rajdhani Unnayan Kartripakkha (RAJUK) and the Ministry of Housing and Public Works and finalized it in 2007.
- Another policy SEA included the development and conservation of the Sundarbans, the world's largest mangrove forest (World Bank 2012).
- SEA is also reflected in the development of a cumulative environmental assessment for the planning of development in the coastal zone of Bangladesh: "The SEA for Coastal Embankment Improvement project (ongoing)" (World Bank 2012)
- Hydrobiology (an environmental consulting company) reports online (2019) that it is working with Asian Development Bank (ADB) on an SEA for a renewable energy floating solar project in Bangladesh (source: https://www.hydrobiology.biz/exciting-new-strategic-environmental-assessment-project-in-bangladesh/).

1.5 The SEA Team

CEGIS and Integra have assembled a multi-national team to conduct the SEAs. The three international members of the team have extensive experience in SEA in countries around the world and involvement in developing the OECD DAC guidelines on SEA. The 33 national members of the team have extensive

experience across the key sectors and issues likely to arise during the SEA, as shown in Appendix 3, Table 1.

1.6 Inception Mission

The international members of the team and the Managing Partner from Integra visited Dhaka during 1-7 February 2020 to mobilise the team and start planning for the SEA. Briefing and orientation meetings were held with the Bangladesh Forest Department (the client). A session was held with key government ministries/departments to provide an introduction to SEA and explain how the process will be conducted. In addition, an initial engagement round table was organised with selected NGOs to secure interest and support. The schedule for this inception mission is shown in Table 1.2.

Table 1.2: Schedule for Inception Mission

Date	Activity	Notes
2 February 2020	Initial team meeting at CEGIS	Review of overall consultancy, and planning for SEA
3 February 2020	Meeting with Bangladesh Forest Department officials	Introduction to team and review of SEA TOR, objectives & expectations
3 February 2020	Meeting with IUCN Bangladesh Country Representative and staff	Explain objectives of SEA, secure buy-in/support
4 February 2020	Team meeting at CEGIS	Preparation of PowerPoint presentation and planning for SEA
4 February 2020	Meeting with MoEFCC and key sector ministry/department representatives	Introduce SEA. explain objectives, methodology and expected outputs
5 February 2020	Team meeting at CEGIS	Planning for SEA, review of ToR
6 February 2020	Report back meeting with Bangladesh Forest Department	Discussions on proposed revised ToR
6 February 2020	Wrap up team meeting at CEGIS	

1.7 Interpretation of the Terms of Reference

The contract signed between the Ministry of Environment, Forest and Climate Change and CEGIS provides for the ToR to be reviewed during the inception phase. During the inception mission, the team reviewed the initial ToR both internally and in discussion with the BFD SEA Project Director.

This review helped to ensure that the ToR are optimally aligned to the OECD DAC Guidelines for SEA and in the UNESCO World Heritage Impact Assessment Guidelines. Such alignment will ensure a robust and effective SEA process.

There proposed revised ToR (Appendix 1) do not contain any significant changes to the original ToR. The proposed modifications represent amplifications and clarifications intended only to ensure that the ToR accord with international good practice and particularly with the aims, objectives and steps of the OECD DAC Guidelines for SEA and the World Heritage impact assessment principles. The latter are entirely consistent with the OECD guidelines. The proposed changes also aim to ensure that the ToR are internally consistent and will provide a clear set of objectives and procedural steps to guide the consultant team and assist Bangladesh Forest Department and others to understand how the process will work and what it will deliver. The main changes cover the following:

- Editorial changes to ensure clarity in language;
- Additional text, where needed, to ensure the focus also covers:
    - socio-economic concerns
    - transboundary issues;

  - the full range of possible impacts: positive/negative, direct/indirect, domestic/transboundary, cumulative, synergistic or antagonistic;

- Limiting screening to a single step since the second round of screening in the original ToR is really a part of scoping;
- Identifying that the SEA will initially look at potential impacts likely to arise under three alternative economic growth trajectories (high – as per the current drive towards developed country status by 2041; moderate and low) – to provide a comparative analysis.
- Deeper and focused assessment on the preferred alternative - to be confirmed by the client/government (note a key principle of SEA is to examine alternative);
- Including draft contents of the SEA report
- Ensuring that section 6 (approach and methodology) is fully consistent with section 4 (scope of works)
- Clarifying the outputs. It is recommended that the monitoring and auditing framework be a part of the strategic environmental management plan (SEMP) rather than as a stand-alone document. In international SEA practice, the monitoring component is a cornerstone part of the SEMP.
- Some clarifications on the ToR of individual experts.
- Adding ‘tentative’ to the final column of the finalist of professions since it is not possible to be precise how much time each will need to spend in the field. That can only be determined during scoping.

2. SEA Process and Methodology

2.1 SEA Process

There is no single recipe or methodology for SEA; no one-size-fits-all approach. Every SEA needs to designed and tailored to suit the particular circumstances and needs of the case in-hand. The approach must take into account the timeframe allowed for the process, available skills, the budget provided, the availability and access to information and data, etc.

In this case, the proposed approach is designed to address the very specific requirements set out in the ToR – to look at the impacts of development in the SW Region arising from PPPs in all relevant sectors and how these will, in turn, impact on the Sundarbans. The proposed approach conforms to the basic steps described in the OECD DAC SEA Guidelines (2006) and meets the principles set out in the IUCN Advice Note for EA of World Heritage Sites (2013).

Figure 2.1 provides a schematic of the steps that will be followed following the inception phase reported in this document. These steps are discussed in the following sections. The schedule of SEA activities is set out in Table 2.1 and a timeframe is provided in Table 2.2.

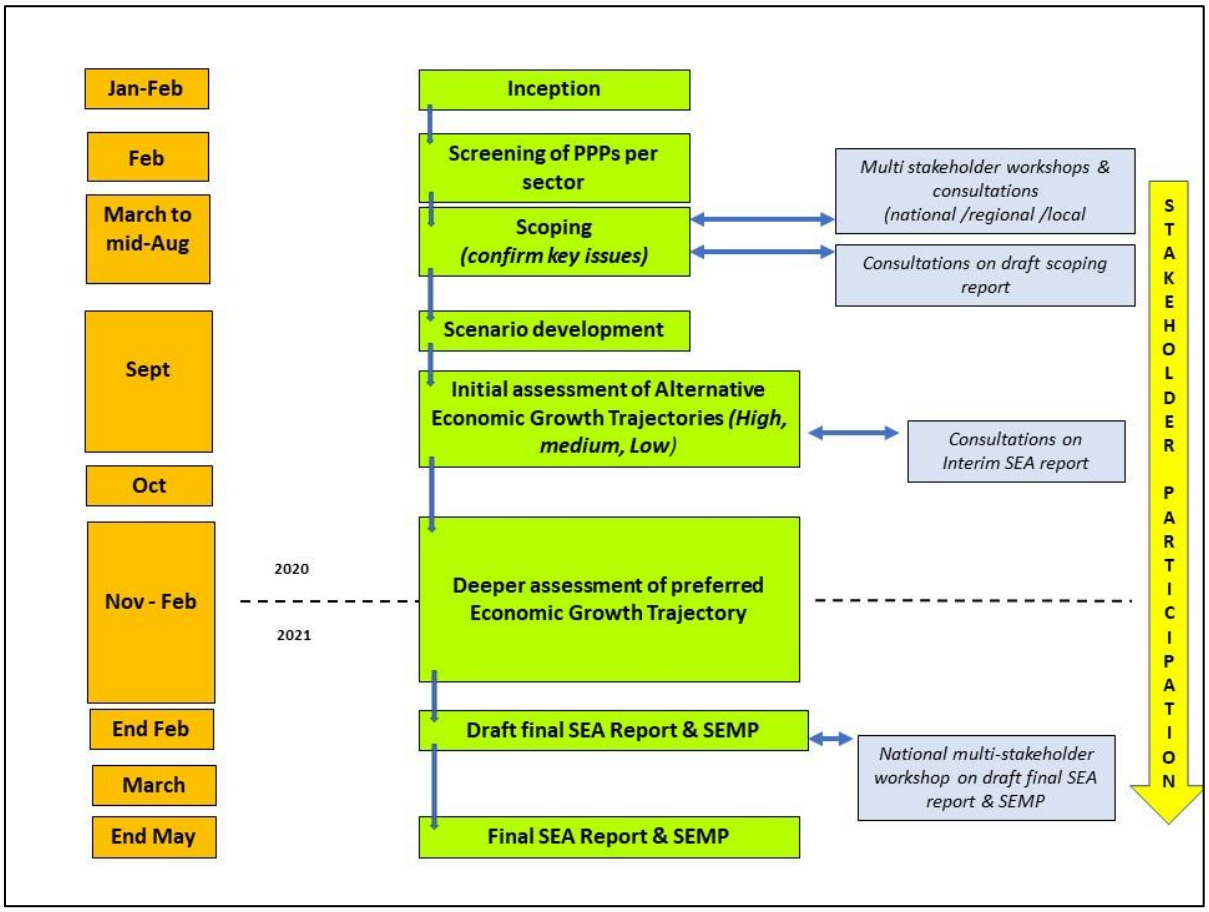


Figure 2.1: Steps in the SEA Process

Table 2.1: Schedule of SEA Activities

Phase	Description	Tentative Date/Deadline
1	**Inception**	January-February 2020
2	**Screening** Identify those PPPs likely to have significant environmental and socio-economic impacts to be included in the SEA	Mid-February to mid-March 2020
3	**Scoping** a. Gather baseline information/data b. Prepare baseline environmental and socio-economic profile (current status of key themes/factors, trends, etc.). c. Stakeholder analysis and start stakeholder engagement (consultations at national, regional and local levels. d. Review PPPs & identify environmental/social objectives. e. Draft Scoping Report f. Public comment on Draft Scoping Report g. Final Scoping Report	March to mid-August 2020 By end June 2020 By end July 2020 By mid-August 2020
4	**Main Assessment** a. Development of future scenarios – to inform assessment process b. Initial assessment impacts of alternatives (e.g. high, medium & low economic growth trajectories) c. Interim SEA Report d. Circulate interim SEA report for open comment e. Deeper assessment (of impacts) of preferred alternative	Mid-August 2020 to mid-February 2021 September 2020 Mid-August to October 2020 By end September 2020 Comments by end October November 2020 to mid-February 2021
5	**Draft SEA report and Draft SEMP**	By end February 2021
6.	**Review** – of Draft SEA and SEMP a. National multi-stakeholder review workshop	Mid-March 2021
7.	**Finalization of SEA Report and SEMP**	By end May 2021
8.	**Monitoring and Evaluation of PPPs**	Ongoing

2.1.1 Screening of Policies, Plans and Programmes

Nine key sectors were identified in the original ToR by the client to be addressed: forestry, fisheries, water, power and energy, tourism, urbanization, industry, transportation/communication and shipping. However, environmental and socio-economic impacts will also arise for a range of other sectors, e.g. agriculture, defence, planning, mining, waste management, etc. Therefore, in line with good international SEA practice, and given the very broad and umbrella ('strategic') nature of the SEA, it will need to cover all relevant sectors.

The team will meet with officials in all relevant ministries, departments and agencies to identify and obtain copies of PPPs and important projects (e.g. major bridges) that are currently being implemented, and those new or revised ones that are currently being prepared.

These PPPs will then be screened as described in section 8.1 to determine which ones are likely to have significant environmental and/or socio-economic impacts, and therefore will be included in the assessment process.

Table 2.2: Timeframe for the SEA

	Wk	Inception	Screening	Scoping	Initial assessment	Deeper assessment	Report submission
2020							
January	1						
	2						
	3						
	4						
February	1	Inception Mission					
	2						
	3						
	4						Inception Report
March	1			• Inception workshop • Field tour			
	2						
	3						
	4						
April	1						
	2						
	3						
	4						
May	1			Multi-stakeholder workshops			
	2						
	3						
	4						
June	1						
	2						
	3						
	4						Draft Scoping Report
July	1			Circulate draft scoping report for comment			
	2			Workshop on draft scoping report			
	3						
	4						
August	1						
	2						Final Scoping Report
	3				Preparation for scenarios workshop		
	4						
September	1						
	2				Scenarios workshop		
	3				• Initial assessment workshop • Presentation on results		
	4						Interim SEA Report
October	1				Circulate interim SEA report for comment		
	2						

	Wk	Inception	Screening	Scoping	Initial assessment	Deeper assessment	Report submission
	3						
	4						
November	1					• Support mission • SEMP brainstorm	
	2						
	3						
	4						
December	1						
	2						
	3						
	4						
2021							
January	1						
	2						
	3					Support mission	
	4						
February	1						
	2						
	3						
	4						• Draft final SEA Report • Draft SEMP
March	1						
	2					National and regional multi-stakeholder workshops on final reports	
	3						
	4						
April	1						
	2						
	3						
	4						
May	1						
	2						
	3						
	4						• Final SEA Report • Final SEMP
June	1						
	2						
	3						
	4						
July	1						
	2						
	3						
	4						

2.1.2 Scoping

The scoping process will aim to confirm the focus and the content of the SEA, the scope of the analyses needed, and the relevant criteria for assessment. It provides an opportunity to focus the report on the important issues to maximise its usefulness to the authorities, decision-makers and public. It does not preclude changes in the scope of the report if the need for them becomes apparent at a later stage.

The scoping process will be open and iterative, involving key stakeholders, in order to:

- Review the context;
- Identify alternatives. These are usually alternatives to the particular PPP being assessed or elements of that PPP) and determining which alternatives should be assessed in the next stage. However, in this case, we are dealing with very many PPPs covering many sectors, and it will not be possible to assess every PPP or alternatives to it. Thus it is proposed to look at meta-level alternatives. The obvious focus for this would be economic growth trajectories (e.g. high, medium and low), although others might become apparent.;
- Identify and prioritize key environmental and socio-economic issues – to bring focus to the SEA and help define the content of the SEA report;
- Identify relevant SEA objectives, targets, indicators, and decision criteria to use during the subsequent stages to select a preferred alternative – helped by stakeholder interviews, review of the policy and legal framework, situation analysis, and the identified critical issues; and
- Identify baseline and other data requirements and initiate collection and preparation of a baseline environmental and socio-economic profile of SW Region:
    - The baseline profile will cover all relevant factors and including the current status of all relevant sectors and the Sundarbans. To aid this process, necessary information will be collected from available sources. Where relevant, baseline data will be assigned to a suitable year/ period. Where relevant and of a priority nature, field surveys will be conducted to collect primary data. Wherever possible, status in relation to internationally recognized indicators will be indicated.

The above components correspond closely with those defined for scoping in section 4.2 the revised ToR (Box 1) – which will be followed.

Box 1: What the ToR say about scoping

- Identify key sources of data and information – building on preliminary work undertake during the inception phases;
- Identify and summarize key laws, regulations, policies, strategies that concern environmental management and social conditions, and international commitments and conventions that Bangladesh is a signatory to;
- Review institutional roles, responsibilities and capacities as regards environmental management (national, SW regional and local levels);
- Review past regional, national and international studies, plans, reports and environmental/social assessments for relevant information that can support the SEA;
- Undertake stakeholder analysis (particularly as regards the nine key sectors) and prepare a participation strategy;
- Undertake key stakeholder consultations and organize workshops at national, regional and local levels – to:
  - explain the SEA (reason and process),
  - identify baseline data and development initiatives,
  - enable consultees to assist in scoping key issues and identifying SEA objectives; and record issues raised;
- Review of aims, objectives and key themes of selected PPPs;
- Initiate collection of baseline data and commission new research/field studies (where critically needed);
- Deepen identification of, and prioritize, key environmental and socio-economic issues that the SEA should take into consideration, including:
  - key environmental issues and challenges imposed by both natural and human interventions that significantly impact the region and the conservation of the Sundarbans (including those that are transboundary, i.e. arise from other regions of Bangladesh and from India);
  - current and potential sources of pollution as well as pollutant carriers that are important for human heath, ecosystem functioning, and for conservation of the Sundarbans;
- Based on key themes and issues identified in reviewed PPPs and raised during consultations, develop draft SEA objectives, targets and indicators (including those specific to the Sundarbans) to provide a framework for assessment and monitoring PPPs during SEMP implementation;
- Prepare a draft baseline environmental and socio-economic profile of the South West Region, including a baseline describing the current environmental and ecological status of the Sundarbans;
- Circulate/disclose the draft scoping report for stakeholder and public comment;
- Update of scoping report in response to comments.

A pragmatic view will be taken on how much can be achieved during the SEA, given the available time, resources, and existing knowledge about key issues (is sufficient and reliable baseline data available? is there a need for research or supplementary field work – and how will this be carried out?).

2.1.3 The Main Assessment

The main assessment will be undertaken in two stages – as per the revised ToR.

Stage 1: Scenario analysis and initial assessment of alternatives

- Synthesize the information gathered on key past trends (indicative: last 20 years) in the sectors identified and how these trends have affected the SW region and the Sundarbans, along with external factors, including the critical role of climate change.
- Undertake scenario analysis to identify plausible futures (over the next 20years) that will influence/shape the developments likely to arise in SW Region - using key drivers of change and likelihood/uncertainties.
- Initial assessment of the environmental and socio-economic impacts of planned and likely developments likely to arise under alternative economic growth trajectories (eg high, moderate, business-as-usual).
- Prepare an interim SEA report covering the assessment of these trajectories and circulate to stakeholders for comment.
- Workshop for national level committee to review findings and confirm the preferred economic growth trajectory for deeper assessment in Stage 2.

Stage 2: Deeper assessment of preferred alternative

As per the revised ToR:

- Detailed assessment of environmental and socio-economic impacts of the preferred alternative trajectory looking at a range of possible impacts: positive/negative, direct/indirect, domestic/transboundary, cumulative, synergistic or antagonistic) relevant to the nine key sectors and other relevant sectors, including
    - Analyzing the available results of existing modelling of environmental and socio-economic factors (mainly those obtained using internationally recognized modelling tools);
    - Undertaking new modelling, where appropriate, of key indicators of the pressure on and state of environmental factors (e.g. water quality, air quality, energy generation and use, energy and transport-related emissions, etc.) to estimate probable future pollution levels and subsequent impacts;
- Identify options to enhance positive impacts and minimize/mitigate negative ones;
- Continue throughout this stage to marshal and analyze available baseline data and new data from any commissioned studies;
- Continue engagement with stakeholders;

2.1.4 SEA Reports and SEMP

An initial SEA report will be produced following initial assessment of the three economic growth trajectories (high, medium, low). This will be a short report and will be made available for stakeholder comments. This report will enable a decision to be taken on the preferred alternative which will then be subject to a deeper assessment, leading to a final SEA report and accompanying SEMP for the preferred growth trajectory.

Draft contents for the final SEA report on the deeper assessment of the preferred economic growth trajectory are indicated in Box 2.

Box 2. Draft contents list for the draft final SEA report

- Methodology used
- Overview of public/stakeholder engagement activities undertaken
- Baseline profile
- Key issues addressed, including summary of stakeholder concerns and expectations, and how these have been addressed
- Description of authorities, jurisdictions and key institutions – their roles and responsibilities.
- Policy, legal and administrative framework.
- Development scenarios
- Initial assessment of significant environmental and socio-economic impacts of scenarios
- Deeper assessment of significant environmental and social impacts of preferred scenario.
- Conclusions and recommendations, e.g.
    - for avoidance/mitigation of negative impacts and enhancement of synergies and positive impacts.
    - for how existing PPPs might need to be adjusted/revised to minimize/mitigate potential negative environmental and/or socio-economic impacts, and how planned PPPs will need to address such potential impacts.
- Recommendations for the integration of environmental principles such as polluter pay principle and the precautionary principle in the development, appraisal, and selection of PPPs;
- References
- Appendices

The SEMP will address the key issue of the future of environmental (and social) governance of the SW Region and the Sundarbans. The plan will cover the following:

- Identified measures for monitoring the implementation of PPPs and important projects;
- Identified institutional roles and responsibilities; and
- An auditing procedure for compliance with the SEMP.

The draft final SEA report and draft SEMP will be made available for stakeholder comments, and multi-stakeholder workshops will be convened at national and regional levels to present the finding of the SEA and recommendations.

Following comments and workshop feedback, both reports will be finalised. They will be made available in English and local language.

2.2 Methodology

2.2.1 Selection of PPPs and Important Projects

The SEA team will identify and catalogue the key PPPs and important projects that are in place and under implementation, or are being prepared and are in draft format, for all those sectors whose activities may have significant negative environmental or socio-economic impacts. PPPs for all relevant sectors will be reviewed. Initial PPPs and important projects identified to date are listed in Table 2.3a and 2.3b accordingly for screening.

Table 2.3a: Provisional List of PPPs

Sector	Name of PPP
Identified Nine key sectors	
Forestry	Forestry Policy 1994
	National Forest Policy 2016 (draft)
	Forestry Master Plan, 1995-2015 (being updated)
Fisheries	New Fisheries Management Policy (NFMP), 1986
	The Shrimp Mohal Management Policy, 1992
	National Fisheries Policy 1998
	The National Fisheries Strategy (2006)
	National Shrimp Policy, 2014
Water Resources	National Water Policy 1997, 1999
	National Water Management Plan 2001, 2004
	Public Water Body (Jalmahal) Management Policy (PWBMP), 2009
	National Strategy for Water Supply and Sanitation (2014)
Power and Energy	Power & Energy System Master Plan 2016
	The Alternative Power and Energy Plan for Bangladesh, 2017
	Energy Efficiency and Conservation Master Plan up to 2030, (2015)
	Gas Sector Master Plan 2018
	Intended Nationally Determined Contributions (INDC), September, 2015
	Power and Energy Sector Strategy Paper (SSP), September 2018 Programming
	The Power and Energy Sector of Bangladesh: Challenges of Moving beyond the Transition Stage, 2019
Tourism	National Tourism Policy 2010
	Tourism Master Plan 1988 (being updated)
Urbanization	National Urban Policy 2011 (draft)
Industry	National Industrial Policy 2016
	National Policy for the Management of Radioactive Waste and Spent Nuclear Fuel-2019
	National Textile Policy 2017
	Leather and Leather Products Development Policy, 2019
Transportation and Communication	Integrated Multi-Modal Transport Policy 2013
	National Land Transport Policy 2004
	Road Master Plan 2009

Sector	Name of PPP
	Railway Master Plan (2010-2030)
	Concept Paper for Dredging and Re-excavation of River, Canal and Pond in Bangladesh, 2017
Shipping	National Shipping Policy 2000
Other sectors	
Environment	National Environment Policy, 2013
	e-waste Policy, 2017 (Draft)
	National Biodiversity Strategy and Action Plan for Bangladesh (NBSAP),B), 2004 (under updating)
	Country Investment Plan (CIP) for Environment Forestry and Climate Change (2016-21)
	National Adaptation Plan of Action (NAPA) – for Climate Change, 2005, updated 2009
	Bangladesh Climate Change Strategy and Action Plan (BCCSAP), 2009
	Bangladesh Climate Change and Gender Action Plan (CCGAP) 2013
	National Environment Management Action Plan (NEMAP) 1995
	Environment Forestry and Climate Change National Action Plan, 2017 (2016-2021)
Agriculture	National Agriculture Policy, 2018
	National Organic Agriculture Policy, 2016
	New Agricultural Extension Policy, 1996 (proposed upgradation, 2015)
	National Agricultural Extension Policy (NAEP) 2012
	National Livestock Extension Policy, 2013 (Final Draft)
	National Livestock Development Policy, 2007
	National Integrated Livestock Manure management Policy, 2015 (Draft)
	National Poultry development policy, 2008
	National Integrated Pest Management Policy, 2002
	National Seed policy, 1993 (proposed upgradation, 2018)
	Agricultural Ground Water Management policy, 2019
	Integrated Minor Irrigation Policy, 2017
	Master Plan for Agricultural Development in the Southern Region of Bangladesh 2012
Cultural affairs	National Cultural Policy 2006
Defense	National Defense Policy (draft) 2018
Disaster Management & Relief	National Plan for Disaster Management 2010-2015
Economy	Export Policy, 1997-2002
Education	National Education Policy 2010
Food	National Food Policy, 2006
	The National Food Policy Plan of Action (2008 - 2015)
	National Food and Nutrition Safeguard Policy, 2020 (Proposed)
	Bangladesh Second Country Investment Plan Nutrition-sensitive food system (2016-2020)
Health & Family Welfare	National Health Policy (2011)

Sector	Name of PPP
Housing & Public Works	
Labor & Employment	
Land	National Land Use Policy, 2001
Local Government, Rural Development and Cooperatives	National Rural Development Policy -2001
Mining	
Planning	Khulna Master Plan 2001 (South West)
	Khulna Detail Area Plan 2015-2020 (South West)
	Mongla Master Plan 2011-2031 (South West)
Population	Bangladesh Population Policy, 2012
Posts, Telecommunications & Information	Right to Information Policy 2009
	Right to Information Strategic Plan (2015-2021)
	National ICT Policy 2009
Poverty	Pro-Poor Strategy-2005
	Poverty Reduction Strategy of 2005
Science & Technology	National Science and Technology Policy 2011
Waste Management	The National Sanitation Strategy 2005
	National Water Policy 1999
Women and Children Affairs	National Women Development Policy 2011
	National Children Policy 2011
	National Action Plan on Women, Peace and Security- 2019-2022
National and Cross-sector Plans	
	Bangladesh Delta Plan 2100
	Seventh Five Year Plan, FY 2016-2020
	National Sustainable Development Strategy (2010-21), 2013
	Sustainable Development goals, (SDGs)
	National Land Use Policy, 2001
	Perspective Plan for Bangladesh: 2010-2021
	Second Perspective Plan of Bangladesh (2021-2041)
	Integrated Resources Management Plan for the Sundarbans (2010-2020)
	Coastal Zone Policy 2005

Table 2.3b: Provisional Provisional Important Projects

Sector	Provisional Important Projects
Power and Energy	BPDB Solar Project in the Block-B at Rampal, Bagerhat (Land Acquisition and Development Completed) Durgapur 100 MW solar Power Plant at Mongla, Bagerhat by Enargon (Initial Stage) Chuadanga 50MW Solar Power Plant (Tender initiate) Mongla 50MW wind Power Plant (Tender initiate)
Climate Change	Community Based Adaptation to Climate Change through Coastal Afforestation (CBACC-CF) Project Coastal Embankment Improvement Project - Phase I (CEIP-I) (2013- 2020) Multipurpose Disaster Shelter Project (MDSP)
Water Resources	Ganges-Kobadak Irrigation Project Gorai River Restoration Project (1998) Khulna-Jashore Drainage Rehabilitation Project (2004) Integrated Coastal Zone Management (2005) Promoting Climate-Resilient Water Supply and Sanitation in Southwest Bangladesh Safe Water Supply in Rural areas of Khulna Bagerhat & Satkhira District
Industry	Development of Mongla Industrial area Cement Industries in the South West Region Other Large Scale Industries
Forestry	Sustainable Forest and Livelihood Project (2018-23) Environment friendly Eco-tourism development and expansion in Sundarbans (2019-22) Protection of Sundarbans Mangrove Forests (2018-2022)
Fisheries	Conservation and management of small fish species (July 25-December 2022) Establishment Reform and Development Project to Increase Fisheries Production (January 28-December 2022) Shrimp and snail conservation, witch production and farming projects in Bangladesh (July, 2017- June, 2021)
Tourism	Community Based Tourism Development Development and extension of eco-friendly tourist facilities in Sundarbans project (Upcoming) Development of Airport in the South West Region
Transportation and Communication	Construction of Mongla western bypass road Construction of Noapara by pass road Construction of bridges over Bhairab River New railway line construction in SW region Asian Highway SARRC Highway (red alignment in Bangladesh map) Corridors in Bangladesh Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC) Corridors (Thimphu-Phuenthsholing-Jaigon-Chengrabandha-Burimari-/Mongla) corridor of the road will across the southwest region.)
Shipping	Annual Development Programme- 2019-20, BIWTA Port development related projects in the SW region Dredging related projects in the SW region

To aid the screening process and to provide key information for subsequent analysis and assessment, each PPP and/or important project will be described using a common template shown in Table 2.4. This template includes identifying the goals, objectives and strategic aims of PPPs.

Table 2.4: Template for Describing PPPs and/or Important Projects

Name of PPP/Important project	Formal name of PPP
Title/date of source documents	Indicate documents from which information on PPP was sourced
Date approved/of draft	Date when PPP endorsed, or when latest draft prepared
Main sector(s)	Indicate main sector(s) covered by PPP
Responsible/parent institution	Indicate which institution (ministry or department) prepared or implements the PPP
Status	Indicate of approved [under implementation / completed
Scope	Indicate the main focus of PPP, aims, area covered (whole region/specific area?)
Key objectives	Indicate stated main environmental and/or socio-economic objectives
Main activities arising	Indicate main actions proposed/arising in SW regions (e.g. infrastructure constructed, actions implemented)
Impacts	Indicate any known positive or negative impacts arising - Environmental impacts - Social impacts
Beneficiaries/affected parties	Indicate main beneficiaries or negatively affected parties
Implementation cost	Indicate cost – if known (responsible ministries should have an idea of the costs involved)
Result of screening	Indicate whether 'included' or excluded' in SEA

Table 2.5: Matrix for Screening PPPs and Important Projects

High Medi Low

PPP	Environmental Impact (-ve)			Social Impact (-ve)		
	High	***Medium***	***Low***	***High***	***Medium***	***Low***
PPP-1						
PPP-2						
PPP-3						

PPPs and important projects will be screened using a standard set of criteria. To be considered as high risk and selected, the PPP should meet one or more of the following criteria:

- Negative impacts of PPP are already or likely to be significant
- Negative impacts of PPP are already or likely to be widespread
- Negative impacts are already or likely to directly or indirectly affect the Sundarbans
- Negative impacts will be permanent or irreversible
- Negative impacts likely to contribute to cumulative impacts?

Based on the above criteria, the team will apply expert judgement to assign each PPP as high, medium or low risk to induce negative environmental and/or socio-economic impacts using the matrix in Table 2.5.

All PPPs assigned a high score (for environmental and/or socio-economic negative impacts) will be screened 'in'. Those assigned a low score will be eliminated. For those assigned a medium score, expert judgement will be applied to decide whether to include or eliminate.

A separate matrix in the same format will be used to record potential positive impacts of 'screened in' PPPs and important projects to aid analysis.

2.2.2 Literature Survey and Document Review

A literature survey will be conducted through online searches and interviews/contacts with key informants (government officials, experts and specialists, researchers, NGOs, etc.) to identify all document that might provide information or be relevant to the SEA (e.g. PPP documents, important project documents, laws and regulations, reports and research publications, EIA/ESIA Reports, relevant media articles, etc.).

2.2.3 Interviews

Interviews (some semi-structured using prompt questions with key government informants (key persons in sector ministries, departments and agencies at national and local government levels), public representatives and local leaders in SW Region. Other officials from associations such as the Chamber of Commerce and domestic NGOs/CSO among others will also consulted. These interviews will help to

identify and procure relevant PPPs and important projects (alongside online searches); find out relevant laws and regulations as well as institutional roles, responsibilities and capacities; and identify key environmental and socio-economic issue.

Informal interviews will be conducted on a random basis when the team is in the field to gather views and concerns of individuals (particularly farmers, fisherfolk, marginalised groups, urban dwellers, etc.).

2.2.4 Institutional Capacity Survey

A survey will be carried out of institutional arrangements, roles, and capacity needs likely to be required for implementing the IEMP. This survey will be conducted through a series of structured interviews, a questionnaire survey and an assessment of available institutional documents and records. In particular, the authority and capability of institutions to implement environmental management and monitoring (to be specified in the IEMP) will be reviewed and recommendations in this regard will be set out in the accompanying SEMP (e.g., needs for training, awareness-raising, development of special skills, equipment requirements, etc.).

The survey focused on those government departments/agencies and other bodies (e.g. NGOs. Civil society organisations) that are likely to have a role to play in implementing elements of the SEMP. These covered:

2.2.5 Focus Group Sessions

Special focus group discussions will be organised, as appropriate, to discuss particular key themes and issues.

2.2.6 Stakeholder Workshops and Consultations

Stakeholder consultations will be conducted at key stages throughout the SEA process, particularly during scoping, to: introduce and explain the SEA process; encourage support and buy-in; and solicit inputs, views and perspectives about developments in the SW region and their environmental and socio-economic impacts.

Consultations will be conducted at national level, regional level and local level (in all districts and selected upazilas). They will mainly take the form of multi-stakeholder workshops and targeted workshops and sessions for particular kinds of stakeholders (e.g. fishermen, farmers, slum dwellers, marginalised communities, women's groups, etc.).

Where relevant announcements will be made (in English and local language, as appropriate) on local radio and newspapers about the SEA and how stakeholders can submit views, comments and information, or attend meetings.

The team will seek the help of local NGOs, wherever possible, to facilitate engagement with local communities and resource user groups.

2.2.7 Scenario Development

A dedicated, 2-day, multi-stakeholder workshop will be organised to undertake scenario analysis to inform the team's analyses and assessment of environmental and socio-economic impacts of development in the SW Region.

Scenarios focus on the joint effect of many factors internal and external to Bangladesh, and provide alternative views of the future. They identify some significant events, the main actors and their motivations, and they convey how the world in future is likely to function. Scenario analysis will help the SEA team and stakeholders to explore what the future might look like and the likely changes of living in it. It will help us think systematically about and understand the nature and impacts of the most uncertain and important driving forces affecting the SW Region over the next 20 years.

Scenario analysis is a flexible and adaptable ***group process*** to encourage knowledge exchange and development of mutual understanding of central issues important to sustainable development. But the purpose of scenario planning is not to imminently decide which scenario is correct (which is impossible); rather it is to look at each plausible future scenario and examine how prepared government, the private sector and civil society are, or how robust are PPPs for the potential changes and consequences. It will help to anticipate any hidden weaknesses and inflexibilities in PPPs, organizations and methods.

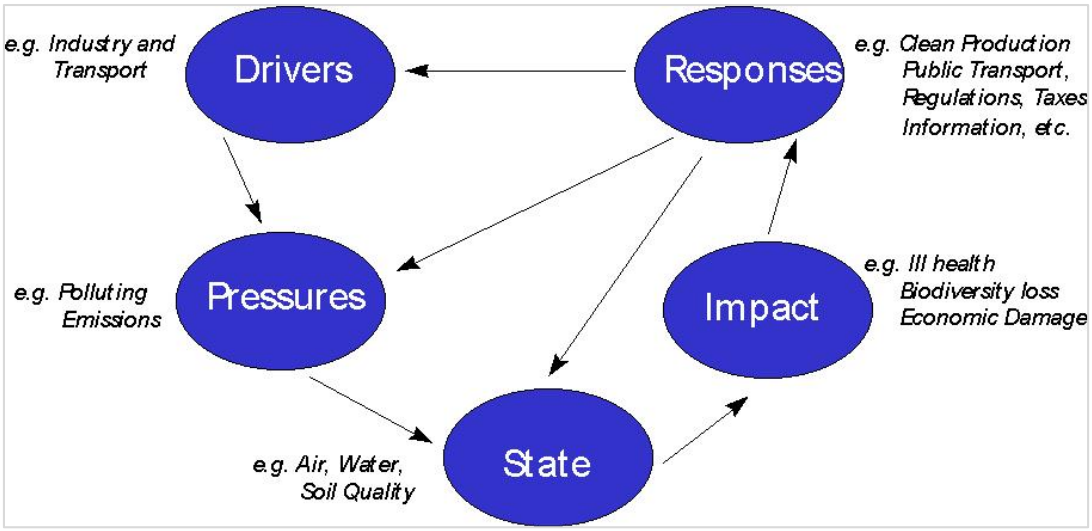
Scenario analysis is therefore a ***learning mechanism*** to enable PPPs to be more robust and capable of responding to or adapting to shocks and surprise (i.e. to make them "future proof"). And it will help policy-makers, planners and decision-makers make more resilient strategic decisions.

2.2.8 Environmental Modelling

Mathematical modelling[1] will be used, where appropriate, to help our understanding of environmental systems and inform decision-making and policy development. The driving forces – pressures – state – impact - response (DPSIR) framework (Figure 2.2) will be used to understand some of the key environmental issues facing the SW Region. It will be used to assess binary relations between:

- Driving forces and pressures (e.g. impact of changes in fuel mix in total primary energy supply (TPES) on emissions of greenhouse gases (GHG) and air pollutants);
- Pressures and state (e.g. air pollutant dispersion models, water pollutants dilution and transport models);
- State and impact (e.g. impact of air pollution on human health or impact of GHG concentration in the air on temperature).

[1] Mathematical models may be of different complexity – from simple linear equation to complex hierarchic structures composed from several particular models.



(Source: European Environment Agency

https://www.eea.europa.eu/publications/92-9167-059-6-sum/page002.html)

Figure 2.2: DPSIR Framework

Certain complex modelling tools are available which cover three or even four DPSIR components,

For this SEA, all relevant results from existing modelling will be collected and assessed, namely:

- Energy related projections (composition of fuel mix in TPES, structure and composition of and final consumption of energy by fuels and sectors);
- Emission projections for GHGs and air pollutants;
- Projections of development in relevant sectors (transport, agriculture);
- Economic projections (mainly GDP);
- Demographic projections (population growth);
- Outputs of climate models (modelling of impacts of climate change on the environment including increase of salinity);
- Water quality and quantity related issues (river and coastal modelling).

Where relevant information is not available or accessible, additional modelling may be carried out. Where such additional modelling is not possible (due to the lack of data or too high complexity of the modelling tool), semi-quantified expert opinion will be used (in terms “not more/less than.” or “at least”). In such a case, at least two experts must take part.

2.2.9 Sensitivity Mapping

Various maps will be generated using GIS software to indicate particular sensitive areas (e.g. haors, protected areas) and vulnerability to a number of environmental risks and hazards including salinity, soil erosion, flooding from seawater and freshwater, etc. This may involve updating existing maps with new information provided by agencies and stakeholders or generating new maps. Table 2.6 lists GIS maps available at CEGIS.

Table 2.6: List of Maps

Resource / topic	Description of Map
Forest reserve	Sundarbans Reserve Forest (SRF) Boundary
Vegetation	Vegetation/Tree species composition of SRF
	Forest map of SW region of Bangladesh
Soil	Soil properties map
	Soil Salinity maps SW region of Bangladesh
Elevation	Digital elevation model (DEM) map of South West Region of Bangladesh
Industry	Industry maps in the SW region specially within Ecologically Critical Area (ECA)
Administrative	Administrative map of SW region of Bangladesh
Land use	Land-use map of SW region of Bangladesh
Flooding	Inundation map of coastal area
Rivers	River network map of SW region of Bangladesh
	Transboundary River network map
Protected areas	Protected area map of SW region of Bangladesh
Roads	Road network map of SW region of Bangladesh
Earthquakes	Seismic map of SW region of Bangladesh
Coast	Coastal map of SW region of Bangladesh
	Coastal Vulnerability map of SW region of Bangladesh

2.2.10 Development of Objectives, Indicators and Targets

For each of the key environmental and socio-economic issues, objectives will be identified, drawn in part from those contained in existing national and regional policies, plans, strategies and international commitments and associated memoranda of understanding. These objectives will provide a basis for impact assessment – assessing whether particular impacts will enhance or impede achieving individual objectives. For each objective, indicators will be identified (realistic indicators capable of being measured) to provide a qualitative or quantitative measurement (as appropriate) of progress towards achieving the objective, using internationally recognized indicators where appropriate. These will be used in implementing the SEMP.

2.2.11 Stakeholder Identification and Analysis

Stakeholder mapping will be done to identify pertinent stakeholders (including government institutions, private sector organisations, NGOs/CSOs and civil society) based on whether they will influence the implementation of proposed policies, plans and programs or in turn, be affected by or have a legitimate interest in them. Standard social tools (such as FGD, PCM) will be used for stakeholder analyses. The approach to be followed for stakeholder analysis is described in Appendix 7, and a provisional list of stakeholders in included in Appendix 8.

2.2.12 Site Visits

Field visits will be made to the study area for familiarization, consultative meetings and to observe conditions and features on the ground and identify issues/concerns that will need to be considered in the SEA. These include sensitive ecological features, industrial and manufacturing sites, urban areas, land use practices, areas vulnerable to climate change factors (eg sea level rise, increased salinity) and environmental and socio-economic challenges. The areas to be visited include:

- The Sundarbans, World Heritage Sites;
- ECA Areas of Sundarbans;

- Khulna, Bagherhat and Satkhira Districts as well as shrimp and fish production areas, embankment areas;
- Mongla Port areas, Export Processing Zone, public and private large scale industries in SW region.

2.2.13 Impact Assessment and Scoring

The SEA will look at all the developments (likely projects, infrastructure, etc.) likely to arise over the next 20 years in the SW Region as a result of implementing current and proposed policies, plans and programmes across all relevant sectors. The environmental and socio-economic impacts of developments under these sectors will be assessed including those which are positive/negative, direct/indirect, domestic/transboundary, cumulative, and synergistic/antagonistic. Impacts arising across the SW region will be assessed as well as those that impact upon the Sundarbans, including those that are transboundary in nature (i.e. arising across regional boundaries within Bangladesh and across international boundaries) – as illustrated in Figure 2.3.

Most of the world's SEA systems are 'baseline-led'. Like EIA, they start from an existing baseline and make predictions about how the strategic action will change this baseline. However, in this case, due to high number of individual PPPs being considered and the wealth of developments likely to arise when implementing each PPP and important projects in SW Region, an ‘objectives-led’ approach is more appropriate.

Based on the key issues identified during inception work and scoping, and objectives already set out in PPPs covering such issues, a suite of environmental and socio-economic objectives will be developed and prioritised. Ideally no more than 25-30 objectives (any more than this will be unmanageable) will be selected against which to measure the performance and impacts of developments likely to arise in SW Region. Impacts may be: positive/negative, direct/indirect, domestic/transboundary, cumulative, and synergistic/antagonistic. Assessment will take place in two stages:

- Stage 1: An initial assessment at a generic level will be carried out for three economic growth trajectories (high, medium, low).
- Stage 2: A deeper assessment of the impacts of developments likely to arise for the preferred alternative economic growth trajectory will then be carried out on a sector-by-sector basis, and then amalgamated to show cumulative impacts.

The outcomes/impacts of likely and possible developments will be assessed through expert judgement during brainstorming sessions. Impacts, both positive and negative, will be rated for their degree of significance using the scoring system in Table 2.7.

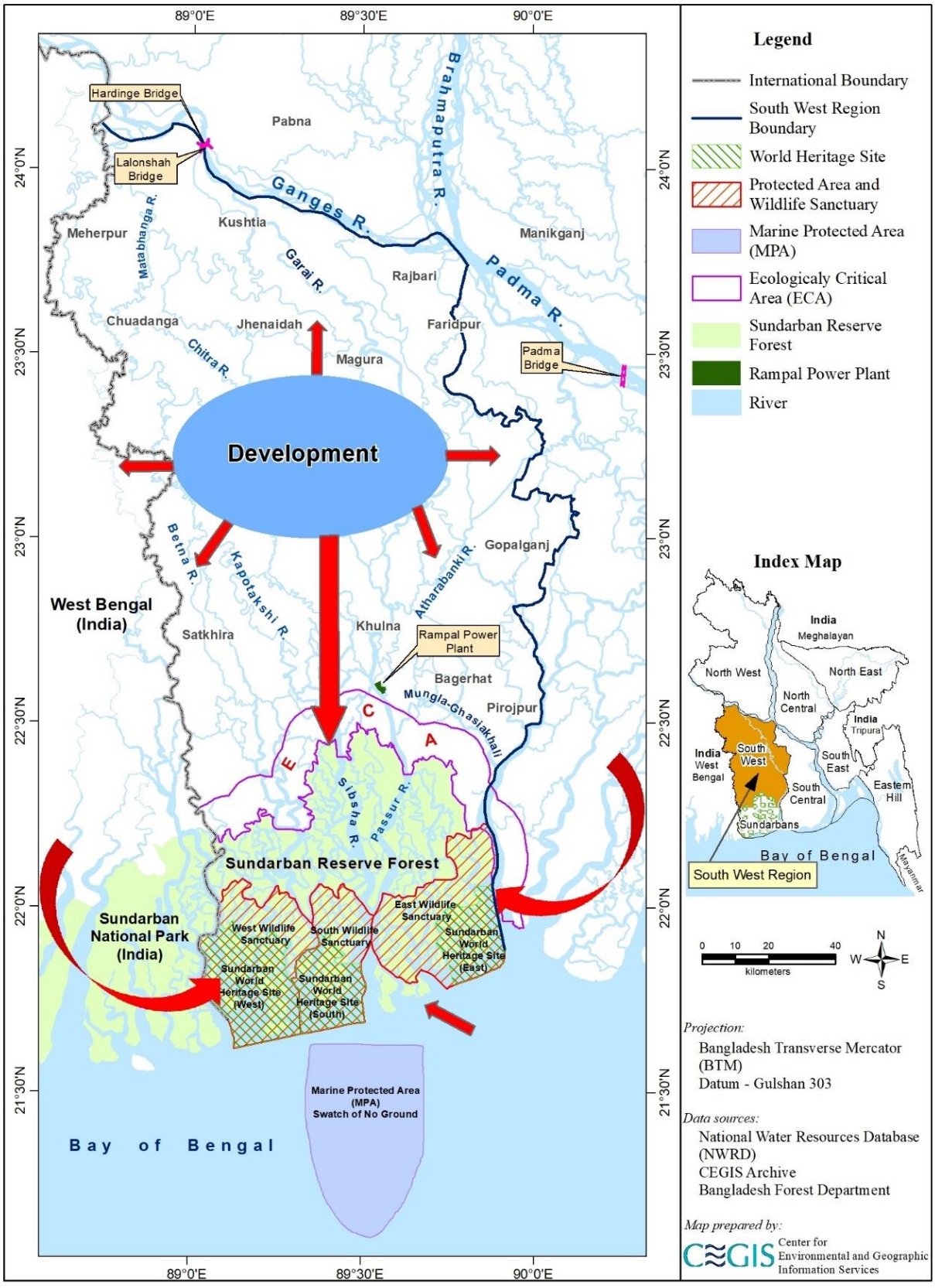


Figure 2.3: Schematic Flow of Impacts of Development Affecting the SW Region

Table 2.7: Scoring System for Impact Assessment

Rating	Score
Very significantly positive	+5
Significantly positive	+4
Moderately positive	+3
Slightly positive	+2
Very slightly positive	+1
Neutral/uncertain outcome	0
Very slightly negative	-1
Slightly negative	-2
Moderately negative	-3
Significantly negative	-4
Very significantly negative	-5

For stage 2 (deeper assessment), the assessment process will involve three steps:

- Step 1: The impacts of developments in all key sectors will be independently assessed and scored, and key reasons for the scores recorded in tables (as depicted in Table 2.8).

Table 2.8: Scoring Table for Assessment of Key Sectors

Objectives	Score	Narrative (how/why impacts arise, specifics to note, etc
A	**-5**	
B	**+2**	
C	**-3**	
D	**+3**	

- Step 2: The score columns for each of the key sectors will then amalgamated into a comparative assessment table, and an overall additive score assigned to indicate potential cumulative impacts (Table 2.9).

Table 2.9: Comparative Scoring and Cumulative Effects Table for All Key Sectors

Objectives	Sector 1	Sector 2	Sector 3	Sector 4	Potential cumulative impacts
	Score	***Score***	***Score***	***Score***	***Overall score***
a	**- 4**	**- 3**	**- 3**	**- 5**	**- 15**
b	**+ 4**	**+ 5**	**0**	**+ 3**	**+ 12**
c	**+2**	**- 2**	**- 4**	**- 3**	**- 7**
d	**0**	**+ 2**	**+ 2**	**+ 2**	**+ 6**

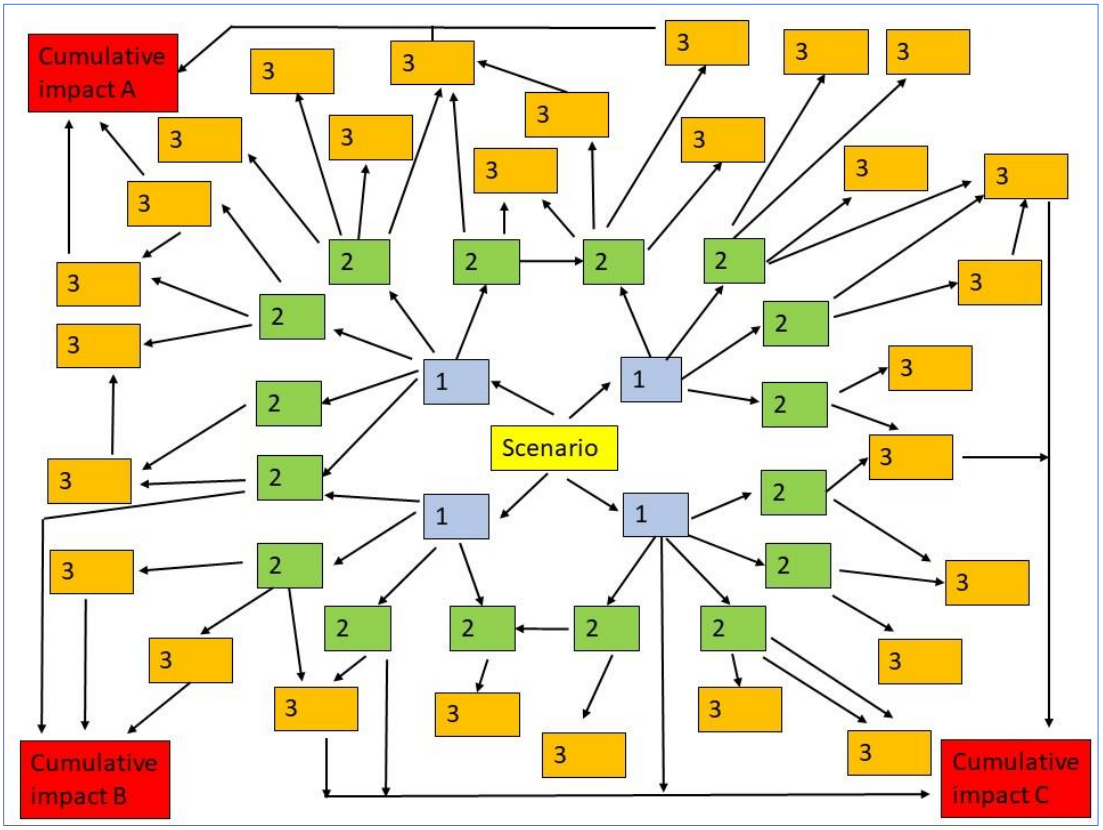
The final column in Table 2.9 will provide an overall picture of the impacts of following the preferred economic growth trajectory.

The SEMP will recommend how any likely negative impacts will be addressed (minimized or mitigated) and how any likely positive impacts may be enhanced and maximized This SEA process will include the following tasks:

2.2.14 Assessment of Cumulative Impacts

The comparative table produced for key sectors (depicted in Table 2.9) will show how cumulative effects will be likely to arise (and their likely level of significance) as a result of the developments likely to be implemented under the preferred economic growth trajectory.

How these cumulative effects arise (both positive and negative) will be mapped using linkage diagrams, produce during expert brainstorming sessions. The diagrams will plot how each sector may give rise to major impacts (tier 1), each of which may then give rise to further impacts (tier 2), which may then cascade to further tiers of impacts. The diagrams will show the pathways through which particular types of impacts will become cumulative (eg pollution, deforestation, deteriorating health, migration) (Figure 2.4).



Note: 1,2,3 = impact tiers – indicating cascading pathways to cumulative impacts

Figure 2.4: Format of Linkage Diagram

2.2.15 Identification of Environmental Management Needs

The team will work with government ministries and department to brainstorm the required steps and procedures that will be required to manage the outcomes/impacts arising under the preferred economic growth trajectory. Tasks will be identified to minimise and mitigate potential negative impacts and to maximise positive impacts. Where possible, steps required to achieve synergies between different development options and potentials as regards positive environmental and social outcomes will be identified. For the identified tasks, modalities and institutional roles and responsibilities will be determined, and will be described in the SEMP.

2.3 Provisional set of Key Environmental and Socio-economic Issues

During the inception mission, the team identified a provisional list of key environmental and socio-economic issue in the SW Region. These are listed in Appendix 5.

3. Roles and Responsibilities

3.1 The client

The SEA of South West region is being undertaken for the Bangladesh Forest Department (BDF), under the Ministry of Environment, Forest and Climate Change (MoEFCC). Therefore, BFD's role as a client during project tenure and implementation level is crucial to the success of the project. They need to play an active role in approving project plans, requesting changes, raising issues and risks, approving milestones and accepting the final deliverables of the project. Overall the client will provide the services and facilities to the consulting firms as per the contract document (Appendix 4 of contract).

A ***Project Management Unit*** will be established for smooth operation of the SEA and execute the project components in a more predictable and organized way for ensuring standardization of the overall project activities.

The ***Project Director*** has overall responsibility for the SEA. He will oversee the project activities and will ensure that each phase of a project proceeds as planned.

3.2 Consulting firms

CEGIS in JV partnership with Integra Consulting (Czech Republic) have been appointed to carry out the SEA and prepare the SEMP. CEGIS/Integra are responsible for assembling the SEA professional team comprising SEA and subject experts, both national and international. Day-to-day design and coordination of the SEA process is the responsibility of the Team Leader supported by the Deputy Team Leader. The consulting firms will be responsible for the preparation and delivery of the reports i.e. inception, screening and scoping, EMP and SEA report for the South West Region of Bangladesh within the stipulated timeframe as per the contract.

3.3 Supervisory Committees

The supervisory committee has been formed comprising high-level government officials, relevant stakeholders, management representatives to oversees the entire project lifecycle, providing guidance on the overall strategic direction. They serve as the guidance support for the project, resolve issues escalated by the Project Director, and decide on requested changes if required to project elements, such as deliverables, schedule, and budget etc. All the committees have been formed for the smooth and successful implementation of the project.

3.3.1 Project Management Committee

The Project Management Committee (PMC) have been formed with the representative of different key sectors. The roles and responsibilities of the PMC members are as follows:

1. Providing necessary support and advice for project implementation
2. Giving direction to solve the ascended scenario (if any) during project implementation period.
3. Attend in meetings to discuss and analyze the project progress in every 3/6 months
4. Committee can co-opt any member into the committee as per the project requirement.

3.3.2 Project Steering Committee

The Project Steering Committee (PSC) have been formed for providing the strategic guidance, inter-ministerial/inter-departmental transfer of information for the smooth implementation of the SEA project. The roles and responsibilities of the PSC members are as follows:

1. Providing guidance and overall strategic direction for the smooth implementation of the project analyzing the recommendations by the Project Implementation Committee (PIC).

2. For the smooth implementation of the project PSC will coordinate between the GO's, NGO's and other organizations
3. Formulating the rules and regulations for project implementation process.
4. Attend in the meeting in every 3/6 months. The president of the PSC can call meeting as and when required.
5. Giving direction to any ascended scenario during project tenure
6. Approving any required changes for project implementation
7. Committee can co-opt any member from relevant ministry/department/organization into the committee as per the project requirement

3.3.3 Project Implementation Committee

Project Implementation Committee (PIC) have been formed for providing guidance for smooth implementation of SEA project activities and is accountable to the PSC. The roles and responsibilities of the PIC members are as follows:

1. Providing necessary support and advice for project implementation
2. Giving direction to solve the ascended scenario (if any) during project tenure
3. Attend in the meeting to discuss and analyze the project progress in every 3/6 months
4. Committee can coopt any member into the committee as per the project requirement.

Appendix 1: Proposed Revised Terms of Reference

Terms of Reference (ToR) for

Selection of Consulting Firm (International or National-International JV) for Conducting the Strategic Environmental Assessment (SEA) for Conservation of South West (SW) region of Bangladesh including the Sundarbans.

Prepared by

Bangladesh Forest Department

Ministry of Environment, Forest and Climate Change

1. Introduction

The Sundarbans is unique and has both local and global significance due to its diversity and rich ecosystems. The government's overall approach and vision is that the country's rapid growth and accompanying infrastructural and other developments must be eased-in and undertaken in a manner that safeguards natural resources and ecosystems, avoids negative environmental and socio-economic impacts and is sustainable; fulfilling both Vision 2021 and Vision 2041. In this context, the present government has commissioned a visionary initiative to undertake a comprehensive Strategic Environmental Assessment (SEA) for the sustainable conservation of the Sundarbans. This study aims to support striking a dynamic balance between the biodiversity and ecosystem services of the SW region and the Sundarbans and the current development drive to become a developed country by 2041.

Since independence in 1971, the nation has strived to pursue gradual and sustainable development. It culminated in the drive for the country's sustainable development agenda through striking a "right balance" between equitable national economic progress, human development and sound environmental management and protection. The present government initiated bold steps, widespread collaboration and unprecedented innovation to fast track the country's rate of development. To achieve developed country status, the nation has established new development paradigm through innovative approaches aimed at introducing a cohesive and integrated management system to ensure long-term sustainability, backed by integrated environmental strategies. Thus, an SEA is necessary for assessing the positive/negative, direct/indirect, domestic/transboundary and cumulative environmental and social impacts of development in the SW Region, including on the integrity and functioning of the Sundarbans and its Outstanding Universal Value, to inform future policies and decisions regarding development in the region.

Strategic Environmental Assessment (SEA) is a tool for assessing the environmental and socio-economic implications of policies, plans and programmes (PPPs) and ensuring the integration of these implications into their formulation and implementation. According to the Organization for Economic Cooperation and Development (OECD), **"***SEA comprises analytical and participatory approaches to strategic decision-making that aim to integrate environmental considerations into policies, plans and program, and evaluate the inter linkages with economic and social considerations."*

Thus, in line with this OECD guidance, the present government has prioritized the consideration of environmental and socio-economic considerations in planning for the overall development of the South West Region.

The SW region is blessed with the Sundarbans, the largest mangrove forest in the world. This vast forest is also a wildlife sanctuary located at the delta of the Ganges river on the Bay of Bengal. The Sundarbans has been declared as a Ramsar site in 1992 and parts of the Sundarbans were designated by UNESCO as World Heritage Sites in 1997. The Sundarbans has received recent global attention due to concern about the consequences of the current drive towards development and existing and future challenges. Subsequently, UNESCO WHC requested the State Party, Bangladesh, to undertake a comprehensive Strategic Environmental Assessment (SEA) (Decision 38 COM 7Bb.64 and 39 COM 7B.8) to assess the positive/negative, direct/indirect, domestic/transboundary and cumulative impacts at a landscape and regional scale and to uphold its Outstanding Universal Value (OUV).

The South West region is rapidly developing to achieve the national visions and goals and, subsequently, the government has formed policies, plans and programs (PPP) for development of the area through contributions from both the public and private sectors. An SEA is pivotal in assessing the environmental and socio-economic impacts of development (current and planned) in the South West region and contribute to the formulation of PPP's and influence the decision-making process.

The SW region of Bangladesh has high prospects for development thrusts, but is lagging behind the rest of the country in achieving the present development trajectory. The present government has thus taken this SEA initiative to boost socio-economic development of the region and at same time to ensure balance between development and the conservation of natural resources on a priority basis.

This SEA will cover the PPPs related to nine sectors namely, forestry, fisheries, water, power and energy, tourism, urbanization, industry, transportation/ communication and shipping.

2. SEA Project Area

Bangladesh is situated at the tail-end of the mighty Ganges-Brahmaputra-Meghna (GBM) river basins and as such, drains the entirety of flow generated within these basins. Being part of a network this massive, the country holds contrasting hydrological features which prompted its division into eight unique hydrological regions during the formulation of the National Water Management Plan (NWMP) in 2001.

The SEA covers the South Western Region of Bangladesh (see Figure 1), It is a rich coastal region and is home to the Sundarbans, the largest contiguous natural mangrove forest in the world. The study region comprises the South West hydrological region, fed primarily through the Ganges River System. This region is crisscrossed by a complex network of rivers and streams of varying hydrological and morphological characteristics providing a lifeline to the ecosystems of the region including that of the Sundarbans. The downstream flow from Ganges is via several river systems: the Gorai-Madhumati, Kapatakshya, Mathabhanga, etc. The four major river systems flowing through the Sundarbans are the Raimangal, Arpangasia, Sibsa-Passur and the Baleshwar.

Being primarily dependent on the Ganges flow, temporal decrease of downstream freshwater flow combined with progressing salinity intrusion – argued to result from climate change induced sea level rise and decreased upstream freshwater flow – has rendered this region vulnerable to natural disasters and has also greatly affected the ecosystem as well as livelihood of the people. Any future development scheme for the region has to be implemented keeping in mind the possible long-term as well as short-term impacts it might exert on the biodiversity and ecological balance of the region, especially the Sundarbans, and socio-economic conditions. A strategic environmental management plan will therefore greatly help in reinforcing a secured future for the region.

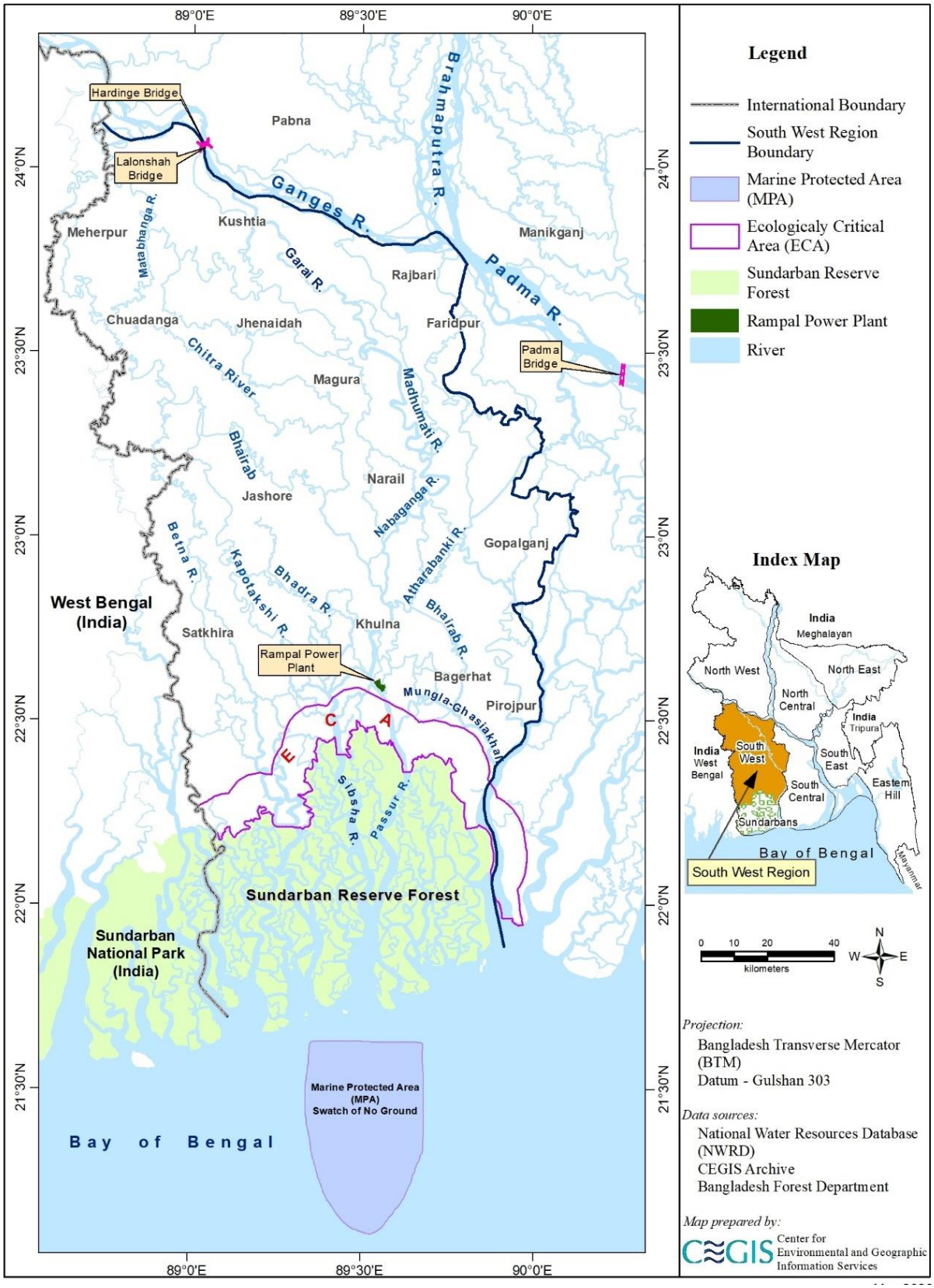


Figure 1: Map of the South-Western Region

3. Objectives

The following specific objectives have been for carrying out the SEA study:

- Consideration of environmental and socio-economic consequences of existing PPPs (national and SW region) that cover the SW Region and promoting that these issues be addressed when formulating and implementing future, as well as existing, PPPs with a view to promoting sustainable development in the region and conservation of the Sundarbans and its Outstanding Universal Value;
- Simultaneous assessment of the impacts of development initiatives on existing bio-physical settings and socio-economic conditions to facilitate informed decision-making regarding transitioning towards a sustainable, resilient and resource efficient economy;
- Identification of key stakeholders relevant to selected sectors and organizing consultation meetings to obtain knowledge on existing bio-physical settings and socio-economic conditions, impacts of current and proposed developments, and potential strategies for future development of the SW region;
- Development of alternative strategies to minimize the direct/indirect, domestic/transboundary and cumulative impacts of development on the Sundarbans and more widely in the South West Region;
- Make recommendations to improve environmental performance management in both the public and private sectors as regards future development activities; and
- Formulation of a comprehensive framework in the form of a Strategic Environmental Management Plan (SEMP) for the SW region to support decision making and monitoring of the implementation of policies, plans and programs that are likely to affect the environment and socio-economic conditions of the region and in particular the Sundarbans.

4. Scope of Works

4.1 Screening of relevant policies, plans and programmes (relevant to the period up to 2041) for both the public and private sectors - for key economic sectors, particularly: forest, fisheries, water, power and energy, industry, tourism, transportation and communication, urbanization and shipping - to identify those with potential to result in environmental and socio-economic impacts in the South West Region, including the Sundarbans, that will be addressed during the SEA.

4.2 Scoping to:

Identify key sources of data and information – building on preliminary work undertake during the inception phases;

- Identify and summarize key laws, regulations, policies, strategies that concern environmental management and social conditions, and international commitments and conventions that Bangladesh is a signatory to;
- Review institutional roles, responsibilities and capacities as regards environmental management (national, SW regional and local levels);
- Review past regional, national and international studies, plans, reports and environmental/social assessments for relevant information that can support the SEA;
- Undertake stakeholder analysis (particularly as regards the nine key sectors) and prepare a participation strategy;
- Undertake key stakeholder consultations and organize workshops at national, regional and local levels – to:
    - ❖ explain the SEA (reason and process),
    - ❖ identify baseline data and development initiatives,

- ❖ enable consultees to assist in scoping key issues and identifying SEA objectives; and record issues raised;

- Review of aims, objectives and key themes of selected PPPs;
- Initiate collection of baseline data and commission new research/field studies (where critically needed);
- Deepen identification of, and prioritize, key environmental and socio-economic issues that the SEA should take into consideration, including:
  - ❖ key environmental issues and challenges imposed by both natural and human interventions that significantly impact the region and the conservation of the Sundarbans (including those that are transboundary, i.e. arise from other regions of Bangladesh and from India);
  - ❖ current and potential sources of pollution as well as pollutant carriers that are important for human heath, ecosystem functioning, and for conservation of the Sundarbans;
- Based on key themes and issues identified in reviewed PPPs and raised during consultations, develop draft SEA objectives, targets and indicators (including those specific to the Sundarbans) to provide a framework for assessment and monitoring PPPs during SEMP implementation;
- Prepare a draft baseline environmental and socio-economic profile of the South West Region, including a baseline describing the current environmental and ecological status of the Sundarbans;
- Circulate/disclose the draft scoping report for stakeholder and public comment;
- Update of scoping report in response to comments.

4.3 The main assessment, to:

- Undertake scenario analysis using key drivers of change to inform preliminary environmental and socio-economic assessment of possible economic growth trajectories (high, moderate, business-as-usual),
- Undertake initial assessment of environmental and socio-economic impacts of alternative economic growth trajectories.
- Prepare an interim SEA report covering the assessment of these trajectories and circulate to stakeholders for comment.
- Workshop for national level committee/steering committee review findings and confirm the preferred economic growth trajectory for deeper assessment.
- Detailed assessment of environmental and socio-economic impacts of the preferred alternative trajectory (positive/negative, direct/indirect, domestic/transboundary, cumulative, synergistic or antagonistic) relevant to the nine key sectors, including
  - ❖ Analyzing the available results of existing modeling of environmental and socio-economic factors (mainly those obtained using internationally recognized modelling tools);
  - ❖ Undertaking new modelling, where appropriate, of key environmental factors (e.g. water quality, air quality, energy generation and use, energy and transport-related emissions, etc.) to estimate probable future pollution levels and subsequent impacts;
- Identify options to enhance positive impacts and minimize/mitigate negative ones
- Continue throughout this stage to marshal and analyze available baseline data and new data from any commissioned studies;
- Continue engagement with stakeholders;

4.4 Prepare draft final SEA report - covering:

- Methodology used
- Overview of public/stakeholder engagement activities undertaken
- Baseline profile
- Key issues addressed, including summary of stakeholder concerns and expectations, and how these have been addressed
- Description of authorities, jurisdictions and key institutions – their roles and responsibilities.
- Policy, legal and administrative framework.
- Development scenarios
- Initial assessment of significant environmental and socio-economic impacts of scenarios
- Deeper assessment of significant environmental and social impacts of preferred scenario.
- Conclusions and recommendations, e.g.
    - ❖ For avoidance/mitigation of negative impacts and enhancement of synergies and positive impacts.
    - ❖ For how existing PPPs might need to be adjusted/revised to minimize/mitigate potential negative environmental and/or socio-economic impacts, and how planned PPPs will need to address such potential impacts.
    - ❖ Recommendations for the integration of environmental principles such as polluter pay principle and the precautionary principle in the development, appraisal, and selection of PPPs;
- References
- Appendices

4.5 Prepare a draft Strategic Environmental Management Plan (SEMP) for the SW Region, and Sundarbans, with

- identified measures for monitoring the implementation of PPPs
- identified institutional roles and responsibilities and
- an auditing procedure for compliance with the SEMP.

5. Documents to be submitted with the proposal

- Original copy of Joint venture signed agreement on non-judicial stamps.
- Certification from the implementing agency for completion/ongoing of SEA by the consulting firm (at least for those SEA works mentioned in the EOI proposal).
- Report of at least one completed SEA work by the firm mentioned in the EOI proposal.

6. Approach and Methodology

The methodology to be followed is largely implied in section 4 above.

6.1 SEA Conducting Approach

The SEA will evaluate environmental and socio-economic impacts of development in the SW Region and make recommendations to improve the management of existing as well as emerging risks to the SW Region and the Sundarbans. It will be carried out in accordance with the SEA international best practice and the OECD DAC SEA Guidelines, through a multi-tiered approach which will include conceptualization of the study, identification of policies, plans and programs to be assessed, as well as

issues to be addressed, consulting pertinent stakeholders, development of baseline environmental and socio-economic profile, and formulate alternative development economic development trajectories to be initially assessed.

The SEA will also be conducted in accordance with the eight UNESCO World Heritage Impact Assessment Principles that covers certain aspects such as ensuring rigorous environmental assessment of the multi-dimensional impacts of development programs and formulation of a Strategic Environmental Management Plan SEMP), that incorporates measures for monitoring the implementation of PPPs and auditing compliance.

6.2 Methodology

6.2.1 Screening

Screening will be carried out to identify relevant PPPs which should be assessed during the SEA. Screening will be based on criteria to determine whether the PPPs are likely to result in significant environmental or socio-economic impacts in SW Region and/or the Sundarbans, having regard to their probability, duration, frequency, reversibility, and cumulative nature etc.

6.2.2 Scoping

Scoping will be carried out to identify key elements of selected PPPs and environmental and socio-economic issues which will be the main focus of the SEA. This will be through a series of tasks stated below:

a. Determining key elements of PPPs

The key elements of PPPs such as goals, objectives and strategic aims of selected PPPs will be reviewed and activities that will be likely to follow from their implementation will be identified. Elements will be identified through processes such as review of relevant documents, brainstorming sessions between relevant government and non-government agencies as required. Strategic aims under individual PPP may include the development of projects, investment in new technologies etc.

b. Determination of key environmental and socio-economic issues

Key issues will be identified through: the review of PPPs and key documents; consultations with stakeholders (government, private sector, civil society/NGOs, experts and others) – at national-regional-local levels; interviews with key informants, focus group sessions, and workshops.

c. Literature Review for Secondary Information

The study will identify and review existing policies, laws, regulations and institutions (at national, regional and local levels) relevant to the study. The review of institutional arrangements, roles, responsibilities and capacities at all levels will include identifying those institutions whose activities may affect the SW Region and Sundarbans. A review of relevant research studies, reports and environmental assessments will also be carried out to determine useful information to inform the SEA.

d. Preparing an environmental and socio-economic baselines profile

An Environmental and Social Profile of SW Region will be prepared covering all relevant factors and including the current status of the nine selected sectors and the Sundarbans. To aid this process, necessary information will be collected from available sources. Where relevant, baseline data will be assigned to a suitable year/ period. Where relevant and of a priority nature, field surveys will be conducted to collect primary data.

e. Development of Objectives, Indicators and Targets

For each of the key environmental and socio-economic issues, objectives will be identified, drawn in part from those contained in existing national and regional policies, plans, strategies and international commitments and associated memoranda of understanding. These objectives will provide a basis for impact assessment – assessing whether particular impacts will enhance or impede achieving individual objectives. For each objective, indicators will be identified (realistic indicators capable of being measured) to provide a qualitative or quantitative measurement (as appropriate) of progress towards achieving the objective, using internationally recognized indicators where appropriate. These will be used in implementing the SEMP.

f. Stakeholder Identification and Analysis

Stakeholder mapping will be done to identify pertinent stakeholders (including government institutions, private sector organizations, NGOs/CSOs and civil society) based on whether they will influence the implementation of proposed policies, plans and programs or in turn, be affected by or have a legitimate interest in them. Standard social tools (such as FGD, PCM) will be used for stakeholder analyses.

g. Consultation with stakeholders

The SEA scoping process will start through key informant interviews, focus group sessions and consultative meetings among the different stakeholders relevant to the nine sectors as well the Forest Department and Department of Environment. Such consultations will be carried out at national, SW regional and local levels. This will be done specifically to get a better understanding of the main objectives of the PPPs and stakeholder views, concerns and perspectives on them, and to identify key environmental, social, economic other issues to be addressed by the SEA and in the planning process.

10. Site visits

Field visits will be made to the study area for familiarization, consultative meetings and to observe conditions and features on the ground and identify issues/concerns that will need to be considered in the SEA. These include sensitive ecological features, industrial and manufacturing sites, urban areas, land use practices, areas vulnerable to climate change factors (eg sea level rise, increased salinity) and environmental and socio-economic challenges. The areas to be visited will be identified during the inception phase.

11. Key informant interviews

Key informants will be identified by the Team and experts of the MoEFCC. They will consist mainly of BFD and DoE officials, officials from the Local Government, Ministry of Forest officials, government officials from Power Development Board and Bangladesh Water Development Board and officials from the related public and private agencies, international NGOs. Public representatives and local leaders in SW Region will be also interviewed. Other officials from associations such as the Chamber of Commerce and domestic NGOs/CSO among others will also consulted.

6.2.3 Preparation of Scoping Report

A draft scoping report will be developed to inform pertinent stakeholders about key elements of the PPPs, key environmental and socio-economic issues to be addressed with the aim of generating interim feedback that will help in finalizing the focus of the SEA. Following stakeholder feedback, a final scoping report will be prepared.

6.2.4 The main assessment stage

a. Identification of alternative economic growth trajectories

Scenario analysis will be undertaken to identify inform analysis and an initial assessment of impacts for alternative economic growth trajectories. A preferred trajectory will be confirmed by the Ministry of Environment, Forest and Climate Change in consultation with other government agencies and stakeholders. This preferred trajectory will then be subjected to deeper assessment.

b. Assessing potential environmental and socio-economic impacts

This will involve an initial assessment of the likely impacts (positive/negative, direct/indirect, domestic/transboundary, cumulative, and synergistic/antagonistic) of activities likely to arise under the possible alternative economic growth trajectories, and a subsequent deeper assessment of the preferred scenario

The SEMP will recommend how any likely negative impacts will be addressed (minimized or mitigated) and how any likely positive impacts may be enhanced and maximized This SEA process will include the following tasks:

c. Predicting impacts of developments arising under the economic development trajectories and assessing significance

Positive/negative, direct/indirect, domestic/transboundary, cumulative and synergistic/antagonistic environmental and socio-economic impacts of implementing PPPs under the economic development trajectories will be assessed. Where appropriate, impacts will be assessed in respect to base condition using internationally accepted standard mathematical modeling tools and techniques. Where possible, this will identify significance based on, for example, the nature and extent of change, the frequency of impact and probability of recurrence.

d. Mitigation of impacts

Strategic measures will be recommended to minimize and mitigate impacts based on their level of significance. It will involve preventive measures as well as reduction of magnitude or probability of occurrence. Remedial measures will also be recommended where impacts have already occurred. The SEMP will focus first on avoiding potential negative impacts and secondly on reducing unavoidable residual impacts.

6.2.5 Finalization of SEA

a. Presentation of findings

The SEA Consultants team will synthesize and harmonize the study findings in a draft final SEA report and draft SEMP and present these at a multi-stakeholder validation workshop. Feedback will be incorporated as appropriate.

The provisional contents of the draft final SEA report are listed in section 4.4.

The draft SEMP will set out a framework for monitoring the impacts of implementing the selected PPPs and auditing compliance.

7. SEA Consultancy Outputs

- Inception, screening and scoping reports
- SEA report
- Strategic EMP for SW Region and Sundarbans including Monitoring and Auditing frameworks

Appendix 2: The EIA System in Bangladesh

(Based on information on https://www.eia.nl/en/countries/bangladesh/esia-profile)

Legislative and regulatory provisions for EIA

The National Environmental Policy (1992) required EIA for all new public and private projects. The Environmental Conservation Act (ECA) (1995) introduced mandatory provisions for environmental clearance of all industrial units and projects. Formal status for EIA was also given through the Environmental Conservation Rules (ECR) (1997) which provided a procedure for granting environmental clearance under article 7. The Environmental Conservation Act was amended through the Environment Court Act (Act No. 11 of 2000) with further amendments introduced in 2002 and 2003. Further amendments to the Rules were made in 2012, and to the Environment Conservation Act in 2010, Additionally, ECA rules for public comments have been drafted.

Guidelines

EIA-related guidelines are available for (a) industries (1997) and (b) the water sector - prepared under the Flood Action Plan (1992 and updated in 2003. The DoE has drafted EIA guidelines for several sectors including: coal mining, gas, pharmaceuticals, cement factories, water and transport sectors. The Water Resources Planning Organization (WARPO) and the Local Government Engineering Department (LGED) have developed their own EIA guidelines.

Scope of EIA application

EIA is required for all activities (private, public and foreign investment) that fall under the category of red projects as stipulated under Schedule One of the Environmental Protection Rules.

Central EIA authority

The Department of Environment (DoE) is the responsible body for implementing and enforcing EIA. Under the provision of the Environment Conservation Act, 1995, DoE and its six divisional offices, are authorized to review and approve the EIA reports and to process and issue environmental clearance for all types of industrial units and projects. They are also mandated to formulate environmental guidelines and advise the Government to reject manufacturing processes, materials and substances likely to cause environmental pollution. Within the office of the Director, a unit coordinates EIA-related services.

Other key (governmental) parties involved in EIA, and their roles

The Ministry of Environment, Forest, and Climate Change (MoEFCC) is the principal government institution responsible for environmental activities in Bangladesh and for all matters relating to National Environmental Policy and regulatory issues. It plays key roles in planning, reviewing, monitoring and environmental initiatives and ensuring that environmental concerns are properly handled. MoEFCC supervises the DoE and can formulate policies and rules. The DoE has constituted a Technical Committee for the review process

Payment system

Project proponents pay a fee to obtain an Environmental Clearance Certificate, and a fee to renew the certificate once a year for Red, Orange – A and B category projects and once every three years for Green category projects.

Screening

Screening of projects is undertaken by the DoE based on a list contained in Schedule I of the Environment Conservation Rules (1997). Projects are placed in one of 4 categories based on location

and impact on the environment (a location clearance is required for location and an environmental clearance is required for environmental impacts).

- Green - require no site clearance but an environmental clearance (all other categories require a site clearance);
- Orange A - requires a layout plan, process flow diagram and outlines of plans for relocation and rehabilitation;
- Orange B - require both an Initial Environmental Examination (IEE) and an EMP for clearance;
- Red - require a full EIA and an EMP.

Sensitive areas: under the ECR (1997), the government may declare certain areas as sensitive. Projects in such areas require a full EIA.

Scoping

After an IEE is approved and the proponent has obtained a Site Clearance Certificate for the project, the proponent is allowed to begin preparation works for the project. For Red category projects, the DoE prepares a Terms of Reference in conjunction with the proponent which is used by the proponent to prepare an EIA. Scoping mainly involves baseline studies.

Assessment

The EIA Guidelines for Industries advise the use of checklists, matrix networks, overlays, environmental index using factor analysis, cost-benefit analysis and simulation modelling. It also suggests methodologies on impact evaluation, prediction and identification of mitigation measures. The guidelines suggest public participation. The public and NGOs are invited (discretionary) to give their views on the draft EIA report that is produced.

EIA reports are required to address standard contents:

- baseline studies;
- impact identification;
- impact prediction;
- impact evaluation;
- mitigation measures;
- monitoring program;
- special studies (for example risk assessment, rehabilitation study etc).

EIA review

The DoE is responsible for EIA report review through a technical committee which follows the industrial and water sector guidelines on review. In general, the DoE offices in each of the six divisions receive applications and issue Environmental Clearance Certificates for proposed investments within that division.
The divisional offices verify supporting documents and the divisional head then assigns an inspector for follow-up. The inspection report is treated as follows:

- Green and Orange A category projects – application submitted to the district office for decision
- Orange B category projects – application submitted to the district office which conducts inspection and prepares a review report. This report is sent to the divisional/regional office for decision.

- Red category projects – application submitted to the district office which conducts an inspection and prepares a review report. This report is sent to the divisional office and is then forwarded to the DoE Head Offices ECC Committee for decision.

Timeline for review

Article 11 of the Environmental Conservation Rules prescribes that for projects under category Red, the EIA report shall be approved or the application for an environmental clearance certificate shall be rejected within 60 working days from when the EIA report was submitted.

Compliance monitoring

There are no clear legal provisions for EIA compliance and monitoring. Monitoring is said to be conducted on an ad-hoc basis.

Non-compliance penalties

Suspension of clearance is possible. The ECA provides that failure to comply with any part of it may result in the punishment of a maximum of 5 years imprisonment or a maximum fine of 100,000Tk or both.

Stakeholder engagement

There are no legal requirement for public consultation during the EIA process or even for provision of information to affected people. The Environmental Conservation Rules do not mention public nor community. However, the water sector guidelines suggest public participation at the early stage of an EIA study and recognize the need to consider socio-cultural, physical and biological impacts. According the EIA guidelines for industries, opportunities for the public to participate are under the discretion of the Director General of DOE.

Appeal

The Environmental Courts Acts of 2000 establishes Environmental Appeal Courts for environmental offences (in general). Appeals can also be made to specialized magistrate courts where environmental laws provide for a penalty of an imprisonment not exceeding 2 years or a fine not exceeding 10,000Tk or both.

The decision on the issuance of an Environmental Clearance Certificate can be appealed.

Any person may appeal, within 30 days from the date of issuance of the notice. An appeal fee of 1000 Taka is charged to any appellant including the general public.

Number of EIAs conducted

In 2018, the DoE processed issued 6246 environmental clearance certificates.

Professional bodies

- The National EIA Association of Bangladesh (NEAB) comprises planners, practitioners and enforcement agencies. It works to create awareness of EIA in all sectors of Government planning. It has assisted in the development and extension of EIA, prescribing a code of conduct for EIA professionals, building national capability and establishing a liaison between EIA practitioners and policy-makers in Bangladesh
- The Bangladesh Environmental Lawyers Association (BELA) has played a role in the introduction of public interest litigation cases to higher courts (the High Court and the Supreme court). An important achievement won by BELA in response to its appeal was the Supreme Court decision in 1998 to grant citizens and NGOs the right to enforce environmental laws.

- The Forum of Environmental Journalists, Bangladesh (FEJB) has been particularly effective in creating environmental awareness, and a number of State of the Environment Reports have been produced by civil society organizations.

Relevant links

EIA information is available on the website of the Department of Environment: http://www.doe-bd.org/

Appendix 3: SEA Team Members

Table 1: SEA Team Members

Name	Role / expertise	Organization
Prof (Dr) Barry Dalal-Clayton	Team Leader / Environment / SEA	Integra
Zahir Uddin Ahmed	Deputy Team Leader / EIA / Natural Resource Management	CEGIS
Dr Jean-Roger Mercier	Environmental Assessment	Integra
Dr Vladislav Bizek	Environmental Modelling	Integra
Dr Mohammad Zashim Uddin	Botanist	CEGIS
Dr Mahmood Hossain	Mangrove Ecologist	CEGIS
Mohammad Abdur Rashid	Agronomist	CEGIS
Mushfiq Ahmed	Wildlife / Project Leader	CEGIS
Dr Manimul Haque Sarker	River Morphology	CEGIS
Apurba Kumar Sarker	Economist	CEGIS
Dr Dilruba Ahmed	Sociologist	CEGIS
Mohammed Mukteruzzaman	Fisheries	CEGIS
H M Nurul Islam	Water Quality / Pollution	CEGIS
Dr Md Shibly Sadik	Noise Pollution	CEGIS
Md Tariqul Islam	Forest Management	CEGIS
Dr. Moinul Hossain	Transportation	CEGIS
Dr Chowdhury Saleh Ahmed	Policy & Institutions	CEGIS
Jalal Ahmed Choudhury	Power & Energy	CEGIS
Md Shahidul Islam	Remote Sensing/GIS	CEGIS
Buiya Md Tarmin Al Hossain	Hydrodynamic Modelling / Hydrology	CEGIS
Capt Md Sayedul Hoque Khan	Water Navigation	CEGIS
Dr. Farhana Ahmed	Water Navigation	CEGIS
Kazi Kamrull Hassan	Environment	CEGIS
Kushal Roy	Climate Change	CEGIS
Dr Kazi M Noor Newaz	Biodiversity	CEGIS
Pronab Kumar Halder	Air Pollution	CEGIS
Abdul Hamid Farhar Sikdar	Soil Salinity	CEGIS
Sudipta Kumar Hore	River Morphology	CEGIS
Sarazina Mumu	Urbanization / Land use change	CEGIS
Md Saidur Rahman	Land use change / Habitat degradation & loss	CEGIS
Tanvir Ahmed	Flooding – effects on livelihoods & property	CEGIS
Gazi Md Riasat Amin	Flooding - effects on livelihoods & property	CEGIS

Name	Role / expertise	Organization
Md Monowar-ul Haq	Climate change & drainage	CEGIS
Md Shifuddin Mahmud	Livelihoods, out-migration, education, loss of traditional knowledge	CEGIS
Md. Ashis Mawla	Health & Sanitation	CEGIS
Motaleb Hossain Sarker Rakshanda Mabin	Tourism	CEGIS
Mir Sajjad Hossain	Transboundary issues (water pollution, tiger migration), Ganga water flow & extraction, air pollution, pirating	CEGIS
Md Amanat Ullah	Sensitive areas (baors and inundated areas)	CEGIS

Appendix 4: Provisional List of Key Environmental and Socio-economic Issues in SW Region

Environmental and social issues	Lead responsibility in Team	Relevant governmental agency	Comments/notes
Water pollution (waste waters, diffused/fugitive sources, eutrophication). Sundarbans recently relatively unpolluted Brackish water Fresh water Sea water Water pollution from coal power plant (mercury in ash, data from EIA reports) after it is launched, and pollution by other metals	H.M. Nurul Islam	Department of Environment (monitoring) Ministry of Industries Ministry of Agriculture Ministry of Fisheries and Livestock Ministry of Shipping Mongla Port Authority (international navigation)	Sources of pollution: • Industry • Shipping • Agriculture • Aquaculture • Urban sources Tourism not yet significant for SW Tourism in Sundarbans – there is some (0.2mil annually people visit Sundarbans by boats) Some pollution from fishing boats (only local)
Ground water pollution (arsenic – natural source, not major issue)	H.M. Nurul Islam	Department of Public Health and Engineering (Ministry of Health and Family Welfare)	
Air pollution from power sector, industries and transport (link to health, mainly urban areas) Acidification & eutrophication. Atmospheric deposition (Dust not significant, SOx and NOx yes)	Pronab Kumar Halder	Department of Environment (Ministry of Environment, Forest and Climate Change) Ministry of Power, Energy and Mineral Resources Ministry of Industries Ministry of Road Transport and Bridges Mongla Port Authority	PM pollution – transboundary issue, urban areas (vehicles, industry, cement production, pavements, brick/construction activities) NOx, SOx – transport including water transport (Mongla Port), power plants, in particular in/around urban areas
Water flow Ganga River: Decreasing upper stream flow in India (Farrakka Barrage reduces flow), irrigation	Md Shakil Ahmed	Joint River Commission (transboundary) Ministry of Shipping Bangladesh Water Development Board	

Environmental and social issues	Lead responsibility in Team	Relevant governmental agency	Comments/notes
Other water sources: embankments affect freshwater distribution Sedimentation (fluvial and tidal), sediments deposit in the river, which then requires dredging (south half of the SW region) River siltation – need of dredging Disposal of dredged materials		Bangladesh Inland Water Transport Authority (dredging) Mongla Port Authority (dredging)	
Ground water salinity	Foez Ahmed	Department of Public Health and Engineering	
Oil pollution – affects mainly along the main shipping channel, plants + aquatic animals (fish, dolphins)	H M Nurul Islam	Ministry of Shipping Mongla Port Authority Department of Environment (monitoring)	
Soil salinity	Abdul Hamid Farhad Shikdar	Soil Resources Development Institute, Department of Agriculture Extension (Ministry of Agriculture)	
Disturbance by noise in Sundarbans (shipping)	Dr Md Shibly Sadik		
Construction of roads and rails – habitat fragmentation (SW region) including Asian Highway	Mushfiq Ahmed and Md. Kamruzzaman	Roads and Highways Department Bangladesh Railways Local Govt. Engineering Department (construction of local roads)	
Port expansion (river bank erosion) Coast Guard/Bangladesh Navy spots expansion	Sudipta Kumar Hore	Mongla Port Authority Bangladesh Water Development Board Bangladesh Navy	
Industrialisation Power generation (coal, oil and gas – new gas pipelines in the west) Petroleum industries Cement industry Special economic zones (various industries) tentatively up to 6 to be established in SW LPG bottling	Jalal Ahmed Choudhury	Ministry of Industries Bangladesh Economic Zone Authority Department of Environment (issue permits/clearance) Bangladesh Chemical Industries Corporation	

Environmental and social issues	Lead responsibility in Team	Relevant governmental agency	Comments/notes
SMEs			
Urbanization	Sarazina Mumu	Khulna Development Authority Local Government Engineering Department in municipalities Municipal and City corporations Private sectors	
Land-use changes Paddy field conversion to shrimp farming (Sundarbans)	Shahidul Islam & Mohammad Saidur Rahman	Ministry of Land Ministry of Agriculture Ministry of Fisheries and Livestock Khulna and other development authorities	
Biodiversity loss in SW Region (stable in Sundarbans) Loss agriculture and fisheries native diversity (and other dependent fauna and flora), loss of native varieties (introducing exotic/alien species (e.g. honeybee) Invasive alien species (SW Region) Endangered species of flora and fauna (e.g. saltwater crocodile, turtles, dolphins, tigers)	Md Amanat Ullah	Bangladesh Forest Department Department of Environment Department of Agriculture Extension Department of Fisheries	
Habitat degradation and loss (SW region) Land-use change	Dr Mahmood Hossain Dr Mohammad Zashim Uddin Md Shahidul Islam	Bangladesh Forest Department Department of Environment Department of Agriculture Extension Department of Fisheries Ministry of Road Transport and Bridges Ministry of Housing and Public Works Bangladesh Water Development Board Local Government Engineering Road Transport and Highways Division	
Waste (solid and wastewaters, industrial waste etc.) Urban areas	Kazi Kamrull Hassan	City Corporations Municipal Authority Ministry of Industries	

Environmental and social issues	Lead responsibility in Team	Relevant governmental agency	Comments/notes
Climate change Sea level rise Salinity intrusion Erratic rainfall Increased cyclone frequency (lack of access to shelter in case of disaster) Increased height of storm Distribution of rainfall over the season (erratic distribution) Post monsoon rainfall increase Increase of average temperature GHG emissions (now no, in future yes) Carbon sequestration (there will be study available)	Kushal Roy	MoEFCC Ministry of Disaster Relief and Rehabilitation	
Floods Excessive rainfall + upstream flow Tidal (main issue in SW) Effects on livelihood Property damages	H M Nurul Islam Dr Kazi Md Noor Newaz	Bangladesh Water Development Board Local project implementation officer, Department of Disaster and Rehabilitation	
Poor drainage	Kazi Kamrull Hassan	Bangladesh Water Development Board	
Livelihood Conflicts between economic sectors Access to resources including in the Sundarbans Forest depending communities	Muhammad Shifuddin Mahmud Tanvir Ahmad Rifat	Ministry of Agriculture Department of Fisheries Bangladesh Forest Department Local Government Engineering Department Ministry of Social welfare	
Outmigration From disaster prone area (coastal areas) to urban areas Small holders outmigration due to increasing salinity of soil and insecure land tenure (to urban areas)	Muhammad Shifuddin Mahmud	Local Government Engineering Department (salinization) Department of Fisheries Bureau of Manpower, Employment and Training	
Health and sanitation	Dr Dilruba Ahmed	Ministry of Health and Family Welfare	

Environmental and social issues	Lead responsibility in Team	Relevant governmental agency	Comments/notes
Waterborne diseases Dietary issues Poor drinking water quality Salinity related diseases (woman) Respiratory diseases Inadequate health facilities, low access to health services (poor transport/communication network , in particular in case of emergency in remote areas)	Amith Dutta	DPHE NGOs active in the field, including international NGOs	
Gender Less empowerment Responsibility for water supply (less water, long walking/boating distances) Susceptibility to skin diseases (water salinity – scarcity of good water quality, utensil, shrimp) Low alternative income scope (limited opportunities)	Dr Dilruba Ahmed Md. Alamgir Hossain	Department of Social Welfare (Ministry of Social Services) Ministry of Women and Children Affairs Ministry of Health and Family Welfare	
Education Low environmental awareness Livelihood options limited High dropout of male students (they have to support families) Outmigration of males (to support families, to support better jobs)	Md. Ashis Mawla	Ministry of Education NGOs e.g. UNICEF	
Loss of traditional knowledge (e.g. agriculture practices, farming, healthcare, environmental, technical)	Faisal Ahmed	Ministry of Cultural Affairs	
Loss of cultural heritage Historic mosques and other monuments (lack of care) Declining number of tribal people, there are isolated – facing similar problems as other communities Annual Hindu ceremony (3 days) om Dublar Char	Faisal Ahmed	Ministry of Cultural Affairs	
Security Kidnapping of fishermen for ransom (improving as a result of govt initiative)	Md. Tariqul Islam	Bangladesh Coast Guard Bangladesh Navy Bangladesh Police Bangladesh Forest Department	

Environmental and social issues	Lead responsibility in Team	Relevant governmental agency	Comments/notes
		Rapid Action Battalion (RAB)	
Seasonal tourism (in Sundarbans) Dependency of the local people on tourism (as tourist guides)	Rakshanda Mabin	Bangladesh Tourism Corporation Bangladesh Forest Department	
Increasing demand of govt. agencies to be present in Sundarbans	Md. Tariqul Islam	Different Govt. Agencies	
Illegal practices/activities in Sundarbans e.g. poaching and hunting, logging, poison fishing, illegal tree cutting, illegal trafficking, corruption	Md. Tariqul Islam	Bangladesh Coast Guard Bangladesh Navy Bangladesh Police Bangladesh Forest Department Rapid Action Battalion (RAB)	
Institutional issues Lack of coordination between governmental agencies Lack of capacity (technical capacity, lack of staff)	Dr Chowdhury Saleh Ahmed	Different Govt. Organizations	
Transboundary issues Water pollution of the river Migration of tigers and other wildlife Freshwater flow Ganga river, withdraw of freshwater Air pollution Foreign pirates	H.M. Nurul Islam Mushfiq Ahmed Dr. Farhana Ahmed	Joint River Commission Ministry of Foreign Affairs Ministry of Water Resources Ministry of Environment, Forest and Climate Change	
Sensitive areas e.g. *Baor* (Oxbow lake), permanently inundated areas	Md.Amanat Ullah	Bangladesh Forest Department, Department of Environment	
Coastal zone Blue Economic Zone High biodiversity value (marine protected area established in 2014) Main pollution linked to organic pollution from Sundarbans	Mohammed Mukteruzzaman	Prime Minister's Office (Blue Economic Zones) Department of Fisheries Bangladesh Forest Department Bangladesh Navy	

Appendix 5: List of Key Documents and References

Note: This is a provisional and initial list of references of documents sourced to date. It will be incrementally expanded throughout the course of the SEA. It does not include all of the individual policies, plans and programmes which be listed separately.

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Bangladesh Climate Change and Gender Action Plan (CCGAP) 2013

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National Plan for Disaster Management 2010-2015

Coastal Zone Policy 2005

National Agricultural Extension Policy (NAEP) 2012

The National Food Policy Plan of Action (2008 - 2015)

Bangladesh Delta Plan 2100

EIA documents conducted in the southwest (i.e., Blue gold programme EIAs conducted in southwest, EIA of Rampal Power Plant, EIA of Rupsha Power Plant)

Publications of RVCC regarding Climate Change and Adaptation (Available from CARE and CDP)

Appendix 6: List of Meetings Held and Participants

Meeting 1	**Bangladesh Forest Department officials with national and International consultants of CEGIS and Integra**	
Date	Monday, 3 February 2020	
Time	10.00am -1.00pm	
Venue	Rokton Auditorium, Bangladesh Forest Department, Banbhaban, Agargaon, Dhaka	
Agenda	• Presentation on SEA • Discuss reason for SEA, objectives & expectations • Discuss idea of cross-agency SEA Committee (key government agencies, others) • Raise issues in ToR and its clarification	
Participants	1. Mr. Mohammed Shafiul Alam Chowdhury, Chief Conservator of Forests, Bangladesh Forest Department 2. Mr. Zahir Uddin Ahmed, DTL, SEA Project, CEGIS 3. Md. Rakibul Hasan Mukul, Project Director, Sustainable Forest & Livelihood (SUFAL) Project 4. Mr. Gobinda Roy, Deputy Chief Conservator of Forests, Education & Training Wing, Bangladesh Forest Department 5. Mr. Md. Ariful Hoque Belal, Assistant Chief Conservator of Forests, Management Plan Unit, Bangladesh Forest Department 6. Ms Ummey Habiba, Deputy Conservator of Forests, Monitoring Unit, Bangladesh Forest Department 7. Mr. Md. Mahmudul Hasan, Assistant Chief Conservator of Forests, Establishment Unit, Bangladesh Forest Department 8. Mr. Molla Mohammad Mizanur Rahman, Asst. Chief Conservator of Forests, Social Forestry & Extension, Bangladesh Forest Department 9. Mr. Md. Zaheer Iqbal, Project Leader, SEA Project and Deputy Conservator of Forests, Bangladesh Forest Department 10. Mr. Mushfiq Ahmed, Ecologist, Ecology, Forestry and Biodiversity Division, CEGIS 11. Dr. Jean-Roger Jacques Mercier, Integra, Consulting Ltd, Czech Republic 12. Mr. Martin Smutný, Integra Consulting Ltd, Czech Republic 13. Dr. Vladislav Bizek, Integra Consulting Ltd, Czech Republic 14. Afroza Begum, Research Officer, RIMS Unit, Bangladesh Forest Department 15. Ms Shamima Begum Shewli, Senior Research Officer, RIMS Unit, Bangladesh Forest Department 16. Ms Esika Paul, Wildlife and Biodiversity Conservation Officer, Bangladesh Forest Department 17. Mr. Imran Ahmed, Conservator of Forests, Bangladesh Forest Department 18. Dr. Mariam Akter, Assistant Chief Conservator of Forests, Bangladesh Forest Department 19. Dr. David Barry Dalal-Clayton, Team Leader, SEA Project, Integra Consulting Ltd, Czech Republic	
Meeting Photo		

Meeting 2	**Meeting with IUCN Bangladesh officials**
Date	Monday, 3 February 2020
Time	2.30pm-4.30pm
Venue	IUCN Bangladesh Country Office
Agenda	Explain objectives of SEA, secure buy-in/support, basic information collection about SW region of Bangladesh and relevant study conducted by IUCN Bangladesh
Participants	1. Mr. Raquibul Amin, Country Representative, IUCN Bangladesh Country Office 2. Mr. Sakib Ahmed, Programme Assistant, IUCN Bangladesh Country Office 3. Ms. Kazi Zenifar Azmiri, Programme Assistant, IUCN Bangladesh Country Office 4. Dr. David Barry Dalal-Clayton, Team Leader, SEA Project, Integra Consulting Ltd, Czech Republic 5. Dr. Jean-Roger Jacques Mercier, Integra, Consulting Ltd, Czech Republic 6. Mr. Martin Smutný, Integra Consulting Ltd, Czech Republic 7. Dr. Vladislav Bizek, Integra Consulting Ltd, Czech Republic 8. Mr. Zahir Uddin Ahmed, DTL, SEA Project, CEGIS 9. Mr. Mushfiq Ahmed, Ecologist, , Ecology, Forestry and Biodiversity Division, CEGIS
Meeting Photo	 

Meeting 3:	**Meeting with Ministry of Environment, Forest & Climate Change and other nine sector ministry/department representatives at Secretariat**
Date:	Tuesday, 4th February, 2020
Time:	3.30pm-5.00pm
Venue:	Conference Room, Ministry of Environment, Forest & Climate Change
Agenda:	Explain objectives of SEA, SEA methodology, expected conservation measures in Sundarbans.
Participants:	1. Mr. Ziaul Hasan ndc, Secretary, Ministry of Environment, Forest & Climate Change 2. Mr. Mohammed Shafiul Alam Chowdhury, Chief Conservator of Forests, Bangladesh Forest Department 3. Mr. Mohammad Hossain, Director General, Power Cell 4. Mr. Nirod Chandra Mondal, Deputy Secretary, Power Division 5. Mr. Khandakar Azizur Rahman, Consultant, BPDB Representative 6. Mr. Abdus Sattar Sheikh, Joint Secretary, Ministry of shipping 7. Ms. Zakia Afroz, Seputy Chief, Ministry of Environment, Forest & Climate Change 8. Mr. Muhammad Azizur Rahman, Road Transport and Highways Division 9. Dr. Md. Billal Hossain, Additional Secretary (Admin), Ministry of Environment, Forest & Climate Change 10. Mr. Zahir Uddin Ahmed, DTL, SEA Project, CEGIS 11. Md. Zaheer Iqbal, Project Leader, SEA Project and Deputy Conservator of Forests, Bangladesh Forest Department 12. Dr. A. K.M. Rafique Ahammed, Director General, Department of Environment 13. Dr Fahmida Khanom, Director (Nayural Resources Management) , Department of Environment 14. Dr. Jean-Roger Jacques Mercier, Integra, Consulting Ltd, Czech Republic 15. Mr. Martin Smutný, Integra Consulting Ltd, Czech Republic 16. Dr. Vladislav Bizek, Integra Consulting Ltd, Czech Republic 17. Dr Kazi Md Noor Newaz, Environmental Advisor and Director (Addl. Charge), CEGIS 18. Mr. Md. Salim Ullah, Ministry of Industries 19. Mr. Md Mahbubul Haque, Senior Assistant Secretary, Ministry of Fisheries and Livestock 20. Ms Shahin Ara Begum, Deputy Secretary, Ministry of Environment, Forest & Climate Change 21. Mushfiq Ahmed, Ecologist, Ecology, Forestry and Biodiversity Division, CEGIS 22. Dr. David Barry Dalal-Clayton, Team Leader, SEA Project, Integra Consulting Ltd, Czech Republic
Meeting Photo	 

Meeting 4:	**Meeting with NGO representatives**
Date:	Wednesday, 5th February, 2020
Time:	3.30pm-5.30pm
Venue:	CEGIS Conference Room, Gulshan, Dhaka
Agenda:	Explain objectives of SEA, SEA methodology, expected conservation measures in Sundarbans, secure buy-in/support, expectations and sharing experiences etc.
Participants:	1. Ms. Maria Aktar, Programme Officer, Action Aid Bangladesh 2. Mr. Enamul Mazid Khan Siddique, Project Coordinator, Water Governance, Oxfam 3. Ms. Tasfia Tasnim, Research Associate, International Centre for Climate Change and Development (ICCCAD) 4. Mr. Mohammad Feisal Rahman, Research Coordinator, International Centre for Climate Change and Development (ICCCAD) 5. Ms. Kazi Zenifar Azmiri, Programme Assistant, IUCN Bangladesh 6. Dr. Mokhlesur Rahman, Executive Director, Center for Natural Resource Studies (CNRS) 7. Mr. Zahir Uddin Ahmed, DTL, SEA Project, CEGIS 8. Mr. Ashik Jahan Salib, Senior Programme Officer, MPA Programme, WCS Bangladesh 9. Ms Shamsunnahar Shanta, Acting Programme Manager, MPA Programme, WCS Bangladesh 10. Mr Jahin Shams Sakkhar, Programme Development Specialist, Uttaran 11. Ms Naznin Nasir, PhD Researcher, Durham University, International Centre for Climate Change and Development (ICCCAD) 12. Dr Kazi Md Noor Newaz, Environmental Advisor and Director (Addl. Charge), CEGIS 13. Mr. Mushfiq Ahmed, Ecologist, Ecology, Forestry and Biodiversity Division, CEGIS 14. Dr. David Barry Dalal-Clayton, Team Leader, SEA Project, Integra Consulting Ltd, Czech Republic 15. Dr. Jean-Roger Jacques Mercier, Integra, Consulting Ltd, Czech Republic 16. Dr. Vladislav Bizek, Integra Consulting Ltd, Czech Republic
Meeting Photo	 

Appendix 7: Approach to Stakeholder Identification and Analysis

1. Potential stakeholder Identification

A key principle of SEA is that it should be a participatory process, which enables concerned stakeholders - including those organizations and individuals have a significant interest in a policy, plan or programme (PPP), and those who are likely to be directly or indirectly affected by the PPP - to raise issues of concern to them, and to contribute inputs to strategic decision-making in a meaningful way. Typically, stakeholders fall into three categories, those who (i) can *influence*, (ii) will be *affected* by, and (iii) are *involved* in PPPs.

One of the initial steps in the SEA process will be to undertake 'stakeholder analysis' to help understand the power relations between different actors, their influences on the PPPs and, conversely, how the PPPs influence them, and also their mutual interactions with regard to the changing circumstances.

Stakeholders will be identified and analyzed through the following steps:

2. Determining 'stakes' in relation to PPPs

Stakes refer to the likely environmental, social or economic consequences of implementing PPPs, i.e. how they will likely impact on and influence physical, biological, environmental and social conditions and resources in the study area (including the Sundarbans). These stakes will be determined by reviewing relevant literatures relevant to the SW region (such as policies, plans, programs/project documents, study reports, articles etc.), consulting with the concerned officials/representatives of targeted seven sectors and other relevant sectors, as well as the BFD/ MoEFCC, through expert judgment and discussions among the SEA study team, etc.

3. Identifying potential stakeholders

An initial listing of stakeholders will be made, covering all relevant sectors and levels (national to local). Additional stakeholders may be included as the SEA proceeds and they are identified.

Typically, stakeholders are categorized as primary, secondary, and tertiary; as well as, internal and external. However, for this SEA, it may be difficult to use this approach due to the uncertain nature of roles, powers and interests. Therefore, all stakeholders will be classified according to a 'continuum of interacting layers':

- ***Ideological*** (top) layer: organizations and individuals who set visionary goals and are involved in policy-making, e.g. the legislative body of government, policy-makers, national and international NGOs, intellectuals, etc.
- ***Institutional*** (mid) layer): the implementing departments of the government, especially all key sectors. Relevant officials from these sectors will be consulted throughout the SEA process;
- ***Social practice*** (bottom) layer: local people, local government representatives and private sector entities who live and/or earn their livelihoods in the study area, and are likely to be affected when PPPs are implemented, or who may influence the PPPs.

These layers are summarized in Table 1.

Table 1: Stakeholder continuum

LAYERS		
Ideological (policy level)	**Institutional (implementation)**	**Social practice**
Concerned Ministries Policy-makers National and international agencies Intellectuals Different boards, and departments (who are involved in policy-making) etc.	Departments and institutions who implement and set their own goals and targets at the field level Local and national level NGOs, etc.	Local occupational groups Private sector entities Local interested groups etc.

4. Analyze of the power and interests of stakeholders

Stakeholders falling into the above layers will be analyzed using a 'power-interest continuum' (Figure 1). Here, the X axis reflects the power of stakeholders (low-medium-high) to influence PPPs; and the Y axis reflects the interests of stakeholders (low-medium-high). This analysis will help to identify how the SEA consultation process will need to be focused and how best to engage with particular stakeholders, and to ensure that critical stakeholders are not overlooked.

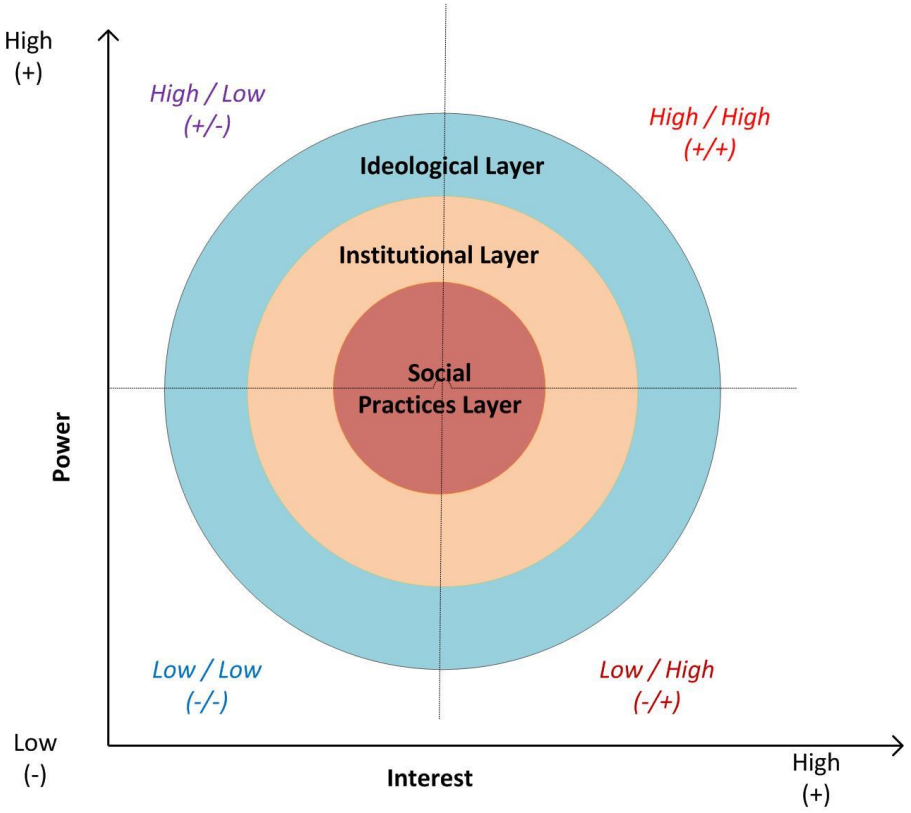

Figure 1: Stakeholder analysis framework

5. Consultation with Stakeholders

Stakeholder engagement will be organized as follows. For all workshops and meetings, invitations will be extended. Views and feedback will be recorded and summarized in the SEA report.

Multi-stakeholder consultations

Two rounds of national and regional level multi-stakeholder level dialogues/consultations will be carried out, involving organizations/individuals representing all types of stakeholders (ideological, institutional and social practice).

The ***first round*** will be conducted during scoping phase to secure information related to stakeholders' key concerns and perspectives as regards development in the SW region and with regards to PPPs for all relevant sectors affecting the region.

The ***second round*** will be carried out after preparation of the draft SEA report and draft SEMP to present findings and recommendations. This round represents a 'disclosure' step to enable the SEA study results to be explored/shared and to gather participants' feedback/suggestions to be address in preparing the final SEA report and final SEMP.

Key Informant Interviews

One or more interviews (as required) will be conducted with officials/individuals from relevant government departments who are involved in implementing/ facilitating the PPPs, non-government organizations, bodies representing interest groups, and influential and knowledgeable individuals (at national to local levels). Semi-structured questionnaires will be used.

Informal interviews

Semi-structured and informal interview will be conduct with local people on a random basis during field visits for better understanding baseline conditions and key concerns as regards PPPs and options for future development.

District level consultations

Formal consultation meetings will be carried out in each of the 14 districts in the SW region. These meetings will include district level officials of government departments, NGOs representatives etc.

Upazila (sub-district) level consultations

Consultations will also be carried out in selected upazilas - based on factors such as: proximity to the Sundarbans, river catchments, environmental hotspots, most development-intervened areas, etc. These meetings will include upazila level officials of government departments, local NGOs representatives, particular interest groups, etc.

Focus Group Discussions (FGDs)

A number of FGDs will be conducted with homogeneous occupational groups, who have been affected and/or likely to be affected by the PPPs. These groups will be identified based on their type of occupations (e.g. farmers, fisherfolk, forest dwellers), their particular locations (e.g. in or near sensitive areas or industries), and the likely impacts on them of implementing PPPs across all relevant sectors.

Appendix 8: Provisional List of Stakeholders

(For all sectors)

Stakeholder by Layers		
Ideological (policy level)	***Institutional (implementation)***	***Social practice***
• Ministry of Environment, Forests and Climate Change • Ministry of Water Resources • Ministry of Local Government, Rural Development and Cooperatives • Ministry of Fisheries and Livestock • Ministry of power, energy and mineral resources • Ministry of Industries • Ministry of Agriculture • Water Resources Planning Organization (WARPO) • Bangladesh Water Development Board (BWDB) • River Research Institute (RRI) • PETRO Bangla • Bangladesh Economic Zone Authority (BEZA) • Ministry of Civil Aviation & Tourism. • Ministry of Law Justice and Parliamentary Affairs • Ministry of Transportation & Communication • Ministry of Social Welfare • Ministry of Shipping • Ministry Disaster Management and Relief • Ministry of Housing and Public Works	• Department of Environment (DoE) • Bangladesh Forest Department (BFD) • Sundarbans Forest Divisions • Department of Public Health Engineering (DPHE) • Department of Fisheries (DoF) • Department of Livestock Services • Department of Agricultural Extension • Disaster Steering Committee • Red Cross/Red Crescent (zilla committee) • Bangladesh Water Development Board (BWDB) • Bangladesh Inland Water Transport Authority (BIWTA) • Road and Highways Department (RHD) • City Corporations • NGOs • Mongla Port Authority (MPA) • Bangladesh Climate Change Trust (BCCT) • Social Forest Divisions Jashore, Bagherhat • Deputy Commissioners Khulna, Satkhira, and Bagherhat. • Police Department Khulna Shatkhira and Bagherhat. • Coast Guard, Khulna • Rapid Action Battalion Barishal, Khulna Division. • Power Cell • Bangladesh Power Development Board (BPDB) • Bangladesh Rural Electrification Board (BREB) • Power Greed Company of Bangladesh (PGCB) • Geological Survey of Bangladesh (GSB) • Gas Transmission Company LTD. (GTCL)	• LGIs • NGOs (Water Aid, AOSED, UTTARAN) • University (Khulna) • University, (KUET) • Social Platforms (i.e. Sundarbans Academy, Sundarban Watch Group) • Fisherfolk • Farmers • Forest Resource Collectors • Local Government Authorities **Co -Management Organizations:** • Bawalies (Sundarbans Resources Collectors) • Mowalies (Sundarbans Honey Collectors) • Sundarbans Dependent Fishermen, Crab & fry collectors • Sundarbans Tour Operators Association. • Sundarbans Lanch Malik Somity **Forest dependent Communities:** • Wood Traders • Tourists • Poachers • Hunters

Stakeholder by Layers		
Ideological (policy level)	***Institutional (implementation)***	***Social practice***
• CITES/ • CBD • UNESCO • RAMSAR • UNFF • APFNet	• Eastern Refinery LTD (ERL) • Sustainable & Renewable Energy Development Authority (SREDA) • Bangladesh Chemical Industries Corporations (BCIC) • Bangladesh Small & Cottage Industries Corporations. (BISIC) • National Productivity Organization (NPO) • Bangladesh Investment Development Authority (BIDA) • Bangladesh Parjatan Corporation (BPC) • Bangladesh Tourism Board. • Civil Aviation Authority • Highway & Road Transport Divisions • Bangladesh Setu Kotripokho. • Bangladesh inland water Transportation Authority (BIWTA) & (BIWTC) • Mongla Port Authority • Bangladesh Shipping Corporation (BSC) • Bangladesh Railway • Environment Department • Local Administration • Judiciary Department • Bangladesh Navy • Border Guard Bangladesh • Bangladesh Police • Local Government • Bangladesh Forest Industries Development Corporation (BFIDC) • Bamboo based cottage industries • Wood Seasoning plants • Wood Treating Plants • Furniture & Other Wood based Factory & Mills: • Door and Window making Factory • Hardboard Mills • Particle Board plants • Plywood Factory • Pulp Mills	• Kabiraj (Orthodox practitioners of Medicine) • Lime (edible) producers from Jongra. • Charcoal Producers • Brick Field owners • Law practitioners/Prosecutors • Workers of Wood based industries, Collectors, • Growers, Intermediaries, Investors. • Seedling producers (Nursery owners) • Lac & Khoir producers • Cane, Sun grass & Thatching materials users • Researchers and Educationists. • Tour Guides • Jally boat owners (Tourism) • Handicrafts manufacturer • Municipalities in SW region • Khulna City Corporation • I-NGOs (IUCN, UNEP, UNDP, etc) • Jessore University of Science and Technology, Islamic University) • The World Bank • Asian Development Bank • Japan International Cooperation Agency (JICA)

Stakeholder by Layers		
Ideological (policy level)	***Institutional (implementation)***	***Social practice***
	• Paper Mills, Newsprint Mills • Rayon Mills • Match Factories • Wax Factory • Honey Processing Factories • Urban Development Directorate (UDD) • Khulna Development Authority (KDA) • Khulna City Corporation (KCC) • Khulna University • Bangladesh Sugar & Food Industries Corporation (BSFIC) • Bangladesh Steel & Engineering Corporation (BSEC) • Bangladesh Accreditation Board (BAB) • The Small & Medium Enterprise Foundation (SMEF) • Small, Micro and Cottage Industries Foundation (SMCIF) • Bangladesh Council of Scientific and Industrial Research (BCSIR) • Bangladesh Industrial Technical Assistance Centre (BITAC) • Bangladesh Standards and Testing Institution (BSTI) • Bangladesh Oil, Gas and Mineral Corporation (BOGMC) short named Petrobangla • Bureau of Mineral Development (BMD) • Maddhapara Granite Mining Co. Ltd. • Bangladesh Gas Fields Company Ltd. (BGFCL) • Geological Survey of Bangladesh (SoB)	
• Ministry of Agriculture (MoA) • Ministry of Land (MoL) • Ministry of Water Resources (MoWR) • Ministry of Fisheries and Livestock • Planning Commission	• Department of Agricultural Extension (DAE). • Department of Livestock (DLS). • NARS organizations (BARI, BRRI, BJRI, BINA, BSRI, BLRI, BFRI, BFRI, BTRI, SRDI). • BARC. • Irrigation related organization (BADC, BWDB, LGED)	• Local Farmers Group • Irrigation provider • Different crops growers group • Local NGO's (BRAC, ACI etc.). • I-NGOs (IRRI, FAO etc.) • Different implementation projects relevant personal • University (Khulna University, KUET)

Stakeholder by Layers		
Ideological (policy level)	***Institutional (implementation)***	***Social practice***
• Prime Minister's Office • General Economics Division (GED), Planning Commission • Ministry of Power Energy and Mineral Resources • Ministry of Industries • Ministry of Environment Forest and Climate Change • Ministry of Land • Ministry of Labor and Employment • Ministry of Shipping • Development Partners (WB, ADB, JICA)	• Bangladesh Power Development Board • Power Companies like NWPGLC, BCPCL, RPCL and APSCL • Sundarbans- Gas Distribution Company Ltd. • PGCB and REB • Department of Environment • Bangladesh Forest Department (BFD) • Bangladesh Economic Zone Authorities • Bangladesh Small and Cottage Industries Corporation • Mongla and Payra Port Authority • Private enterprise (Bashudhara Group, Energy Pac, Petro-max, United Group etc. • Regional or Local Business organizations	• Representatives from the areas of proposed Plan/program • Livelihood Groups (Fisher, Farmer, Labors) • Magical Groups (Gender, Minorities, ethnic communities) • Land lords and Business men • Local Government and Influential people • NGOs and local cooperatives or clubs • Civil societies, Journalist and institutions

Economics as a cross cutting sector

Central Level	Stakeholders
Concerned Ministries	• Finance Division of the Ministry of Finance • Planning Division of the Ministry of Planning
Policy-makers	• Secretary of Finance Division' • Secretary of Planning Division • Member , Agriculture Water Resources and Rural Institution Division
National and international agencies	<u>National Agency</u> • Implementation Monitoring and Evaluation Division (IMED) • Bangladesh Institute of Development Studies (BIDS) <u>International Agency</u> • The World Bank; • The Asian Development Bank • Bilateral development cooperation agencies
Intellectuals	
Different boards, and departments (who are involved in policy-making)	• Centre for Policy Dialogue (CPD) • Policy Research Institute (PRI) • Palli Karma Sahayak Foundation (PKSF)

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