

TN SHORE PROJECT

Capacity building program

WORLD BANK ENVIRONMENTAL & SOCIAL MANAGEMENT FRAMEWORK

July 24, 2026

**Quick reference guide for Project
Executing Agencies on E&S compliance**



LEGEND

Enhancing Biodiversity

- Biodiversity Conservation Park
- Pollikaranai Marshland Conservation & Restoration
- Sea Turtle Conservation Centre
- International Dugong Conservation Centre
- International Bird Centre
- Mangrove Conservation Centre
- Gulf of Mannar Biosphere Reserve

Coastal Protection

- Mangrove Plantation and Restoration
- Seagrass Restoration
- Realtime GHG Assessment
- Island Restoration, GoM Ecosystem
- Strengthening Coastal Management

Improving Livelihood

- Eco-Tourism
- Beach Tourism
- Diversified Livelihoods, GoM

Pollution Abatement

- Ennore Creek Restoration
- Climate Resilient Villages
- Plastic Circularity

Coastal districts

Pallikaranai Marshland Conservation & Restoration



Coastal Protection



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Improving Livelihood

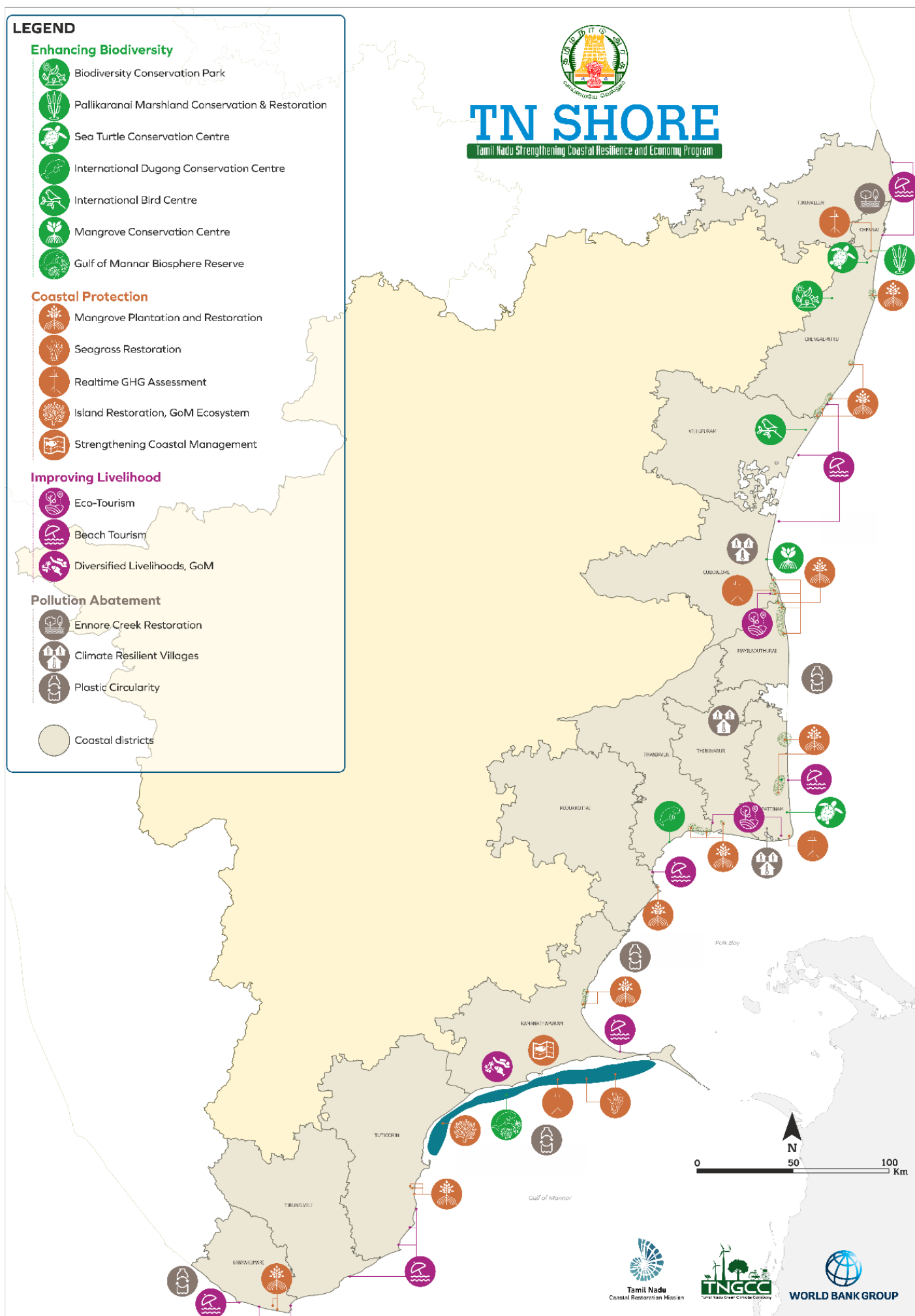
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Pollution Abatement





Tamil Nadu Strengthening Coastal Resilience and Economy Program



TNGCC
"Small Steps Create a Greener Future"



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Abbreviations

TN SHORE	Tamil Nadu Sustainably Harnessing Ocean Resources and Blue Economy
PAD	Project Appraisal Document
PDO	Project Development Objective
IR	Intermediate Results
ESF	Environmental & Social Framework
ESMF	Environmental & Social Management Framework
ESMP	Environmental Social Management Plan
ESIA	Environmental Social Impact Assessment
ESS	Environmental Social Standards
ESDDR	Environmental and Social Due Diligence Report
GBV	Gender Based Violence
SEA/SH	Sexual Exploitation & Abuse / Sexual Harassment
GRM	Grievance Redressal Mechanism
GRC	Grievance Redressal Committee
LMP	Labour Management Plan
SEP	Stakeholder Engagement Plan
BMP	Biodiversity Management Plan
TMP	Traffic Management Plan
SPMU	Special Project Monitoring Unit
PEA	Project Executing Agency
CoC	Code of Conduct
MAWS	Municipal Administration & Water Supply Department
AR	Artificial Reef module

1. Overview of TN SHORE Project

1.1. Background

Tamil Nadu Sustainably Harnessing Ocean Resources and Blue Economy (TN-SHORE) is a Government of Tamil Nadu initiative supported by the World Bank to promote a climate-resilient and sustainable blue economy. The project focuses on **coastal biodiversity conservation, nature-based coastal protection, sustainable livelihoods, marine pollution management, and institutional strengthening**. Covering Tamil Nadu's 1,069 km coastline, the project is being implemented during **2025 - 2031** with a total investment of **₹1,675 crore**, jointly funded by the **World Bank (70%)** and the **Government of Tamil Nadu (30%)**.

1.2. Results Framework

The Project Appraisal Document (PAD) is the World Bank's official document that defines the project's objectives, scope, financing, implementation arrangements, and results framework. The results framework comprises **Project Development Objective (PDO)** indicators, which measure the project's intended outcomes, and **Intermediate Results (IR)** indicators track the outputs and milestones for each component, contributing to those PDO outcomes.

Project Development Objective Indicators

Project Development Objective (PDO)	PDO level indicators	Target
To increase coastal protection and conservation	People benefitting from enhanced resilience of terrestrial and aquatic systems	55,000 people
	Seascapes under enhanced conservation and / or sustainable management (coastal zones and oceans)	10,000 Ha
To increase livelihood benefits	Number of beneficiaries employed	40,000 people
To reduce marine plastic pollution	People in targeted coastal areas with less exposure to plastic pollution	50,000 people
To increase coastal protection and conservation, enhance livelihood benefits, and reduce marine plastic pollution in targeted coastal communities	Share of target beneficiaries with rating "Satisfied" or above on Project interventions	75%

Intermediate Results Indicators

Component	Intermediate Results indicator	Target
Strengthening institutions for Integrated Coastal Zone Management	Sustainable Management Plans for Coastal Ecosystems prepared and approved by the competent authority	7 management plans
Shoreline management, coastal protection, and conservation	Centers of Excellence established with business plans and operational	4 Centres of Excellence
	Share of employees in mangrove plantations that are women	30%
Improving livelihoods for natural resource dependent communities	Beneficiaries provided with training support on coastal livelihoods	40,000 people
	People benefiting from improved beach infrastructure	80,000 people
Enhancing marine pollution management and plastic circularity	Plastic waste removed	3,000 Metric ton
	Plastic waste recycled or diverted	3,000 Metric ton
	Private capital enabled	US\$ 2 million
	Share of Project beneficiaries employed in MRFs and provided social security that are women	65%

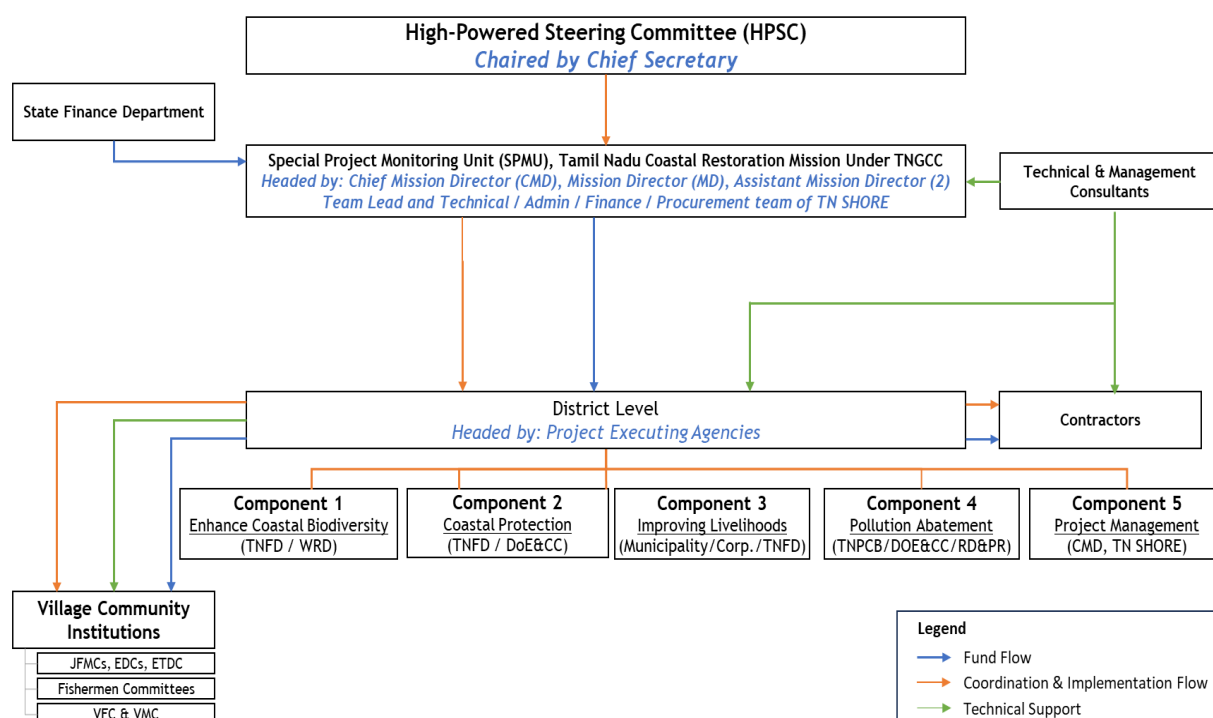
1.3. Projects sanctioned by Government of Tamil Nadu

Component	Overall sanction (GO 11)	Key Activities/sub-projects
Enhance Coastal Biodiversity	770.0	- Centres of Excellence (Dugong, Turtle, Wetlands, Birds, Mangrove) - Mapping and restoration of 20 coastal wetlands including Pallikaranai marshland
Coastal protection	340.0	- Building bio-shield (mangrove restoration / plantation) through Village Mangrove Councils - Seagrass & coral restoration using Artificial reef and coral substrates in Gulf of Mannar, Island protection in Gulf of Mannar (Kariyachalli) - Preparation of ICZMPs, CVCA/IMP plans, ecosystem monitoring and blue carbon accounting, capacity building

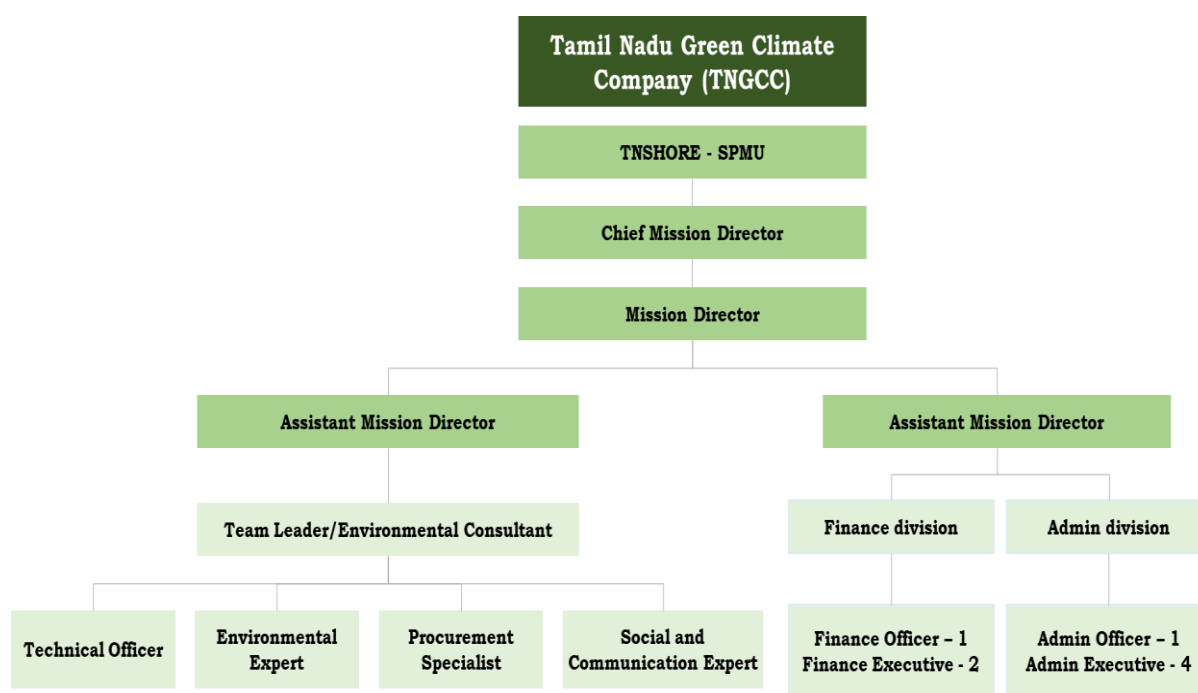
Improving livelihood	250.0	• Blue Flag beaches and eco-tourism • Skilling & enterprise promotion, SHG/EDC community grants, fisheries / tourism infrastructure
Pollution abatement	215.0	• Establishment of Material Recovery Facilities • Floating Trashboom Barriers • Discarded Fishnet Collection Centre • Climate Resilient Villages • Ennore Creek restoration
Project Management	100.0	• SPMU operations under TNGCC, Engagement of Technical / Procurement / Financial / E&S and M&E experts under SPMU • Third party audits • Documentation & Monitoring

1.4. Overall implementation arrangements

TN SHORE INSTITUTIONAL MECHANISM



1.5. TN SHORE SPMU arrangement



2. Introduction to ESMF

2.1. Why Environmental & Social Management Framework (ESMF)?

The World Bank legally mandates all investment projects to manage environmental and social risks in accordance with **Environmental and Social Management Framework (ESF)**. Effective E&S management ensures that Project Development Objective (PDO) is achieved, while minimizing adverse E&S impacts on communities and the environment. The ESMF aims to:

- Assess and **manage environmental and social (E&S) risks** in line with national/state regulations and World Bank Environmental & Social Standards (ESS).
- Integrate E&S requirements into **bid** and contract documents and ensure **compliance** throughout the project lifecycle
- **Enhance transparency and accountability** through grievance redressal mechanisms and regular stakeholder consultations.
- **Promote safe and fair working conditions**, including prevention of gender-based violence and child/forced labor.
- **Strengthen institutional capacity** to identify, assess, monitor, and mitigate E&S risks throughout the project lifecycle.
- Establish mechanisms for implementation, **monitoring**, and reporting.

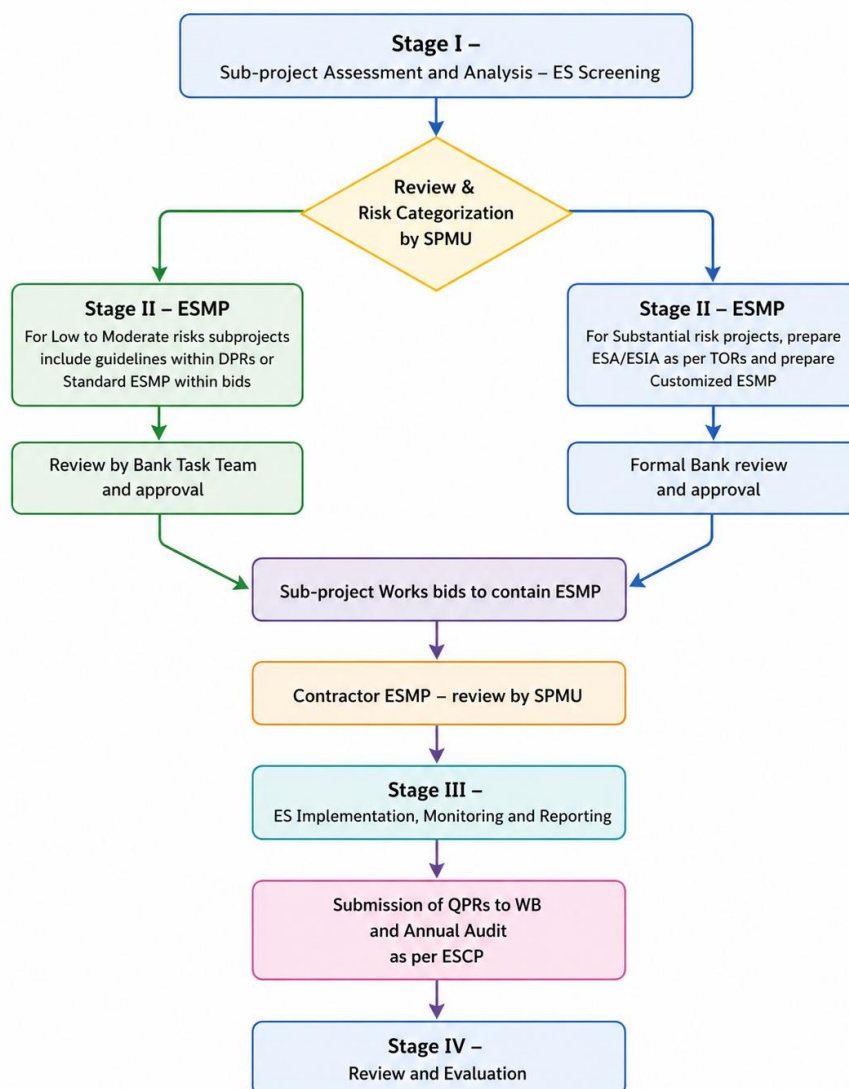
2.2. Application of the Environmental & Social Management Framework

The ESMF applies to all sub-projects implemented by Project Implementing Agencies (PIAs), including DoE&CC, TNPCB, TNFD, MAWS, WRD, TNGCC, and provides a systematic framework for integrating environmental and social (E&S) considerations in the project activities.

Activity Type	Sub-projects
Works	Hard infra (Centres of Excellence, Material Recovery Facilities), or environmentally friendly interventions (wetland conservation and restoration)
Goods	Procurement of trash barriers & project-related equipment / materials
Engagement Initiatives	Blue Flag Beaches, Discarded Fish Net Collection Centres
Consulting services	Integrated Coastal Zone Management (ICZM) and other coastal management plan preparations

2.3. E&S risk management process

ESMF will be applied to the overall project through a four-stage process.



TN-SHORE is a **Substantial Risk** project under the World Bank ESF and requires a detailed ESIA in accordance with the approved ToR's and applicable ESSs.

2.4. Environmental and Social Standards (ESS)

The World Bank Environmental and Social Framework (ESF) is the overarching policy framework, while the Environmental and Social Standards (ESSs) are the ten specific standards within the ESF that set out the requirements for borrowers.

ESS	Objective	Applicability to TN SHORE
ESS1	Assessment and Management of Environmental and Social Risks and Impacts	TN SHORE is classified as a Substantial Risk project and requires assessment and management of E&S risks throughout the project lifecycle.
ESS2	Labour and Working Conditions	Applies to direct and contracted workers during construction & operation
ESS3	Resource Efficiency & Pollution Prevention and Management	Promotes efficient use of resources and management of air, water, soil, noise, and waste during project implementation.
ESS4	Community Health and Safety	Addresses potential risks such as health & safety arising from project activities
ESS5	Land Acquisition, Restrictions on Land Use and Involuntary Resettlement	Private land acquisition is excluded; the project manages temporary access restrictions
ESS6	Biodiversity Conservation and Sustainable Management of Living Natural Resources	Applicable to interventions in ecologically sensitive habitats such as mangroves, wetlands, seagrass, coral reefs and coastal ecosystems.
ESS7	Indigenous Peoples / Sub-Saharan African Historically Underserved Traditional Local Communities	Applicable only if scheduled Tribes are present near project activities
ESS8	Cultural Heritage	Addresses protection of cultural heritage and implementation of Chance Find Procedures during project execution.
ESS9	Financial Intermediaries	Not Applicable
ESS10	Stakeholder Engagement and Information Disclosure	Stakeholder consultations, timely information disclosure in local languages and establishing Grievance Redressal Mechanism (GRM).

2.5. World Bank's ESF with the equivalent national/state regulations

ESS	Applicable national / state environment & social regulations
ESS 1: Assessment and Management of Environmental and Social Risks and Impacts	- Environment Protection Act/Rules 1986 & amendments till date - EIA Notification 14th Sep 2006 and amendments till date.
ESS 2: Labour and working conditions	Building and Other Construction Workers (Regulation of Employment and Conditions of Service) Act,

	• The Inter-State Migrant Workmen (Regulation of Employment and Conditions Service) Act, 1979, 1980, 1981. • Workmen (Regulation of Employment and Conditions Service) (Tamil Nadu) Rules, 1983, 1984, 1985; Payment of Wages Act, 1936 • The Child Labour (Prohibition & Regulation) Amendment Act, 2016 • Sexual Harassment of Women at the Workplace (Prevention, Prohibition and Redressal) Act, 2013 (POSH Act) • Contract Labour (Regulation & Abolition) Act 1970 • Employees Provident Fund and Miscellaneous Provision Act, 1952 • Maternity Benefit Act, 1951 • The new labour codes of India; 1) Code on Social Security, 2020, 2) Code on Wages, 2019, 3) Industrial Relation Code, 2020 and 4) Occupational Safety, Health, and Working Conditions Code, 2020.
ESS 3: Resource Efficiency and Pollution Prevention and Management	• Air (Prevention and Control of Pollution) Act, 1981, 1987 • Water Prevention and Control of Pollution) Act, 1974, 1988 • Noise Pollution (Regulation and Control Act) 2000 and amendments till date • Hazardous & Other Waste (Management and Trans- boundary Movement) Rules, 2016 • Vehicle Act 1988 Central Motor Vehicle Rules 1989 Bureau of Indian Standards
ESS 4: Community Health and Safety	
ESS 5: Land Acquisition, Restrictions on Land Use and Involuntary Resettlement	If ESS 5 is triggered, the provisions of the <i>Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013</i> , the <i>Tamil Nadu Rules, 2017</i> , and subsequent amendments shall apply.
ESS 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources	• The Forest (Conservation) Act, 1980 and Amendments and The Forest (conservation) Rules 1981 and Amendments. • The Indian Wildlife (Protection) Act, 1972 • Tamil Nadu Forest Act 1882 & amendments • Forest Right Act -2006, The Scheduled Tribe and Other Traditional Forest Dwellers (Recognition of Forest Right) Act, 2006 • Biological Diversity Act 2002, and Biological Diversity Rules, 2004 • Wetland (Conservation and Management) Rule 2010 • Fisheries Act.
ESS 7: Indigenous people	Article 366 (25) and Article 244(1) of the Constitution of India
ESS 8: Cultural heritage	The Ancient Monuments and Archaeological Sites and Remains (Amendment and Validation) Act, 2010
ESS 10: Stakeholder Engagement and Information Disclosure	EIA Notification 14 th Sep 2006 and amendments till date. Right to Information Act, 2005

3. Project Executing Agency: legal, lender and compliance

The PEAs are bound to mitigate E&S risks for the project as per the ESMP attached to the contractor bidding documents.

Step 1: ESDDR / ESIA & ESMP Preparation

- Conduct baseline environmental and social surveys in consultation with stakeholders.
- Identify E&S risks as per ES screening checklist and prepare the Environmental and Social Management Plan (ESMP) with mitigation and monitoring plans
- Prepare the ESIA/ESMP in accordance with the World Bank Environmental and Social Standards (ESSs).
- Allocate adequate budget for ESMP implementation.

Step 2: Integration into Bid Documents

- Include approved ESIA/ESMP in bid documents.
- Include ESMP costs in the BOQ.
- Specify E&S requirements in contract conditions.
- Require bidders to comply with ESMP provisions.

Step 3: Contractor responsibilities

- Submit Contractor-ESMP (C-ESMP) & management plans prior to work commencement
- Appoint an ESHS (Environment, Social, Health & Safety) Officer.
- Implement ESMP and comply with contract requirements.
- Conduct worker training and awareness programmes.
- Monitor E&S performance and maintain records.
- Submit monthly E&S compliance reports to Project Executing Agencies.
- Address non-compliances through corrective actions.
- Ensure supervision by PMC, PEA and TN-SHORE SPMU.

4. Sub-project: Environmental Social Management Plans

4.1. Centres of Excellence

Project Executing Agency: Concerned DFOs / WLWs

4.1.1.E&S requirements in bid conditions (RFB):

Clause / conditions	Requirement	Description
ITB 11.2 (j) & PCC 16.2	C-ESMP Preparation	Contractor to comply with the ESMP mitigation, and ensure preparation of Management Plans (MSIP)

GCC 16	Monthly Progress Reports	Contractor to submit C-ESMP along with project specific MSIPs to Project Executing Agencies on a monthly basis
GCC 44 & 51.1	Penalties for Non-Compliance	Failure to comply with ES obligations will be reviewed by the PEAs, and the work will be withheld until it is rectified or complied. GCC 51.1 accounts for liquidated damages
GCC 9.1	Key personnel employment	Contractor to employ key personnel, including ESHS Officer / Engineer
GCC 28	Code of conduct for contractors' personnel	Contractor's personnel shall comply with the Code of Conduct & CoC be displayed at site
Appendix B	Environmental & Social (ES) metrics for progress reports	E&S checklist metrics: permits to be obtained, health and safety supervision / worker accommodation, gender issues and training, E&S supervision, grievances highlighted.
GCC 9.4.19	Contractor's personnel grievance mechanism	Personnel shall be informed of grievance mechanism at the time of engagement
GCC 9.4.20	Training of Contractor's Personnel	Contractor to provide training to personnel on the topics of: E&S compliance, prohibition of SEA/SH and health & safety
GCC 16.2	Health and safety manual	Health and Safety Manual shall include emergency prevention, preparedness and response, remediation of occupational injuries/fatalities, and measures to prevent community exposure to vector-borne and water-borne diseases.
GCC 26	Stakeholder engagement	Contractor to provide timely and accessible information to individuals / stakeholders likely to be affected by or interested in the project and its activities.

4.1.2.Comprehensive - Environmental & Social Impact Assessment

ESS 1: Assessment and Management of Environmental and Social Risks & Impacts	
Risk Category	Key E&S risks identified
<i>Land and Soil</i>	Site clearing, excavation, soil erosion, and sedimentation.
<i>Air and Noise</i>	Dust generation, emissions from machinery, and construction noise.
<i>Waste Management</i>	Construction debris, labour camp waste & sewage, improper disposal of solid and liquid waste.
<i>Water Resources</i>	Surface water contamination, altered drainage and impacts on coastal and wetland hydrology.
<i>Biodiversity</i>	Disturbance to mangroves, wetlands, seagrass, coral reefs, nesting habitats, and wildlife movement.
<i>Community Health & Safety</i>	Traffic risks, public access restrictions, visitor safety, and community exposure to construction activities.
<i>Occupational Health</i>	Injuries from construction activities, work at heights, electrical

<i>& Safety</i>	hazards, and heat stress.
<i>Labour & Working Conditions</i>	Labour interaction with communities, GBV/SEA/SH risks
<i>Cultural Heritage</i>	Chance finds of archaeological or culturally significant artefacts during excavation.
<i>Emergency Risks</i>	Fire, accidents, extreme weather events, oil/fuel spills, and natural disasters.

ESS 2: Labour and working conditions

<i>Labour management</i>	• No child or forced (bonded) labour • Maintain labour contracts and registers • Ensure fair wages and working hours (≤ 8 hours/day) • Provide weekly rest • Establish an on-site Grievance Redressal Mechanism (GRM)
<i>Labour Welfare Facilities</i>	• Provide safe temporary accommodation (well-ventilated; no asbestos/tin sheet) • Ensure safe drinking water at accessible locations • Separate cooking area • Provision of bathing & washing facilities in addition to separate toilets for men and women • Proper drainage and waste disposal • Creche facility to be provided when more than 50 female labourers are employed
<i>Occupational Health & Safety (OHS)</i>	• Provide appropriate PPE (helmet, gloves, safety shoes, reflective vest, ear protection, safety harness, etc.) • Conduct daily safety briefings/toolbox talks • Install safety signages • Appoint an ESHS/OHS officer • Provide first-aid facilities, fire extinguishers, emergency exits, and conduct mock drills
<i>Labour engagement</i>	• Equal pay for equal work • Equal opportunities irrespective of gender, caste, religion, or disability • Promote inclusion of women and vulnerable groups • Give preference to local employment where feasible

<i>Grievance Redressal Mechanism (GRM)</i>	• Establish a three-tier grievance redressal mechanism • Maintain grievance registers • Ensure timely grievance resolution and escalation
<i>Code of Conduct (CoC)</i>	• Zero tolerance for Gender-Based Violence (GBV), Sexual Exploitation and Abuse (Non-Discrimination SEA), and Sexual Harassment (SH) • Obtain signed Code of Conduct from all workers • Ensure confidential reporting and survivor-centred response

Contractor must prepare Labour Management Plan and shall include:

- Worker recruitment process and labour conditions
- Occupational Health & Safety (PPE, toolbox talks, emergency response plans)
- Worker welfare facilities (drinking water, sanitation, first aid)
- Code of Conduct (including GBV/SEA/SH prevention)
- Worker Grievance Redressal Mechanism (GRM)
- Incident reporting and corrective actions

ESS 3: Resource efficiency and pollution prevention

- Control dust and noise through water sprinkling, covered transport, wheel washing; equipment maintenance, silencers, and restricted working hours.
- Manage construction & demolition (C&D) through segregation, reuse, and disposal at authorized facilities.
- Prevent soil erosion and water pollution using erosion control measures such as silt fences, sediment traps, and proper drainage.
- Treat wastewater from labour camps / construction site through septic tanks/STPs; prohibit discharge into water bodies.
- Store fuels and hazardous materials safely with spill prevention and authorized disposal.
- Promote efficient use of water, energy, and construction materials
- Restore disturbed sites through backfilling, slope stabilization, and compensatory plantation.

ESS 4: Community health & safety

Typical Community Health & Safety Risks

- Increased construction traffic and road safety risks.
- Conflicts between construction vehicles & pedestrians, school children, local commuters.
- Dust, noise, poor visibility, and inadequate lighting near work sites.
- Road blockages and restricted emergency access due to improper vehicle parking.

- Public safety risks from poor signage, inadequate barricading, and weak communication.

Contractor must prepare Community Health & Safety Management Plan and shall include:

- Prepare and implement a Traffic Management Plan (TMP) complying with Indian Road Congress (IRC) - SP 55:2014 in construction zones, IRC 67:2022 road signs guidelines
- Use approved haul routes for entry / exit of vehicles, regulate vehicle speeds, and deploy trained flagmen
- Schedule material transportation during off-peak hours and avoid sensitive areas
- Install barricades, warning signs and ensure the path is well lit
- Control dust and mud through water sprinkling, wheel washing, and road sweeping.
- Ensure vehicle fitness, licensed drivers, and maintain inspection records.
- Maintain safe pedestrian access and uninterrupted emergency vehicle access.
- Inform nearby communities about construction schedules and safety precautions.
- Establish a Grievance Redressal Mechanism (GRM) and emergency response procedures

ESS 6: Biodiversity Conservation & Sustainable Management of Living Natural Resources

Typical Biodiversity & Ecological Risks

- Vegetation clearing and habitat loss
- Disturbance to wetlands, waterbodies, mangroves, and other sensitive ecosystems
- Soil erosion and sediment runoff into waterbodies
- Wildlife disturbance due to noise, vibration, lighting, and construction activities
- Improper waste disposal affecting sensitive habitats
- Obstruction of natural drainage and floodplains

Contractor must prepare Biodiversity Management Plan (BMP) and shall include:

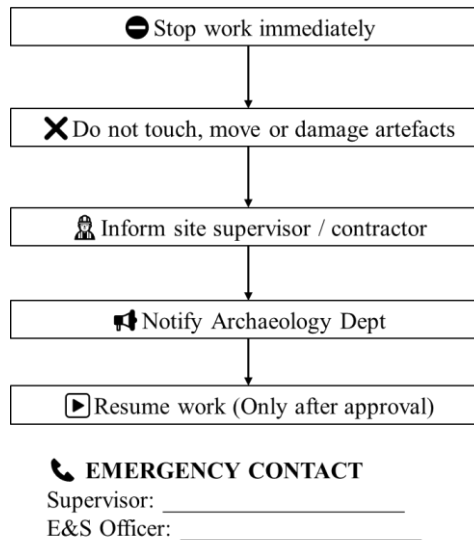
- Identify sensitive habitats and demarcate No-Go & Buffer Zones
- Protect existing vegetation & undertake compensatory native plantation
- Implement erosion and sediment control measures
- Minimize disturbance to wildlife through controlled work timings, lighting, & noise control
- Manage spoil (excavated rock) and waste through segregation and disposal at authorized facilities
- Monitor biodiversity and implement corrective actions throughout project implementation

ESS 8: Cultural heritage

Typical Cultural Heritage Risks

- Damage to undiscovered archaeological and cultural heritage resources.
- Accidental discovery ("Chance Finds") during excavation or earthworks.
- Damage to nearby heritage structures due to construction activities.
- Loss of cultural value due to unauthorized access or vandalism.

When a cultural artefact is found, Chance Find Procedure to be adopted:



ESS 10: Stakeholder Engagement and Information Disclosure

Typical Stakeholder Engagement Risks

- Inadequate stakeholder consultation and information disclosure.
- Limited participation of vulnerable and marginalized groups in project planning
- Community grievances and stakeholder conflicts.
- Misinformation and lack of project awareness.
- Delays due to poor coordination among stakeholders.

Contractor must prepare Stakeholder Engagement Plan (SEP) and shall include:

- Identify stakeholders and prepare a Stakeholder Engagement Plan (SEP) including engagement modes, frequency and costing requirement.
- Conduct timely, inclusive, and culturally appropriate consultations.
- Ensure participation of women, vulnerable groups, and local communities.
- Disclose project information in local language through appropriate communication channels.
- Establish and maintain an accessible Grievance Redressal Mechanism (GRM).
- Record stakeholder feedback, address concerns, and communicate actions taken.
- Continue stakeholder engagement throughout project planning, implementation, and monitoring.

4.2. Building bio-shield for habitat rehabilitation and mangrove restoration

Project Executing Agency: District Forest Officer's

ESS	Key E&S Risks	Mitigation measures / ESMP
ESS1: Assessment & Management of E&S Risks	- Disturbance to mangroves, and wetlands - Human interference in sensitive habitats - Canal excavation and sediment removal	- Restrict work to approved areas Demarcate No-Go zones - Avoid work during breeding / nesting seasons - Dispose dredged material at approved sites and monitor water quality
ESS2: Labour & Working Conditions	Occupational injuries during canal excavation, blockage removal	Provide PPE, safety training, first-aid and emergency preparedness
	Wage disputes, discrimination in employment, GBV/SEA/SH	Ensure fair, written contracts, timely wage payments, Code of Conduct and worker GRM.
ESS3: Resource Efficiency & Pollution Prevention	- Turbidity due to canal excavation - Improper disposal of dredged sediments - Pollution from machinery operation	- Schedule excavation during low-flow periods - Dispose dredged material at approved sites - Maintain equipment and prevent fuel/oil spills
ESS4: Community Health & Safety	- Safety risks in muddy areas and waterways - Boat movement hazards - Restricted public access during works	- Provide appropriate PPE (gumboots/chest waders, gloves, life jackets) - Use trained boat operators and regulate boat movement - Install warning signs, barricades and control public access.
ESS6: Biodiversity Conservation	- Temporary habitat disturbance - Wildlife & aquatic fauna disturbance - Loss of benthic organisms	- Demarcate No-Go zones and use designated access routes - Schedule works outside breeding seasons - Minimize sediment disturbance
ESS10: Stakeholder Engagement	- Temporary impacts on fishing activities - Community concerns and resource use conflicts	- Consult fishing communities and schedule works to avoid peak fishing seasons - Maintain a Grievance Redressal Mechanism (GRM) & disclose work schedules - Engage Village Management Committees (VMCs) in implementation and monitoring

4.3. Conservation & Restoration works of Pallikaranai

Project Executing Agency: DFO Chennai

ESS	Key E&S Risks	Mitigation measures / ESMP
ESS1: Assessment & Management of E&S Risks	- Disturbance to wetland ecosystem due to desilting & bund formation - Impacts from invasive species removal	- Restrict works to approved areas - Monitor wetlands, native flora & fauna (bird count)
ESS2: Labour & Working Conditions	- Occupational injuries during desilting & Eichhornia removal - Poor labour welfare - Labour disputes, discrimination, GBV/SEA/SH	- Provide PPE such as life jackets for work near deep water, gumboots / chest waders for marshy areas - Safety training, first aid & welfare facilities such as shaded rest shelters - Written contracts, equal wages, signed Code of Conduct - Establish worker GRM
ESS3: Resource Efficiency & Pollution Prevention	- Generation and disposal of debris, dredged silt, weeds Prosopis, Water Hyacinth and Eichhornia - Pollution from machinery and fuel spills	- Remove invasives & avoid disturbance to native vegetation - Refuel machinery away from wetlands; prevent fuel/oil leak
ESS4: Community Health & Safety	- Temporary disruption to visitors and nearby communities - Public exposure to desilting works and machinery	- Inform communities in advance - Install barricades, warning signs and restrict public access
ESS6: Biodiversity Conservation	- Wetland habitat disturbance due to desilting - Impacts on flora, fauna and benthic organisms	- Restrict desilting to approved areas and depths - Avoid breeding/migratory seasons - Monitor biodiversity & habitat recovery
ESS10: Stakeholder Engagement	- Limited awareness among local communities - Temporary access restrictions and community grievances	- Conduct stakeholder consultations (SEP) and disclose project information in local language - Maintain an accessible GRM

4.4. Seagrass restoration & blue carbon assessments

Project Executing Agency: Wildlife Warden, Ramanathapuram

ESS	Key E&S Risks	Mitigation measures / ESMP
ESS1: Assessment & Management of E&S Risks	• Improper site selection for restoration • Disturbance to sensitive marine ecosystems	• Conduct baseline ecological surveys & site suitability assessments • Restrict activities to approved restoration sites & minimize disturbance during transplantation; avoid fish breeding seasons
ESS2: Labour & Working Conditions	• Occupational injuries during diving & restoration works • Unsafe working conditions; wage disparity	• Provide certified divers, PPE safety training and emergency rescue arrangements • Ensure worker welfare facilities - shaded rest shelters; sanitation/drinking water, • Written contracts and signed CoC • Establish labour GRM
ESS3: Resource Efficiency & Pollution Prevention	Fuel spills from boat operations	Prevent fuel and oil spills during operation
ESS6: Biodiversity Conservation	Activities are located within CRZ IV A fragile ecosystems, with potential stress on seagrass habitats	• Sustainable donor harvesting and minimize habitat disturbance, • Regulate boat movement, • Biodiversity monitoring
ESS10: Stakeholder Engagement	Community concerns and conflicts over marine resource use	Conduct stakeholder consultations, disclose project information and establish community level GRM

4.5. Kariyachalli Island Restoration using AR modules & coral substrates

Project Executing Agency: Wildlife Warden, Ramanathapuram

ESS	Key E&S Risks	Mitigation measures / ESMP
ESS1: Assessment & Management of E&S Risks	• Poor site selection • Disturbance to sensitive marine ecosystems • Improper deployment of AR modules	• Select sites through ecological surveys and approvals • Avoid sensitive habitats and deployment during breeding seasons • Supervise installation and monitor ecological performance.
ESS2: Labour & Working Conditions	• Diver safety risks • Injuries during AR module handling	• Use certified divers, trained workers • Use PPE (life jackets), dive safety equipment, emergency rescue plan

	• Labour disputes and poor working conditions	• Written contracts, equal wages, Worker GRM and Code of Conduct.
ESS3: Resource Efficiency & Pollution Prevention	• Unsuitable AR materials and coral substrates • Marine pollution from damaged substrates & modules • Fuel/oil spills from barge / vessels	• Use marine-grade materials approved by 3rd party • Remove damaged materials • Spill prevention measures and proper fuel handling.
ESS4: Community Health & Safety	• Navigation hazards to fishers • Safety risks to fishers during deployment & barge movement	• Notify fishing communities in advance • Mark deployment zones with buoys & regulate access • Implement emergency response procedures.
ESS 6: Biodiversity Conservation	• Temporary disturbance to donor sites and marine habitats • Low survival of transplanted corals	• Limit donor harvesting and minimise seabed disturbance • Monitor survival and replace failed transplants
ESS 10: Stakeholder Engagement	• Temporary impacts on fishing activities • Community concerns and grievances	• Conduct regular consultations with fishing communities (SEP) • Disclose work schedules and navigation routes • Establish community GRM.

4.6. Blue Flag Beach

Project Implementing Agency: DoE&CC

Project Executing Agency: Local bodies / Corporation / Municipalities

ESS	Key E&S Risks	Mitigation Measures / ESMP
ESS 1: Assessment & Management of E&S Risks	Vegetation clearance and habitat disturbance	Restrict clearing to approved areas & Implement the Biodiversity Management Plan
ESS 2: Labour & Working Conditions	• Labour influx & community conflicts • Occupational injuries • Labour disputes, discrimination and unfair employment practices	• Recruit local labour & enforce CoC • Establish GRM. • Provide PPE, safety training, first aid, emergency preparedness • Implement Labour Management Plan (LMP); ensure fair employment; prohibit child/forced labour; maintain worker GRM

ESS 3: Resource Efficiency & Pollution Prevention	• Dust, noise and vehicle emissions • Improper management of construction and hazardous waste • Water pollution from construction runoff, STP & biodigester	• Water sprinkling; cover transported materials; maintain construction equipment; enforce vehicle speed limits • Restrict noisy activities to daytime & avoid turtle nesting seasons • Segregate & dispose waste through authorized recyclers/disposal facilities; maintain waste records. • Provide spill kits; treat wastewater before discharge; prohibit direct discharge into beach.
ESS 4: Community Health & Safety	Increased traffic and road safety risks during material transportation	Implement Traffic Management Plan; Install warning signs; deploy traffic marshals and schedule transport during off-peak hours.
ESS 6: Biodiversity Conservation	Disturbance to wildlife (birds, turtles, marine fauna, etc.)	Avoid breeding/nesting seasons, establish buffer zones; restrict night-time works.
ESS 10: Stakeholder Engagement	• GBV/SEA/SH risks • Community concerns & inadequate consultation • Exclusion of vulnerable groups	• Implement SEP & disclose project information; mandatory Code of Conduct; ensure worker training; confidential reporting and survivor referral mechanisms. • Maintain an accessible grievance redressal mechanism (GRM). • Provide information in local language; engagement of women, & marginalized communities.

4.7. Material Recovery Facility

Project Implementing Agency: TNPCB

Project Executing Agency: Local bodies

ESS	Key E&S Risks	Mitigation measures / ESMP
ESS 1: Assessment & Management of E&S Risks	Improper site identification	Identify suitable site for MRF setup
ESS 2: Labour & Working Conditions	• Worker exposure to waste, dust and pathogens • Poor worker welfare facilities	• Provide PPE, health checks, safety training and welfare facilities • Implement Labour Management Plan (LMP), Code of Conduct and Worker GRM.

	• Labour disputes and discrimination	
ESS 3: Resource Efficiency & Pollution Prevention	• Improper waste (solid & hazardous) handling • Groundwater and soil contamination due to leachate • Dust, emissions, noise and fuel spills	• Segregate & dispose waste through authorized facilities • Prevent leachate & fuel spills through safe storage & monitoring. • Control dust & noise through equipment maintenance; restrict noisy works to daytime
ESS 4: Community Health & Safety	• Fire hazards • Pests, odour & disease vectors	Provide fire extinguishers, emergency response plans & maintain good housekeeping
ESS 6: Biodiversity Conservation	Disturbance to nearby habitats and biodiversity	Protect sensitive habitats and avoid ecologically sensitive periods
ESS 10: Stakeholder Engagement	• GBV/SEA/SH risks • Stakeholder dissatisfaction due to inadequate consultation • Exclusion of vulnerable groups	• Implement SEP, mandate Code of Conduct; worker training; confidential reporting and survivor referral mechanisms. • Disclose project information; maintain GRM. • Provide information in local language; targeted engagement of women and marginalized communities.

4.8. Discarded Fishnet Collection Centre

Project Implementing Agency: TNPCB

Project Executing Agency: Local bodies

ESS	Key E&S Risks	Mitigation measures / ESMP
ESS 1: Assessment & Management of E&S Risks	Improper storage and disposal of discarded fishing nets	Provide designated storage areas; maintain waste inventory; ensure collection, segregation and safe disposal/recycling.
ESS 2: Labour & Working Conditions	• Unsafe working conditions, inadequate welfare facilities • Labour disputes, discrimination, and child/forced labour	• Provide PPE, health checks, safety training, welfare facilities (toilets & drinking water) • Implement Labour Management Plan (LMP), Code of Conduct and Worker GRM.

ESS 3: Resource Efficiency & Pollution Prevention	• Open burning of waste • Dust, emissions & noise • Improper handling of HDPE and fishnet waste	• Prohibit open burning; • control dust, vehicle emissions and noise through equipment maintenance • Segregate, recycle, and dispose waste through authorized facilities
ESS 4: Community Health & Safety	• Fire hazards from stored plastic (HDPE) & nylon • Pest infestation and poor housekeeping • Community health & traffic risks	• Provide fire safety equipment and emergency response plans • Maintain good housekeeping and vector control • Implement safe handling procedures & a Traffic Management Plan.
ESS 6: Biodiversity Conservation	Facility operations disturbance to nearby local flora / fauna, nesting grounds, mangroves, and coastal biodiversity	Restrict activities to designated areas; avoid sensitive habitats; prevent waste leakage into the coastal environment
ESS 10: Stakeholder Engagement	• GBV/SEA/SH risks • Stakeholder dissatisfaction due to inadequate consultation • Exclusion of vulnerable groups from project benefits and consultations	• Implement SEP; mandate Code of Conduct; worker training; confidential reporting and survivor referral mechanisms. • Disclose project information; maintain GRM. • Provide information in local language; targeted engagement of women & vulnerable households

4.9. Floating Trashboom Barriers

Project Implementing Agency: TNPCB

Project Executing Agency: Local bodies

ESS	Key E&S Risks	ESMP / Mitigation Measures
ESS 1: Assessment & Management of E&S Risks	Improper trash boom installation	Install as per approved design, ensure secure anchoring, and conduct regular inspection and maintenance.
ESS 2: Labour & Working Conditions	• Occupational injuries and exposure to contaminated waste	• Provide PPE, health checks and occupational safety training • Provide adequate sanitation, drinking water and welfare facilities.

	Labour disputes, discrimination in wages, child/forced labour	Implement Labour Management Plan (LMP), Code of Conduct and Worker GRM.
ESS 3: Resource Efficiency & Pollution Prevention	- Improper handling of floating waste - Improper disposal of non-recyclable residual waste	- Segregate waste; maximize recycling; transport residual waste to authorized disposal facilities - Prohibit open dumping and burning.
ESS 4: Community Health & Safety	- Temporary obstruction to river flow and debris accumulation - Damage to trash boom during floods	- Conduct routine inspections and debris removal; - Remove or secure trash booms during floods & install warning signs
ESS 6: Biodiversity Conservation	Potential disturbance to aquatic fauna during installation & operation	Avoid breeding / spawning seasons; maintain openings for aquatic movement; regularly monitor and remove trapped wildlife/fish safely.
ESS 10: Stakeholder Engagement	- GBV/SEA/SH risks - Stakeholder dissatisfaction due to inadequate consultation - Exclusion of vulnerable groups from project benefits and consultations	- Implement SEP; mandate Code of Conduct; worker training; confidential reporting and survivor referral mechanisms. - Disclose project information; maintain GRM. - Provide information in local language; targeted engagement of women & vulnerable households

5. Reporting & Documentation

5.1. Incident Reporting

- Serious incidents including fatalities, shall be reported to the World Bank within **48 hours** through the respective Project Executing Agency (PEA).
- The PEA shall investigate the incident, implement corrective actions, and submit follow-up reports as required.

5.2. Grievance Redress Mechanism (GRM)

- Each PEA shall establish a Grievance Redressal Committee (GRC) at district level in accordance with **Proc. No. 77/E-file 4/TNCRM/2026, dated 23.01.2026**.

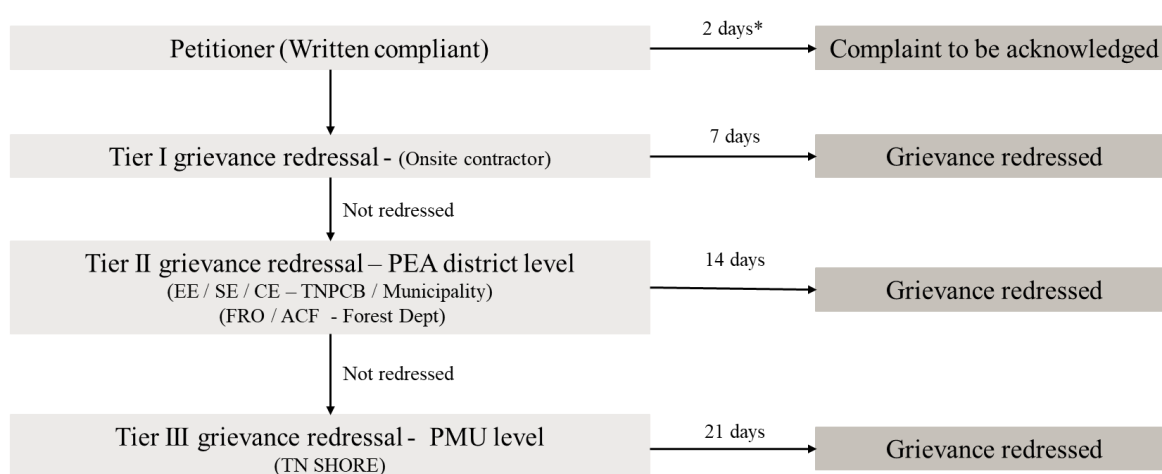
- The GRC shall receive, review, and resolve grievances in a fair, transparent, and timely manner.

State-level GRC is chaired by the Additional Chief Secretary (ECCF) and comprises PCCF & HoFF (Tamil Nadu Forest Department), Director (DoE&CC), Chairperson (TNPCB), and Chief Mission Director (TN-SHORE) as members.

District level GRC constitution

Project Executing Agency	GRC Constitution
Tamil Nadu Forest Department	• Assistant Conservator of Forest - Chairperson • Superintendent - Member • Draughtsman / Assistant / Junior Assistant - Member (including a women)
TNPCB, DRDA, Corporation / Municipality / local bodies	• Nominated by respective department (Group 1 or 1A or equivalent & above) - Chairperson • Superintendent - Member • Section officer / Assistant section officer / Assistant - Member (including a women)

Grievance Redressal Mechanism



*Timeline calculated from the date of acknowledgment of the petition.
If not redressed at Tier III level, the same shall be escalated to the State level

5.3. Contractor-ESMP requirements

- **The Environmental and Social Commitment Plan (ESCP)** is a legally binding World Bank document that specifies the environmental and social (E&S) instruments, management plans, and reporting requirements to ensure project compliance
- **According to ESCP, Contractors shall prepare and implement** the required management plans, including the Labour Management Plan (LMP), Waste Management Plan (WMP), Resource Efficiency & Pollution Prevention Plan

(REPPP), Traffic Management Plan (TMP), Community Health & Safety Plan (CHSP), Biodiversity Management Plan (BMP), and Stakeholder Engagement Plan (SEP).

- **The Contractor Environmental and Social Management Plan (C-ESMP)** shall be implemented throughout construction and updated
- **Monthly C-ESMP progress reports** shall be submitted to the respective Project Executing Agency (PEA) for review and onward submission to the TN-SHORE SPMU. The C-ESMP report template should include:
 - Project information with site map & Statutory clearances
 - Deployment of key personnel (Project Manager, ESHS officer, Site Engineer, etc.)
 - ESMP compliance status, corrective actions & budget incurred
 - Status of management plans implementation (LMP, WMP, TMP, BMP, SEP, etc.)
 - Stakeholder engagement & grievance records
 - Site photographs / registers and supporting records
- **Roles & Responsibility:** Contractor: Implement ESMP & submit monthly C-ESMP → PMC: Review & technical guidance → PEA: Supervise compliance & submit to SPMU → SPMU: Review & quarterly reporting to the World Bank.

5.4. Good E&S practices

DO's	DONT's
Prepare a site-specific C-ESMP and keep it updated throughout the project	Do not use a generic C-ESMP copied from other projects.
Include site layouts (labour camp, drainage, waste disposal, traffic routes) & mandatory display boards (project board with emergency contacts, GRM, PPE and display of code of conduct	Do not omit site layouts or traffic diversion plans, traffic management plans or mandatory display boards
Prepare method statements for high-risk activities. (eg. Work at height, excavation, lifting operations, confined space entry)	Do not commence high-risk works without approved method statements
Maintain all statutory permits, licenses and approvals.	Do not work with expired or missing permits.
Ensure all sub-contractors comply with ESHS requirements.	Do not allow subcontractors to work without induction or supervision.
Maintain complete E&S records (photos, inspections, monitoring, labour & GRM registers, permits, training records).	Do not leave E&S records incomplete or undocumented.

Conduct daily toolbox talks, provide appropriate PPE & safety training.	Do not allow work without PPE or safety briefing.
Implement all required management plans (LMP, WMP, TMP, BMP, SEP, etc.).	Do not ignore ESMP commitments or corrective actions.
Report incidents/death promptly within 48 hours and implement corrective actions.	Do not delay reporting serious incidents or accidents.
Engage stakeholders regularly and maintain an accessible GRM.	Do not ignore community grievances or vulnerable groups.

An aerial photograph showing a wide river flowing through a dense, vibrant green mangrove forest. The river's surface is calm, reflecting the sky and the surrounding greenery. The forest extends to the horizon, with a small white building visible on the right bank. The overall scene is peaceful and highlights the natural beauty of coastal ecosystems.

**EMPOWERING COASTAL COMMUNITIES
THROUGH A SUSTAINABLE BLUE ECONOMY**

