



Karnataka Strengthening Coastal Resilience and the Economy (K-SHORE)

Environmental and Social Management Framework

October 2024

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List of Abbreviations

ALDFG	Abandoned, Lost or otherwise Discarded Fishing Gear
ASI	Archaeological Survey of India
Blue-PLACK	Blue Economy Transformation through Plastic Management in Coastal Karnataka
CRZ	Coastal Regulation Zone
CVCA	Critically Vulnerable Coastal Areas
CZMA	Coastal Zone Management Authority
ESA	Environmental and Social Assessment
ESCP	Environmental and Social Commitment Plan
ESF	Environmental and Social Framework
ESDD	Environmental and Social Due Diligence
ESMF	Environmental and Social Management Framework
ESMP	Environmental and Social Management Plan
ESS	Environmental and Social Standards
GoI	Govt. of India
GoK	Govt. of Karnataka
GRO	Grievance Redressal Officer
ICZM	Integrated Coastal Zone Management
ICAR - CMFRI	Indian Council of Agricultural Research – Central Marine Fisheries Research Institute
JFMC	Joint Forest Management Committee
JLG	Joint Liability Group
K-SHORE	Karnataka – Strengthening Coastal Resilience and the Economy
PIU	Project Implementation Unit
MoEFCC	Ministry of Environment Forest and Climate Change
MRF	Material Recovery Facility
PMU	Project Management Unit
NbS	Nature-based Solutions
NGO	Non-Governmental Organisation
NOC	No Objection Certificate
NTFP	Non-Timber Forest Products
O&M	Operation and Maintenance
PCE	Private Capital Enablement
SHG	Self Help Group
SPCB	State Pollution Control Board
ULB	Urban Local Bodies

EXECUTIVE SUMMARY

Project Background: The SHORE (Strengthening Coastal Resilience and the Economy) Program aims to increase the resilience of targeted coastal communities and ecosystems in India. The key project components include (i) Strengthening institutions for integrated coastal management, (ii) Shoreline management, coastal protection, and conservation, (iii) Improving livelihoods for natural resource-dependent communities, (iv) Enhancing plastic circularity and marine pollution management, and (v) Contingent Emergency Response Component (CERC). In the state of Karnataka, this SHORE project covers the three critical coastal districts namely Udupi, Uttara Kannada, and Dakshina Kannada, which face threats from climate change, soil erosion, plastic and dry waste pollution and loss of biodiversity and livelihood.

Need for ESMF: Depending on the nature and location, the proposed project initiatives such as (i) Shoreline management/ coastal protection and conservation, (ii) Improving livelihoods for natural resources dependent communities and (iii) Enhancing plastic circularity and reducing pollution in coastal regions (waste management) are likely to result in positive and adverse impacts on the project area during their construction and O&M phases. These impacts would assume importance when the project locations are in proximity to sensitive areas. Hence, there is a need for systematic management of E&S risks and impacts with a pre-defined framework. Though activities are identified, their exact locations are not finalized yet and therefore it is required to prepare an ESMF for K-SHORE

Regulatory Requirements: Applicable National and State regulations, various international treaties, and the World Bank's Environmental and Social Framework (ESF) and Environmental and Social Standards (ESS) have been considered for screening / siting criteria, assessment of risks, environmental pollution control requirements, institutional arrangements, ensuring occupational health and safety, resource utilization and considerations on cultural and social aspects. Several national and state-level environmental and social laws will apply to K-SHORE, including (but not limited to) the Environment (Protection) Act, 1986; Coastal Regulation Zone Notification 2019, Forest (Conservation) Act, 1980; Wildlife Conservation Act, 1972, Biodiversity Act 2002, Water (Prevention and Control of Pollution) Act, 1974; Air (Prevention and Control of Pollution) Act 1981; Solid waste (Handling and Management) Rules, 2016; Plastic waste Management Rules 2018, Construction and Demolition Waste Management Rules 2016, Labor laws, Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013; Street Vendors (Protection of Livelihood and Regulation of Street Vending) Act, 2014.

Application of the World Bank's Environmental and Social Framework: The Environmental and Social Framework (ESF) of the World Bank has been effectively applied to the project K-SHORE to comprehensively evaluate, handle, and mitigate environmental or social risks directly or indirectly resulting from the project activities. All the ESSs other than ESS 9 apply to the project. Due to the absence of any financial intermediary, ESS 9 is not relevant to the project. To address the environmental and social risks, social risk management instruments have been developed, including (i) Environmental and Social Management Framework (ESMF), (ii) Generic Environmental and Social Management Plans (ESMP), (iii) Labor Management Plan (LMP), and (iv) Resettlement Policy Framework (RPF). These instruments are designed to ensure proper management and mitigation of the identified risks and impacts within the project's scope.

Implementation Arrangement: The K-SHORE project will be implemented through the State Project Management Unit (SPMU) and **District** Project Management Units (DPMUs) housed under the Department of Forests, Ecology and Environment (FEE), Government of Karnataka, which is the Implementing Agency (IA).

Environmental and Social risks and impacts assessment: Based on the proposed project interventions and their associated activities the impacts from sub-projects have been assessed to be “Substantial”. The expected risks are largely due to the often-sensitive nature of the receiving geographies of these sub-projects, increased access to eco-sensitive zones, and certain construction works (e.g., recycling centers, plastic arresting barriers, embankments to protect shorelines, etc.). The key social risks are related to the heavy involvement of marginalized communities, and women, especially in waste collection, segregation, and management which makes them susceptible to being exposed to hazardous material and potential exploitation. Additionally, given that the project involves the implementation of Nature-based Solutions, Ecosystem-based, and other management and conservation approaches, there might be a need for resettlement and rehabilitation of the communities in the project area. However, these potential risks and impacts of the project are expected to be temporary, localized, predictable, manageable, mostly reversible, and can be readily mitigated through proactive planning and measures.

- **Environmental impacts and risks.** The key positive impacts on the environment anticipated from the project include the following:

- a. Improvement in stabilization of shoreline and reduction of coastal erosion
- b. Protection and enhancement of coastal and marine biodiversity
- c. Reduction in marine litter and enhancement of plastic circularity

The key environmental risks and negative impacts anticipated from the project include the following:

- a. Localized water/ air/ noise pollution
- b. Potential disruption of eco-sensitive areas and biodiversity habitats
- c. Improper waste management and disposal

- **Social impacts and risks.** The key positive social impacts anticipated from the project include the following:

- a. Enhancement of livelihoods for the local communities
- b. Empowerment of waste workers to derive higher value from waste
- c. Enhanced awareness and knowledge of both grassroots implementers and local communities
- d. The project involves the administration of training for capacity building to:
 - a. Enhance their livelihoods by skilling them with technology, business management, marketing, etc.
 - b. Create awareness about the need to protect the shoreline and the local biodiversity.

The key social risks and negative impacts anticipated from the project include the following:

- a. Potential resistance to change and non-participation of the local community
- b. Potential health hazard for waste segregators and collectors
- c. Potential displacement and resettlement of people
- d. Potential exclusion of the interests of women and members of marginalized communities
- e. Potential loss of cultures and traditions

Application of ESMF: The ESMF would be applied to the overall project through a three-stage process as described below:

- a. **Stage I - Environment and Social Screening of Sub-projects and Risk Classification:** DPMU is to undertake Environmental and Social Screening of sub-projects using E&S scoping and

screening checklists to identify E&S risks and impacts and determine the risk category of the sub-project (Low/Moderate/Substantial/High). These would be interventions involving:

- Hard interventions such as infrastructure (rehabilitation center, in-situ/ex-site conservation works, sheds, residential/non-residential buildings, etc. and/or
- Environment friendly interventions such as mangroves, shelter belt plantations, afforestation, nature/eco-tourism trails, etc.

The first screening format SF-1 will be used to scope or ascertain the types of E&S risks for each of the interventions e.g. Risk/Impact Water Quality, Fisheries, Conservation area, Protected Area, Ecological, Occupational Health, Physical Environment, Cultural, Tribal presence, impact on private land/assets/encroachers/squatters, labor, migrant labor and GBV risks.

The second screening format SF-2 will be used to assess the extent of risk/impact intensity for each of the identified E&S risks and will be used to categorize the risk level as Low/Moderate/Substantial/ High.

SF-3 summarizes the risk category for each of these and presents an overall E&S risk rating for the sub-project

Based on the findings of the above two formats, the risk categories for all different types of E&S risk and impacts would be summarized and the highest of the risk categories would be assigned as the overall risk category for the given sub-project. Based on the above findings, an “E/S Due Diligence” report for each sub-project would be prepared

- b. **Stage II - Preparation of ESF Instruments (ESIA, ESMP, RP, etc.):** Based on risk category, an ESF instrument will be prepared
 - If the risk category is Low or Moderate, then required E&S mitigation provisions as per the relevant ESS will be included in the DPR, e.g. for hard infrastructure/very minor work e.g. watchmen shed, plastic collection shed/kiosks, then the E&S provisions will be included within the DPR.
 - If the risk category is Substantial, DPMU should undertake detailed ESIA as per agreed Terms of Reference (TORs) and prepare a sub-project-specific ESMP including mitigation instruments as per relevant ESS
- c. **Stage III - Sub-project Implementation and Monitoring:** The contractor shall implement all the E&S measures or ESMP measures (as the case may be) applicable to the project right from mobilization. This shall be discussed with site engineers and workers and a record of its implementation shall be maintained. The contractor will submit the Monthly Progress Reports to the PIU/DPMUs and Report to the World Bank

The SPMU, the Department of Forests, Ecology and Environment, GoK will submit Quarterly Progress Reports (QPRs) to the World Bank providing updates on the progress of activities under each component and highlighting constraints, if any for discussions and rectification.

Capacity Building: As a part of the K-SHORE project, the capacities of the officials from the local administrative bodies, and other implementing departments like the Forest Department, Fisheries Department, Ports Department, and the State and District Coastal Zone Management Authorities would be strengthened. The capacity building would help them map and manage environmental and social risks along with facilitating stakeholder engagement and participation.

Grievance Redress Mechanism (GRM): The Project will adopt the existing Grievance Redress Mechanism (GRM) with FEE, Department, GoK, to respond to queries or clarifications or complaints about the project and address complaints/concerns and grievances of the stakeholders. The GRM will focus on corrective actions that can be implemented quickly and at a relatively low cost to resolve identified implementation concerns, GRM will also serve as a channel for early warning, helping to target supervision to where it is most needed and identify systemic issues.

Stakeholder consultations and Information Disclosure: Consultations were carried out with multiple stakeholders including the local community, government, and non-government institutions. These consultations mainly acted as a **forum** to inform people about the project and to elicit their opinion about the K-SHORE interventions and their likely impacts, information dissemination on various project components, such as strengthening of institutions, shoreline management, eco-tourism projects and associated economic opportunities, livelihood generation, and capacity building, the role of the community, plastic waste management, grievance redress, etc.

1 Introduction

1.1 Context and Project Description

Coastal and maritime space of India are essential for achieving sustainable economic development. They provide inputs to India's blue economy sectors such as tourism, fisheries, agriculture, transport, mining, and services. India has embarked on a mission to capture the huge growth potential of the coastal and marine resources through their optimal utilization and protection. Endowed with abundant natural resources and biodiversity of global significance, India's coastal and marine ecosystems provide multiple national, local, and global benefits. The coastline which stretches over 7500 km is home to 250 million people and 18,000 known species of flora and fauna. Mangroves, sand dunes, coastal wetlands, coral reefs, mudflats, and reserved forests provide important ecosystem services, support disaster risk reduction and mitigation functions, improve livelihoods and provide economic benefits.

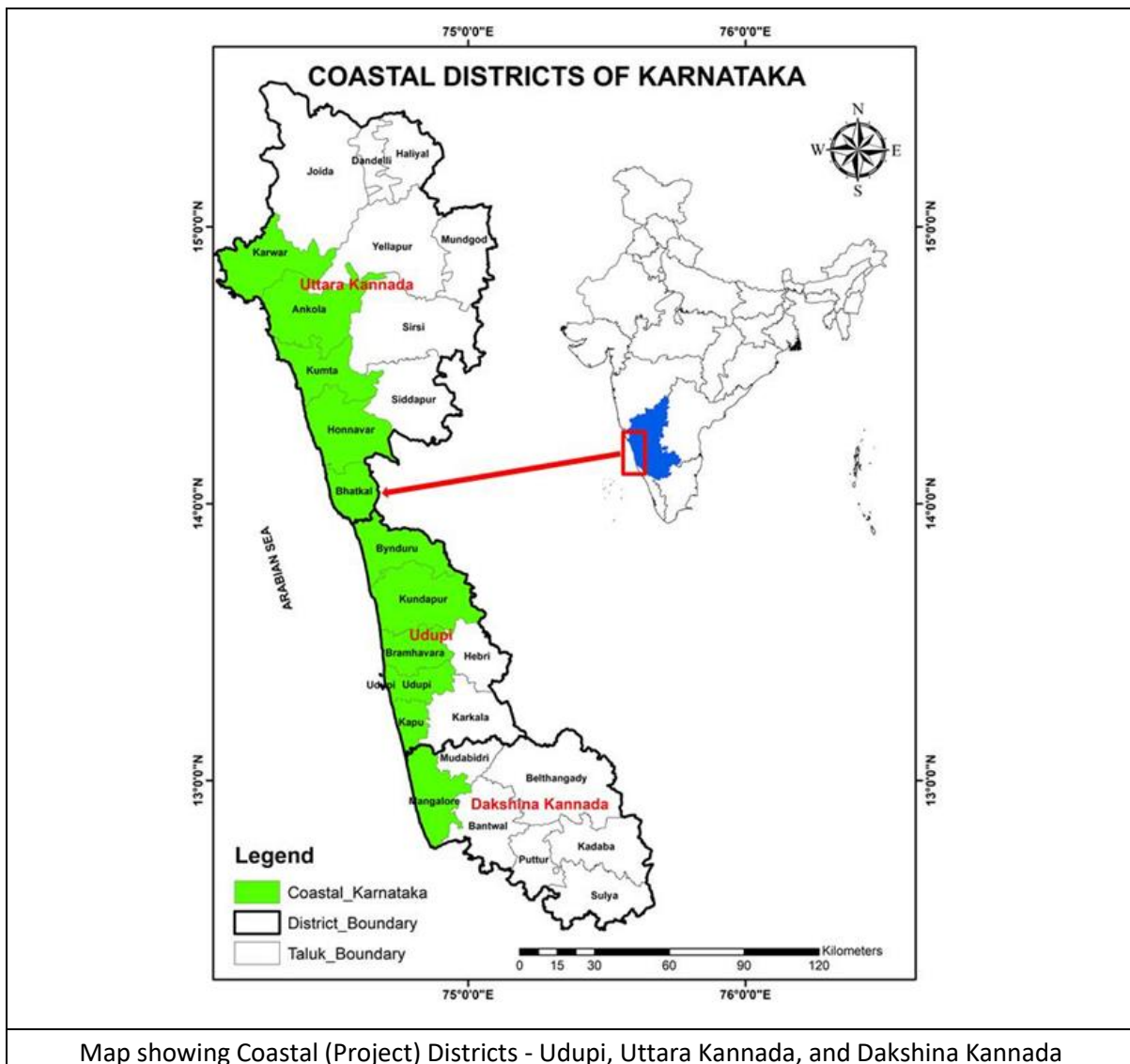
Despite ecological richness and contribution to the national economy, India's coastal ecosystems continue to deteriorate. Many economic activities along the coast overlap and lead to competing demands between users and adversely impact coastal ecosystems and diminishing their value. Pollution, intensive commercial fishing, and development pressure, climate-induced weather extremes and coastal erosion make ecosystem-dependent communities particularly vulnerable. Coastal states continually experience human and natural pressures and the adverse impacts of climate change. They are highly exposed to climate hazards that include cyclones and rising sea-levels, bringing floods and erosion, which in turn, inflict a great loss of lives and livelihoods, especially among the mostly impoverished coastal communities.

The SHORE (Strengthening Coastal Resilience and the Economy) Program aims to increase the resilience of targeted coastal communities and ecosystems in India. The following components of the SHORE Program correspond to the specific challenges and opportunities and underlying concerns that the Program aims to address.

- a. Strengthening institutions for integrated coastal management. This component aims to enhance the effectiveness and sustainability performance of ICZM tools used by the national and state agencies by expanding the range of technical and management adaptation measures for reducing the vulnerability of coastal ecosystems and livelihoods, as identified in the NCM. This component will finance consulting services, goods, training, and project management costs.
- b. Shoreline management, coastal protection, and conservation. This component aims to enhance the ecological sustainability and resilience of the coastal physical and natural assets. Project investments will support interventions for (a) preventing/reducing coastal erosion and its impacts (deployment of groynes, dykes, etc); (b) maintaining the ecological functions of coastal ecosystems and landscapes (plantation of mangroves, Palmyra plantations, ecosystem-based approaches) that deliver protection services to coastal communities from environmental and climate hazards, and (c) strengthening the environmental and ecosystem monitoring systems.

- c. Improving livelihoods for natural resource dependent communities. This component aims to promote climate-resilient and adaptable development in coastal communities. Community livelihood activities (like eco-tourism, nature-based products, seaweed cultivation, etc.)with the potential to boost community incomes, promote sustainable use of natural resources, and to enhance the resilience of marine and coastal resources to changing conditions, will be supported.
- d. Enhancing plastic circularity and marine pollution management. This component aims to mitigate the threats to marine and coastal resources from plastic pollution and to reduce the risks of environmental degradation. It will finance location-specific watershed-based activities for reducing plastic leakage and pollution using a “source to sink” approach.
- e. **Contingent Emergency Response Component (CERC).** It will allow the recipient to request the World Bank to reallocate uncommitted project funds, following an eligible crisis or emergency.

This project will cover the three critical coastal districts of Karnataka – Udupi, Uttara Kannada, and Dakshina Kannada. Below are the three districts at a glance.



Map showing Coastal (Project) Districts - Udupi, Uttara Kannada, and Dakshina Kannada

1.2 Project Beneficiaries

The main beneficiaries include communities within the target coastal landscapes. It is expected that low-income households and community groups will benefit directly and indirectly from the project through improved coastal management and climate resilience of the areas where they live and work. The project will provide opportunities for improved livelihood opportunities, more and better-quality jobs, and opportunities for entrepreneurship in the blue economy and in the emerging circular economy. The improved livelihoods and employment opportunities will have positive spillovers onto community members not directly engaged through project interventions. Self-help groups, especially those led by women, will be the key beneficiaries. The project interventions will accrue benefits on startups, budding entrepreneurs, investors and established private players, through enhanced transparency, operational and more accessible data systems in plastics circularity and targeted project government support. Other beneficiaries include dedicated staff in state and local level departments who will benefit from acquiring new skills and knowledge support from capacity building programs.

The K-SHORE ESMF is being prepared under the World Bank's Environment and Social Framework (ESF).

1.3 Need and Purpose of Environmental and Social Management Framework

Depending on the nature and location, the proposed project initiatives such as (i) Shore line management/ coastal protection and conservation, (ii) Improving livelihoods for natural resources dependent communities and (iii) Enhancing plastic circularity and reducing pollution in coastal regions (waste management) are likely to result in positive and adverse impacts on the project area during their construction and O&M phases. These impacts would assume importance when the project locations are in proximity to sensitive areas. Hence, there is a need for systematic management of E&S risks and impacts with a pre-defined framework. Though activities are identified, their exact locations are not finalized yet and therefore it is required to prepare an ESMF for the project.

ESMF is an instrument that examines the issues and impacts associated when a project consists of a program and/or series of sub-projects, and the impacts cannot be determined until the program or sub-project details have been identified. The ESMF sets out the principles, rules, guidelines and procedures to assess the environmental and social impacts. It contains measures and plans to reduce, mitigate and/or offset adverse impacts and enhance positive impacts, provisions for estimating and budgeting the costs of such measures, and information on the agency or agencies responsible for addressing project impacts.

The ESMF has been prepared in line with the country/state laws, applicable international conventions and World Bank's Environmental and Social Framework (ESF) and Environmental and Social Standards (ESS) to screen and assess the risks and impacts of the activities of the project being planned and subsequently devise and implement mitigation measures and monitor the environmental and social performance. ESMF outlines the process to be adopted during each stage in the project cycle, to ensure the preparation of adequate guidance for safeguards management based on the level of impacts and to agree and follow these during the implementation and Operation and maintenance stages. Broadly, this ESMF comprises the following:

- a. To establish a framework for screening, assessment and management of E&S risks and impacts in accordance with applicable national and state laws and as per ESS of WB ESF
- b. To mainstream E&S issues in the planning and implementation of various types of sub-projects
- c. To provide a framework by project shall disclose information and engage with various types of stakeholders to elicit their participation and support.
- d. To develop institutional framework for implementation, monitoring and evaluation and for redressal of grievances
- e. To plan for Capacity Building (CB) and training
- f. To ensure appropriate provisions are included in the various bid/contract stage documents.
- g. To present the necessary approach to periodic reporting

1.4 Methodology of preparation of ESMF

The ESMF was prepared based on the list of activities known, following which it involved site visits, consultations with communities and relevant department officials to assess the likely E&S risks and impacts and identify mitigation measures. It entailed field visits, team discussions with District Forest Officers (DFOs), organizations managing the Materials Recovery Facility (MRF). Focus Group Discussion (FGD) with coastal communities to understand their problems while involving staff of Implementing Agencies, representatives from traditional councils, and vulnerable communities. Specific discussions were organized with main implementing department and other concerned departments held to understand existing and/or propose implementation set up.

2 Regulatory Framework

2.1 Indian National and State Laws, Regulations and Policies

There are several existing national/state-level laws and policies potentially applicable to the project. Some of the major rules and regulations that are applicable to the project are discussed below

- **Environment Protection (Act) 1986:** The Environment (Protection) Act was enacted in 1986 with the objective of providing for the protection and improvement of the environment. It empowers the Central Government to establish authorities (under section 3(3)) charged with the mandate of preventing environmental pollution in all its forms and to tackle specific environmental problems that are peculiar to different parts of the country
- **Coastal Regulation Zone Notification.** The CRZ Notification was first issued in 1991 and has since been reissued twice, in 2011 and 2019. CRZ, 1991 declared ‘the coastal stretches of seas, bays, estuaries, creeks, rivers, and backwaters which are influenced by tidal action (in the landward side) up to 500 meters from the HTL and the land between the LTL and the HTL as Coastal Regulation Zone’. The definition was expanded in 2011 to include the territorial waters (upto 12 nautical miles). The CRZ is further divided into four classes. In 1991, CRZ IV referred to the island territories but in 2011 and 2019, a separate notification was issued for managing the coasts of the islands.
- **EIA Notification:** This notification was first issued in 1994. It was reissued with greater details in 2006 (and is further in the process of amendment in 2018) and states that construction of new projects or activities or the expansion or modernization of existing projects or activities listed in the Schedule to this notification entailing capacity addition with change in process and or technology shall be undertaken in any part of India only after the prior environmental clearance from the Central Government (Category A projects) or as the case may be, by the State Level Environment Impact Assessment Authority (Category B Projects). Where state-level authorities have not been constituted, the clearance would be provided by the MoEFCC.
- **The Wildlife (Protection) Act, 1972:** This act provides for both species-specific and spatial conservation strategies. Specifically, Chapter IV of the Act provides details of the declaration of sanctuaries, national parks, and closed areas. Under the Act, currently, there are 24 Marine Protected Areas in peninsular India and more than 100 Marine Protected Areas in the country's islands. The 24 Marine Protected Areas of the mainland have a total area of about 8214 km², which is about 5 percent of the total protected area network of India and represents 0.25 percent of the total geographic area of the country (Sivakumar et al., 2014). Some of the important designated Marine protected Areas in mainland India are the Gulf of Kachchh Marine National Park, the Gulf of Mannar Marine National Park, Bhitarkanika National Park, Coringa Wildlife Sanctuary, Chilika Wildlife Sanctuary and Sundarban National Park.
- **The Forest Conservation Act of 1980:** This act aims to protect forests and the country's natural heritage. The act was amended in 1988 and applies to the entire country. The key points of the acts are as follows
 - The act requires prior approval from the central government for any non-forest use of forest land

- Activities that can be carried out in forests without prior approval include forest and wildlife management and conservation, such as establishing fire lines and check posts
 - The act is regulatory rather than prohibitory, allowing for the unavoidable use of forest land for development
 - The act aims to balance the need for forest conservation with the country's sustainable development needs
 - Once a region is designated as a protected forest, the state government can't conduct non-forest activities without the central government's permission
 - The act provides for punishment for those who violate or abet violations of the act
- **National Policy for Women:** The objectives of the policy look at (1) creating a conducive socio-cultural, economic and political environment for women, (2) mainstreaming gender in all-round development processes / programmes, (3) a holistic and life cycle approach to women's health, (4) improving and incentivizing access of women / girls to universal and quality education, (5) improving participation of women in workforce etc. Different priority areas are identified in the policy that are contextually relevant for women, such as (a) health, food security and nutrition, (b) education, (c) economy (includes agricultural activities; poverty reduction; industry, labour and employment, service sector engagement etc.), (d) governance and decision making, (e) violence against women.
 - **Right to Fair Compensation and Transparency in Land Acquisition, Resettlement and Rehabilitation (RFCTLAR&R) Act, 2013.** The RFCTLAR&R Act, 2013, supersedes all other old acts for land acquisition and to determining R&R activities throughout the country. The act shall apply, when the Government acquires land for its own use, hold, and control, including for Public Sector Undertakings and for public purposes.
 - **Forest Rights Act, 2006.** This Act secures the individual or community tenure or both and gives forest rights of forest-dwelling Scheduled Tribes and other traditional forest dwellers on all forest lands, namely:- (a) right to hold and live in the forest land under the individual or common occupation for habitation or self-cultivation for livelihood by a member or members of a forest dwelling Scheduled Tribe or other traditional forest dwellers; (b) community rights over forest; (c) right of ownership, access to collect, use, and dispose of minor forest produce which has been traditionally collected within or outside village boundaries.

Other relevance of the Government of India's and Gok's Environmental and Social Laws/ Regulations to K-SHORE are given in the Annexure 8.2.

2.2 Other Statutory Clearances Required

The project needs to comply with the various existing statutory requirements, and it is envisaged that certain permission/s and clearance/s will be obtained from the competent authority/authorities as part of sub-project preparation and/or execution. This will depend mainly on the area, type, size, and scope of the sub-project. The broad requirements envisaged at this point of time are summarized below:

Table 1: Key Statutory Clearances Required for Project Activities

Sl. No.	Clearance/ Authorization	Relevant Act	Competent Authority	Responsibility
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Sl. No.	Clearance/ Authorization	Relevant Act	Competent Authority	Responsibility
1	Tree Cutting Permission	Forest Conservation Act, 1980	Karnataka Forest Department or Local Bodies/ District Committee/ Revenue Officials	PMU/PIU
2	Plants such as Crushers and/or Batching Plants	Air (Prevention and Control of Pollution) Act, 1981 and Noise Pollution (Regulation and Control) Rules, 2000	Karnataka State Pollution Control Board	Construction Contractor
3	Storage, handling, and transport of hazardous material/s	Hazardous Waste (Management and Handling) Rules, 1989 and Manufacturing, Storage, and Import of Hazardous Chemicals Rules, 1989	Karnataka State Pollution Control Board	Construction Contractor
4	Location/ layout of workers camp, equipment, and storage yards	Environment Protection Act, 1986 and Manufacturing, Storage, and Import of Hazardous Chemicals Rules, 1989	Karnataka State Pollution Control Board	Construction Contractor
5	Discharges from Labour Camp	Water (Prevention and Control of Pollution) Act, 1974	Karnataka State Pollution Control Board	Construction Contractor
6	Permission for sand mining from riverbed	Environment Protection Act, 1986; CRZ 2019	State Mines and Geology Department (Mining Plan), Revenue Department / Local Bodies	Construction Contractor

2.3 Applicability of the World Bank Environmental and Social Framework (ESF)

The Environmental and Social Framework (ESF) of the World Bank provides emphasis on the implementation of commitments after projects are approved. The objective of WB's ESF is to facilitate the achievement of these project development outcomes, through a system that integrates sound E&S management into Projects. The ten Environmental and Social Standards (ESSs) set out in ESF provide an explanation of the mandatory requirements that apply to the Borrower and projects.

Table 2: World Bank's ESF and their applicability to the K-SHORE project

	Overview of ESS	Applicability to K-SHORE
ESS 1: Assessment and Management of Environmental and Social Risks and Impacts	To identify, evaluate, and manage the environmental and social risks and impacts of the project in a manner consistent with the ESSs.	The K-SHORE project involves physical infrastructure construction such as shelter belts, windbreakers, and embankments among others which shall have impact on the environmental and social parameters. Hence, ESS 1 is relevant.
ESS 2: Labour and	To promote safe, healthy, and fair	The project will involve the

Working Conditions	working conditions for all types of labor involved in the project and provide them with a platform to raise their concerns.	employment of direct workers, contracted workers and consultants for various studies and community workers during the construction and operation phases. Hence, ESS 2 is relevant.
ESS 3: Resource Efficiency & Pollution Prevention and Management	To promote the sustainable use of resources, and minimize pollution including climate pollutants, pesticide use, and hazardous/non-hazardous waste from project activities.	The K-SHORE project has a dedicated component regarding enhancing plastic circularity and reducing pollution. It aims for robust management of dry waste and tackling of marine plastic litter. Hence ESS 3 is relevant
ESS 4: Community Health and Safety	To anticipate and avoid adverse impacts on the health and safety of project-affected communities during the project life cycle from both routine and non-routine circumstances.	There could be short - term temporary impacts (like air pollution due to the dust generation/ possible road accidents due to the movement of construction vehicles/equipment's for the subproject construction activities) on communities living in the vicinity. Hence, ESS 4 is relevant.
ESS 5: Land Acquisition, Restrictions on Land Use and Involuntary Resettlement	To mitigate unavoidable adverse social and economic impacts from the land acquisition or restrictions on land use and to improve living conditions of poor or vulnerable persons who are physically displaced, through the provision of adequate housing, access to services and facilities, and security of tenure. To ensure that resettlement activities are planned and implemented with appropriate disclosure of information, meaningful consultation, and the informed participation of those affected	., Some of the project activities such as construction of infrastructure for shoreline protection and recycling centers might lead to temporary or permanent restriction of access triggering resettlement, or acquisition of land impacting the livelihoods of the local people. Though small quantum of land taking is expected in above mentioned interventions if any. Besides some of these activities such as plantations, etc. might require relocation of vendors operating on government land. Hence, ESS 5 is relevant.
ESS 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources	To protect and conserve biodiversity and habitats, promote sustainable management of living natural resources, and support the livelihoods of local communities, through the adoption of practices that integrate conservation needs and development	The K-SHORE project envisages to preserve and enhance the coastal biodiversity (via afforestation, preventing pollution, etc.) along with establishing practices for sustainable management of living natural resources (e.g., seafood,

	priorities	etc.) Hence, ESS 6 is relevant.
ESS 7: Indigenous People/Sub-Saharan African Historically Underserved Traditional Local Communities	To avoid adverse impacts of projects on Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities, or when avoidance is not possible, to minimize, mitigate, and/or compensate for such impacts.	The K-SHORE project does not involve any activities that are being taken in areas having indigenous peoples or tribals Relevance of ESS 7 will be ascertained as part of the E&S screening process of various sub-projects
ESS 8: Cultural Heritage	To protect cultural heritage from the adverse impacts of project activities and support its preservation.	There is a possibility of finding notified cultural heritage sites, beliefs, etc. in the project area (the 3 coastal districts of Karnataka). Hence, ESS 8 is relevant.
ESS 9: Financial Intermediaries	To set out how the FI will assess and manage environmental and social risks and impacts associated with the subprojects it finances.	There are no Financial Intermediaries involved in the K-SHORE project. Hence, ESS 9 is not relevant.
ESS 10: Stakeholders Engagement and Information Disclosure	To establish a systematic approach to stakeholder engagements that will help Borrowers identify stakeholders and build and maintain a constructive relationship with them, and project-affected parties. To provide project-affected parties with accessible and inclusive means to raise issues and grievances and allow Borrowers to respond to and manage such grievances.	various stakeholders – individual, community and institutional will be involved and hence, ESS 10 is relevant.

All Environmental and Social Standards (ESSs) except for ESS 7 and ESS 9 are applicable to the project. As there are no impact/ affected indigenous people or a financial intermediary involved, ESS 7 and 9 are not relevant to this particular project.

Further guidance notes on Managing the risks of unmanned aircraft operations in development projects by World Bank is also relevant as the project will also procure aerial and underwater drones.

3 International Treaties

At the global level, India has been proactive in contributing to international deliberations towards the conservation and management of ecosystems, biological diversity and sustainable utilization of resources. India is a signatory to various conventions related to the environment (refer to Annexure 8.3) and in this context, India has also enacted and implemented appropriate legislation and action plans for carrying out its international commitments. Some of the conventions related to the environment are discussed as follows

- **The Ramsar Convention on Wetlands of International Importance** is an intergovernmental treaty that aims to conserve wetlands and their resources. The convention's goals are to stop the loss of wetlands worldwide and to conserve the remaining wetlands through wise use and management
- **Vienna Convention for the Protection of the Ozone Layer.** This Convention aimed to promote cooperation among nations by exchanging information on the effects of human activities on the ozone layer.
- **Montreal Protocol on Substances that Deplete the Ozone Layer (a protocol to the Vienna Convention for the Protection of the Ozone Layer).** It is an international agreement that aims to protect the ozone layer by reducing the production and consumption of ozone-depleting substances (ODS).
- **United Nations Framework Convention on Climate Change (UNFCCC (1992)).** It is a treaty that was adopted in 1992 to prevent dangerous human interference with the climate system. The UNFCCC's goals include (i) Stabilizing greenhouse gas concentrations in the atmosphere, (ii) Helping developing countries adapt to climate change, and (iii) Catalyzing action on climate change.
- **Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal (1989):** It is a global environmental agreement that was adopted in 1989 and came into force in 1992. The convention's goals are (i) Protect human health and the environment from the adverse effects of hazardous wastes, (ii) Regulate the transboundary movement of hazardous wastes, (iii) Ensure that hazardous wastes are managed and disposed of in an environmentally sound manner, (iv) Minimize the quantities of hazardous wastes that are transported, (v) Treat and dispose of hazardous wastes as close as possible to their place of generation, and (vi) Prevent or minimize the generation of hazardous wastes at source.
- **The Stockholm Convention on Persistent Organic Pollutants (POPs):** The convention aims to eliminate or restrict the production and use of POPs¹, and to manage and dispose of POPs in a safe and environmentally sound manner.
- **The Rotterdam Convention on the Prior Informed Consent (PIC) Procedure for Certain Hazardous Chemicals and Pesticides in International Trade:** It is a multilateral agreement that establishes a procedure for exchanging information and obtaining consent for the import of hazardous chemicals.
- **The Minamata Convention on Mercury:** It is a multilateral environmental agreement that addresses specific human activities which are contributing to widespread mercury pollution. Implementation of this agreement will help reduce global mercury pollution over the coming decades.
- **Strategic Approach to International Chemicals Management (SAICM):** SAICM's overall objective is the achievement of the sound management of chemicals throughout their life

¹POPs are chemicals that are toxic, stable, and can be transported over long distances. They can accumulate in the fatty tissue of humans and wildlife, and have been linked to cancer, reproductive disorders, and damage to the nervous system

cycle so that by the year 2020, chemicals are produced and used in ways that minimize significant adverse impacts on the environment and human health.

- **The Convention on Biological Diversity (CBD):** It is an international treaty that aims to (i) Conserve biological diversity (including all species, ecosystems, and genetic resources), (ii) Use biological resources sustainably, and (iii) Fairly and equitably share the benefits of genetic resources.
- **Convention on the Conservation of Migratory Species (CMS or Bonn Convention):** It is an Intergovernmental treaty, concluded under the aegis of the UNEP, concerned with the conservation of wildlife and habitats on a global scale. The treaty aims to conserve terrestrial, aquatic and avian migratory species throughout their range.
- **The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES):** It is an international agreement that regulates the trade of endangered species of animals and plants. The goal of CITES is to ensure that the survival of these species is not threatened by international trade.
- **The United Nations Convention on the Law of the Sea (UNCLOS):** It is an international agreement that establishes a legal **framework** for the oceans and seas. UNCLOS regulates the use of marine resources and promotes their conservation. It also suggests measures to prevent, reduce, and control ocean pollution.
- **Forced Labour Convention, 1930 (No. 29):** No.29 is to suppress all forms of forced labour. It states that not only criminalize and prosecute forced labour, but also take effective measures to prevent forced labour and provide victims with protection and access to remedies, including compensation.
- **Abolition of Forced Labour Convention, 1957 (No. 105):** It is one of the eight ILO fundamental conventions of the International Labour Organization, which cancels certain forms of forced labour still allowed under the Forced Labour Convention of 1930, such as punishment for strikes and as a punishment for holding certain political views.
- **Equal Remuneration Convention, 1951 (No. 100):** The convention focuses on gender discrimination in employment and outlines principles for equal remuneration for work of equal value independent of whether it is performed by men or women.
- **Discrimination (Employment and Occupation) Convention, 1958 (No. 111):** The Discrimination Convention is an anti-discrimination convention which addresses discrimination based on race, sex, political opinion, or religion. It is one of eight fundamental ILO conventions on the protection of labour standards.
- **Minimum Age Convention, 1973 (No. 138):** It is a convention adopted by the International Labour Organization (ILO) to establish a minimum age for work and to eliminate child labour.
- **Worst Forms of Child Labour Convention, 1999 (No. 182):** This convention includes for instance slavery, sexual exploitation, the use of children for illegal activities as well as work which is likely to harm the health or safety of a child.

4 Environmental and Social Features of Coastal Karnataka

The project area comes under three coastal districts namely Dakshina Kannada, Udupi and Uttara Kannada, the environmental and social condition of the project area is discussed in the in the following sections.

4.1 Geographic Location and Physical Characteristics

Figure 1: Location and district map of Karnataka

The state of Karnataka is located between 11°30' North and 18°30' North latitudes and between 74°0' East and 78°30' East longitude. Karnataka has a total land area of 191,791 km² divided into 31 districts. The state is divisible into the following four physiographic landforms:



- Northern Karnataka Plateau:** This area is mainly composed of the Deccan Trap. It represents an extensive deforested plateau landscape. The landscape is mainly covered with rich black cotton soils. The vast expanse of the treeless plateau is interspersed with river plains, watersheds, residual hills, and ridges. The river plains are represented by those of River Bhima, River Ghataprabha, River Krishna, and River Malaprabha.
- Central Karnataka Plateau:** The Central Karnataka Plateau is located between the Northern Karnataka Plateau and the Southern Karnataka Plateau. It consists of districts like Bellary, Chikmagalur, Chitradurga, Dharwad, Raichur, and Shimoga. This region is the location of the Tungabhadra River basin.
- Southern Karnataka Plateau:** This plateau region is covered by a high degree of slope. It is encircled by the Western Ghats on the west and the south. The Cauvery River basin forms a significant part of this plateau.
- Coastal Karnataka Region:** The Karnataka coastal belt starts from the Western Ghats in the west and extends to the edge of the Karnataka Plateau in the east. The Karnataka Coastal Region includes the districts of Uttara Kannada, Udupi, and Dakshina Kannada. The terrain of this region consists of rivers, creeks, waterfalls, ranges of hills, and peaks.

Figure 2: Map of Uttara Kannada district

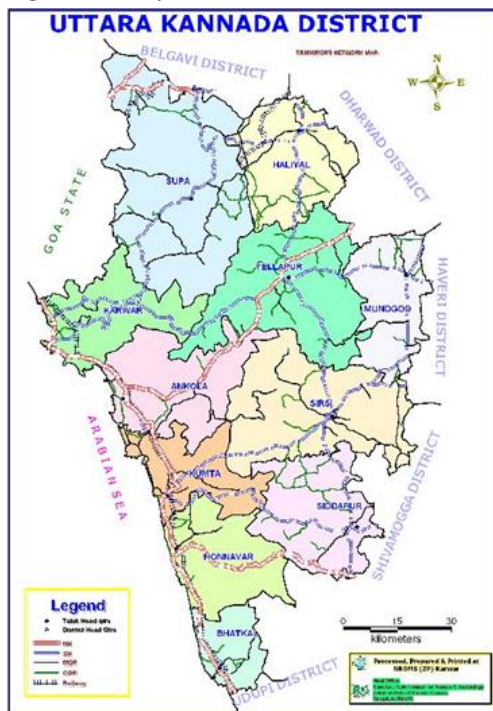
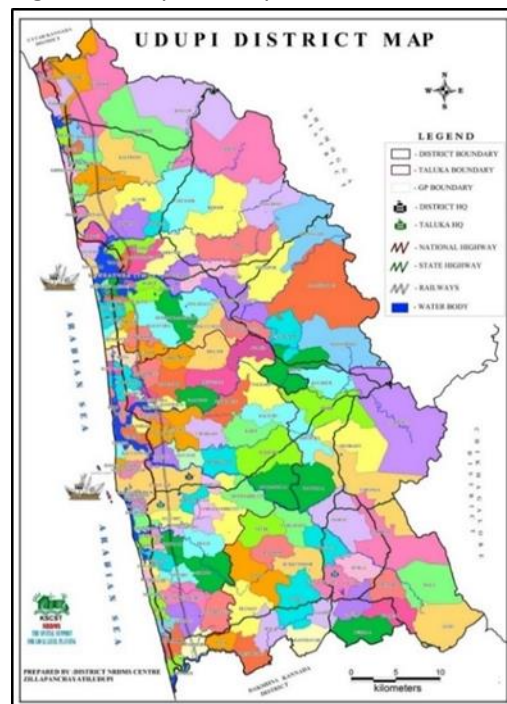


Figure 3: Map of Udipi district



- e. **Uttara Kannada:** This district has varied geographical features with thick forests, perennial rivers, and abundant flora and fauna. The district has a coastline of about 140km with around 8.28L Ha of the total 10.25L Ha under forest cover².
- f. **Udupi:** Udupi is located at 13.33 degrees North Latitude & 74.74 degrees East Longitude. Spanning across an area of 3,582 km², it is surrounded by the Western Ghats in the east and the majestic Arabian Sea in the west. The part of Udupi which is nearer to the sea is a plain, having small hills and paddy fields, coconut gardens, etc. On the contrary, the part which is along the Western Ghats has forests and hilly areas.

Figure 4: Map of Dakshin Kannada district



- g. **Dakshin Kannada:** Dakshin Kannada is the southernmost coastal district of Karnataka with an area of 4,859 km². The topography of the district is plain up to 30 km (18.64 mi) inside the coast and changes to undulating hilly terrain sharply towards the east in the Western Ghats.

² Government of Karnataka (2023). Uttara Kannada District [[Link](#)]

4.2 Climate

Coastal Karnataka experiences a typical tropical climate comprising four distinct seasons as mentioned below:

- a. Summer- March, April, May
- b. Monsoon-June, July, August, September
- c. Post Monsoon- October, November
- d. Winter- December, January, February

The state receives an annual normal rainfall of around 1153mm out of which the South-West monsoon contributes approximately 74%. The remaining 26% is contributed by the North-West monsoon (16%) and the pre-monsoon season (10%)³.

Coastal Karnataka being on the windward side of the Western Ghats receives ~3350mm of rainfall on an avg. This is one of the rainiest regions in the state⁴.

³ Govt. of Karnataka (2022). Rainfall, agricultural situation, moisture index, reservoir levels, minor irrigation in Karnataka

⁴ Environmental Management and Policy Research Institute (2022). ENVIS Centre: Karnataka [[Link](#)]

5 Soils and Land Use

5.1 Soil:

The common types of soil groups found in Karnataka are red soils, black soil, laterite soils, alluvial-colluvial soils, forest soil, and coastal alluvial soil⁷.

5.2 Soil Groups:

The most common soil groups in the coastal Karnataka districts include the following:

- a. Laterite soils: These are in the advanced stages of weathering and are highly leached, poor in bases, and very acidic. The moisture retentivity of the soil is very poor and they become hard during the summer months. They contain adequate quantities of organic matter.
- b. Coastal alluvial: This soil is generally grey, yellow, or light brown. The intensity of the color increases with the depth of the soil. They are acidic with a low capacity for cation exchange.
- c. Dark brown clayey soils: These are clayey, low in bases, and rich in organic matter as the surface soils receive the decomposed product of the virgin forests.

5.3 Land Use:

Based on the secondary information, a varying land use pattern has been observed across all three coastal districts of Karnataka.

- a. Uttara Kannada. The land use and land cover classes identified were dense forest, horticulture plantation, sparse forest, forest plantation, open land and agriculture land. The dense forest covered an area of 63.32% (6468.70sq.km) followed by agriculture 12.88% (1315.31sq.km), sparse forest 10.59% (1081.37sq.km), open land 6.09% (622.37sq.km), horticulture plantation and least was forest plantation (1.07%). Settlement, stony land and water body together cover about 4.26 percent of the area.
- b. Udupi. The land use and land cover classes identified were dense forest, vegetation, built-up land, and barren land. The vegetation / agriculture covered an area of 64.29% (2562.17sq.km), followed by Forest area 22.62% (901.55 sq.km), Built-up area 8.29% (330.53 sq.km) and Barren land 4.79% (191.02 sq.km)
- c. Dakshina Kannada. The land use and land cover classes identified were dense forest, vegetation, built-up land and barren land. The vegetation/ agriculture covered an area of 35.61% (538.77sq.km), followed by Built-up area 30.73% (464.90 sq.km) dense forest 23.42% (354.30 sq.km) and Barren land 10.24% (154.90sq.km)

5.4 Hydrology and Inland Water Systems

The state accounts for about 6% of the country's surface water resources. Around 60% of this is provided by the West flowing rivers while the remaining comes from the East flowing rivers⁵.

Karnataka has seven river systems. Together with their tributaries, they form a catchment of 191,773 km². The availability of water from these river basins is estimated to be 7,663 thousand million cubic feet per annum (TMC/a) of which 45% (3,475 TMC/a) (or) 98 billion m³/a can be economically utilized⁸.

⁵ Environmental Management and Policy Research Institute (2022). ENVIS Centre: Karnataka [[Link](#)]

There are 26 estuaries with more than 70,000 Hectares. of water-spread area and 8000 Ha of brackish water area. The tides travel long distances, even 20-30 km interior through many of these estuaries, making the saline aquatic habitat suitable for several marine and estuarine organisms. Among these, the Kali and the Aghanashini River estuaries in Uttara Kannada district are the two major estuaries in Karnataka and are known for their rich mangrove and aquatic biodiversity.

5.5 Natural Hazard Profile

Ecosystem disruption, Gradual inundation, Saltwater intrusion, Erosion and Flooding are the natural hazard faced at different stretches of the coastline along Dakshina Kannada, Udupi and Uttar Kannada. The following sections will brief the nature of the hazard:

- a. Ecosystem disruption is especially related to the mangrove areas in the extensive protected estuary and back-barrier coasts, overfishing and clearing of mangroves for aquaculture plays a key role in the local ecosystem disruption. Climate change also contributes to the Ecosystem disruption.
- b. Gradual inundation is mainly related to the low-lying protected estuary coasts and the coastal barriers of Karnataka. Barriers with a sediment deficit are already at significant risk and people in these areas may face losing their land permanently to the sea if no countermeasures are taken.
- c. Saltwater intrusion is especially a hazard to Karnataka's coastal plans and barriers. The magnitude of this hazard may increase due to human extraction of groundwater and hence it is essential to monitor the groundwater reservoirs and water extraction to avoid that saltwater is replacing the current freshwater resources.
- d. Erosion is a major general hazard to Karnataka's coastline and many areas are already suffering from the effects of this.
- e. Flooding constitutes a serious hazard for the low estuary islands, barriers and coastal plains of Karnataka, climate change is considered to be the key for causing flooding in the coastal plains.

5.6 Climate change and sea level rise

A declining trend in rainfall of around 6% has been observed during the Southwest monsoon by in the last 50 years from a recent study⁶. Additionally, a warming trend in Karnataka has been observed for the period June to September in Northern Interior Karnataka. Both minimum and maximum temperature was found to have risen by up to 0.6°C over the last 100 years. According to projections made (SRES A1B scenario), average temperatures may rise further by around 1.7°C to 2.2°C by the 2030s. The projected increases are more pronounced in the northern districts.

It is predicted that regions that already witness less rainfall and higher temperatures, such as Northern Karnataka, will further experience lesser rainfall and increases in average temperatures.

5.7 Coastal and Marine Ecosystems

The Karnataka coast is one of the richest marine biodiversity sites, contributing to nearly 15.3% of the marine biodiversity of the Indian coast⁷.

⁶ Dept. of Environment, Forest, and Climate Change, Govt. of India (2021). India State of Forest Report

⁷ College of Fisheries, Mangaluru (2021). Rapid assessment of blue economy potential in Karnataka

Based on catch landings, occurrences of over 524 species of marine fish have been reported for the state. Due to the increasing demand for fish for domestic consumption and the export market, the state has witnessed enhanced exploitation of marine fisheries resources. The advancement in fishing technology has supported the sector activities and led to serious pressures on marine living resources.

A total of 62 phytoplankton species, 6 species of Demospongiae sponges, 25 species of sea anemones, 3 species of bryozoans, nearly 1443 species of polychaetes 4 species of nematodes, and 1 species of nemertean. Moreover, there are 234 molluscan species, 145 gastropod species, 70 bivalves species, 17 cephalopods, 1 species of polyplacophores, and 2 species of scaphopods.

In the state, fish diversity is represented by 40 elasmobranch species (sharks, rays, and skates) and 350 bony fishes. Three elasmobranchs, one fin fish, and one turtle are declared endangered and listed under the IUCN Red List categories. Five species of elasmobranchs are declared as vulnerable, nine spp. of elasmobranchs as lower risk/conservation dependent and, three species of elasmobranchs are protected under Indian Wildlife (Protection) Act, 1972 Schedules. Similarly, three species of mollusk, one species of sea cucumber, fourteen species of, corals, and four species of sponges are protected.

In addition, some of the protected species under the Wildlife Protection Act 1972 include sharks, giant clams (*Tridacna maxima*), spider conch (*Lambis chiragra*), and windowpane oyster (*Placenta placenta*). Furthermore, 25 species of sea anemones 15 bivalve species, 48 gastropod species, and 8 nudibranch species are also protected under this act.

Some of the rare species found in Karnataka include octopus, lingula, hermit crab, starfish, sea urchins, sea cucumber, sunfish, sea turtles, sea snakes, dolphins, porpoises, and sand whales.

5.8 Mangroves

A Mangrove Forest is defined as a salt-tolerant marine ecosystem with halophytic species of trees and shrubs representing wetland ecosystems. They normally occur above mean sea level and are known as the roots of the sea. The resources, though fragile, are highly productive, supporting a genetically diverse community of terrestrial and aquatic flora and fauna.

The state has a total of 13 sq. km of mangrove cover with 2 sq km under moderately dense and the remaining 11 sq. km under open mangrove category. There has been a mangrove cover increase of 3 sq. km between 2019 and 2021. The table below shows the district-wise distribution of mangroves in Karnataka⁸.

Table 5: Distribution of mangroves across the coastal districts of Karnataka in 2021 (sq. km)

District	Very Dense Mangrove	Moderately Dense Mangrove	Open Mangrove	Total	Change w.r.t 2019 assessment
Dakshin Kannada	0.09	0.11	0.25	0.45	0.45
Uttar Kannada	0.00	0.28	10.19	10.47	1.97

⁸ Department of Environment, Forest, and Climate Change, Govt. of India (2021). India State of Forest Report

District	Very Dense Mangrove	Moderately Dense Mangrove	Open Mangrove	Total	Change w.r.t 2019 assessment
Udupi	0.00	1.54	0.15	1.69	0.15
Total	0.09	1.93	10.59	12.61	2.57

Most of Karnataka's mangroves are of the fringing type (classic zonation pattern) in linear formations along the river or estuarine banks. Where the estuaries are wider, especially in Swarna Sita-Kodi, Gangoli (towards the mouth of Haladi-Chakra-Kollur Rivers), Aghanashini, and Kali, there are remarkable locations of mangroves. About 18 species have been reported and the dominant species are in the table below.

Table 6: Mangrove species of coastal Karnataka

Sl.no	Family	Species
1	Acanthaceae	Acanthus ilicifolius
2	Rhizophoraceae	Bruguiera gymnorrhiza, Bruguiera cylindrical, Kandelia candlel Rhizophora mucronata, Rhizophora apiculata,
3	Myrsinaceae	Aegiceras corniculatum
4	Euphorbiaceae	Excoecaria agallocha
5	Sonneratiaceae	Sonneratia alba, Sonneratia caseolaris
6	Poaceae	Porteresia coarctata
7	Verbenaceae	Avicennia marina, Avicennia alba, Avicennia officinalis
8	Combretaceae	Lumnitzera racemose
9	Pteridaceae	Acrostichum aureum

5.9 Coral Reef Ecosystem

The state has coral and coral-associated biodiversity in St. Mary's Island, Netrani Island, Mugali to Apsarakonda rocky shore, and Devgad Island.

Netrani is an uninhabited island located nearly 18 km off Murdeshwar (Karnataka State) on the southwest coast of India that is an internationally recognized underwater diving destination for tourists. It is a home to coral reefs which harbour 14 coral species belonging to 11 genera and several other flora and fauna comprising of fishes (92), seaweeds (7), sponges (6), jellyfish (2), holothuria (1), nudibranchs (7), zooplankton (25), bivalves (15), phytoplankton (16), gastropods (48), cephalopods (3), crabs (17), shrimps (2), lobsters (4), etc.

Additionally, 26 new fish species belonging to four genera and other IUCN red-listed species are found here that are very significant. The two IUCN Red Listed fish species recorded from the island area are the hump-head wrasse (*Cheilinus undulatus*) and the whale shark (*Rhincodon typus*). Another IUCN red-listed mollusc, the giant clam (*Tridacna maxima*) was also found inhabiting this reef and this is the first report on the occurrence of this species from the mainland Indian waters.

The fish species from the Chaetodontidae family are also present within the corals which are a bioindicator of the health of coral reefs.

5.10 Fisheries and fish produce

The coastline along with 27,000 Sq. km continental shelf area and 5.83 lakh hectares of various inland water resources have vast scope for fisheries development. The brackish water area of 8000 hectares also provides good scope for shrimp/ fish culture⁹.

There are about 9.84 lakh fishermen involved in various fisheries activities in the state of which 3.31 lakh are in the marine sector and 6.53 lakh are in the inland sector. The annual fish production in Karnataka has shown a considerable increase from 2.97 lakh metric tons in 2005-06 to 10.74 lakh metric tons in 2021-22 with an annual average growth rate of 10.33%. During the year 2022-23 (up to Nov. 2022) 5.52 lakh metric tons of fish were produced.

Fish seed production during the year 2021-22 was 7669.06 lakhs. During the year 2022-23 (up to Nov. 2022) 7320.50 lakhs of fish seeds were produced as against the target of 11251 lakhs.

⁹Planning, Programme Monitoring and Statistics Department. Govt. of Karnataka (2023). Economic Survey of Karnataka 2022 - 2023

6 Social Baseline and Key Implications

Karnataka's GSDP contribution to India's GDP is 8.2%. Karnataka has the highest per-capita income of INR 3.01 lakh which is higher by 77% vs all India numbers. It leads in several sustainable development goals with an overall score of 72 out of 100, ranking third among all states.

The Human Development Index of the state showed improvement from 0.432 in 1999 to 0.644 in 2021. It is a leading state in technology and innovation with the number one position in Innovation Index and State Start-ups' Ranking and has a healthy financial position with a revenue of deficit less than 4% of GSDP. Key Socio-Economic indicators of the three coastal districts are as below.

- i. Udupi⁴ is a coastal district in Karnataka with a population of 11,77,908 and a split of 51% female and 49% male populations. The district has an average literacy rate of 83%, significantly higher than the national average. The primary occupations of the local population are agriculture or fisheries - based. The key language spoken is Tulu.
- ii. Uttara Kannada⁵ is among the largest districts in Karnataka with a population of 14,37,169 and varied geographical features, thick forest covers, perennial rivers, abundant flora and fauna, and a long coastline of 140km.
- iii. Dakshina Kannada⁶ is sheltered by the Western Ghats on the east and bordered by the Arabian Sea on the west. With a population of 20,89,649 and a literacy rate of 88% Dakshina Kannada is divided into 1 city corporation, 5 municipalities, 9 talukas, and 223-gram panchayats. It is a business and commercial center and Karnataka's major port for the export of iron ore, coffee, spices, and cashews.

In terms of key demographic and economic indicators, Dakshina Kannada stands out with the highest population (20.85 lakhs), a relatively high literacy rate (88.62%), and a significant share of workers in its population (50%). The district also has the highest net total income in 2007-08 (9,69,984 lakhs) and per capita income in 2017-2018 (47,151 INR), placing it second in the Human Development Index ranking. Udupi has a lower population (11.78 lakhs) but maintains a respectable literacy rate (86.29%) and the third position in the Human Development Index. It has a notable contribution from fishing to its income (4.33%). Uttara Kannada, with a population of 14.40 lakhs, features a lower literacy rate (70%) and the fifth rank in the Human Development Index. It also has a substantial land area (10,291 sq. km) and contributes 4.2% of its income from fishing. These statistics provide insights into the distinct characteristics and development levels of these three Karnataka districts.

Table 7: Key socio-economic indicators of the coastal districts of Karnataka

Sl.no	Parameters	Dakshina Kannada	Udupi	Uttara Kannada
1	Total population (lakhs)	20.85	11.78	14.40
2	Decadal population growth rate (%)	9.80	5.90	9.20
3	Area (in sq. km)	4,866	3,575	10,291
4	The density of population (persons per sq. km)	457	287	240
5	Literacy level (%)	88.62	86.29	84.06
6	Sex ratio (number of females per 1000 males)	1094	1020	979
7	Percentage of SC population (%)	7.09	6.4	8.1
8	Percentage of ST population (%)	3.94	4.5	2.4
9	% of workers to the total population	50.0	44.0	40
10	Net District total income 2007-08 (INR lakhs)	9,69,984	4,73,922	56,0503
11	Per capita income (INR)2017-2018	47,151	39,307	36,243
12	Rank based on the Human Development Index	2	3	5
13	Net district income from fishing 2017-18 (INR lakhs)	22,534	20,529	19743
14	% contribution of fishing to total income	2.32	4.33	4.2

6.1 Pollution of Rivers, Marine and Coastal Areas

Sewage Treatment Plants (STP's). There are 13 urban local bodies (ULB's) namely (i) Mangalore CC, (ii) Ullal CMC, (iii) Mulki TP, (iv) Udupi CMC, (v) Kaup TMC, (vi) Kundapura TMC, (vii) Saligrama TP, (viii) Bhatkal TMC, (ix) Honavar TP, (x) Kumta TMC, (xi) Ankola TMC and (xii) Karwar CMC (xiii) Byndooru TP located along the coastline. The total Sewage generation from the 13 ULBs are estimated to be 101.16MLD, which is getting treated in 7 STPs, the total capacity of the STPs is 104.25MLD, the STP operational capacity is 44MLD. Monitoring of treated water from the STPs is carried out every month by the Karnataka State Pollution Control Board (KSPCB), as per the analysis outcomes the treated sewage is meeting the stipulated standards. However, in the worst-case conditions like failure of STP operation due to heavy rains/ flooding, inadequate power supply, extreme drought condition will lead to discharge of untreated sewage water into the water bodies, which will have a direct impact on the aquatic ecosystem.

Industries and Effluent Treatment. There are 20 industries located along the Karnataka coastline, which generates 211.5 MLD (177.3 MLD is cooling water) of industrial effluent. The treated effluent is discharged to the sea. Out of 20 industries, 18 industries are provided with ETP facility and 2 industries comes under green category. There are 2 CETP's available in the coastal areas. However as per the KSPCB report, there are two major water polluting industries namely M/s. Grasim Industries Limited, Binaga, Karwar taluk and M/s. Anfal marine Products, Amadalli, Karwar taluk. There are no other major industries which are discharging effluent into the Arabian Sea.

Common Effluent Treatment Plants (CETPs). There are 13 numbers of fish meal industries (cluster) located along the coastline, that are connected to CETP to treat the trade effluent. KSPCB has issued consent under the Water Act to treat the trade effluent and discharge the treated trade effluent to sea.

Municipal Solid Waste (MSW). The total municipal solid waste generated from the 13 ULB's has been estimated to be 417.85 tons per day, of which 317.39 tons per day of MSW has been processed. The remaining 100.45 tons per day of waste is disposed without any treatment, which may find its way to the nearby water bodies and end up in the sea. In Uttara Kannada 193 tonnes of plastic waste is converted into RDF and sent to cement industries for co-processing.

6.2 POTENTIAL ENVIRONMENTAL & SOCIAL RISKS & IMPACTS

1. The K-SHORE is expected to bring about long-term benefits to the coastal environment through Integrated Coastal Zone Planning and Management and targeted project interventions. The proposed subproject interventions are small to medium scale, largely community-driven and nature-based, with limited physical footprint. The coastal protection interventions, expected to be medium scale, will be implemented only in areas with severe coastal erosion problems.
2. Positive Environment Impacts. Summary of the positive environmental impacts anticipated from the project include the following:
 - i. Scientific evidence generation and identification of targeted interventions: The project involves the creation of case/ location-specific plans such as ICZMPs/ shoreline management plans, biodiversity management plans, and marine spatial plans. This will put in place scientific ways of data collection and updation which would in turn enable well informed and data-driven design interventions.
 - ii. Improvement in stabilization of shoreline and reduction of coastal erosion: The project involves the implementation of NbS, EbA, and other environmentally conscious management and conservation approaches to protect the shoreline from erosion. This includes activities such as mangrove afforestation, palmyra plantation, and grey infrastructure build (e.g., groynes, dykes, and embankments).
 - iii. Protection and enhancement of coastal and marine biodiversity: The project aims to establish conservation centers and implement activities for conservation of marine ecology including establishment of rehabilitation/ treatment centers, restoration of degraded mangroves, and awareness generation. This would ensure the protection and enhancement of the local biodiversity.
 - iv. Reduction in marine litter and enhancement of plastic circularity: The project involves technical studies (primary and secondary) to identify the hotspots of the litter and establishing a monitoring system and protocols to track, manage and identify interventions to reduce litter. It also includes the establishment of an appropriate waste collection system and deploy a plastic-shed/ water-shed approach to capture, collect, and transport the mismanaged dry wastes from rivulets/ drains that lead to rivers in the project region, and ultimately to the coast. This would lead to a decrease in the marine litter.

6.3 Positive Social Impacts/Benefits

- i. Enhancement of livelihoods for the local communities: The project aims to drive environmentally and socially sustainable investments in blue economy initiatives across ecotourism, fisheries, and aquaculture. This would diversify the livelihoods of the local communities and decrease their dependency on just one natural resource (like fish).
 - ii. Empowerment of waste workers to derive higher value from waste: The project aims to implement mechanisms for ensuring proper segregation and robust disposal of waste. This includes identification of existing policy gaps and strengthening them, building the capacity of locals, and penalizing non-compliance. This proper segregation improves the ability of the waste workers to sell the waste to other recyclers or feeder industries such as cement manufacturing.
 - iii. Enhanced awareness and knowledge of both grassroots implementers and local communities: The project involves the administration of trainings for capacity building to:
 - a. Enhance their livelihoods by skilling them with technology, business management, marketing, etc.
 - b. Create awareness about the need to protect the shoreline and the local biodiversity. This includes training them on eco-friendly sustainable ways of living and appropriate methods for waste disposal.
1. The assessment reveals no large scale, significant and/or irreversible impacts due to the proposed subproject interventions. Thus, risks and impacts are anticipated to be localized, manageable and reversible. The K-SHORE program will avoid undertaking any activities that will cause significant conversion or negative impacts on natural habitats and sensitive environmental receptors. Activities that may have cumulative/regional impacts or large-scale construction / Operation and Maintenance (O&M) stage impacts (such as waste management, coastal protection structures) will be taken up for implementation only if its necessity is established and guided by ICZM Plans. The mechanism to predict the potential and mostly typical impacts on the key environmental and social parameters of sub-project areas is presented in the following section. This is based on the assessment of project components/sub-components (refer chapter 3) and baseline physical, environmental, and social conditions (refer Chapter 4).

6.4 Potential Adverse Environment Impacts

The Environmental Risk Rating is assessed to be substantial mainly due to the following risks:

- i. increased access to ecologically- sensitive areas while implementing the management plans for these ecosystems.
- ii. temporary pollution-related impacts while undertaking civil works to build/rehabilitate/expand waste-management/ erosion-control infrastructure.
- iii. sourcing of materials for plantation and implementing soil and water conservation and erosion control measures in environmentally sensitive areas;
- iv. contamination of soil and water due to increased use of fertilizers/pesticides in afforestation sub projects; and
- v. Installation of engineering solutions (like flow traps, chutes) in pollution hotspots of rivers and estuaries, to control plastic inflow into the sea.

The potential risks and impacts can be avoided and reduced through screening of sub-projects to avoid sensitive areas, hotspots and no-go areas and to improve the subproject design to minimize risks and impacts, embedding of strategic E&S assessment and planning in the ICZMPs, timely implementation of mitigation measures, where avoidance and minimization, are not possible, and a robust coordination and monitoring mechanism.

6.5 Potential adverse social risks and Impacts:

Project envisages to invest in traditional and non-traditional forms of coastal livelihoods to not only strengthen the local economy but also diversify incomes considering coastal communities are on the front-lines of climatic hazards. Activities such as aquaculture, mariculture, eco-tourism (mangrove boardwalk, beach rejuvenation,) and plastic value chains (Material Recovery Facilities, Plastic-Mitras/SHGs involved in the value chain). Approaches to formal access to finance for these SHGs and entrepreneurs are also being explored as a way to support scaling of livelihoods and achieving economic feasibility.

Hence in this regard the project is expected to socially benefit low-income households and community groups directly and indirectly through livelihood support, incentives for entrepreneurship, technology transfers, and enhanced coastal infrastructure, through project interventions on coastal zone management, strengthening plastic-value chain and enhancing blue economy opportunities (eco-tourism, aquaculture, fisheries, afforestation). The improved livelihoods and employment opportunities will have positive spillovers for community members not directly supported through project interventions. Self-help groups, especially those led by women, will be key beneficiaries. Mangrove plantations and rehabilitation work will be carried out by the local community thus generating additional employment opportunities.

Social risks likely are as follows: i) Risks relating to land, access, temporary loss of livelihood: The establishment of mangrove plantations and building of small infrastructure e.g. MRF, to the extent possible, will be carried out on public land; However, interventions could have risks relating to construction, plantation, restoration, etc. and these might involve taking of either private albeit on a small-scale or public land with unauthorized occupation/ usage. Street vendor stalls, may need to be moved or relocated for implementation of projects such as restoration of natural coastal resources (such as mangrove)/infrastructure, waste management and erosion control measures/eco-tourism activities/ beach cleaning/ livelihood activities/ protection of coastal structures or adopting Blue Flag beach criteria or other activities. Fences may need to be erected to protect coastal resources (sand-dunes, and others), or temporarily be erected for construction works (coastal protection structures), which could block access to people's lands or public spaces like part of a beach. In some cases, there might be loss of access to common property and temporary relocation and loss of livelihood; ii) Labor risks as there are likely to be number of skilled and unskilled workers some of whom would be engaged in underwater works leading to OHS risks, besides which large number of community workers engaged in activities aimed at prevention of ocean bound plastic pollution iii) labor influx during construction is expected to be of small scale except in cases where skilled workers are required resulting in SEA-SH/GBV risks; iv) potential presence of tribals in few locations; v) inadequate communication to target stakeholders and possible exclusion of certain disadvantaged groups i.e. inclusion and equity issues may remain a concern in accessing the benefits of the project. due to capacity and experience in managing stakeholder engagement although these concerns could be addressed through implementation support and vi) relatively low capacity of IAs, particularly at the District levels in management of E&S risks.

Further, there are Security risks concerns as the powers and duties of officers and employees of the Karnataka Forest Department empower Forest Services Officers to use arms/ weapons as part of their routine duties of monitoring poaching, self-defense and illegal tree felling activities. However, assessment comprising site visits and interactions with communities and also review of existing systems indicated that no security risk assessments (SRA) and SMPs are required, given the low risks involved in the kind of activities (mangrove plantation/restoration, etc.) proposed under the project. Specifically the assessment indicated that: i) there are existing protocols that guide the use of weapons in situations only restricted to instances of poaching, self-defense and illegal tree felling; ii) trainings are provided to the forest guards and range officers on these protocols; iii) clear mechanism of reporting of incidents if any, exists in both states; iv) that there have not been any incidents concerning the use of force in the 3 coastal districts of Karnataka in the last 3-4 years. Hence, as per this ESMF and SEP, borrowers as part of the preparation of Detailed Project Reports (DPRs), will undertake consultations with communities in the area to elicit their concerns, if any, and the forest officials (range officer and forest guards); and the summary of these consultations will be recorded in the DPRs. Based on this, commensurate measures of orientation and training will be listed in the ESMPs (embedded in the DPR).

A detailed summary of the risks and impacts of each of the activities planned as a part of K-SHORE's four components is provided in Table 8.

Table 8: Potential Environmental and Social Risks and Impacts

S.No	Activity Name & details	Likely E&S risks and impacts	ESS likely to be relevant	Risk category (L/M/S)
1	COMPONENT 1- STRENGTHENING INSTITUTIONS FOR INTEGRATED COASTAL ZONE MANAGEMENT			
1.1	Workshop / awareness programs, holding biodiversity festivals (like turtle-festival) (IEC) involving Biodiversity Management Committees, Educational institutes, Local communities, Fishermen, VFCs, NGOs and the public at large about the project objectives. (plastic waste management, coastal protection using nature-based solutions, conservation of biodiversity, sustainable livelihoods, etc)	Risks associated with identification of relevant stakeholders and possible exclusion of relevant stakeholders. and possible non-disclosure of complete, timely and relevant information to all the stakeholders.	10	L
1.2	Establishing Marine Megafauna Rescue and Rehabilitation Centre (which may include Labs and Diagnostics, Medical equipment, Carcass disposal, etc..), Mangrove interpretation Centres, Turtle interpretation Centres, Marine interpretation Centres (infrastructure)	Potential risks associated with land acquisition (if any), labour health and safety due to occupational hazards, community health and safety including bio-medical waste generation during construction and operations, handling of endangered biodiversity.	1, 2, 4, 5, 6 and 10	S
1.3	Strengthening the Protection, Patrolling, and Monitoring in the coast and sea by engaging staff & officers/watchers / community members for plastic waste generation abatement (plastic mitra), biodiversity conservation, afforestation activities, etc.	Potential risks associated with labour health and safety due to occupational hazards and also potential disruptions to biodiversity, potential conflicts with local community.	2,6 and 10	M
1.4	Procurement of Equipment like underwater cameras, aerial and underwater unmanned vehicles, Acoustic hydrophones, GPS, Range finders, Scuba diving gear, Stretchers, First aid box, Patrolling boat and Vehicles for Marine and Coastal patrolling, monitoring, rescue operations, etc.	Potential generation of e-waste and plastic waste, potential disruptions to biodiversity.	3, and 6	M
1.5	Creation of Knowledge platform / app for sharing data on K-SHORE	Potential exclusion of those digitally illiterate/disadvantaged or not having computers/mobiles	10	L

Table 8: Potential Environmental and Social Risks and Impacts				
S.No	Activity Name & details	Likely E&S risks and impacts	ESS likely to be relevant	Risk category (L/M/S)
1.6	Modern Forest Nursery infrastructure development works including the construction of a Nursery Storeroom, Formation of Seed Bed, Construction of mist chambers, greenhouses, repair of nursery fences, etc.	Potential risks associated with labour	2 and 10	L
1.7	Infrastructure development (Construction of residential and non-residential buildings for departmental staff and officers involved, Construction of Compound wall and other miscellaneous works, etc.)	Potential risks associated with labour health and safety due to occupational hazards and potential gender-based violation, Potential risks associated with land acquisition (if any), and potential conflicts with local community.	1,2, 4, 5, 6, and 10	M
1.8	Development of Eco-Tourism activities Ottinane nature camp, coastal tree park, nature trails, and eco-beaches by providing children play equipment, garden, etc.	Potential risks associated with the improper disposal of equipment (post usage) and potential exclusion of stakeholders including those disadvantaged and vulnerable communities. Potential risks associated with land acquisition (if any) and land-use changes / restrictions.	1, 3, 5, 10	M
2	COMPONENT 2 – SHORELINE MANAGEMENT, COASTAL PROTECTION AND CONSERVATION			
2.1	Activities / Sub-Projects involving raising of mangrove plantations, restoration of mangrove habitats, establishment of mangrove gene pools, afforestation of areas as shelter belts, sand dune stabilisation, bamboo planting, planting along river as vegetative traps, afforestation in lateritic areas, planting involving rare endangered and threatened species and similar activities along roadside and urban areas, soil moisture conservation works.	Potential disruptions to local biodiversity, Potential risks associated with labour health and safety due to occupational hazards and potential gender-based violation, potential exclusion of stakeholders including those disadvantaged and vulnerable local communities.	2, 6, 10	M
2.2	Activities / Sub-Projects involving monitoring of flora and fauna	Potential risks associated with the improper disposal of	3	L

Table 8: Potential Environmental and Social Risks and Impacts				
S.No	Activity Name & details	Likely E&S risks and impacts	ESS likely to be relevant	Risk category (L/M/S)
		equipment (post usage)		
2.3	Preparation of Integrated wetland management plan and Integrated coastal zone management plan	Potential disruptions to local biodiversity, Potential risks associated with land acquisition (if any) and land-use changes/restrictions, potential exclusion of stakeholders including those disadvantaged and vulnerable local communities.	5, 6, 10	S
2.4	Beach cleaning, beach restoration works	Potential risks associated with labour health and safety due to occupational hazards, potential gender-based violation, and potential exclusion of stakeholders including those disadvantaged and vulnerable local communities. including beach vendors and tourists.	2, 10	M
2.5	Artificial regeneration of coral reefs	Potential risks associated with labour health and safety due to occupational hazards Potential disruptions to local biodiversity	2, 6	M
2.6	In-situ and Ex-situ conservation and protection of biodiversity (including those for Olive Ridley Turtle like Protection of nesting sites, artificial incubation and release of hatchlings, those for softshell turtles, mahseer, etc)	Potential risks associated with labour health and safety due to occupational hazards Potential disruptions to local biodiversity, potential exclusion of stakeholders including those disadvantaged and vulnerable local communities	2, 6, 10	M
3	COMPONENT 3 - IMPROVING LIVELIHOODS FOR NATURAL RESOURCES DEPENDENT COMMUNITIES			
3.1	Viability gap funding for SHG members working in Plastic waste management unit in Gram panchayats	Potential exclusion of stakeholders including those disadvantaged and vulnerable local communities.	10	M
3.2	Facilitating the rearing of green mussel culture, oyster culture, fish farming, ornamental fish farming, crab fattening, shrimp culture, mangrove apiculture, etc. for livelihood improvement of the local communities.	Potential disruptions to local biodiversity	6	M

Table 8: Potential Environmental and Social Risks and Impacts				
S.No	Activity Name & details	Likely E&S risks and impacts	ESS likely to be relevant	Risk category (L/M/S)
3.3	Development of Mangrove trail and Mangrove boardwalk and Mangrove Birdwatching to encourage community managed mangrove Eco-tourism including Mangrove Kayaking and Mangrove Boat Safari.	Potential risks associated with the improper disposal of equipment (post usage) and potential exclusion of stakeholders including those disadvantaged and vulnerable communities, Potential risks associated with land acquisition (if any) and land-use changes / restrictions	3,5,10	M
3.4	Livelihood enhancing activities like areca plate and paper bag making, compost making unit establishment under VFCs or SHGs, providing of biodegradable alternatives to plastic and promotion of renewables and like solar light.	Potential risks associated with labour health and safety due to occupational hazards, Potential exclusion of stakeholders including those disadvantaged and vulnerable local communities	2,5 10	M
4	COMPONENT 4 – ENHANCING PLASTIC CIRCULARITY AND MARINE POLLUTION MANAGEMENT			
4.1	Activities or Sub-Projects involving incentivisation of plastic usage reduction / plastic alternatives / plastic collection from environment such as – setting up kiosks for purchasing damaged nets and plastic waste from fishermen and local communities,	Potential risks associated with labour health and safety due to occupational hazards, Potential risk of secondary source pollution through leaching of collected plastic waste, Potential exclusion of stakeholders including those disadvantaged and vulnerable local communities and inadequate communication to stakeholders involved.	2, 3, 10	M
4.2	Activities and Sub-Projects involving creation of infrastructure for collection, storage and processing involved in plastic and associated waste management lifecycle such as – collection kiosks, MRF, washing units, storage units, Thermocol, Multilayer plastics processing centers, shredding units, etc.	Labour health and safety (including GBV) due to occupational hazards (MRFs and such institutions have huge women labour force), Potential risk of leaching of waste, Potential conflict with local communities on account of community health and safety risk, Potential risks associated with land acquisition (if any) and land-use changes / restrictions, Potential exclusion of stakeholders and inadequate communication to stakeholders involved.	2, 3, 4, 5, 10	M
4.3	Installation of trash barrier in rivers (15 ft barrier and 15 ft	Potential risk of secondary source pollution through	3,4,6	M

Table 8: Potential Environmental and Social Risks and Impacts

S.No	Activity Name & details	Likely E&S risks and impacts	ESS likely to be relevant	Risk category (L/M/S)
	wire) and their annual Maintenance	leaching of collected plastic waste, Potential conflict with local communities on account of community health and safety risk and access related, Potential disruptions to local aquatic biodiversity		
4.4	Activities / Sub-Projects involving providing / promotion of alternatives to plastics such as cloth bags vending machines at ecotourism locations, CCTVs for behaviour modification approaches	Potential exclusion of stakeholders and inadequate communication to stakeholders involved.	10	L
4.5	Activities / Sub-Projects involving on studies on the source and effects of plastics and mitigation approached	TBD as the study will identify the risks.	10	

7 APPLICATION OF ENVIRONMENTAL AND SOCIAL MANAGEMENT FRAMEWORK

Environmental and Social Management Framework (ESMF) is a tool for use by a project proponent to identify, screen, assess and manage the potential environmental and social risks and impacts of a project across all stages from the planning stage to its implementation and post-implementation operations. Keeping this in view, the present ESMF has been developed for use by all PIAs. A step-by-step methodology has been provided that can be followed along with engineering and institutional interventions required for the sub-project activities.

Application of ESMF will vary by nature of activities i.e. Works hard infra (including groynes, dykes, and embankments) or Environment friendly interventions e.g. Nature-based solutions like reefs, mangroves, sand dunes, Palmyra plantations, and ecosystem-based approaches.)

- a. Goods primarily involving procurement e.g. patrol boats
- b. Engagement initiatives e.g. activities such as workshops, festivals (turtle conservation), plastic mitra (friends)
- c. Study consultancies (services)

Application of ESMF will vary by nature of activities i.e.

- a. Works - hard infra or Environment friendly interventions, e.g. turtle conservation centres, Dugong conservation centre or setting up MRFs or Environment friendly interventions e.g. Wetland Conservation & Restoration, degraded wetlands, livelihood activities such as aquaculture, mariculture with minor infrastructure, ecotourism, etc.
- b. Goods – procurement of trash barriers for plastic management, manjappai (yellow bag)
- c. Engagement initiatives, e.g. Blue flag beaches or plastic circularity Advancing Meendum Manjappai, Fish Net Collection and Incentivization Programme, Beach Cleanups, Mainstreaming Rag pickers, etc.
- d. Studies, e.g. Strengthening Coastal Management through Integrated Coastal Zonal Management (ICZM)

ESMF will be applied to the overall project through a three-stage process as described below:

7.1 Stage I: Environment and Social Screening of Sub-projects and Risk Classification

All activities in the above categories (a, b, c, and d) will be assessed as below:

Works (hard infra or Environment friendly interventions)

DPMU shall undertake Environmental and Social Screening of sub-projects, using E&S scoping and screening checklists. The screening process helps to identify E&S risks and impacts and determine risk category of the sub-project (L/M/S). These would be interventions involving:

- i. hard interventions such as infrastructure (rehabilitation centre, in-situ/ex-site conservation works, sheds, residential/non-residential buildings, etc. and/or

- ii. Environment friendly nature-based interventions such as mangroves, shelter belt plantations, afforestation, nature/eco-tourism trails, etc. (Refer to Table 9 for nature of approach and mitigation instrument)

E&S screening and scoping templates (SF 1) provided in Annexure 1 shall be used to screen works/interventions are further classified based on the location i.e. within sub-project area or outside the sub-project area. Each activity is reviewed for the applicability under-sub project, location of applicable activity as within sub-project area or beyond dam area and likely risks and impacts. The SF-1 format will be used to scope out or ascertain the types of E&S risks for each of the interventions e.g. Risk/Impact Water Quality, Fisheries, Conservation area, Protected Area, Ecological, Occupational Health, Physical Environment, Cultural, Tribal presence, impact on private land/assets/encroachers/squatters, labor, migrant labor and GBV risks – each of these corresponding to the ESS 2-8. As explained earlier, ESS1 is the overarching ESS and shall govern the applicability of ESS 2-8 and ESS 10, for each of the interventions of the sub project.

The second format (SF-2) is used to assess the extent of risk/impact intensity for each of the identified E&S risk and will be used to categorize the risk level as Low/Moderate/Substantial/ High.

Based on the findings of the above two format, the risk categories for all different types of E&S risk and impacts would be summarized and the highest of the risk categories would be assigned as overall risk category for the given sub-project. Based on the above findings, an “E/S Due Diligence” report for each sub-project would be prepared.

7.2 Stage II: Preparation of ESF Instruments (ESIA, ESMP, RP etc.) (Standard or Customized)

Based on risk category, either E&S measures or Standard ESMP (See Appendix 1) will be prepared.

- a. if risk category is L or M then E&S measures as per the relevant ESS will be included in the DPR, e.g. for hard infrastructure/very minor work e.g. watchmen shed, plastic collection shed/kiosks, then the E&S provisions will be included within the DPR. However, if major works are involved then a Standard ESMP will be prepared, annexed to bid and contract documents.
- b. if risk category is Substantial¹⁰, DPMU should undertake detailed ESIA as per agreed Terms of Reference (TORs) and prepare a sub-project specific ESMP including mitigation instruments as per relevant ESS.

For Low or Moderate Risk projects, E&S measures shall be included within DPRs wherein specific plans e.g. SEP or LMP will be included, except in cases where major construction is involved and therein ESMP will be prepared. However, the ESMP would be customized based on study of sub-project information, proposed interventions, their magnitude and locations; assessing the relevance and applicability of laws, regulations and procedures for assessment including relevance of WB ESS requirements, development and implementation plans of the projects; approach to consultations or engagement with stakeholders.

The standard E&S measures or ESMP shall comprise a set of actions that need to be completed by the Implementing Agency and the contractor. The contractor's specific actions shall be annexed in both the bid and contract documents. All standard ESMP plans shall be prepared by DPMU with support from and reviewed through their E & S specialists available in the SPMU.

Preparation of ESMP. Commensurate to the nature and scale of works/activity, Moderate Risk subprojects would be required to include E&S measures within DPRs or develop standard/ site-specific, Environmental and Social Management Plans taking into consideration the national and state regulations along with the World Bank's ESSs to define specific mitigation and prevention measures to prevent and reduce risks and impacts.

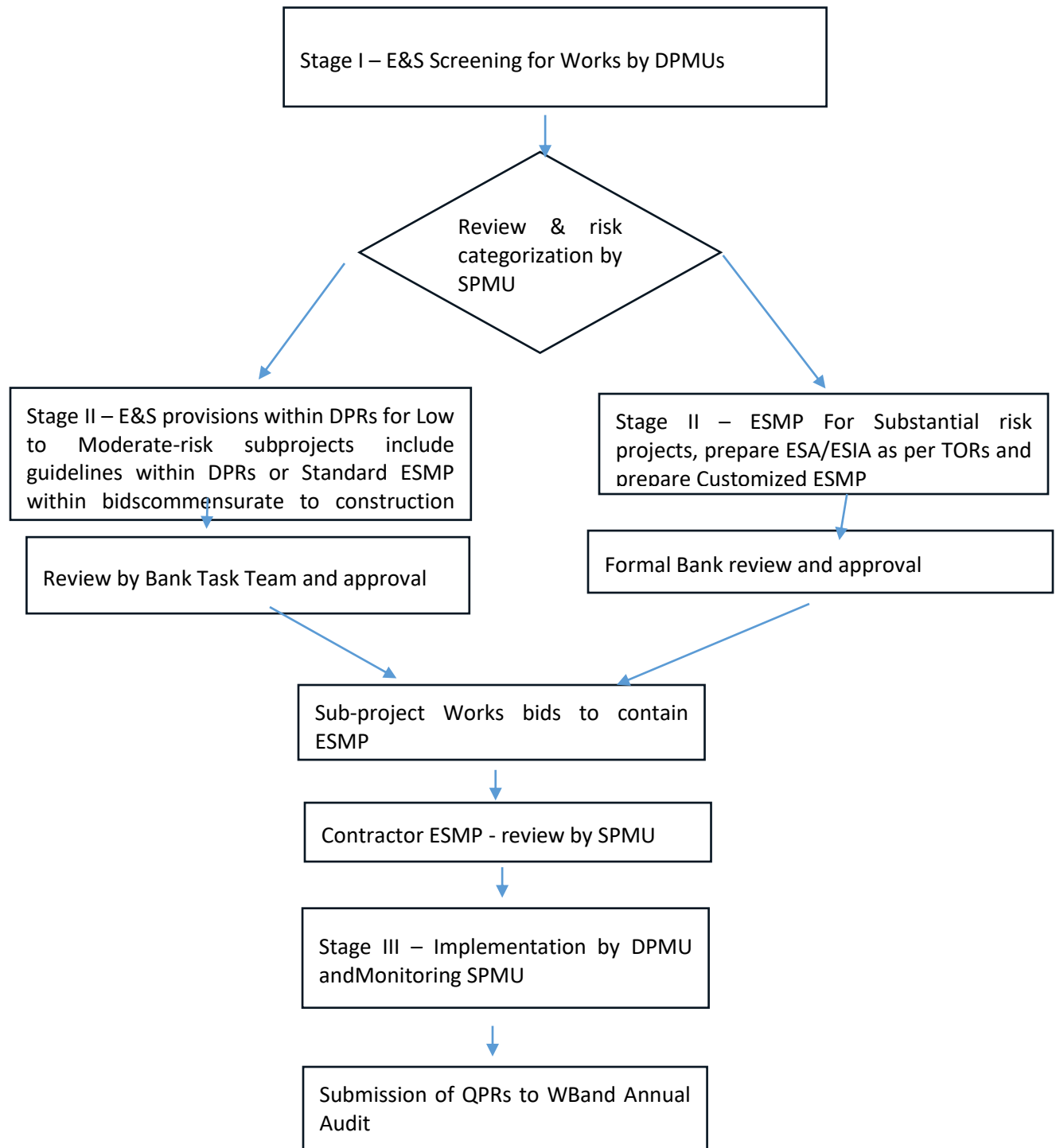
- The management plan shall consider various activities proposed under the project and provide management measures to be followed for different phases of implementation, along with the responsibility allocation for implementation and Monitoring plan
- Apart from addressing the issues, management measures shall also explore enhancement opportunities and their inclusion in project components shall be ensured
- The management measures identified shall be made part of the project components and shall be included in the bid documents appropriately.

¹⁰ Examples where sub projects may get classified as Substantial are – construction requiring land taking vide acquisition, interventions that might involve adverse impacts on biodiversity spots or natural habitats etc.

- Generic Environmental and Social Management Plan (ESMP) for all construction related activities is provided in Annexure **.
- Environmental Monitoring Plan for General Construction Works is provided in Annexure **.
- The cost for implementation of the management measures, the institutional arrangements for monitoring, etc. shall be included in the project cost¹¹
- For construction / EHS impacts; guidance includes The World Bank Group General EHS Guidelines contain information on cross-cutting environmental and social, health, and safety issues potentially applicable to construction and can be downloaded via the following link.
<https://www.ifc.org/en/insights-reports/2000/general-environmental-health-and-safety-guidelines>

¹¹The ESMP Cost shall be integrated into the Detailed Project Report (DPR) and sub-project bid documents. This shall include cost for all mitigation measures and monitoring required during various stages of the project

Figure 5 : ESMF - Three-stage process



ESMF includes Frameworks to meet the requirements for relevant ESS – GBV Risk Mitigation Framework (ESS1), Occupational Health and Safety (ESS2), Resource Management Plan (ESS3), (ESS4), Resettlement Policy Framework (ESS5), Bio-Diversity Conservation and Management Plan (ESS6), Tribal Development framework (ESS7). (Stakeholder Engagement Framework (ESS10) is prepared separately).

ESMP includes Resettlement Action Plan, Tribal Development Plan, Stakeholder Engagement Plan, Labor Management Procedure, Community Health Safety Management Plan, Biodiversity Conservation and Management Plan, Cultural Heritage Management Plan, Construction Debris and Solid Waste Management Plan, Pollution Prevention and Environmental Quality Management Plan

Substantial Risk sub-projects: For all such sub-projects a detailed ESIA shall be conducted through an independent ESIA agency in accordance with the Terms of Reference (ToR)¹² prepared and agreed with SPMU. The TORs require to: define project's 'study area' or project influence area and conduct surveys on existing environment & socio-economic profile/setting from authentic secondary sources and primary surveys; review of Environmental & Social Legal requirements; carry out analysis of impacts and management measures; provide environmental inputs to engineering feasibility studies. Further if required, conduct Social Impact Assessment including qualitative and quantitative surveys to identify potential adverse impacts on land, assets, encroachments, community assets; impacts on disadvantaged and vulnerable; impacts on tribals; develop mitigation plans in accordance with the entitlement policy and assistance package: identify gender concerns/gaps; identify types of project workers/labor and associated risks; possibility of migrant labor leading to GBV13 risks; undertake stakeholder assessment & consultations, providing modes for citizen engagement and GRM14 (including for anonymous, vulnerable and disadvantaged).

Based on the ESIA findings, a Sub-project specific ESMP will be developed and depending upon the relevance of ESS 2-8, relevant plans such as Resettlement Action Plan (RAP)¹⁵, Tribal Development Plan (TDP)¹⁶, Biodiversity Management Plan, Cultural Heritage Management Plan or Procedures¹⁷ etc. will be prepared and included within ESMP. For all projects, Contractor would be required to prepare Contractor-ESMP (C-ESMP that includes camp management plan, labor influx management plan, OHS measures etc.). This ESMP plan shall be ready before the sub project bids are issued and relevant plans would be included in the bid document.

The preparation of E/S assessment and management instruments, proportionate to the risks, as specified herein this ESMF is stated as a requirement in the Environment and Social Commitment Plan.

Activities relating to procurement of Goods: In all such procurement of goods, the bid/contract documents will involve necessary provisions relating to SEA/SH/GBV, primary suppliers, etc.

Engagement initiatives: In all such activities, firstly all stakeholders including communities involving disadvantaged and vulnerable groups will be mapped. Communication specialist at SPMU shall work closely with DPMUs and PEAs and also refer to the Project's Stakeholder Engagement Plan (SEP) to ensure all stakeholders are covered. Following which guidelines will be issued to ensure engagement of these groups and commensurate manpower/budget resources will be specified.

Study consultancies (services): The studies undertaken under the project shall be taken following finalization of TORs in discussion with and approval of the Bank. Based on the nature of these studies, the TORs will require the assessment of relevant ESS in terms of their risks, impacts and follow on requirements.

¹²ToR for hiring agency for conducting ESIA studies placed at Annexure 6

¹³ GBV/SEAH action plan placed at Annexure 7

¹⁴ Ref SEF

¹⁵Template placed at Annexure 9

¹⁶ TDF placed at Annexure 12

¹⁷T for Bio-diversity management placed at Annexure 11

Table 9: Mitigation approaches to identified E&S risks				
S.No.	Activity Name & details	Likely E&S risks and impacts	ESS likely to be relevant	Mitigation approach
1	COMPONENT 1- STRENGTHENING INSTITUTIONS FOR INTEGRATED COASTAL ZONE MANAGEMENT			
1.1	Workshop / awareness programs, holding bio-diversity festivals (like turtle-festival) (IEC) involving Biodiversity Management Committees, Educational institutes, Local communities, Fishermen, VFCs, NGOs and the general public at large about the project objectives. (plastic waste management, coastal protection using naturebased solutions, conservation of bio-diversity, sustainable livelihoods, etc)	Risks associated with identification of relevant stakeholders and possible exclusion of relevant stakeholders. and possible non-disclosure of complete, timely and relevant information to all the stakeholders.	10	Guidelines to be issued for engagement of all identified stakeholders categories including additional efforts to reach out to disadvantaged and vulnerable
1.2	Establishing Marine Megafauna Rescue and Rehabilitation Centre (which may include Labs and Diagnostics, Medical equipment, Carcass disposal, etc..), Mangrove interpretation Centres, Turtle interpretation Centres, Marine interpretation Centres (infrastructure)	Potential risks associated with land acquisition (if any), labour health and safety due to occupational hazards, community health and safety including bio-medical waste generation during construction and operations, handling of endangered bio-diversity.	1, 2, 4, 5, 6	ESDD/ESIA and Standard ESMP for building /civil works
1.3	Strengthening the Protection, Patrolling and Monitoring in the coast and sea by engaging staff & officers / watchers / community members for plastic waste generation abatement (plastic mitra), bio-diversity conservation, afforestation activities, etc.	Potential risks associated with labour health and safety due to occupational hazards and also potential disruptions to bio-diversity, potential conflicts with local community.	2,6 and 10	Guidelines to be issued for engagement of all identified stakeholders' categories
1.4	Procurement of Equipment like underwater cameras, aerial and under water unmanned vehicles, Acoustic hydrophones, GPS, Range finders, Scuba diving gear, Stretchers, First aid box, Patrolling boat and Vehicles for Marine and Coastal patrolling, monitoring, rescue operations, etc.	Potential generation of e-waste and plastic waste, potential disruptions to bio-diversity.	3,6	Inclusion of clause relating to primary suppliers in the bid & contract documents

Table 9: Mitigation approaches to identified E&S risks				
S.No.	Activity Name & details	Likely E&S risks and impacts	ESS likely to be relevant	Mitigation approach
1.5	Creation of Knowledge platform / app for sharing data on K-SHORE	Potential exclusion of those digitally illiterate/disadvantaged or not having computers/mobiles	10	Issue guidelines on creating awareness raising on app and also alternative means for those disadvantaged and vulnerable i.e. digitally illiterate
1.6	Modern Forest Nursery infrastructure development works including construction of Nursery Storeroom, Formation of Seed Bed, Construction of mist chambers, green houses, repair of nursery fences, etc.	Potential risks associated with labour	2	Develop SOPs based on best practices and provide brief MOUs to labor/workers
1.7	Infrastructure development (Construction of residential and non-residential buildings for departmental staff and officers involved, Construction of Compound wall and other miscellaneous works, etc.)	Potential risks associated with labour health and safety due to occupational hazards and potential gender-based violence, Potential risks associated with land acquisition (if any), potential conflicts with local community.	2, 5	Standard ESMP for building /civil works
1.8	Development of Eco-Tourism activities Ottinane nature camp, coastal tree park, nature trails and eco-beaches by providing children play equipment, garden, etc.	Potential risks associated with the improper disposal of equipment (post usage) and potential exclusion of stakeholders including those disadvantaged and vulnerable communities. Potential risks associated with land acquisition (if any) and land-use changes / restrictions.	1, 3, 5, 10	Develop E&S measures and include in DPR and include these provisions in contract document
2	COMPONENT 2 – SHORELINE MANAGEMENT, COASTAL PROTECTION AND CONSERVATION			
2.1	Activities / Sub-Projects involving raising of mangrove plantations, restoration of	Potential disruptions to local bio-diversity, Potential risks associated with labour health	2, 6, 10	Guidelines to be included in the DPR

S.No.	Activity Name & details	Likely E&S risks and impacts	ESS likely to be relevant	Mitigation approach
	mangrove habitats, establishment of mangrove gene pools, afforestation of areas as shelter belts, sand dune stabilisation, bamboo planting, planting along river as vegetative traps, afforestation in lateritic areas, planting involving rare endangered and threatened species and similar activities along roadside and urban areas, soil moisture conservation works.	and safety due to occupational hazards and potential gender-based violation, potential exclusion of stakeholders including those disadvantaged and vulnerable local communities.		
2.2	Activities / Sub-Projects involving monitoring of flora and fauna	Potential risks associated with the improper disposal of equipment (post usage)	3	Guidelines to be included in the DPR
2.3	Preparation of Integrated wetland management plan and Integrated coastal zone management plan	Potential disruptions to local bio-diversity, Potential risks associated with land acquisition (if any) and land-use changes / restrictions, potential exclusion of stakeholders including those disadvantaged and vulnerable local communities.	5, 6, 10	ESIA and customized ESMP
2.4	Beach cleaning, beach restoration works	Potential risks associated with labour health and safety due to occupational hazards, potential gender-based violation, and potential exclusion of stakeholders including those disadvantaged and vulnerable local communities. including beach vendors and tourists.	2, 10	Guidelines to be issued for engagement of all identified stakeholders' categories
2.5	Artificial regeneration of coral reefs	Potential risks associated with labour health and safety due to occupational hazardsPotential disruptions to local bio-diversity	2, 6	Guidelines to be included within contract based on past experiences
2.6	In-situ and Ex-situ conservation and protection of bio-diversity (including those for Olive	Potential risks associated with labour health and safety due to occupational	2, 6, 10	Standard ESMP for building /civil works

Table 9: Mitigation approaches to identified E&S risks				
S.No.	Activity Name & details	Likely E&S risks and impacts	ESS likely to be relevant	Mitigation approach
	Ridley Turtle like Protection of nesting sites,artificial incubation and release of hatchlings, those for soft shell turtle, mahseer ,etc)	hazardsPotential disruptions to local bio-diversity, potential exclusion of stakeholders including those disadvantaged and vulnerable local communities		and guidelines to be issued for engagement of all identified stakeholders' categories
3	COMPONENT 3 - IMPROVING LIVELIHOODS FOR NATURAL RESOURCES DEPENDENT COMMUNITIES			
3.1	Viability gap funding for SHG members working in Plastic waste management unit in Gram panchayats.	Potential exclusion of stakeholders including those disadvantaged and vulnerable local communities.	10	Guidelines to be issued for engagement of all identified stakeholders' categories
3.2	Facilitating the rearing of green mussel culture, oyster culture, fish farming, ornamental fish farming, crab fattening, shrimp culture, mangrove apiculture, etc. for livelihood improvement of the local communities.	Potential disruptions to local bio-diversity	6	Standard ESMP
3.3	Development of Mangrove trail and Mangrove boardwalk and Mangrove Bird-watching to encourage community managed mangrove Eco-tourism including Mangrove Kayaking and Mangrove Boat Safari.	Potential risks associated with the improper disposal of equipment (post usage) and potential exclusion of stakeholders including those disadvantaged and vulnerable communities, Potential risks associated with land acquisition (if any) and land-use changes / restrictions	3,5,10	Standard ESMP
3.4	Livelihood enhancing activities like areca plate and paper bag making, compost making unit establishment under VFCs or SHGs, providing of bio degradable alternatives to plastic and	Potential risks associated with labour health and safety due to occupational hazards, Potential exclusion of stakeholders including those disadvantaged and vulnerable local	2,5 10	Standard ESMP /Guidelines

Table 9: Mitigation approaches to identified E&S risks				
S.No.	Activity Name & details	Likely E&S risks and impacts	ESS likely to be relevant	Mitigation approach
	promotion of renewables and like solar light.	communities		
4	COMPONENT 4 – ENHANCING PLASTIC CIRCULARITY AND MARINE POLLUTION MANAGEMENT			
4.1	Activities or Sub-Projects involving incentivisation of plastic usage reduction / plastic alternatives / plastic collection from environment such as – setting up kiosks for purchasing damaged nets and plastic waste from fishermen and local communities,	Potential risks associated with labour health and safety due to occupational hazards, Potential risk of secondary source pollution through leaching of collected plastic waste, Potential exclusion of stakeholders including those disadvantaged and vulnerable local communities and inadequate communication to stakeholders involved.	2, 3, 10	Guidelines to be issued for engagement of all identified stakeholders including vulnerable and disadvantaged categories to be included as part of DPR
4.2	Activities and Sub-Projects involving creation of infrastructure for collection, storage and processing involved in plastic and associated waste management lifecycle such as – collection kiosks, MRF, washing units, storage units, Thermocol, Multilayer plastics processing centers, shredding units, etc.	Labour health and safety (including GBV) due to occupational hazards (MRFs and such institutions have huge women labour force), Potential risk of leaching of waste, Potential conflict with local communities on account of community health and safety risk, Potential risks associated with land acquisition (if any) and land-use changes / restrictions, Potential exclusion of stakeholders and inadequate communication to stakeholders involved.	2, 3, 4, 5, 10	ESDD and Site identification to ensure that location is free from encumbrances; workers to be provided with MOUs; to be included in the DPR
4.3	Installation of trash barrier in rivers (15 ft barrier and 15 ft wire) and their annual Maintenance	Potential risk of secondary source pollution through leaching of collected plastic waste, Potential conflict with local communities on account of community health and safety risk and access related, Potential disruptions to local aquatic bio-diversity	3,4,6	Guidelines included in the DPR.
4.4	Activities / Sub-Projects involving providing / promotion of alternatives to plastics such as	Potential exclusion of stakeholders and inadequate communication to stakeholders	10	Guidelines to be issued for

Table 9: Mitigation approaches to identified E&S risks				
S.No.	Activity Name & details	Likely E&S risks and impacts	ESS likely to be relevant	Mitigation approach
	cloth bags vending machines at ecotourism locations, CCTVs for behaviour modification approaches	involved.		engagement of all identified stakeholders including vulnerable and disadvantaged categories
4.5	Activities / Sub-Projects involving studies on the source and effects of plastics and mitigation approached	TBD as the study will identify the risks.	10 and other ESSs - TBD	Include ESF aspects in TORs of study and later include commensurate ESMP in bid/contract documents

Table 10: Type of plan/instrument

ESS	Type of plan/instrument	Brief description of content	Annexure with indicative TOC/guideline
1	Standard ESMP	Includes provisions for addressing risks relating environmental and social aspects in each sub project. This will be a standard ESMP for sub projects identified as low to moderate risk (as per ESDD). Substantial risk sub projects will undergo Detailed ESIA and an ESMP. This will also include recommendations as per SEA or SH/GBV and disadvantaged and vulnerable groups	1
2	Labor Management Procedure	Lay down and spell out the requirements relating to: provision of terms and conditions of employment; promoting of non-discrimination and equal opportunity; worker's organization etc. and finally a mechanism to redress grievances mechanism to the direct and contracted workers.	2
4	Community Health and Safety Guidelines/Plan	This plan will include framework for in relation project workers, and any risks of labor influx, such as communicable and non-communicable diseases. CoC for contractors in relation to workers at site will also be included.	3
5	Resettlement Action Plan	In accordance with SIA findings and RPF provisions, RAP will be prepared that enumerates nature and quantum of each type of impact and impacted persons by socio-economic category and entitlement measures, budget	4
6	Biodiversity Conservation and Management Plan (BCMP)	Biodiversity Conservation and Management Plan for the sub projects sites close to the conservation areas and suggest biodiversity conservation guidelines and Plan. Where relevant, should also address ecological/environmental flows and ecosystem services	5
7	Tribal Development Plan	In accordance with ESDD/ESIA findings and TDF, the TDP shall be prepared to include: applicable legal and institutional framework and baseline data; framework for meaningful consultation tailored to Indigenous Peoples/Tribals during project implementation; Measures for ensuring Indigenous Peoples/Tribals receive social and economic benefits that are culturally appropriate and gender sensitive and steps for implementing them; measures to avoid, minimize, mitigate, or compensate Indigenous Peoples/Tribals for any potential adverse impacts that were identified in the social assessment, and steps for implementing them; the cost estimates, financing plan, schedule, and roles and responsibilities or implementing the Indigenous Peoples/Tribals Plan;	6

Review Process:

Works: All such ESMPs and other relevant Plans for Low to Moderate risk projects once prepared by respective DPMUs will be reviewed by SPMU and shared with the Bank task team for approval before the same are included in the respective bid documents. At least one E&S screening report for different nature of interventions will be approved by Bank task team to verify for completeness, compliance and consistency and also risk categorization (L-M-S). In addition, for other Low to Moderate risk sub-projects, Bank will review a selection of sub-projects, through desk review /site visits and provide suggestions and guidance for improvements, if required.

In the case of Substantial risk category, WB will formally review and approve all reports for their disclosure and usage in bid/contract documents. Implementation of all such ESMPs will be monitored by SPMU and progress status will be shared with the SPMU and Bank for information on quarterly basis.

Goods: DPMUs shall prepare and share bid/contract documents with SPMU for its review. SPMU shall share the same with Bank task team to confirm if provisions relating to labor, OHS, GBV/SEA are included. SPMU shall share at least one set of such bid/contract documents for each variety of procurement with Bank task team for its review and comments.

Engagement initiatives: Communication specialist at SPMU shall work closely with DPMUs and PEAs to draft guidelines and approach to engaging with stakeholders for each type of activity. Once done, SPMU shall share at least one set of such guidelines for each type of engagement initiative, with Bank task team's review and comments.

Studies: SPMU shall review the TORs prepared by the DPMUs/PEAs and share with Bank for confirmation of all ESF aspects. Once finalized these shall be tendered.

7.3 Stage III: Sub-project Implementation and Monitoring

Incorporating ESMP into contract documents:

Contract agreement with contractor/micro plans will have all the provisions of ESMP embedded in the contract and agreed upon. It will be ensured that the contractors will implement those provisions and ensure adequate safeguard compliance, which will also be monitored and evaluated from time to time by different agencies.

On-site implementation of the ESMP

The contractor shall implement all the ESMP measures applicable for the project right from mobilization. This shall be discussed with site engineers and workers and record on its implementation shall be maintained. Contractor will submit the Monthly Progress Reports to the PIU/DPMUs and

Reporting to World Bank

SPMU, Department of Forests, GoK will submit Quarterly Progress Reports (QPRs) to the World Bank providing updates on progress of activities under each component and highlighting constraints, if any for discussions and rectification.

Linkage with ESCP

The Environmental and Social Commitment Plan (ESCP) outlines important activities and measures, any specific documents or plans, and the due dates for each. The ESCP which will be a part of legal agreement and will be signed by Implementing Agency (IA) and will require the IA to comply with the provisions of any other E&S documents required under the ESF and referred to in the ESCP, such as the Environmental and Social Management Plans (ESMPs), Labour Management Procedures (LMP), Stakeholder Engagement Plan (SEP), etc. It specifies in detail the preparations that must be made with timeframe and responsibility. Adherence to the ESMF processes and provisions will therefore be monitored through this ESCP document between The World Bank and GoK.

7.4 Institutional Arrangements for Implementation, Monitoring and Grievance Redressal

Institutional Arrangement for Implementation. The SPMU for the SHORE project in Karnataka will be housed in the Department of Forests, Government of Karnataka. The SPMU is headed by a Chief Project Director, and supported by a Mission Director, who are Indian Forest Services (IFS) Officers. The SPMU has representatives from key line departments who will be responsible for the implementation of their project related activities, viz. Department of Environment; Department of Forests; Department of Public Works; Department of Urban Development; Department of Water Resources; Department of Agriculture & Farmers Welfare; Department of Fisheries, and Department of Tourism, which are designated as Project Implementing Agencies (PIAs). The SPMU will be headed by a Chief Project Director and supported by a Project Director, for interdepartmental coordination; approval of annual work plans and budget, and; monitoring of the SHORE project including application of ESMF to project activities and also adherence to commitments under ESCP

DPMUs. These will be headed by the Divisional Forest Officers (DFOs) and will include district level heads from the PIAs to bring convergence to the project activities. The DPMU will be responsible for all core and allied activities such as project implementation, inter-departmental coordination at the district level, including approval of annual plans, allocation and management of annual budget to the Project Executing Agencies (PEAs). The approved plans/Schemes executed by the PEAs are monitored and coordinated by DPMUs, and then collectively by the SPMU at the State level. In addition to implementing activities for coastal resilience, the DPMU will also undertake other activities such as promoting alternate livelihoods, enhancing plastic collection, and circularity.

Project Executing Agencies (PEAs). The PIAs shall be responsible for the overall implementation of the activities pertaining to the respective PIAs in all the coastal districts. The project on the ground will be implemented through the district PEAs, which are the district level arms of the PIAs. The PEAs, in coordination with DPMUs, will prepare the annual plans and budgets requirements, which will be approved by the SPMU. The PEAs will be responsible for management of contracts, implementation of community led activities with Village Committees/ Joint Forest Management Committees (JFMCs) etc. A breakdown is provided below:

Table 11: Roles and Responsibilities

Agency/Individual	Roles and responsibilities
<p>State Project Management Unit – PMU Including E&S specialists and communication expert)</p>	<p>Review and approval of ESMF Coordinate among other implementation agencies/ Review and approve all sub-projects in respect of E&S aspects (screening, preparation of ESMP or inclusion of guidelines or inclusion of provisions within DPRs) Review reports submitted by DPMUs and submit to WB for approval</p>
<p>DPMUs at district level</p>	<p>Provide overall guidance and monitoring supervision to the ESMF process at the local/ field level. Support PEAs in application of ESMF tools and preparation of mitigation instruments Support PEA in preparation of guidelines for communication and incorporation of E&S clauses/provisions in the bid /contract documents</p>
<p>District Project Executing Agencies</p>	<p>Participate either themselves, or identify suitable representative, during all face-to face stakeholder meetings. Review and sign-off minutes of all engagement events periodic reports to DPMUs for review and onward sending to SPMU Assure participation/ inclusion of stakeholders from vulnerable groups. management of contracts, implementation of community led activities with Village Committees/ Joint Forest Management Committees (JFMCs) etc.</p>

Roles and Responsibilities of Environmental and Social Safeguard Specialist at SPMU - KERS

- a. To verify periodically that all sub-projects are in line with the prevailing national, state and local legislation on the one hand, and the World Bank policies on the other.
- b. To ensure that ESMF is being fully integrated with the K-SHORE sub-project appraisal cycle, by identifying the project category before issuing the Terms of Reference to the design consultants and evaluating the proposals with respect to their completeness and compliance.
- c. To carry out Site Visits to sub-project implementation sites to monitor as well as provide onsite training as required. Prepare reports on visits / training to document the visit, observations for improvement required, need for follow-up etc.
- d. To provide necessary documents to the external auditors for carrying out annual E&S audit.
- e. To arrange to conduct analytical studies based on sub-project experience in order to influence policy changes that will lead to better management of environmental and social issues.
- f. To retain documents, reports and other records pertaining to ESMF.
- g. To prepare and submit quarterly progress reports to the GoK, the World Bank and other agencies as required.
- h. To report to Higher officials on all matters pertaining to ESMF

Roles and Responsibilities of Environmental and Social Safeguard Specialist at PIU of PEAs

- a. Include design related measures of the ESMP in the project design and DPR;
- b. Include ESMP in the bidding documents and civil works contracts, including requirement of staff (EHS supervisor) with contractor for ESMP implementation;
- c. Provide necessary budget in the project for ESMP Implementation;
- d. Ensure that the bid/contract documents include specific provisions requiring contractors to comply with all applicable labour laws and core labour standards including: (a) Labour welfare measures and provision of amenities; (b) Prohibition of child labour as defined in national legislation for construction and maintenance activities; (c) Equal pay for equal work of equal value regardless of gender, ethnicity, or caste; (d) Elimination of forced labour; (e) The requirement to disseminate information on sexually transmitted diseases, including HIV/AIDS/ COVID 19, to employees and local communities surrounding the project sites.
- e. In the pre-bid meeting, provide insight into ESMP measures, and overall compliance requirements to the bidders; and
- f. Obtain all clearance/permissions as required for implementation of subproject, prior to invitation of bids and/or prior to award of contract / prior to construction as appropriate.
- g. Prior to start of construction organize an induction course for the training of contractors, preparing them on ESMP implementation, environmental monitoring, and on taking immediate action to remedy unexpected adverse impacts or ineffective mitigation measures found during the course of implementation.
- h. Guide contractor on updating ESMP / preparing Construction - Environmental Management Plan (C-ESMP) at the start of the project.
- i. Update ESIA and ESMP; ensure that ESIA reflects the final design being implemented by contractor.
- j. Conduct public consultation and information disclosure as necessary;
- k. Take corrective actions when necessary to ensure no environmental impacts;
- l. Address any grievances brought about through the grievance redress mechanism in a timely manner as per the ESMP.
- m. Implement corrective or preventative actions in case of non-compliance or new/unanticipated impacts.
- n. Inform PMU promptly in case if any significant impacts surfaces, which were not identified in the ESIA and develop necessary corrective actions as necessary and ensure implementation by the contractors; include all such impacts and suggested actions in the Quarterly Environmental Monitoring Reports;
- o. Implementation grievance redress system, and undertake appropriate actions to redress the complaints; ensure that complaints/grievances are addressed in a timely manner and resolutions are properly documented;
- p. Review and approve monthly progress reports submitted by Contractor on ESMP compliance;
- q. Prepare quarterly environmental monitoring reports and submit to PMU; and
- r. Provide any assistance in environmental safeguard related tasks as required by PMU to ensure compliance and reporting to World Bank.

Roles and Responsibilities of Environmental Safeguard specialist at TAMC

- a. Manage E&S aspects of the project including:
- b. Prepare various safeguard documents including liaising with World bank for their approval as per approved environment and Social Management Framework (ESMF), Environment and Social Commitment Plan (ESCP) and Stakeholder Engagement Plan (SEP)
- c. Undertake and coordinate stakeholder consultations including with communities.
- d. Implement, monitor and report on implementation of ESMP (and Resettlement Action Plan (RAP) wherever applicable at periodic intervals of every quarter as stated in the ESCP
- e. Ensure appropriate monitoring and reporting on redressal of grievances.
- f. Monitor implementation of actions relating to gender and citizen engagement as agreed.
- g. Monitor inclusion of relevant E&S clauses in bid/contract document and their adherence during implementation
- h. Develop modules and impart training on E&S aspects to relevant officials/stakeholders
- i. Support on update of ESIA and ESMPs.
- j. Provide inputs to the PIU/PMU in dealing with contractors for the implementation of the ESMP and supervise the compliance of the Contractor in implementing the Environmental and social mitigation measures.
- k. Prepare specifications to be included in the Bills of quantities (BOQ) for Contractors which will be in charge of: (i) carrying out the ESMP as specified in the ESIA, and (ii) conduct environmental monitoring including measurements and observations on dust, noise and air pollution during construction in accordance with the Quarterly Compliance Monitoring Checklist for Contractor.
- l. Provide inputs and methodology to PIU/PMU to: (i) prepare and maintain a grievance redress mechanism, (ii) establish a grievance redress committee (GRC), and (iii) carry out monitoring on effectiveness; make sure that: (a) GRC will have strong female representation, and (b) the grievance process is implemented effectively, according to the plan and schedule in the ESIA.
- m. Provide inputs to periodic and quarterly/ semi-annual/ annual reports as applicable.
- n. For improving awareness and outreach of the project, the TAMC shall:
- o. Develop project promotional material including posters, handouts etc. regarding the project as well as development materials for promoting Nature-based solutions, impact of mangroves/sea grass, plastic waste management, circularity, alternate to plastics, etc.
- p. Conduct awareness campaigns including workshops, consultative meetings with coastal communities.
- q. Development of an appropriate record of project implementation (including filmed interviews) for a documentary film of the project.
- r. Providing support and technical materials to assist efforts by IAs to improve communications with stakeholders concerning the project objectives and its outcomes.
- s. Providing advice and support to SPMU in developing links with local, national and international research institutes and advise on collaborative arrangements.

Roles and Responsibilities of Environment, Health and Safety (EHS) supervisor at Contractor

- a. Understand the ESMP requirements and allocate necessary resources (budget, staff, etc.);
- b. Understand the regulatory compliance requirements related to labour welfare, safety, environment etc.
- c. Mobilize EHS Supervisor prior to start of construction work;
- d. Prepare C-ESMP and submit to PMC/ PIU;
- e. Ensure that all regulatory clearances (both projects related and contractor related) are in place prior start of the construction work;
- f. Prepare and submit Construction waste management (CWM) plan and Traffic management plan;
- g. Implement the mitigation measures as per the ESMP including CWM and traffic management plans;
- h. Follow the ESMP measures/guidelines for establishment of temporary construction camps, construction waste disposal sites, and material borrow areas, etc.;
- i. Implement ESMP and ensure compliance with all the mitigation and enhancement measures;
- j. Conduct environmental monitoring (air, noise, water, etc.), as per the ESMP;
- k. Undertake immediate action as suggested by PMC/PIU to remedy unexpected adverse impacts or ineffective mitigation measures found during the course of implementation;
- l. Submit monthly progress reports on ESMP implementation to PMC/PIU;
- m. Act promptly on public complaints and grievances related to construction work and redress in a timely manner in coordination with PMC/PIU; and
- n. Comply with applicable government rules and regulations.

Budget for ESMF application

As Component 1 aims to enhance the effectiveness and sustainability performance through activities that will address the lack of institutionalized coastal zone planning and management and the limited capacity for climate-resilient decision-making. The development of ICZMPs and a cadre of coastal zone experts will strengthen the capacity of relevant institutions to guide critical climate-relevant sectors on approaches to elevate their efforts on climate resilience in coastal areas. This component will finance: (i) consulting services, goods, training, monitoring equipment, and project management costs. supported by an TAMC. (ii) hiring of E&S experts on a contractual basis at the IA level; (iii) setting up a monitoring and evaluation (M&E) system that will conduct the Annual Evaluation exercise. SPMU and DPMUs will provide adequate budget for preparation and implementation of all safeguard instruments from the counterpart funding, besides for conducting trainings, exposure visits and capacity building events. ESMF budget has been estimated about 0.5% (USD 2.5 million) of the total project costs World Bank's funding will be available for costs such as works, purchase of goods and services, where required.

Capacity Building

As a part of the K-SHORE project, the capacities of the officials from the local administrative bodies, and other implementing departments like the Forest Department, Fisheries Department, Ports Department, and the State and District Coastal Zone Management Authorities would be strengthened. The capacity building would be to help them map and manage environmental and social risks along with facilitating stakeholder engagement and participation.

One of the components of K-SHORE is to strengthen the various institutions in the State for Integrated Coastal Management. This involves building a “blue cadre” of dedicated and sensitized trained personnel among youth representatives, locals, forest guards, and select SHGs.

K-SHORE also plans to build the capacities of locals (especially women and communities dependent on natural resources such as fisherfolk) for:

- a. Enhancing their livelihoods by skilling them with technology, business management, marketing, etc.
- b. Create awareness about the need to protect the shoreline and the local biodiversity. This includes training them on eco-friendly sustainable ways of living and appropriate methods for waste disposal.

K-SHORE will undertake in-depth and hands-on trainings for various stakeholders (at state, district, block, and village levels) including project staff, PMU nodes, consultants, contractors, field facilitators, and local community groups in the following themes:

- a. Orientation on ESMF
- b. Implementation of ESMPs for building infrastructure for protecting the coastline, recycling centers, conservation centers, and for promoting alternate livelihoods such as ecotourism
- c. Community health and safety
- d. Labor management, including managing risks of labor influx
- e. Biodiversity protection and enhancement
- f. Ecotourism
- g. Sustainable ways to improve fish (and other coastal) produce
- h. Waste disposal
- i. Emergency preparedness and response
- j. Construction supervision and audit
- k. Gender-based violation risk mitigation measures
- l. Stakeholder engagement
- m. Grievance redressal measures

Details of the trainings proposed under K-SHORE are given in the table below.

Table 12: Trainings for key stakeholders to be covered as part of K-SHORE

Audience	Suggested list of topics (not exhaustive)
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Officials of PMU	<ul style="list-style-type: none"> • ESMF Fundamentals • Identification and assessment of E&S risks • E&S monitoring and reporting • Incident and accident reporting • Application of SEP and the grievance/ beneficiary feedback mechanism
Officials of PIU (Local administrative bodies, Officials of other implementing departments such as Dept. of Forest, Fisheries, Coastal Zone Management Authority) and Contractors	<ul style="list-style-type: none"> • Implementation of ESMPs • Community health and safety • Labor management • Gender-based violation risk mitigation measures • Biodiversity protection and enhancement • Application of SEP and the grievance/ beneficiary feedback mechanism • Monitoring and reporting
Blue cadre, EDCs	<ul style="list-style-type: none"> • Community health and safety • Biodiversity protection and enhancement • Ecotourism • Sustainable ways to improve fish (and other coastal) produce • Waste disposal, especially riverine and marine plastic litter

Supervision, Monitoring, and Reporting

A periodic supervision and monitoring mechanism is key to ensure the implementation of the project activities in an environmentally and socially acceptable manner and in line with the acts/ policies of GoI, GoK, ESMF, ESMPs, and World Bank's ESS. This would also help to assess the progress made in the implementation of the project activities and measure the impact of the same. It would provide timely feedback for course correction and decision-making.

Sub-project review, implementation and reporting system

The reporting system will be a bottom-up mechanism in the implementation framework. During the construction phase, the contractors will undertake the monitoring and reporting of the environmental parameters. To enable the coordination and reporting in a streamlined manner on the ESMF application at a sub-project level, the (i) Monthly Progress Report, (ii) Quarterly Progress Report and (iii) Reporting to World Bank are mandated under this ESMF.

Monitoring of statutory compliances and key parameters

The regulatory compliance listed in Chapter 2 shall be monitored for each sub-project and component at the planning and implementation stage by the implementing agency and report to the PMU at the state level.

K-SHORE will have a strong governance structure to ensure that each activity conducted generates a defined measurable value (quantitative) or has a lasting impact (qualitative). Activities will be firmed up to deploy a self-sustainable, autopilot operation in the defined 5-year period. The below table captures the high-level key metrics/ parameters governed across the four key project components.

Table 13: Key monitoring parameters

Area	Activity	Monitoring Frequency	Measurement metrics
Capacity building	Baseline training needs assessment and endline capacity development assessments conducted	3-6 months	<ul style="list-style-type: none"> • % of personnel incrementally trained • Number and type of topics covered • Number and type of blue cadre members increased, and no. of new achievements unlocked by blue cadre. • Number of CB workshops conducted, and topics covered
	State-state knowledge exchange	6 months	Number of field exposure visits to other states implementing successful practices
	Enterprise capacity strengthened	6 months	Number of trainings conducted on enterprise skills (digital payments, business mgmt., packaging, marketing, etc.) and a range of topics
Preparation of plans	Development of baseline and evidence generation	One time	Adequacy of stretches covered under baseline study
	Tracking of implementation of plans and revision of baseline	Annual	Grassroot level annual monitoring of parameters as midline evaluation
Implementation	Infrastructure deployed (green and grey)	Annual	Type and location-wise no. of physical infra elements deployed (e.g., volume of plastic litter collected at arresting structures) Number and type of NbS solutions deployed and volume of carbon sequestration potential generated
	Afforestation	Annual	% Change in green cover from baseline year
	Species conservation	Annual	% Change in population of target species
Improving Livelihoods	Alternate livelihood options for women	Annual	<ul style="list-style-type: none"> • Number of women embracing alternate livelihood • % change in wages earned
Channeling Investments	Tracking of investments mobilized in Karnataka on reduction of coastal erosion	Annual	<ul style="list-style-type: none"> • Quantum of investments towards NbS, grey infra deployment, studies, etc. for the reduction of coastal erosion • quantum of private capital channeled towards activities across components

Updating of the ESMF

This ESMF will be a "live document" and can be revised as and when needed to fulfil the needs of the nation's laws and the Bank ESF, unexpected scenarios and/or changes in the project. The subcomponent design would thus be evaluated, and suitable management measures would be integrated by upgrading the Framework. Any updates to the legal or regulatory framework of the nation or state will likewise be covered by these adjustments. Additionally, the laws and procedures would be modified as necessary in conjunction with the World Bank and the implementing agencies/departments based on the application and implementation experience of this framework. The modified ESMF's finalized version will be sent to the WB for review and approval.

Grievance Redress Mechanism (GRM).

The Project will adopt the existing GRM (available within the FEE department, GoK) to respond to queries or clarifications or complaints about the project and address complaints/concerns and grievances of the stakeholders. The GRM will focus on corrective actions that can be implemented quickly and at a relatively low cost to resolve identified implementation concerns, GRM will also serve as a channel for early warning, helping to target supervision to where it is most needed and identify systemic issues.

There will be project based physical GRM as well as telephonic helpline. The project MIS will record and report on all complaints received from all the different mediums.

Roles of grievance redressal officers (GRO)

- Responsible for monitoring of all the grievances submitted manually through drop box or online (ear marked) and entering it in the GRM register with a reference number in a specific format.
- Addressing the grievances following the detailed procedures within the stipulated service delivery time as outlined in a later section.
- Ensure the completion of monthly reporting on grievances in the Project Monitoring Information System (PMIS) based on the assigned results indicators.

During project preparation, a responsibility matrix and modalities of setting up an independent helpline will be designed and by three months of project effectiveness, it will be piloted. Following this the system will be rolled out, and advertised in project sites and to stakeholders, complaints will be tracked and the response rate will be monitored.

Project beneficiaries and other stakeholders will be able to submit their grievances, feedback and inquiries to the project through multiple channels the major channel being via phone. Online e-Services will provide an innovative platform to several GRM thereby extending the reach, accessibility and efficiency (e.g., transaction cost) of such modalities.

State portal: The existing mechanism of State Government portal for citizen's grievances and enquires will also cover the project. State level Service Delivery Control Room having Multichannel – Call Centre/IVRS /WhatsApp/Chatbot/ e-Form channels will be used for receiving as well as communicating status or resolution to the complainant.

Project web portal: Project will maintain a portal with dedicated mechanisms for receiving stakeholder grievances. The portal will also provide relevant information on the multiple channels that can be used for submitting grievances to the project.

Grievance Registers: Grievance Registers will be maintained at District/Village levels and also at each worksite to record, track and report on the inflow of stakeholder grievances, enquiries and feedback. The details of the grievance (and their resolutions) shall be uploaded into online GRM system on regular basis by the respective level safeguards in charge.

The aggrieved person can register grievance either in writing or verbally. Livelihood Coordinator will be responsible for assisting the aggrieved person in registering the grievances and escalating if necessary. The coordinator will be responsible for providing the feedback to the aggrieved person.

Stakeholder consultations and Information Disclosure

Consultations were carried out with multiple stakeholders including the local community, government, and non-government institutions. These consultations mainly acted as a forum to inform people about the project and also to elicit their opinion about the K-SHORE interventions and their likely impacts, information dissemination on various project components, such as strengthening of institutions, shoreline management, eco-tourism projects and associated economic opportunities, livelihood generation, and capacity building, the role of the community, plastic waste management, grievance redress, etc.

The project interventions will occur in three coastal districts – Udupi, Uttara Kannada, and Dakshina Kannada. The stakeholder consultation workshops were conducted across Udupi, Mangaluru, Kodi, Kundapura, and other locations within the project area. The ESMF team conducted consultations in different project locations covering a large footprint in the districts. As preparatory work, detailed questionnaires tailor-made for stakeholder sets were prepared to capture the current situation, present-day challenges, requirements and expectations to tackle these issues, and inputs to the components of this project. The consultations were initiated with a detailed introductory presentation briefing on the overall project, key components, activities, and possible impacts on respective stakeholder groups. Participants expressed their responses, concerns and feedback on prevailing issues in their areas. Stakeholders consulted across the three districts were as below:

Table 14: List of stakeholders consulted under each category.

Stakeholder category	Stakeholders consulted
Government	DC, Udupi
	CRZ, Mangaluru
	CRZ, Udupi
	Tourism department
	KFDC
	Fisheries Department
	Panchayati Raj, ULBs
	CCF, Mangaluru
	DCF, Mangaluru
	DCF, Udupi
	RFO, Mangaluru
NGOs/SHGs/private sector social development enterprises	TIP Session
	Baeru
	Clean Kundapur
Communities	Fisherfolk
	Waste workers
	Communities around mangrove belts
Associations and societies	Traditional & Mechanical boat co-operative society, Malpe - Udupi
	Deep Sea Society, Malpe
	Fisheries & Fish Product Co-op Society
Sector experts	ICAR – CMFRI
	Geologists

A brief overview of the consultations covering outcomes and suggested interventions has been mapped against the four key components of the project and presented in the table below.

Components	Consultation outcome / Issues highlighted	Suggested measures
1: Strengthening of institutions for Integrated Coastal Management	Short-term / ad hoc solutions have proven ineffective in the past	Need for an integrated plan with a long-term view
	Absence of proper monitoring mechanisms for a few past initiatives implemented	Effective monitoring system required to ensure correct implementation and course correction mechanisms
	Lack of updated data around the accurate baseline of marine ecosystems and shoreline	Involvement of key academic institutes required to help utilize past research conducted and to establish an accurate baseline via new research studies
	Need to involve powerful bodies to effectively drive initiatives across various organizations/groups	Important offices like DC will be crucial in this project to lead and anchor several initiatives
	Important to involve existing groups with high reach and effectiveness to	Local community groups such as Bhajana Mandirs, Clean Kundapura,

Table 15: Stakeholders and discussion topics covered.

Components	Consultation outcome / Issues highlighted	Suggested measures
	create an aware and empowered entity like Blue-Cadre	and others will be important for Blue-Cadre as well as driving awareness of other initiatives as they have a large footprint
	Need for an empowered umbrella body to drive initiatives holistically	Need for an umbrella body like a “Mangrove cell” or a “Marine cell” with cross-functional members and autonomous status
	Leverage existing bodies to engage local communities	Decentralized bodies like JFMC/EDCs and VFCs need to be reactivated to engage local communities effectively
2: Shoreline management, coastal protection and conservation	Shoreline embankments are not always effective, need to understand the efficacy of measures proposed	Detailed study of shoreline required to correctly estimate the efficacy of measures
	Relocations of inhabitants during floods are common	Resettlement plans need to be in place keeping in mind seasonality and hotspots selected for initiatives
	Priority should be given to nature-based solutions (NbS) / ecosystem-based approaches (EbA) before resorting to grey infrastructure	A detailed study of the coastal region is required at first to determine the areas that are better suited for NbS/EbA vs areas requiring grey infrastructural solutions; solutions like aerodynamic shelter belts, mangrove afforestation, and others can then be evaluated and deployed for the selected areas
	The current state of water (baseline) is not accurately known	Technology and methods required to determine hydrology of water at various points; need for a plan for treatment of sewage discharge
	Mangrove afforestation initiatives have worked in the past but there is still a lack of awareness among local communities around mangroves and their efficacy	Awareness drives for fisherfolk and other local communities needed to drive mangrove afforestation initiatives
	Alongside plantation of mangroves, newer techniques and effective protection plans need to be in place	Novel techniques like fish bone, furrows, and ridges can be applied to mangroves; areas planted must be fenced off for 2-3 years to ensure safety and maintenance
3: Improvement of livelihoods for communities dependent on natural resources	Evaluation of alternate livelihoods is needed to understand which are the right substitutes for fishing	Existing mariculture activities oyster cultivation, and cage culture should be evaluated over entirely newer means of livelihood; eco-tourism should be a key focus to boost livelihood in a sustainable manner

Table 15: Stakeholders and discussion topics covered.

Components	Consultation outcome / Issues highlighted	Suggested measures
	Lack of understanding around the expanse of biodiversity along the coast and the Western Ghats; fisherfolk often unknowingly capture rare or endangered species as they are not aware of sustainability guidelines	Need to conduct an exhaustive study to understand the full expanse of biodiversity; sensitization drives needed to ensure fisherfolk do not capture endangered species
	There are close to 5,000 instances of forest fires in the region every year leading to loss of natural resources	Investment in modern firefighting equipment, vehicles, and surveillance to combat forest fires and thereby improve conditions for collection of NTFP; recruitment of local communities into roles like forest security guards, firefighters, etc. will further improve conditions and also increase livelihoods
4: Enhancement of plastic circularity and reduction of pollution (or carbon reduction) in coastal regions	Transboundary wastes pose among the top challenges in waste management as many times the source of the waste is different than the area affected or the area affected is split across two different governing bodies (e.g. waste flowing downstream from Shimoga or beaches like Maravanthe which are split across two administrative authorities)	Leverage a common body of higher authority to mitigate conflicts and drive effective solutions, e.g. involve the DC office in leading and anchoring initiatives that may result in a potential conflict of ownership to have seamless execution throughout the project.
	Decline in availability of fish near shore due to increasing coastline pollution and rise in temperature	Right mix of short-term and frequent (cleanups, etc.) and long-term solutions required to arrest the decline in fish availability
	There are multiple problems plaguing the value chain of plastic and dry wastes from collection to disposal	Segregation is a major challenge followed by the disposal of certain types of wastes like sanitary, polystyrene, bio-medical waste, etc.; need to invest in awareness and waste management facilities to address this issue
	Waste collection is largely manual and requires alternate automated or semi-automated solutions to scale up	Natural barriers to trap river wastes have been effective and can be re-evaluated; alternate ways of collecting plastics need to be looked at; right segregation and disposal of plastic waste needs to be incentivized to help scale up the initiative
	Landing centers tend to be hotspots of waste and need special attention	Sanitation facilities for men and women (will also help aid participation of women in the workforce), adequate drying areas for fish products, water,

Table 15: Stakeholders and discussion topics covered.

Components	Consultation outcome / Issues highlighted	Suggested measures
		and shade facilities, net mending areas, and proper waste disposal facilities at landing sites will have a significant impact on waste management as well as livelihood creation
	Boosting tourism aggressively may lead to increased plastic pollution	Tourism scale-up plans must be accompanied by appropriate monitoring and incentive/disincentive systems to address any sort of potential waste pollution
	There have been multiple government-driven plastic waste awareness campaigns in the past; however, there is still scope to enrich the outreach, delivery, and engagement model	Blue-Cadre as well as other local groups need to be leveraged to drive effective awareness campaigns
	Evaluate alternatives to plastic bags	Leverage learnings from other geographies like Bengal and Nashik which have seen success in using plastic alternatives
	Door-to-door waste collection needs to be improved (currently at 50-60% household penetration)	Incentive/disincentive mechanisms needed to prevent locals from dumping waste into water bodies
	Lack of understanding of disposal methods for critical waste types	Scientific studies are needed to understand the right way of disposing of bio-medical, polystyrene, sanitary, fish mill, and other wastes
	Wastes from various marine and land sources result in mixed city compost with low calorific value and low recycling potential	Marine waste requires units for segregation and processing; marine waste should not be mixed with other types of city wastes as this would render the compost batch useless and decrease calorific value
	Awareness and implementation initiatives need strong partnering with local authorities	Local communities, gram panchayats, and municipalities need to be sensitized about the importance of right disposal and need to be engaged as potential Blue-Cadre members
	Legacy waste (old municipal solid waste as defined by CPCB) needs specific attention	Ridge to shore approach for cleaning up plastic waste across the entire water system must have a separate focus on legacy waste alongside implementing initiatives to reduce waste in the future

Table 15: Stakeholders and discussion topics covered.		
Components	Consultation outcome / Issues highlighted	Suggested measures
	Multiple roads and rivers connect to the coasts, forests, and public settlements and these also lead to increased pollution in tourism seasons when pilgrims throw offerings into river bodies	Stringent regulations to be explored and implemented to tackle waste generated due to tourism-based activities

7.5 Information Disclosure

Project related information shall be disclosed through public consultation and making relevant documents available in public locations. The PMU/PIU and other associated line departments shall provide relevant safeguards information in a timely manner, in an accessible place and in a form and languages understandable to affected persons and other stakeholders. For illiterate people, other suitable communication methods will be used.

The draft ESMF report has to be discussed with the PMU before making it available at the offices of PMU. A concise summary of project and draft ESMF report (in Kannada (local language)), providing all necessary details of proposals, implementation arrangements, project locations, likely issues and mitigation, and monitoring measures and grievance redress mechanism, shall be made available to the stakeholders. This should also provide contact information of the PMU/PIU. This summary shall also be displayed at the notice boards of PMU, district level offices of the PIUs and related line departments, State and District Libraries, Local municipal and gram panchayat office and other public places. During project implementation, relevant information about any major changes to the project scope will be shared with beneficiaries, affected persons, vulnerable groups, and other stakeholders.

The following documents/reports shall be made available at the offices of PMU, PEAs, State and District Libraries, Local municipal and gram panchayat office and other public places for public reference and shall also be uploaded on respective websites:

1. Full ESMF (draft and final) in English and Translation of Executive summary of draft ESMF (in Kannada (local language))

Besides, the above

2. Environment and Social Commitment Plan (ESCP)
3. Stakeholder Engagement Plan (SEP)
4. Various guidelines for engagement initiatives and other reports as relevant

In addition, the following information shall also be displayed/disseminated, wherever applicable.

1. Project specific information needs to be made available at each contract site through public information kiosk
2. Project information brochures shall be made available at all the project sites as well as the office of PMU / PEAS.
3. Reports and publications, as deemed fit, shall be expressly prepared for public dissemination e.g., English versions of the ESIA, ESMP and RP and Executive Summary of ESIA, ESMP, and RAP in Tamil (local language).
4. Wherever civil work will be carried out a board will be put up for public information which will disclose all desired information to the public, for greater social accountability.
5. All information will be translated into Tamil (local language) and will be disclosed to the public through the Panchayat, District Magistrate's office, concerned project offices, websites of PMU.

In addition, the following information shall also be displayed/disseminated, wherever applicable.

1. Project specific information needs to be made available at each contract site through public information kiosk.
2. Project information brochures shall be made available at all the project sites as well as the office of PMU / PIU.

3. Reports and publications, as deemed fit, shall be expressly prepared for public dissemination e.g., English versions of the ESIA, ESMP and RP and Executive Summary of ESIA, ESMP, and RP in Kannada (local language).
4. Wherever civil work will be carried out a board will be put up for public information which will disclose all desired information to the public, for greater social accountability.
5. All information will be translated into Kannada (local language) and will be disclosed to the public through the Panchayat, District Magistrate's office, concerned project offices, websites of PMU.

Public Consultation and Stakeholder Participation. Public consultation shall be carried out at various stages of the project preparation. As part of the environment and social assessment, consultations will be carried out by using appropriate instruments including Focus Group Discussions (FGDs), stakeholder consultations, etc. Specific consultations will be held near the sites proposed to seek opinions/suggestions of the hosts and the communities involved. The outcome of consultations will be incorporated as appropriate in the designs and mitigation plans. As part of such consultations, the draft Mitigation Plans will also be presented and explained to the people on the content and process of the implementation of the plans. This would ensure 'buy in' for the projects by the host communities, project affected/involved communities, all line departments and other agencies concerned; and lead to foster project ownership by them, which is essential for the success of the subprojects. Public consultation requirements, process to be followed, reporting mechanism and other relevant details are provided in this ESMF. The PIUs shall also hold consultations at district, block and community level to facilitate involvement of stakeholders and solicit feedback on sub-project identification/selection, preparation/design, implementation plans and other such key elements of project delivery. Key stakeholders such as project affected persons, opinion makers, experts, and different department personnel shall be consulted. Stakeholder involvement mechanisms are/will be central to the design and implementation of the project and provide opportunities for information sharing, consultation, and collaboration measures. While consultations during the planning stage ensures participation in site selection and design, consultations during the implementation phase encourages community feedback for more participatory monitoring. Guidance for this purpose has been laid out in this SEP; to ensure proper consultation and involvement of key stakeholders during key stages of sub-project preparation and implementation.

8.1 Annexure:Environment and Social Screening Formats for Hard infrastructure Interventions

Form SF-1 (Indicative form filled for Turtle Conservation Centre at Chennai, Tamil Nadu)

Sl. No	Project Component	Likely Nature of Risk/Impact Land, Geology & Soil (LGS); Water (W), Biodiversity (B); Waste, Pollution & Hazard (WPH); Protected Area (PA); Land Acquisition/encroachment etc. (LA); Loss of Livelihood/Household etc. (LL); Labour (L); Culture/Heritage (CH); Tribal Presence (T); GBV Risks (G). Sexual Exploitation and Abuse (SEA)/Sexual Exploitation, Abuse and Harassement (SEAH)
1	2	3
1.	Clearing of ground and translocation of a lone ash tree at the site which is in a protected area	LGS B WPH L
2.	Setting up a Turtle Conservation Center with movement of vehicles carrying construction materials, labour movement, placement of Exhibits and Displays, with facilities for Education and Programs, Audio-visual Presentations, Workshops and Events	LGS W B WPH L SEA/AH
3.	Construction of approach ways and parking area	LGS W B WPH L
4.	Operation and maintenance of the center	WPH

Form SF-2 (Indicative form filled for Turtle Conservation Centre at Chennai, Tamil Nadu)

Sl. No	Applicable Project Component/ Construction preparatory Work-related Sub activity (As per SF-1)	Nature of Risk (Conforming to Column 3 of SF-1)	Elaborate cause (risk) and its effect (Impact) on environment /social	Risk/Impact intensity for each type of risk/impact Low (L), Moderate (M), Substantial (S), High (H)
1	2	3	4	5
1	Clearing of ground and translocation of a lone ash tree at the site which is in a protected area	LGS EB WPH L	The clearing and levelling area is around 3700 sq m and during the process, dust will be prevalent, and vegetative wastes will occur due to the removal of shrubs. The dust will be temporary and waste will be disposed of in the designated area. Further, the lone ash will be translocated to another area in the National Park. Only the soil fauna will be affected. However, their loss is temporary and due to the availability of large vegetative areas adjacent to the site, a new population of soil fauna will emerge over time.	LGS - L B - L WPH - L L - L
2	Setting up a Turtle Conservation Center with movement of vehicles carrying construction materials, labour movement, placement of Exhibits and Displays, with facilities for Education and Programs, Audio-visual Presentations, Workshops and Events	LGS W EB WPH L	Excavation of the earth for laying the foundation will generate dust and there will be a marginal loss of soil fauna due to the small area of the building (1500 sq m). Construction debris if any will be disposed as per the stipulated procedure. The movement of vehicles may create dust, damage to soil fauna, and congestion outside the project area. Being an isolated area, traffic congestion is unlikely inside the park. Faunal loss will be minimal. Movement of the labourers and placement of the material may have the risk of causing minor accidental injuries which may heal in a short time. There will be minor water spillage or washings during the rain which may contaminate the surrounding soil and water in the adjacent canals. However, the impacts are only during the construction phase. Possibility of Sexual Harassment and Abuse	LGS - M W - L B - M WPH - L L - M SEA/AH-L
3	Construction of approach ways and parking area	LGS W EB WPH L	Earth removal will create dust temporarily and excavation of earth also in low quantity due to the smaller area used for this purpose. Water spillage may contaminate the soil. These impacts will be for a short duration.	LGS-L W-L
4	Operation and maintenance of the center	WPH	Mostly generation of small quantities of solid waste and sewage from toilets. Solid waste will be disposed of as per stipulated procedures and sewage from toilets will be treated using a clarifier type of facility.	WPH - L

SF 3 Form - Summary of Risk and Impacts

Project Activity For Details Refer Annexure 1 Section 1	Environment Risks					Social Risks					
	Land, Geology & Soil	Water	Biodiversity	Waste, Pollution & Hazard	Protected Area (WLS, National Park etc.)	Land	Loss of Livelihood/ HH etc.	Labour	Cultural/ Heritage	Tribal	SEA/SH
Clearing of ground and translocation of a lone ash tree at the site which is in a protected area	L	NA	L	L	NA	NA	NA	L	None	None	L
Setting up a Turtle Conservation Center with the movement of vehicles carrying construction materials, labour movement, placement of Exhibits and Displays, with facilities for Education and Programs, Audio-visual Presentations, Workshops and Events	M	L	M	L	NA	NA	NA	M	NA	NA	NA
Construction of approachways and parking area	L	L	NA	NA	NA	NA	NA	NA	NA	NA	NA
Operation and maintenance of the center	NA	NA	NA	L	NA	NA	NA	L	NA	NA	NA
Hence the overall Risk Classification of the sub-project may be inferred as Low to Moderate .											

Both the Environment and Social Screening forms must be completed for each of the proposed sub-projects by respective stakeholder departments (PIU) and forwarded to the Environment and Social Specialist in the PMU

Project Category	<input type="checkbox"/> Low risk, <input type="checkbox"/> Moderate Risk, <input type="checkbox"/> Substantial Risk, <input type="checkbox"/> High Risk
Key Reasons	
Safeguards Instruments Required	<ul style="list-style-type: none"> • ESMP included within ESDD • Standard ESMP (standalone) • Detailed ESIA and ESMP • RAP • Any other (describe)

Status	Agency / Official	Name, Signature with Date and Seal
Prepared by	PIU	
	Environmental and Social Specialist	
Checked and categorised as (Low risk, Moderate risk, substantial risk, High risk)	PMU	
	Environmental Specialist	
Reviewed and accepted by		

Environmental & Social Screening Checklist for Environment friendly interventions: Plantation and Nursery (Indicative checklist for Mangrove plantations)

Note: Objective and Guidance for Conducting the Screening Checklist

- Objective is to:
 - Whether the project qualifies for KSHORE financing.
 - assess the preparation of site specific Environmental and Social Management Plans
- Secondary data may be used along with site specific information by primary survey
- The screening checklist will be prepared by the PMU/DPR consultants for sub-projects proposed under KSHORE.

Screening checklist to be reviewed and endorsed by the SPMU under the project KSHORE

A. General Information about the Project																																																																																	
1. Name of the Sub Project:	Afforestation works at Mangaluru Division of Forest																																																																																
2. Type of the Sub Project:	<p>Subdivision wise – Mangaluru, Puttur and Subramanya</p> <p>Range wise details: Mangaluru, Bantwal, Belthangady, Uppinagady, Puutur, Panja, Sullya, Subramanya</p> <p>Mangrove, Aerodynamic shelter belt protection species, Reed like Bamboo, Cane etc, NTFP, ANR, Lateritic and linear plantation species. (Annexure I– Division wise – botanical names)</p>																																																																																
3. Sub project ID:																																																																																	
4. Area Subproject:	<p style="text-align: center;">Sub division– range wise</p> <table border="1"> <thead> <tr> <th>SubDN</th> <th>Range</th> <th>Mangrove afforestation</th> <th>Aero Dynamic</th> <th>Bamboo</th> <th>Cane/ ANR/ NTFP/RET</th> <th>Lateritic</th> <th>Linear (Roadside)</th> </tr> </thead> <tbody> <tr> <td>Mangaluru</td> <td>Mangaluru</td> <td>25</td> <td>30</td> <td>10</td> <td>-</td> <td>-</td> <td>30</td> </tr> <tr> <td>Mangaluru</td> <td>Bantwal</td> <td>-</td> <td>-</td> <td>-</td> <td>70</td> <td>-</td> <td>-</td> </tr> <tr> <td>Mangaluru</td> <td>Belthangady</td> <td>-</td> <td>-</td> <td>-</td> <td>25</td> <td>21</td> <td>-</td> </tr> <tr> <td>Puttur</td> <td>Puttur</td> <td>-</td> <td>-</td> <td>10</td> <td>10</td> <td>45</td> <td>9</td> </tr> <tr> <td>Puttur</td> <td>Uppinangady</td> <td>-</td> <td>-</td> <td>35</td> <td>230</td> <td>-</td> <td>-</td> </tr> <tr> <td>Subramanya</td> <td>Sullia</td> <td>-</td> <td>-</td> <td>-</td> <td>35</td> <td>-</td> <td>-</td> </tr> <tr> <td>Subramanya</td> <td>Panja</td> <td>-</td> <td>-</td> <td>40</td> <td>185</td> <td>-</td> <td>-</td> </tr> <tr> <td>Subramanya</td> <td>Subramanya</td> <td>-</td> <td>-</td> <td>55</td> <td>40</td> <td>-</td> <td>6</td> </tr> <tr> <td></td> <td>Total</td> <td>25</td> <td>30</td> <td>150</td> <td>595</td> <td>66</td> <td>45</td> </tr> </tbody> </table>	SubDN	Range	Mangrove afforestation	Aero Dynamic	Bamboo	Cane/ ANR/ NTFP/RET	Lateritic	Linear (Roadside)	Mangaluru	Mangaluru	25	30	10	-	-	30	Mangaluru	Bantwal	-	-	-	70	-	-	Mangaluru	Belthangady	-	-	-	25	21	-	Puttur	Puttur	-	-	10	10	45	9	Puttur	Uppinangady	-	-	35	230	-	-	Subramanya	Sullia	-	-	-	35	-	-	Subramanya	Panja	-	-	40	185	-	-	Subramanya	Subramanya	-	-	55	40	-	6		Total	25	30	150	595	66	45
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	Total	25	30	150	595	66	45																																																																										
5. Location: Geo coordinates: Range/Beat:	Annexure II enclosed																																																																																
6. Sub division Name – Range names	<p>Subdivision wise – Mangaluru, Puttur and Subramanya</p> <p>Range wise details: Mangaluru, Bantwal, Belthangady, Uppinagady, Puutur, Panja, Sullya, Subramanya</p>																																																																																
7. District:	Dakshin Kannada																																																																																

Sl.no	Screening questions	Specify/ Remarks
B. Environmental Screening		

Sl.no	Screening questions	Specify/ Remarks																																							
8.	Area Selected for plantation Government Land, Private Land Forest Land, Title Holder, Non-titleholders (Encroacher), Non-titleholders (Squatter)	Forest Land/Non Forest land that is owned by the Government																																							
9.	Land Area (in ha.)	Total area: 836 Ha 811.00 ha Afforestation in Forest land & 25.00 Ha Mangrove Afforestation in Non- Forest Land. Aero Dynamic Afforestation 16.00 ha in Non Forest land, and 14.00 ha in Deemed Forest area, Linear Plantation (Roadside) 45.00 km/ha in Non- Forest Land..																																							
10.	Status of forest (Degraded, Very Dense Forest, Moderately Dense Forest, Open Forest)	Moderately dense, Open Forest and Degraded Forest																																							
11.	Is species showing diversity close to the prevailing biodiversity habitat?	No																																							
12.	Is the plantation scheme approved by forest departments concerned PIU?	No																																							
13.	Current use of forest for any livelihood activity?	No																																							
14.	Area infested by exotic/noxious weeds	No major infestation of exotic weeds																																							
15.	Do the sub-projects envisage Forest Fire incidences or increased vulnerability to fires?	Not expected. Actually forest vulnerability reduces with plantation activities.																																							
16.	Presence of Forest nursery, or nearest nursery site, Annual production capacity? (Yes/No)	<table border="1"> <thead> <tr> <th colspan="4">Yes</th> </tr> <tr> <th>Range</th> <th>Nursery</th> <th>Nearest Nursery site (in Km)</th> <th>Annual production capacity</th> </tr> </thead> <tbody> <tr> <td>Mangaluru</td> <td>Padil</td> <td>5</td> <td>7.00</td> </tr> <tr> <td>Bantwal</td> <td>Shamboor</td> <td>8</td> <td>5.5</td> </tr> <tr> <td>Belthangady</td> <td>Nidgal</td> <td>9</td> <td>8.00</td> </tr> <tr> <td rowspan="2">Uppinangady</td> <td>Gundya</td> <td>40</td> <td>5.00</td> </tr> <tr> <td>Udane</td> <td>36</td> <td>2.00</td> </tr> <tr> <td>Sullia</td> <td>Medinadka</td> <td>5</td> <td>8.00</td> </tr> <tr> <td>Panja</td> <td>Yenekallu</td> <td>12</td> <td>6.00</td> </tr> <tr> <td>Subramanya</td> <td>Kallaje</td> <td>15</td> <td>6.50</td> </tr> </tbody> </table>	Yes				Range	Nursery	Nearest Nursery site (in Km)	Annual production capacity	Mangaluru	Padil	5	7.00	Bantwal	Shamboor	8	5.5	Belthangady	Nidgal	9	8.00	Uppinangady	Gundya	40	5.00	Udane	36	2.00	Sullia	Medinadka	5	8.00	Panja	Yenekallu	12	6.00	Subramanya	Kallaje	15	6.50
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17.	Are there any protected areas or critical habitats in the project vicinity?	No																																							
18.	Does the project involve clearing of natural vegetation or forests?	No																																							
19.	Will the sub-projects threaten the endangered species in the project area?	No																																							
20.	Are there any cultural or archaeological sites in the project area?	No																																							
21.	Could the project activities impact cultural heritage or sacred sites?	No, the plantations in all ranges under the district donot impact cultural heritage or sacred sites.																																							
22.	Have measures been taken to protect and preserve cultural heritage?	Does not arise																																							

Sl.no	Screening questions	Specify/ Remarks
23.	Will the project impact local water bodies, such as rivers, lakes, or groundwater (in terms of labour movement, disturbance to local flora, fauna, habitat, water body, and fishing?	No negative impacts envisaged. Positive impacts includes increase ground water recharge and improved water quality in water bodies.
24.	Are there any water quality concerns or risks of contamination?	NO
25.	What agrochemicals or pesticides will be used in the plantation/nursery?	Only government approved fertilizers / pesticides will be used. Emphasis will given to natural fertilizers and pesticides such as neem oil, bollworm. Banned fertilizers/pesticides will not be used. Will only be used in a controlled environment in nurseries only with no biodiversity or groundwater impacts. These are captured in the polythene bags at the nursery and disposed off in a sustainable manner before plantations are undertaken.
26.	Are there proper storage and handling procedures for chemicals?	YES, following guidelines of the agriculture department /environment & forest norms. Only small amounts to be used only in nurseries.
27.	What measures are taken to minimize pollution risks to air, water, and soil?	No Air, Water and Soil Emissions envisaged. Actually, the air, water and soil quality will be benefited once plantations complete 3-4 years.
C. Social Screening		
28.	Land Requirement- Government Land, Private Land (Donated) Forest Land, Title Holder, Non-titleholders (Encroacher), Non-titleholders (Squatter)	All plantations under the district are on Forest Land/Non Forest land that is owned by the Government
29.	Will the local community be losing livelihoods/ access due to loss of Govt. Lands to Project? (Yes/No)	NO
30.	Have local communities been consulted and informed about the project?	YES, communities have been informed about the project. Communities have neither faced in the past nor do they anticipate any conflict, disputes or concerns from the forest officers that will be undertaking these plantations across the division.
31.	Are there any concerns or grievances raised by the local communities including security risks?	NO
32.	Have there been any incidents of conflict between communities and forest department in the last 2-3 years.?	NO
33.	What is the level of support or opposition from the community?	Local Community Supported
34.	Is labour required for implementing the project?	YES
35.	Can the labour requirement be met with local labour?	YES, local communities will primarily be hired for labour requirement.
36.	Are workers provided with proper safety equipment and training?	Yes, it is part of tender document
37.	Have there been any concern of Security concerns or risk due to platnations.	

Sl.no	Screening questions	Specify/ Remarks
38.	Is there any child labour or forced labour concerns?	NO
39.	Are there any health risks associated with the project activities?	NO
40.	Are proper occupational health and safety measures implemented?	Yes, it is part of tender document
41.	Is there any land tenure or land rights issues?	NO
42.	Will the project affect any Vulnerable & Disadvantage groups?	NO

<p>Screening checklists filled by: PIA</p> <p>Name & Designation of environmental & social experts: _____</p> <p>Date: _____</p> <p>Name & Designation of Social expert: _____</p> <p>Date: _____</p>	<p>Screening checklists verified by: SPMU</p> <p>Name: _____</p> <p>Designation: _____</p> <p>Date: _____</p>
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E&S screening - findings and conclusion:

Criteria for Risk Evaluation:

Low	Localized, temporary and Negligible
Moderate	Temporary, or short term and reversible under control
Substantial	Medium term, covering larger impact zone, partially reversible
Occupational Health and safety	To be treated as 'Moderate' by default as OHS effect can be kept controlled and with negligible effect with adoption of defined guidelines.

Project E&S risk category	<input type="checkbox"/> Low risk, <input checked="" type="checkbox"/> Moderate Risk , <input type="checkbox"/> Substantial Risk, <input type="checkbox"/> High Risk
E&S Instruments Required	ESMP included within DPR

ESSDFORMAT

Introduction

- 1.1 project overview
- 1.2 sub-project description
- 1.3 proposed interventions/ activities and intended outcomes.
- 1.4 implementation arrangement and schedule
- 1.5 purpose of ESDD
- 1.6 approach and methodology of ESDD

institutional framework and capacity assessment

- 2.1 policy and legal framework
- 2.2 description of institutional framework

assessment of environmental and social conditions

- 3.1 physical environment
- 3.2 protected area
- 3.3 social environment
- 3.4 cultural environment

activity wise environment & social screening, risk and impacts identification

- 4.1 sub-project screening
- 4.2 stakeholder consultation
- 4.3 descriptive summary of risks & impacts from activities based on screening.

conclusion and recommendations

- 5.1 conclusions
 - 5.1.1 risk classification
 - 5.1.2 national legislation and WB ESS applicability screening
- 5.2 recommendations
 - 5.2.1 Mitigation and Management of Risks and Impacts
 - 5.2.2 Institutional Management, Monitoring and Reporting

8.2 Annexure:Relevance of the Government of India’s and Gok’s Environmental and Social Laws/ Regulations to K-SHORE

Name of the relevant Act/ Policy/ Rule	Objective of the Act/ Policy/ Rule	Relevance to the activities of K-SHORE
National Environment Policy, 2006	The section on Coastal Resources in this policy refers to the diverse set of natural and manmade assets that provide habitats for marine species, which, in turn, comprise the resource base for the livelihoods of coastal communities and sustainable tourism, and serve as protection from extreme weather events.	Applicable to this project as it aims for afforestation and protection of coastal and marine ecosystems along with improving the livelihoods of the communities dependent on natural resources.
National Policy on Marine Fisheries, 2020	The overarching goal of the National Policy on Marine Fisheries, 2017 is to ensure the health and ecological integrity of the marine living resources of India’s Exclusive Economic Zone (EEZ) through sustainable harvests for the benefit of present and future generations of the nation.	Applicable as the project involves improving the livelihood of fisherfolk.
National Disaster Management Plan, 2019	The National Disaster Management Plan (NDMP) provides a framework and direction to the government agencies for all phases of the disaster management cycle.	Applicable as the project involves improving the livelihood of coastal communities. Over the duration of the project, there might be natural hazards such as floods. The Disaster Management Plan would be adhered to in those cases.
Environment (Protection) Act, 1986 & Environment (Protection) Amendment Rules, 2023	EPA (1986) is an umbrella Act that provides for the introduction of various regulations aimed at environmental conservation and protection	Applicable to this project because the investments under the project would include the construction of hard infrastructure such as groynes, dykes, and embankments to protect the coastline from erosion and prevent plastics from entering the ocean.

Name of the relevant Act/ Policy/ Rule	Objective of the Act/ Policy/ Rule	Relevance to the activities of K-SHORE
Coastal Regulation Zone Notification, 2019 & Coastal Aquaculture Authority (Amendment) Bill, 2023	This notification lays down the definition of the coastal regulation zone and categorizes the eco-sensitive zones. It also lays down the authorized activities in each of the categories.	Applicable to this project because the activities under this project would be in coastal regions. Thus, the activities under the 4 components of K-SHORE will be planned in accordance with this notification.
Water (Prevention and Control of Pollution) Act 1974, amendments	This Act is applicable for maintaining or restoring the wholesomeness of water. Central Board and state board are empowered to enforce them	Applicable to the project as the project involves the clean-up of the rivers, and estuaries that flow into the sea. It also involves the implementation of various measures to prevent water pollution.
The Noise Pollution (Regulation and Control) Rules, 2000	The objective of this legislation is to regulate and control noise pollution by specifying permissible noise levels and areas of enforcement.	Applicable to this project because the investments under the project would include the construction of hard infrastructure such as groynes, dykes, and embankments to protect the coastline from erosion and prevent plastics from entering the ocean. This construction activity might lead to noise pollution.
Environmental Impact Assessment Notification, 2006 & 2023 amendments	The Notification makes it mandatory clearance from MoEFCC for Building and Construction projects that have $\geq 20,000$ sq. m. and $< 1,50,000$ sqm, however, educational institutes are exempted.	Applicable to this project because the investments under the project would include the construction of hard infrastructure such as groynes, recycling structures, etc.

Name of the relevant Act/ Policy/ Rule	Objective of the Act/ Policy/ Rule	Relevance to the activities of K-SHORE
E-Waste Management Rules, 2022	To regulate & manage e-waste generated during the manufacture, using of any electrical and electronic equipment and channelize it for recycling or disposal	Applicable to this project as one of the components focuses on the collection of plastic and other waste before it enters the sea. Thus, the guidelines under this rule would have to be followed to dispose of the waste. Additionally, the project includes strengthening of GIS and IT capacity, which includes the purchase of electronic hardware. The likely generated E-waste should be managed as per this Rule.
Indian Forest Act 1980, and 2023 Amendment	To regulate the transit of forest produce and the collection of forest revenue, among other aspects, to protect and manage India's forests effectively.	Applicable to this project as one of the activities planned includes afforestation and protection of plantations in the region.
Ecotourism guidelines in and around protected areas, 2021	To regulate and encourage planned development of areas in and around protected areas.	Applicable as the project envisages to develop ecotourism in an attempt to diversify the livelihoods of communities dependent on natural resources.
The Occupational Safety, Health, and Working Conditions Code, 2020	Regulating the occupational safety, health, and working conditions of the persons employed in an establishment and for matters connected therewith.	Applicable Labor influx and management during the construction, and operation phases of the project will be under the purview of this code.
Forest (Conservation) Act, 1980, revised guidelines of 2004, 2014, 2017, and amendment 2023	Permits judicious and regulated use of forest land for non-forestry purposes.	Applicable to this project as one of the activities planned includes afforestation and protection of plantations in the region.

Name of the relevant Act/ Policy/ Rule	Objective of the Act/ Policy/ Rule	Relevance to the activities of K-SHORE
The Indian Wildlife (Protection) Act, 1972 & Amendment, 2022	<p>This act aims to protect and manage the wildlife areas and the animals, birds, and plants in these areas.</p> <p>Under Section 33B, the Bill provides power to State governments to form an Advisory Committee consisting of the Chief Wildlife Warden, members of the legislature, wildlife NGOs, and Panchayat Raj to manage wildlife sanctuaries.</p> <p>Under Sections 29 and 33, the Bill allows low-intensity, small-scale fishing in rivers and other water bodies in and around protected areas. This lifts the blanket ban that prohibits all types of fishing activity in and around Protected Areas, which has caused many people to lose their livelihoods.</p>	Applicable to this project as the protection of marine and coastal flora and fauna is a key aim for the project. Additionally, the project also aims to enhance the coastal produce (e.g., fish, seaweed, etc.) sustainably.
The Ancient Monuments and Archaeological Sites and Remains (Amendment and Validation) Act, 2010	The Act aims to stop the encroachment and construction around the monuments and other sites of archaeological importance. An area of a radius of >100-300 meters from a protected monument is considered as regulatory /prohibited. Permission of the National Monuments Authority needs to be taken in case of repair/renovation in the prohibited area or regulated area.	<p>Not applicable</p> <p>The screening process under the ESMF excludes the possibility of any activities in the ‘prohibited or regulated area’ around protected monuments through an “exclusion list”. None of the project interventions are planned within the regulated areas of ASI monuments.</p>
Guidelines for extraction of trees from non-forest areas, 2010	The guidelines are framed regarding the extraction of trees from non-forest areas including plantations in non-forest areas.	<p>Applicable</p> <p>Project interventions like upgrading infrastructure, setting up recycling centres, etc. may require tree extraction in non-forest areas, thus the guideline applies.</p>

Name of the relevant Act/ Policy/ Rule	Objective of the Act/ Policy/ Rule	Relevance to the activities of K-SHORE
Biological Diversity Act 2002, and Biological Diversity Rules, 2004	Applicable for conservation of biological diversity, sustainable use of its components, and fair and equitable sharing of the benefits arising out of the use of biological resources.	Applicable to prepare the “exclusion list” to prevent project activities near the environmentally sensitive areas.
Insecticide Act 1968; Insecticide Rules 1971; Insecticide (Control) Order 1985	The GOI has notified various Acts for the control and prevention of pollution due to pesticides and fertilizers. The Act regulates the import, manufacture, sale, transport, distribution, and use of insecticides to prevent risk to human beings or animals.	Applicable as the project includes the afforestation and cultivation of palmyra, mangroves, etc. Thus, this might also include the usage of insecticides for the same.
Solid Waste Management Rules, 2016	The provisions of the act prevent littering and mandate proper segregation, collection, storage, and disposal of municipal solid waste.	Applicable because the investments under the project would include the construction of hard infrastructure such as groynes, dykes, and embankments. Additionally, the project involves the collection of waste from rivers, estuaries, etc. before they flow into the sea. Thus, these guidelines would have to be followed during the implementation of the project.
Construction and Demolition Waste Management Rules, 2016	Rules and regulations for construction & demolition waste.	
Hazardous and Other Wastes (Management & Transboundary Movement) Rules, 2016	Rules and regulations to manage and reduce hazardous waste.	
The Building and Other Construction Workers’ (Regulation of Employment and Conditions of Service) Act 1996	This Act provides for safety, health, and welfare measures of buildings and construction workers in every establishment which employs or employed during the preceding year ten or more such workers. These measures include fixing hours for normal working days, weekly paid rest days, wages for overtime, and provision of basic welfare amenities like drinking water, latrines, urinals, crèches, first aid, canteens, and temporary living quarters within or near the work site.	Applicable because the investments under the project would include the construction of hard infrastructure such as groynes, dykes, and embankments. Thus, these guidelines would have to be adhered to while implementing the project.

Name of the relevant Act/ Policy/ Rule	Objective of the Act/ Policy/ Rule	Relevance to the activities of K-SHORE
Joint Forest Management Policy 1993 (revised Feb 2000)	The policy seeks the involvement of village communities in the regeneration of degraded forests and the conservation of well-stocked forests. Subsequent guidelines shifted focus from timber to NTFP, encouraged people's participation in forest management, and spelled mechanisms for sharing ecological as well as economic benefits with the community. The National Afforestation Programme is a scheme under this Act.	Applicable The project involves the constitution of JFMCs/ EDCs and promotes joint forest management, agroforestry, and alternate livelihood activities.
Merchant Shipping Act, 1970	This act aims to deal with the waste arising from the ships along the coastal areas.	Applicable as one of the key components of the project is to reduce marine litter.
Karnataka Marine Fishing Regulation Act, 1986	This act governs various aspects of marine fishing in Karnataka, including licensing, registration, and regulation of fishing activities along the coast.	Applicable as the project involves improving the livelihood of fisherfolk.
Karnataka Fishing Harbor Terminals Authority Act, 1986	The act provides for Fishing Harbor Terminals Authority for development and conservancy of Fishing Harbor Terminals in the State of Karnataka.	
Karnataka Forest Act, 1963 & Karnataka Forest (Conservation) Act, 1978	This act deals with the conservation and management of forests in the state, including those in coastal areas.	Applicable to this project as one of the activities planned includes afforestation and protection of plantations in the region.
Sexual Harassment of Women at Workplace (Prevention, Prohibition and Redressal) Act, 2013	The Act is meant to serve as guidelines for the employees subject to the provisions of the Sexual Harassment of Women at Workplace (Prevention, Prohibition and Redressal) Act, 2013.	Applicable to this project as it aims to improve the economic participation of women in activities such as afforestation, waste management, recycling, etc.

Name of the relevant Act/ Policy/ Rule	Objective of the Act/ Policy/ Rule	Relevance to the activities of K-SHORE
The Child Labour (Prohibition and Regulation) Act, 1986	The Act prohibits the employment of children (those who have not completed their fourteenth year) in certain occupations and processes (part II, Section 3). The Act also specifies conditions of work for children, if permitted to work.	Applicable to this project as it would involve employment creation for several people in the local coastal communities. Also as the project aims to improve the economic participation of women in activities such as afforestation, waste management, recycling, etc. there could be informal workers
The Bonded Labour System (Abolition) Act 1976	States that all forms of bonded labor stand abolished, and every bonded labor stands freed and discharged from any obligations to render any bonded labor.	
Minimum Wages Act, 1948	This Act provides for fixing minimum rates of wages and associated rules in certain employments.	
The Contract Labour (Regulation and Abolition) Rules, 1971	The Act requires every principal employer of an establishment to make an application to the registering officer in the prescribed manner for registering the establishment. The Act and its Rules apply to every establishment in which 20 or more workmen are employed on any day in the preceding 12 months as contract labor	
Workmen's Compensation Act, 1923 & Rules 1924	The Act requires if personal injury is caused to a workman by accident arising out of and during his employment, his employer should be liable to pay compensation in accordance with the provisions of this Act.	
The Building and Other Construction Workers' (Regulation of Employment and Conditions of Service) Act 1996	This Act provides for safety, health, and welfare measures of buildings and construction workers in every establishment which employs or employed during the preceding year ten or more such workers.	

Name of the relevant Act/ Policy/ Rule	Objective of the Act/ Policy/ Rule	Relevance to the activities of K-SHORE
The Right to Information Act, 2005	This Act provides for setting out the practical regime of the right to information for citizens to secure access to information under the control of public authorities, to promote transparency and accountability in the working of every public authority	Applicable as information related to the project will need to be made available in view of accountability
National Policy for Women 2016	The policy will enable sustainable socio economic, political empowerment of women to claim their rights and entitlements, control over resources and formulation of strategic choices in realisation of the principles of gender equality and justice	Applicable to this project, which assists women labours to get equal wages
Right to Fair Compensation and Transparency in Land Acquisition, Resettlement and Rehabilitation (RFCTLAR&R) Act, 2013	The purpose of the act is to provide transparent land acquisition process and also providing fair compensation to the affected parties	Applicable to this project in case of land acquisition under unavoidable circumstances
Panchayats (Extension to the Scheduled Areas) Act (PESA), 1996	<p>PESA legally recognizes the right of tribal communities to govern themselves through their own systems of self-government and also acknowledges their traditional rights over natural resources.</p> <p>The project districts has 2.38% of tribal population in Uttara Kannada, 4.49% of tribal population in Udupi and 3.94% of tribal population in Dakshina Kannada</p>	Applicable to this project, if any projects are to be implemented in locations having their presence

Name of the relevant Act/ Policy/ Rule	Objective of the Act/ Policy/ Rule	Relevance to the activities of K-SHORE
The Scheduled Castes and Scheduled Tribes (Prevention of Atrocities) Act, 1989	An Act to prevent the commission of offences of atrocities against the members of the Scheduled Castes and the Scheduled Tribes, to provide for Special Courts for the trial of such offences and for the relief and rehabilitation of the victims of such offences and for matters connected therewith or incidental thereto	Applicable to this project, while hiring local labours during project construction and operation stages
Drone Rules, 2021 Drone (Amendment) Rules, 2022 and Drone (Amendment) Rules, 2023.	Provides rules for deployment of drones for various development activities	Applicable to this project, as project will be procuring aerial and underwater drones for activities proposed under Component 1

8.3 Annexure: International Environmental Agreements

International Treaties	Details
The Ramsar Convention on Wetlands of International Importance, 1971	<p>The Ramsar Convention is an international treaty for the conservation and sustainable utilization of wetlands i.e., to stem the progressive encroachment on and loss of wetlands now and in the future, recognizing the fundamental ecological functions of wetlands and their economic, cultural, scientific, and recreational value.</p> <p>According to the Ramsar list of Wetlands of International Importance, As of February 2019, there are 27 Ramsar Sites in India which are required to be protected. Activities undertaken in the proximity of these wetlands should follow the guidelines of the convention.</p>
Vienna Convention for the Protection of the Ozone Layer	<p>Adopted in 1985, convention sets the framework for efforts to protect the globe's ozone layer by means of systematic observations, research, and information exchange on the effects of human activities on the ozone layer and to adopt legislative or administrative measures against activities likely to have adverse effects on the ozone layer.</p>
Montreal Protocol on Substances that Deplete the Ozone Layer (a protocol to the Vienna Convention for the Protection of the Ozone Layer)	<p>The original Montreal Protocol was agreed on 16 September 1987 and entered into force on 1 January 1989. It is designed to protect the ozone layer by phasing out the production of numerous substances that are responsible for ozone depletion. This treaty also requires controlling emissions of substances that deplete ozone.</p>
United Nations Framework Convention on Climate Change (UNFCCC (1992))	<p>This framework came into force on 21 March 1994 and aims to achieve stabilization of greenhouse gas (GHG) concentrations in the atmosphere at a level low enough to prevent dangerous anthropogenic interference with the climate system.</p>
Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal (1989)	<p>This convention came into force in 1992 and aims to reduce the amount of waste produced by signatories and regulates the international traffic in hazardous wastes.</p>
Stockholm Convention on Persistent Organic Pollutants (POPs)	<p>Treaty to protect human health and the environment from chemicals that remain intact in the environment for long periods, become widely distributed geographically, accumulate in the fatty tissue of humans and wildlife, and have harmful impacts on human health or on the environment. Signed in 2001 and effective from May 2004</p>
Rotterdam Convention on Prior Informed Consent (PIC) for certain Hazardous Chemicals and Pesticides in International Trade	<p>To promote shared responsibility and cooperative efforts among Parties in the international trade of certain hazardous chemicals to protect human health and the environment from potential harm; covers pesticides and industrial chemicals that have been banned or severely restricted for health or environmental</p>

International Treaties	Details
	reasons.
UNEP Minamata Convention on Mercury	Adopted on 10 October 2013, this global treaty aims to protect human health and the environment from the adverse effects of mercury.
Strategic Approach to International Chemicals Management (SAICM)	SAICM's overall objective is the achievement of the sound management of chemicals throughout their life cycle so that by the year 2020, chemicals are produced and used in ways that minimize significant adverse impacts on the environment and human health.
Convention on Biological Diversity (CBD), commonly Biodiversity	International legally binding treaty opened for signature at the United Nations Conference on Environment and Development (UNCED) in 1993. The objectives of this Convention, to be pursued in accordance with its relevant provisions, are the conservation of biological diversity, the sustainable use of its components and the fair and equitable sharing of the benefits arising out of the utilization of genetic resources.
Convention on the Conservation of Migratory Species (CMS or Bonn Convention)	Intergovernmental treaty, concluded under the aegis of the UNEP, concerned with the conservation of wildlife and habitats on a global scale. It is the only global convention specializing in the conservation of migratory species, their habitats and migration routes. The treaty aims to conserve terrestrial, aquatic and avian migratory species throughout their range. India entered the force of CMS on 1.11.1983.
Agreement on the Conservation of African-Eurasian Migratory Water birds (AEWA)	An independent international treaty developed under the auspices of the UNEP's Convention on Migratory Species. India is a party to this agreement. Aims to establish coordinated conservation and management of migratory water birds throughout their entire migratory range. It covers 255 species of birds ecologically dependent on wetlands for at least part of their annual cycle.
Convention concerning the Protection of the World Cultural and Natural Heritage	WHC sets out the duties of States Parties in identifying potential sites and their role in protecting and preserving them. By signing the Convention, each country pledges to conserve not only the World Heritage sites situated on its territory, but also to protect its national heritage. The States Parties: integrate the protection of the cultural and natural heritage into regional planning programmes, set up staff and services at their sites, undertake scientific and technical conservation research and adopt measures which give this heritage a function in the day-to-day life of the community. It explains how the World Heritage Fund is to be used and managed and under what conditions international financial assistance may be provided. States Parties to report regularly to the World Heritage Committee on the state of conservation of their World Heritage properties and to strengthen the appreciation of the public for World Heritage

International Treaties	Details
	<p>properties and to enhance their protection through educational and information programs.</p> <p>Date of Adoption was 16 Nov 1972</p> <p>This came into force on 17 Dec 1975</p> <p>India signed the convention on 14 Nov 1977</p>
<p>Convention on International Trade in Endangered Species of Wild Fauna and Flora</p>	<p>CITES is a multilateral treaty to protect endangered plants and animals. Its aim is to ensure that international trade in specimens of wild animals and plants does not threaten the survival of the species in the wild, and it accords varying degrees of protection to more than 35,000 species of animals and plants.</p> <p>Date of Adoption was 3 Mar 1973</p> <p>This came into force on 1 Jul 1975</p> <p>India signed the convention on 20 Jul 1976</p>
<p>United Nations Convention on the Law of the Sea</p>	<p>UNCLOS; the Law of the Sea Convention defines the rights and responsibilities of nations with respect to their use of the world's oceans, establishing guidelines for businesses, the environment, and the management of marine natural resources.</p> <p>Date of Adoption was 10 Dec 1982</p> <p>This came into force on 16 Nov 1994</p> <p>India signed the convention on 10 Dec 1982</p>
<p>United Nations Fish Stocks Agreement</p>	<p>UNFSA aims to ensure the long-term conservation and sustainable use of straddling and highly migratory fish stocks within the framework of UNCLOS.</p> <p>Date of Adoption was 4 Aug 1995</p> <p>This came into force on 11 Dec 2001</p> <p>India signed the convention on 19 Aug 2003 (accession)</p>
<p>Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade</p>	<p>PIC is a multilateral treaty to promote shared responsibilities in relation to the importation of hazardous chemicals. The convention promotes an open exchange of information and calls on exporters of hazardous chemicals to use proper labelling, include directions on safe handling, and inform purchasers of any known restrictions or bans. Signatory nations can decide whether to allow or ban the importation of chemicals listed in the treaty, and exporting countries are obliged to make sure that producers within their jurisdiction comply.</p> <p>Date of Adoption was 10 Sep 1998</p> <p>This came into force on 24 Feb 2004</p> <p>India signed the convention on 24 May 2005 (accession)</p>
<p>International Convention for the Prevention of Pollution from Ships, 1973 as modified by the Protocol of 1978 relating thereto</p>	<p>MARPOL is short for maritime pollution and 73/78 short for the years 1973 and 1978) is one of the most important international marine environmental conventions. It was developed by the International Maritime Organization in an effort to minimize pollution of the oceans and seas, including dumping, oil, and air</p>

International Treaties	Details
	<p>pollution. The objective of this convention is to preserve the marine environment in an attempt to completely eliminate pollution by oil and other harmful substances and to minimize accidental spillage of such substances. All ships flagged under countries that are signatories to MARPOL are subject to its requirements, regardless of where they sail, and member nations are responsible for vessels registered on their national ship registry.</p> <p>Date of Adoption was 2 Nov 1973 This came into force on 2 Oct 1983 Ratified Annexes I - VI</p>
Forced Labour Convention, 1930 (No. 29)	No.29 is to suppress all forms of forced labour. It states that not only criminalize and prosecute forced labour, but also take effective measures to prevent forced labour and provide victims with protection and access to remedies, including compensation. Hence relevant
Abolition of Forced Labour Convention, 1957 (No. 105)	The convention builds on the Forced Labour Convention (No. 29) from 1930 and sets up stricter principles regarding the exemptions from forced labour. This includes for instance the use of forced labour as a punishment for holding specific political views or as a punishment for strikes. Furthermore, it prohibits the use of forced labour for mobilising labour for economic development or as a measure of labour discipline. Hence relevant
Equal Remuneration Convention, 1951 (No. 100)	The convention focuses on gender discrimination in employment and outlines principles for the equal remuneration for work of equal value independent of whether it is performed by men or women. In order to achieve equal pay, Parties to the Convention are required to implement domestic laws, regulations on wage determination and/or support collective agreements between workers' and employers' organisations. Hence relevant
Discrimination (Employment and Occupation) Convention, 1958 (No. 111)	This convention includes any distinction, exclusion or preference made on the basis of race, colour, sex, religion, political opinion, national extraction or social origin, which has the effect of nullifying or impairing equality of opportunity or treatment in employment or occupation. Hence relevant
Minimum Age Convention, 1973 (No. 138)	Convention #138 was developed to regulate child labour by setting a minimum age for admission to employment that the signatories are to respect. This Convention came into force on 19 June 1976. The minimum working age was set at 15 years (13 years for light work). Hence relevant
Worst Forms of Child Labour Convention, 1999 (No. 182)	This convention includes for instance slavery, sexual exploitation, the use of children for illegal activities as well as work which is likely to harm the health or safety of a child. Hence relevant.

8.4 Annexure:Generic Environmental and Social Management Plan (ESMP) for All Construction Activities (Matrix)

Sl. No.	Environmental Issues	Specifications	Time frame	Regulation and coordinating agency	
DESIGN / PRE-CONSTRUCTION STAGE					
1	Design to incorporate environmental sensitivities	<ul style="list-style-type: none"> • Designs shall consider topography / environmental and social sensitivities and regulations; especially National / State building rules and Fire Safety Codes • Rainwater harvesting, topsoil preservation, and green measures shall be adopted 			
2	Clearances, Approvals, Permits/NOCs etc. to be secured /complied with.	List of clearances required prior to start of construction activity.		Pre-construction stage (Prior to initiation of any work) The time period suggested for getting permission is 2-3 months.	PMU/PIU/PMC & Contractor
		Type of Clearance	Applicability		
		NOC and consent under Air, Water & Environment Act and noise rules from SPCB	For establishment of construction camp		
		NOC and consent under Air, Water & Environment Act and noise rules from SPCB	For operating construction plant, crusher, batching plant and others as applicable		
		Explosive License from Chief Controller of Explosives	For storage of fuel oil, lubricants, diesel etc.		
		Permission for storage of hazardous chemicals from CPCB	For storage and handling of Hazardous Chemicals		
		Borrow area approval from district collector, Consent letter, lease agreement with the owner of land	Borrow area for excavation of earth		
		Quarry Lease Deed and Quarry License from State Department of Mines and Geology	Quarry operation (for new quarry)		
Permission for Storage and Disposal of Silt / Muck/dredged material	Revenue Authority, Department of Geology (if applicable) and Local Bodies (for disposal if in waste				

Sl. No.	Environmental Issues	Specifications	Time frame	Regulation and coordinating agency
		<p>disposal site)</p> <p>Permission/NOC from State Ground Water Department</p> <p>Permission/NOC from State Irrigation department</p> <p>Labour license from labor commissioner office</p> <ul style="list-style-type: none"> • Provide a copy of all necessary clearances to the PMU/PIU/PMC • Adhere to all clearance terms and conditions. • Obtain written permission from private landholders to use their land for support activities, prior to commencing any works 		
3	Dismantling of structures	<ul style="list-style-type: none"> • Land acquired: the compensation will be as per the RFCTLARR – or as per RP • Dismantled public utilities & structures shall be planned to be reconstructed in discussion with stakeholders (as specified in RP) 	Post design to Pre-construction.	PMU/PIU/PMC & Contractor
4	Relocation of Utilities	<ul style="list-style-type: none"> • All underground and overhead utilities are to be shifted as per utility shifting plan, prior permission is to be obtained from regional offices of concerned departments like Electricity, Telecommunications, Waterworks etc. Relocated utilities shall be suitably placed considering the probable impacts due to climate change. 	Post design to Pre-construction	PMU/PIU/PMC & Contractor
5	Clearing and Grubbing & Tree Felling	<ul style="list-style-type: none"> • Clearing and grubbing to be done only on the required surface & just before the start of the next activity on that section. In case of a time gap, water should be sprinkled regularly until the start of the next activity. • Avoid tree felling as much as possible. Follow national regulation / applicable procedures for the replanting of trees. Tree felling permission shall be obtained from the forest department / local body under applicable Acts. • Compensatory plantation shall be planned to be undertaken at prescribed rates • Plan to use native species in consultation with the communities, Forest 	Prior to the start of construction activity	PMU/PIU/PMC & Contractor

Sl. No.	Environmental Issues	Specifications	Time frame	Regulation and coordinating agency
		Department, Local Bodies		
6	Relocation of drinking Water sources	<ul style="list-style-type: none"> Alternate water supply arrangements, meeting required quality standards, shall be made to that affected people (people who lost opportunity to utilize the existing water sources due to pollution, decrease incapacity, lack of access, etc). 	Prior to the start of construction activity	PMU/PIU/PMC & Contractor
7	Sensitive Physical/ Cultural Properties	<ul style="list-style-type: none"> Construction activities shall be done in a manner to avoid damage to cultural properties. In case of an impact on the cultural properties, location-based property preservation shall be done in consultation with the community as per the Physical Cultural Resources Management Plan. 	Prior to start of construction activity	PMU/PIU/PMC & Contractor
8	Environmental Management and Monitoring facility equipments for ESMP (meters, vehicle and Buildings)	Monitoring is to be carried out regularly as per the frequency and at locations specified as per the environmental monitoring plan	Plan for monitoring shall be prepared during design itself; monitoring shall be for during and after construction (Five Years)	PMU/PIU/PMC & Contractor
AIR ENVIRONMENT- CONSTRUCTION PHASE				
1	Gaseous Emissions	<ul style="list-style-type: none"> Vehicles and machinery are to be maintained so that emission conforms to National Ambient air quality standards. All vehicles and machineries should obtain Pollution Under Control Certificates 	Beginning with throughout construction	PMU/PIU/PMC & Contractor
2	Dust Generation	<ul style="list-style-type: none"> In the case of small road constructions, asphalt mixing plants should be sited over 1000 m from any community. 	Beginning with	PMU/PIU/PMC & Contractor

Sl. No.	Environmental Issues	Specifications	Time frame	Regulation and coordinating agency
		<ul style="list-style-type: none"> • Mixing equipment should be well sealed and be equipped with a dust-removal device. • Operators should wear dust masks, ear protection and hard hats. • Vehicles delivering materials should be covered to reduce spills and dust blowing off the load. • Clearing and grubbing to be done, just before the start of the next activity on that site. In case of the time gap, water should be sprinkled regularly until the start of the next activity. • Water to be sprayed during the construction phase, at mixing sites, approach road & temporary roads. • Labor to be provided masks / PPEs. • Embankment slopes to be covered with turfing/stone pitching immediately after completion. • Construction site prone to dust generation shall have fencing to arrest dust. • spreading into neighbouring sensitive land uses 	throughout construction until asphaltting / dust-generating activities are completed, and side slopes are covered.	
3	Equipment selection maintenance and operation	Construction plant and equipment will meet recognized international and national standards for emissions and will be maintained and operated in a manner that ensures that relevant air, noise, and discharge regulations are met.	During construction	PMU/PIU/PMC & Contractor
LAND ENVIRONMENT – CONSTRUCTION PHASE				
4	Soil Erosion and sedimentation control	<ul style="list-style-type: none"> • Plan the activities so that no bare/loose earth surface is left out before the onset of monsoon. • For minimizing soil erosion, the following preventive measures are to be taken: • Embankment slopes to be covered, soon after completion. • Next layer/activity to be planned, soon after completion of, clearing and grubbing, laying of embankment layer, sub-base layer, scarification etc. • Topsoil from borrow area, debris disposal sites, construction site to be protected /covered for soil erosion. • Debris due to excavation of foundation, dismantling of existing cross drainage structure will be removed from the watercourse immediately. 	During construction Upon completion of construction activities at these sites.	PMU/PIU/PMC & Contractor

Sl. No.	Environmental Issues	Specifications	Time frame	Regulation and coordinating agency
		<ul style="list-style-type: none"> • Diversions for bridges will be removed from the watercourse before the onset of monsoon. 		
5	Loss of agricultural topsoil	<ul style="list-style-type: none"> • All areas of cutting and all areas to be permanently covered will be stripped to a depth of 150mm and stored in stockpile. (Refer to ECoP on Topsoil Management) • Topsoil shall be safeguarded from erosion and will be reused as follows. • Covering all borrow areas after excavation is over. • Dressing of slopes of embankment • Development of greenery 	During construction	PMU/PIU/PMC & Contractor
6	Compaction of Soil and Damage to Vegetation/ Diversions	<ul style="list-style-type: none"> • Construction vehicles should operate within the Corridor of Impact avoiding damage to soil and vegetation. • Diversions, access roads used will be redeveloped by the contractor, to the satisfaction of the owner/ villagers. 	During construction	PMU/PIU/PMC & Contractor
7	Contamination of soil	<ul style="list-style-type: none"> • Hazardous Waste Rules, 2016 will be complied with. • Crushing /Batching/ Hot Mix Plants if any required; to be setup 500m away from surface water bodies • The oil interceptor will be installed at the planned site and Truck lay bye. • Bio-toilets shall be provided (at construction site) for safe disposal of waste. • Scarified bituminous waste shall be reused for base course in crossroads and junction improvement of gravel roads. 	During construction	PMU/PIU/PMC & Contractor
8	Borrow pits	<ul style="list-style-type: none"> • No borrow pit will be opened without the permission of the supervision consultant. • Written approval from the owner to be submitted to PMU/PIU/PMC. • Borrow pits shall be identified outside the worksite. • Before opening additional borrow pits, operating pits shall be closed according to IRC specification. 	During construction	PMU/PIU/PMC & Contractor
9	Quarrying and / or Sourcing of materials	<ul style="list-style-type: none"> • Quarrying will be carried out at approved and licensed quarries only. Copy of licenses to be submitted to the PMU/PIU/PMC. • The contractor will use materials from the approved sources. 	During construction	PMU/PIU/PMC & Contractor

Sl. No.	Environmental Issues	Specifications	Time frame	Regulation and coordinating agency
WATER ENVIRONMENT – CONSTRUCTION PHASE				
1.	Loss of water bodies (surface/ground)	<ul style="list-style-type: none"> No excavation from the bund of the water bodies. No debris disposal near, any water body. Water for construction activity shall be from the approved water bodies only. Construction labor should be restricted from polluting the source or misusing the source. Shifting of source to be completed prior to disruption of the actual source. Alternate arrangements shall be made to all the water users prior to the construction activity for the identified (during Design stage) water sources (surface and ground sources) that fall in the project site. To avoid any damage to the constructed areas, drainage to be provided along and across the with proper engineering structures. Enhancement/de-silting of existing surface water bodies Encourage rainwater harvesting 	During construction	PMU/PIU/PMC & Contractor
2.	Reduction in water spread area	<ul style="list-style-type: none"> Avoid infrastructure which reduces water spread area / alternate placement of facilities shall be preferred. De-silting of existing water bodies. Prepare and follow Disaster Management Plan Watershed Management & Recharge 		
3.	Alternation of drainage	<ul style="list-style-type: none"> Diversions should be constructed during dry season, with adequate drainage facility, and will be completely removed before the onset of monsoon. Debris generated due to the excavation of foundation or due to the dismantling of the existing structure should be removed from the watercourse. Silt fencing has to be provided on the mouth of discharge into natural streams. Continuous drain (lined/unlined) is provided obstruction if any, to be removed immediately. 	Whenever encountered during construction	PMU/PIU/PMC & Contractor

Sl. No.	Environmental Issues	Specifications	Time frame	Regulation and coordinating agency															
4.	Runoff and drainage	<ul style="list-style-type: none"> Throughout monsoon uninterrupted continuous drain to be functional. Lined drain to be provided at build-up locations for quick drainage. Increased runoff due to increased impervious surface is countered through increased pervious surface area through soak pits. 	During Construction	PMU/PIU/PMC & Contractor															
5.	Water requirement for project	<ul style="list-style-type: none"> The contractor has to provide a list of sources (surface/ground) for approval from PEA. Prior to the use of the source, the contractor should obtain written permission from authority, to use the water in construction activity, and submit a copy to PEA. 	During Construction	PMU/PIU/PMC & Contractor															
6.	Silting/sedimentation	<ul style="list-style-type: none"> Measures suggested under 'Soil Erosion and Sedimentation control' has to be enforced. Silt fencing to be provided in the following places: 	Throughout the construction period.	PMU/PIU/PMC & Contractor															
		<table border="1"> <thead> <tr> <th>S.No</th> <th>Location</th> <th>Remarks</th> </tr> </thead> <tbody> <tr> <td>1.</td> <td>Topsoil storage</td> <td>Around the periphery of the storage yard</td> </tr> <tr> <td>2.</td> <td>Borrow area site</td> <td>Along the length of the borrow area in the downslope direction</td> </tr> <tr> <td>3.</td> <td>Surface Water bodies</td> <td>Equals to diameters/length or as instructed by PEA/Local Body.</td> </tr> <tr> <td>4.</td> <td>Plant sites</td> <td>In down slop direction final material</td> </tr> </tbody> </table>			S.No	Location	Remarks	1.	Topsoil storage	Around the periphery of the storage yard	2.	Borrow area site	Along the length of the borrow area in the downslope direction	3.	Surface Water bodies	Equals to diameters/length or as instructed by PEA/Local Body.	4.	Plant sites	In down slop direction final material
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<ul style="list-style-type: none"> Construction activities should be stopped near water bodies during monsoon. 																			
7.	Contamination of water	<ul style="list-style-type: none"> Measures suggested under the 'Contamination of soil' have to be enforced. Construction work close to water bodies should be avoided during monsoon. Labour camps are to be located away from water bodies. Car washing/workshops near water bodies are to be avoided. 	Throughout the construction period.	PMU/PIU/PMC & Contractor															
NOISE ENVIRONMENT – CONSTRUCTION PHASE																			
	Noise	<ul style="list-style-type: none"> Noise standard at processing sites, e.g. aggregate crushing plants, batching plants, hot mix plants are to be strictly monitored to prevent exceeding GOI 	Beginning and	PMU/PIU/PMC & Contractor															

Sl. No.	Environmental Issues	Specifications	Time frame	Regulation and coordinating agency
		<p>noise standards.</p> <ul style="list-style-type: none"> Workers in the vicinity of strong noise to wear protectors and their working time should be limited as a safety measure. In construction sites within 150 m of sensitive receptors and settlement areas construction to be stopped from 22:00 to 06:00. Machinery and vehicles should be maintained to keep their noise to a minimum. Noise barrier shall be constructed at all noise-sensitive locations. HORN PROHIBITION signpost to be erected. Rumble strips/speed breaker to be provided. 	throughout construction	
FLORA & FAUNA – CONSTRUCTION PHASE				
1	Loss of trees and Avenue planting	<ul style="list-style-type: none"> Trees felled should be cut in logs and stacked species wise as instructed by PMU. Avenue plantation has to be taken up soon after the completion of civil works. All the realignment sections are to be enhanced with landscaping and peripheral tree plantation. Community structure has to be enhanced with plantation. The contractor has to ensure that no trees/branches to be fell by laborer for fuel, warmth during winter. Enough provision of fuel to be ensured. 	After completion of construction activities	PMU/PIU/PMC & Contractor
2	Vegetation clearance	<ul style="list-style-type: none"> Clearing and grubbing should be avoided beyond that which is directly required for construction activities. The next activity to be planned/started immediately, to avoid dust generation and soil erosion during monsoon. Turfing/ re-vegetation to be started soon after completion of the embankment. 	Cleaning operations as part of the construction stage	PMU/PIU/PMC & Contractor
3	Fauna	<ul style="list-style-type: none"> Construction workers must protect natural resources. The contractor shall allow suitable means to prevent disturbance to birds/animals and their nests. 	During construction	PMU/PIU/PMC & Contractor

Sl. No.	Environmental Issues	Specifications	Time frame	Regulation and coordinating agency
SOCIO – ECONOMIC ENVIRONMENT-CONSTRUCTION PHASE				
1	General Issues – Related to Users		During Construction	PMU/PIU/PMC & Contractor
	Fear of uncertainties regarding future	Public participation sessions should be conducted in different stages of project construction.		
	Public Health and Safety	<ul style="list-style-type: none"> • Debris (C&D) will be disposed to the satisfaction of the Engineer. • Monitoring of air, water, noise and land during construction and operation phase. • Project interventions including civil works shall be planned to take into account climate change effects. (for example; buildings will be built above maximum • probable tide levels, and designed to withstand high wind, storm surge and rising sea levels). 		
	Loss of access	At all times, the Contractor shall provide safe and convenient passage for vehicles, pedestrians and livestock to and from side roads and property accesses connecting the project road. Work that affects the use of side road existing access shall not be undertaken without providing adequate provision to the prior satisfaction of the Engineer. The works shall not interfere unnecessarily or improperly with the convenience of public or the access to, use and occupation of public or private road, railways and any other access footpaths to or of properties whether public or private.		
	Traffic jams and Congestion	<ul style="list-style-type: none"> • Detailed Traffic Management Plans shall be prepared and submitted to the Engineer for approval 5 days prior to commencement of maintenance works on/near any section of the road. • The traffic control plans shall contain details of temporary diversions, details of arrangements for construction under traffic and details of traffic arrangements after cession of work each day temporary diversion (including scheme of temporary and acquisition) will be constructed with the approval of the Engineer after due consideration to the local environment and economy . 		

Sl. No.	Environmental Issues	Specifications	Time frame	Regulation and coordinating agency
		<ul style="list-style-type: none"> • The temporary diversion shall not compromise on the issues of public safety. Special consideration shall be given in the preparation of the traffic control plan to the safety of pedestrians and workers at night. • The contractor shall ensure that the running surface is always properly maintained, particularly during the monsoon so that no disruption to the traffic flow occurs. • The temporary traffic detours in settlement areas shall be kept free of dust by frequent application of water. 		
	Traffic control and safety	<ul style="list-style-type: none"> • The Contractor shall take all necessary measures for the safety of traffic during construction and provide, erect and maintain such barricades, including signs, markings, flags, lights and flagmen as may be required by the Engineer for the information and protection of traffic approaching or passing through the section of the highways under improvement. • For roads, the provision of traffic safety measures shall be considered incidental to work as per the Ministry of Road Transport and Highways (MoRTH) specification and Indian Road Congress (IRC) guidelines. • For roads, all signs, barricades, pavement markings shall be as per MoRTH specification. 		
	Gender-Based Violence and Harassment (GBVH)	<ul style="list-style-type: none"> • Contractor to conduct safety audits to identify settings affected by the project that might increase the risk of GBVH • Provide safe, secure and separate living spaces for male and female construction workers • Provide lighting around project sites, including around latrines and access routes • Install separate, lockable latrines for female construction workers. 		
	General Issues- Related to Labours			
	Pressure on Existing Infrastructure due to labor camps.	<ul style="list-style-type: none"> • Contractors should recruit the local people as labourer at least for unskilled and semi-skilled jobs. • Basic facilities should be ensured at labour camp including first aid 		

Sl. No.	Environmental Issues	Specifications	Time frame	Regulation and coordinating agency
		<p>emergency medical response teams, Regular general health check-ups, canteen toilets with proper disposal facilities, education to the children by tying up with schools in the Neighbourhood, to prevent the spread of disease and pressure on existing infrastructure.</p> <ul style="list-style-type: none"> • Contractor is responsible for enforcing /adhering to the minimum requirements as per the bid document conditions. • Camps if any; shall be planned to consider climate change effects to ensure the safety of workers housed. (For example; buildings will be built above maximum probable tide levels, and designed to withstand high wind, storm surge and rising sea levels). 		
	Accidents and Safety	<ul style="list-style-type: none"> • The contractor is responsible for enforcing /adhering to the minimum requirements given in bid documents w.r.t Worker's safety during Construction Environment and Safety Manager will report on the enforcement of the above • at regular time intervals. 		
	Payment of wages	As per The Payment of Wages (Amendment) Act		
	Rehabilitation of labor and Construction camp	<ul style="list-style-type: none"> • At the completion of construction, all construction camp facilities shall be dismantled and removed from the site. The site shall be restored to a condition in way inferior to the condition prior to commencement of the works. Various activities to be carried out for site rehabilitation include: the following aspects shall be included in the bid document as part of Contractor responsibility. • Oil and fuel contaminated soil shall be removed and transported and buried in waste disposal areas. In case transportation is not possible, the treatment of polluted areas has to be done. • Soak pits, septic tanks shall be covered and effectively sealed off. • Debris (rejected material) should be disposed of suitably. • Ramps created camp should be levelled. • Underground water tank in a barren/non-agricultural land, topsoil shall be taken for utilized for plantation. 		

Sl. No.	Environmental Issues	Specifications	Time frame	Regulation and coordinating agency
		<ul style="list-style-type: none"> • Proper documentation of rehabilitation site is necessary. This shall include the following: • Photograph of rehabilitated site. • Landowner consent letter for satisfaction in measures taken for rehabilitation of site. • Undertaking from contractor; and Certification from Engineer in-charge 		
2	Sensitive Community Structure	<ul style="list-style-type: none"> • Any loss during construction will be the sole responsibility of the contractor and the damage will be repaired immediately up to the satisfaction of people at the contractor's own cost. 	During construction	PMU/PIU/PMC & Contractor
3	Roadside amenities	<ul style="list-style-type: none"> • Bus shelter if affected shall be provided as required. • Pedestrian crossing is provided at major settlement locations, providing zebra crossing, signposts, and speed breakers. However, this should be properly planned. • Landscaping at junctions • Hedging at boundary with non-palatable shrubs, all along the non-urban stretch 	During construction Plantations (Herbs/shrubs), immediately after completion of construction	PMU/PIU/PMC & Contractor
4	Construction & Demolition waste management	<ul style="list-style-type: none"> • Construction & Demolition Wastes shall be covered and stocked within clearly demarcated areas, transported in covered vehicles, and disposed as suggested by PEA/local body after requisite permissions 	During Construction	PMU/PIU/PMC & Contractor
ROAD SAFETY – CONSTRUCTION PHASE				
1	Accident with hazardous materials	<ul style="list-style-type: none"> • Compliance with Environmental (Protection) Act, 1986, including: • For the delivery of hazardous substances, three certificates issued by the transportation department are required permit license, driving license and guarding license. • Vehicle delivering hazardous substances will be printed with standard signs. • Persons operating the vehicles should be trained personnel and should carry Material Safety Data sheets. 	During Construction	PMU/PIU/PMC & Contractor

Sl. No.	Environmental Issues	Specifications	Time frame	Regulation and coordinating agency
		<ul style="list-style-type: none"> • These vehicles can only be parked at designated parking lots. • The list of hazardous materials for construction activity has to be identified in advance and the same has to be informed to the PEA. Accident Management shall be the responsibility of the Contractor and the Regulating Agencies. • In case of a spill of hazardous materials, relevant departments will be informed at once & dealt with it in accordance with the spill contingency plan. 		
OPERATION PHASE				
AIR ENVIRONMENT-OPERATION PHASE				
1	Dust Generation	<ul style="list-style-type: none"> • Dust Generation due to vehicle wheel will be reduced due to increased/widened paved surface. • Avenue plantation and other plantations will include species having dust and pollutant absorption characteristics. • Community properties and realignment locations will have peripheral plantation and landscaping. • Maintenance of roads/paths to be ensured. 	After completion of construction activity	PMU/PIU/Local Authority
2	Air pollution	<ul style="list-style-type: none"> • With the reduction in journey time and idle engine running time air pollution will reduce. • Avenue plantation is proposed throughout the corridor. • Avenue plantation includes species having air-purifying characteristics. • Enforce Pollution Under Control (PUC) programs. • The public will be informed about the regulations on air pollution of vehicles. • The air pollution monitoring program has been devised for checking pollution levels and suggesting remedial measures. 	After completion of construction activity	PMU/PIU/Local Authority
LAND ENVIRONMENT – OPERATION PHASE				
1	Temporary land acquisition	<ul style="list-style-type: none"> • Borrow area redevelopment plan to be completed/ enforced. • All temporary acquired land for construction of diversion, transportation of material, etc., should be redeveloped as per standard specifications. 	After completion of construction	PMU/PIU/Local Authority

Sl. No.	Environmental Issues	Specifications	Time frame	Regulation and coordinating agency
		<ul style="list-style-type: none"> Affected productive area to be rehabilitated with topsoil. 		
2	Soil erosion	<ul style="list-style-type: none"> Embankment slopes to be re-vegetated. Residual spoils to be disposed of properly in compliance with construction and Demolition Waste Management Rules, 2016. 	After completion of construction	PMU/PIU /Local Authority
3	Soil Contamination	<ul style="list-style-type: none"> The public should be informed about the regulations on land pollution. Compliance with Construction and Demolition Waste Management Rules, 2016. Monitoring of soil quality to be done regularly as per frequency and location mentioned in the Environment Monitoring Plan. 	After completion of construction	PMU/PIU /Local Authority
WATER ENVIRONMENT – OPERATION PHASE				
1	Sitting / sedimentation	<ul style="list-style-type: none"> Measures suggested under ‘soil erosion’ to be enforced. De-silting of existing water bodies. Silt fencing to be provided. 	After completion of construction	PMU/PIU /Local Authority
2	Decreased water spread area	<ul style="list-style-type: none"> De-silting of water bodies to ensure more water retention. Prepare and follow Disaster Management Plan Follow Watershed management approaches and effective recharge & drainage practices 		
3	Contamination of water	<ul style="list-style-type: none"> The public to be informed about the regulations on water pollution. Monitoring of water pollution to be done regularly as per the frequency and location mentioned in the Environmental Monitoring Plan. 	After completion of construction	PMU/PIU /Local Authority
4	Maintenance of Storm Water Drainage System	<ul style="list-style-type: none"> The urban drainage systems should be maintained to accommodate stormwater flow. Cleaning/ removing spoils should be ensured before/during the monsoon rains. 	Especially at the start & end of rains	PMU/PIU /Local Authority
NOISE ENVIRONMENT- OPERATION PHASE				
1	Noise	<ul style="list-style-type: none"> ‘Horn Prohibited’ signpost will be enforced. Maintenance of noise barriers. Discouraging the establishment of sensitive receptors near the road. 	After completion of construction	PMU/PIU /Local Authority

Sl. No.	Environmental Issues	Specifications	Time frame	Regulation and coordinating agency
		<ul style="list-style-type: none"> The public to be informed about the regulations on noise pollution. 		

FLORA & FAUNA – OPERATION PHASE

1	Loss of trees and Avenue Planting	<ul style="list-style-type: none"> The avenue plantation should be properly maintained preferably through Communities, NGOs or CSR of corporate groups. Discourage cutting trees/ branches. Educate people about the usefulness of trees 	After completion of construction	PMU/PIU /Local Authority
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SOCIO-ECONOMIC ENVIRONMENT – OPERATION PHASE

1	General Issues	<ul style="list-style-type: none"> Public consultation to be organized after completion of construction to assess the people's opinion/ grievance from the project intervention. Remedial measures to mitigate the impact due to project intervention to be incorporated in the operation phase. 	Operation phase	PMU/PIU /Local Authority
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ROAD SAFETY ENVIRONMENT – OPERATION PHASE

1	Protection of high road embankments	<ul style="list-style-type: none"> Stabilization of altered (especially high) embankments. Although stone pitching is provided, vigilance to be maintained. 	Immediately after construction	PMU/PIU /Local Authority
2	Safety and noise disturbance	<ul style="list-style-type: none"> Further construction near infrastructure provided shall be as per the zoning regulations as well as the Environmental guidelines. 	Throughout and after project development period	PMU/PIU /Local Authority
3	Ensure Safe Traffic	<ul style="list-style-type: none"> Road surface if affected, to be maintained and proper road markings to be provided, potholes to be filled immediately. Regular maintenance of signpost, painting/removal of bills. Traffic rules / safety awareness to people Speed limit & speed breakers / traffic calming to be enforced at sensitive locations. Lighting of major junctions Intimation to communities including sensitive land uses (like Hospitals, 	During stage Operational	PMU/PIU /Local Authority

		<ul style="list-style-type: none">• Schools etc) regarding works		
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8.5 Annexure:Environmental Monitoring Plan for General Construction Works

Sl. No.	Type	Locations	Parameters	Period and frequency	Responsibility
Construction Phase					
1	Ambient Quality Air	10 locations as selected during the baseline study	PM10, PM2.5, Sulfur dioxide (SO ₂), Oxides of nitrogen (NO ₂), Carbon monoxide (CO), Hydrocarbon (HC), Volatile Organic Compound (VOC's)	24-hr (8hr for CO) Average samples every quarter	Contractor/ PMU/PIU through NABL accredited laboratory
2	Ground Water	10 locations as selected during the baseline study	pH, TSS, TDS, DO, BOD, Salinity, Total Hardness, Fluoride, Chloride and MPN (No. of coliforms / MPN (No. of coliforms/ 100ml), Heavy Metals	Quarterly	Contractor/ PMU/PIU through NABL accredited laboratory
3.	Surface water	10 locations as selected during the baseline study	pH, TSS, TDS, DO, BOD, Salinity, Total Hardness, Fluoride, Chloride and MPN (No. of coliforms / MPN (No. of coliforms/ 100ml), Heavy Metals	Quarterly	Contractor/ PMU/PIU through NABL accredited laboratory
4.	Noise	10 locations as selected during the baseline study	24hrly Day and Nighttime Leg level	Quarterly	Contractor/ PMU/PIU through NABL accredited laboratory
5.	Soil	10 locations as selected during the baseline study	Organic matter, C,H,N, Alkalinity, Acidity, heavy metals and trace metal, Alkalinity, Acidity	Quarterly	Contractor/ PMU/PIU through NABL accredited laboratory
Operation Phase					
1.	Ambient Quality Air	10 locations to be selected after consultation with PCB	PM10, PM2.5, Sulfur dioxide (SO ₂), Oxides of nitrogen (NO ₂), Carbon monoxide (CO), Hydrocarbon (HC), Volatile Organic Compound (VOC's)	24-hr (8hr for CO) Average samples every quarter	PMU/PIU /Local Authority through NABL accredited laboratory

Sl. No.	Type	Locations	Parameters	Period and frequency	Responsibility
2.	Ground Water	10 to be selected after consultation with PCB	pH, TSS, TDS, DO, BOD, Salinity, Total Hardness, Fluoride, Chloride and MPN (No. of coliforms / MPN (No. of coliforms/ 100ml), Heavy Metals	Quarterly	PMU/PIU /Local Authority NABL accredited laboratory
3.	Surface water	10 to be selected after consultation with PCB	pH, TSS, TDS, DO, BOD, Salinity, Total Hardness, Fluoride, Chloride and MPN (No. of coliforms / MPN (No. of coliforms/ 100ml), Heavy Metals	Quarterly	PMU/PIU /Local Authority NABL accredited laboratory
4.	Noise	10 locations covering the project site and in the surrounding to be identified in consultation with PCB	24-hrly Day and Nighttime Leg level	Quarterly	PMU/PIU /Local Authority NABL accredited laboratory
5.	Soil	10 to be selected after consultation with PCB	Organic matter, C, H, N, Alkalinity, Acidity, heavy metals and trace metals, Alkalinity, Acidity	Quarterly	PMU/PIU /Local Authority through NABL accredited laboratory

8.6 Annexure:ESMP for Material Recovery Facilities (MRFs)

Sl No	Probable Negative Impacts	Mitigation Measures	Implementation Responsibility	Monitoring Responsibility
A	Planning and Pre-Construction Stage			
1	Planning for Biomining Facility			
1	Site Access Closure	<ul style="list-style-type: none"> The total cessation of dumping in the site will be implemented before any works. All public access to the site, including waste pickers and scavengers should be prohibited via adequate fencing/compound wall, manned security, information to communities around and signage which prohibit public access completely, to avoid risk to the public. The site will be fully closed to any SWM operation and appropriate signage must be established at the site entrance to indicate that the waste dump has been closed from the operation. To avoid land disturbance and movement, the fence/compound wall shall generally follow the contour of the ground. Grading shall be performed where necessary to provide a neat appearance 	ULB	SPMU
3	Absence / Delay in Permissions for developing the material collection facilities and associated works as per National regulations	<ul style="list-style-type: none"> Required permissions for undertaking Material collection facilities at the existing dumpsite and assessments conducted for undertaking Material collection facilities as per existing Laws, Regulations; including for associated infrastructure, DG Sets, Consent to Establish; and other licenses including those as per Labor Laws, before the start of works on site 	Contractor, ULB	SPMU
4	Dust impacts due to Site Preparation (Air Pollution) and Visual Blight due to excavation	<ul style="list-style-type: none"> Plan to Provide temporary high screen, buffers around the site before the start of work to curtail dust emissions. Arrange a green belt as early as possible on the area of the site with no / less dump. (Preferably fast-growing thick canopies of indigenous trees, shrubs in layers) 	Contractor	SPMU
5	Material sourcing, transport, and stacking of construction materials (Occupational Health and Safety	<ul style="list-style-type: none"> Prior intimation to neighbors on proposed construction activities, timings, emergency contacts, grievance mechanism Prior intimation to nearby Primary Health Centre on work activities 	Contractor	SPMU

Sl No	Probable Negative Impacts	Mitigation Measures	Implementation Responsibility	Monitoring Responsibility
	issues and Air noise pollution)	<p>need for medical support, emergency support needs, type of laborers on-site and labor camp if any.</p> <ul style="list-style-type: none"> • Materials shall be sourced only from approved quarries. • Material shall be transported only in closed trucks with PUC certificates, with water sprinkling if required to curtail dust emissions. • The driver should be with required license and follow speed regulations. • Materials shall be transported preferably through well-surfaced roads. If road is kuchcha, water sprinkling shall be done to prevent dust emission before and after truck passes. • Material transport and unloading activities should not result in noise disturbance to locals and should be during daytime. • Materials shall not be spread around on site. It shall be properly stored/stacked following good housekeeping practices (labelling, properly arranged); in covered sheds to prevent loss of strength and loss of material. Material storage shall not result in any harm to workers or visitors. • Provide vehicle wheel wash area on site. • Workers to be provided with Personnel Protection Equipment (PPE) including safety boots, jackets, earmuffs, gloves. • Proper rest area on site shall be provided with water, first aid, toilets. • (Refer ECoP section 04) 		
6	The layout of Labour camp (Impacts on Air, Water, Land, Fauna/Flora, Socio-economic)	<ul style="list-style-type: none"> • Labour camp layout, design and material/fire safety plan shall be approved by site engineer before start of construction of the camp. • Nearby health Center shall be informed about the labor camp. • Materials used for the camp shall be safe (from corrosion, fire/flood/other manmade and natural disasters) • It should not be provided on-sites it is a waste dumping yard compound. 	Contractor	Site engineer of SPMU, Labour Commissioner, PCB

Sl No	Probable Negative Impacts	Mitigation Measures	Implementation Responsibility	Monitoring Responsibility
		<ul style="list-style-type: none"> • Camp must not be provided in an area prone to hazards. • Camp should be adequately at higher plinth levels to prevent water intrusion. • Rooms shall be of appropriate sizes with adequate ventilation and liveable temperature/other conditions and facilities like proper beds, storage areas, common kitchen when the wood is not used as a fuel (better to use LPG) • Proper facilities shall be provided at the camp including food and common entertainment facilities, crèche, toilets with proper septic tanks, washing area, wastewater, and waste collection/management systems, etc. • The camp shall be planned to be maintained in good clean hygienic conditions and shall have outdoor seating areas, greenery, security. • 		
7	Nearness/disturbance to sensitive areas such as forests, wildlife habitations, etc. especially in case of providing support facilities (Impacts on Fauna / Flora)	<ul style="list-style-type: none"> • Ensure site selection for support facilities or activities based on the screening checklist and the master plan of the region, to avoid sensitive areas. Follow mitigation hierarchy – Avoid, Minimize, Mitigate, Reduce. Obtain requisite permissions from respective authorities such as Department of Environment and Forests, Pollution Control Board, SCZMA • Identify appropriate government site to avoid land acquisition and resettlement impacts. • Covered and well-marked storage area for excavated wastes and washing, segregation of the same are to be arranged near the dump 	Contractor	SPMU
9	Nuisance hazards to neighbouring areas	<ul style="list-style-type: none"> • Ensure proper design and adequate compound wall; high screen during construction, buffer zones and thick green belt to comply with SWM Rules, 2016 and other PCB requirements. • In case of waste mound and site edges are sliding or unsafe; provide engineered retention walls. 	Contractor	SPMU
B	Construction / Implementation stage			
	Implementation of MCFs, MRFs, RRFs			

Sl No	Probable Negative Impacts	Mitigation Measures	Implementation Responsibility	Monitoring Responsibility
1	Impact due to the vehicular movement(Air and noise environment)	<ul style="list-style-type: none"> • Vehicles and machinery are to be maintained so that emission conforms to National Ambient air quality standards. • All vehicles and machinery should obtain Pollution Under Control Certificates • HORN PROHIBITION signpost to be erected. • Rumble strips/speed breaker to be provided. • (Refer ECoP section 04) 	Facility operator	SPMU
2	Impact due to the use of construction equipment(Air and Noise)	<ul style="list-style-type: none"> • Mixing equipment should be well sealed and be equipped with a dust-removal device. • Operators should wear dust masks, ear protection, and hard hats. • Vehicles delivering materials should be covered to reduce spills and dust blowing off the load. • Labor to be provided masks / PPEs. • Construction site prone to dust generation shall have fencing to arrest dust spreading into neighbouring sensitive land uses. • Noise standards at construction machines are to be strictly monitored to prevent exceeding of GOI noise standards. • Workers in the vicinity of strong noise to wear protectors and their working time should be limited as a safety measure. • In construction sites within 150 m of sensitive receptors and settlement areas construction to be stopped from 22:00 to 06:00. • Machinery and vehicles should be maintained to keep their noise to a minimum. • Noise barrier shall be constructed at all noise-sensitive locations. 	Facility operator	SPMU
3	Impact during the construction activities(water environment)	<ul style="list-style-type: none"> • Construction work close to water bodies should be avoided during monsoon. • Labour camps are to be located away from water bodies. • Vehicle washing or maintenance near water bodies are to be avoided. • Contaminated water from construction activities carrying soil, cement wash, etc shall not be allowed to flow out of the site. It shall 	Facility operator	SPMU

Sl No	Probable Negative Impacts	Mitigation Measures	Implementation Responsibility	Monitoring Responsibility
		be contained and treated on site.		
7	Transportation of wastes or retrieved or other material in overloaded and open vehicles(Air, Odour nuisances; spills and littering impacts on Air, Water, Land)	<ul style="list-style-type: none"> All vehicles shall carry only approved load of weight as per SOP. Regular cleaning of roads & drains and removal of spills if any. All Transport vehicles shall be covered. Ensure provisions of SWM Rules 2016 for all waste / retrieved material Transportation activities(Refer ECoP section 04) 	Facility operator	SPMU
9	Occupational health and safety impacts of the workers during the construction of support facilities: <ul style="list-style-type: none"> Health impacts of exposure to a variety of harmful materials of waste-related pollutants. Accidental spillage by moving vehicles. Cut & Bruises during handling of materials/rejects Allergies from pathogen and airborne dust(Air environment, Health impacts) 	<ul style="list-style-type: none"> All centers of labor contact points shall be provided with First Aid and other related activities. Emergency Preparedness plans shall be prepared and implemented for all manpower working centers and its field extension centers. An Environment Health & Safety policy shall be prepared and implemented throughout the activities area. Adequate manpower manager staff shall listen and act upon the manpower related grievances. Workers will be provided with PPE such as face mask, gloves, shoes, nose masks & goggles. Provide non-slippery work areas. Proper training will be provided regarding the maintenance of Health. Workers shall be provided with rest areas, toilet facilities (with septic tanks), food, and water in a hygienic environment (with proper handwash). Provide clean eating areas where workers are not exposed to hazardous or noxious substances. First aid facilities will be available at accessible places. More than one first aid station if the site is large. Tie-up with the local hospital / Primary Health Centre (or responsible JHI) will be arranged to provide an ambulance to handle emergency cases if required and for regular health checkups. Arrange daily health checkup for workers working on waste heaps. Routine inspections, housekeeping, and maintenance will be carried 	Facility operator	PIU

SI No	Probable Negative Impacts	Mitigation Measures	Implementation Responsibility	Monitoring Responsibility
		<p>out at regular intervals.</p> <ul style="list-style-type: none"> • Measures such as deferred timings and stretch break to be adopted. • Secure all installations from unauthorized intrusion and accident risks. • Provide H and S orientation training to all new workers to ensure that they are apprised of the basic site rules of work at the site, personal protective protection, and preventing injuring to fellow workers. • Provide visitor orientation if visitors to the site can gain access to areas where hazardous conditions or substances may be present. Ensure also that visitor/s do not enter hazard areas unescorted. • Ensure the visibility of workers through their use of high visibility vests when working in or walking through heavy equipment operating areas. • Ensure moving equipment is outfitted with audible back -up alarms. • Mark and provide signboards for hazardous areas such as energized electrical devices and lines, service rooms housing high voltage equipment, and areas for storage and disposal. Signage shall follow international standards and be well known to, and easily understood by workers, visitors, and the general public as appropriate. • Disallow worker exposure to noise level greater than 85 dBA for more than 8 hours a day without hearing protection. • All workers shall be registered as per prevalent labor laws (including a workforce of subcontractors) and provided insurance cover. • Workers and their kith and kin shall be suitably informed about the registration, other details of workers, and insurance details and provide contact details of contractors, person/insurance agent. • While using heavy machinery like JCB, cranes, etc, inform workers on possible dangers and prevent going near operating / movement areas. Flagmen should be arranged on-site with a whistle. 		

Sl No	Probable Negative Impacts	Mitigation Measures	Implementation Responsibility	Monitoring Responsibility
		<ul style="list-style-type: none"> • While using heavy machinery like JCB, cranes, etc, inform communities to prevent children and others from going near operating / movement areas. • Flagmen shall be arranged if work is near schools, hospitals, major roads, and traffic control is required with the support of police. • A work permit system will be implemented for all works related to working at heights (typically when working over 2m and above) and for hot jobs; · • All works related to working at heights will be undertaken only during the daytime when sufficient sunlight is available. • Use of temporary fall protection measures in scaffolds and out edges of elevated work surfaces, such as handrails and toe boards to prevent materials from being dislodged will be done; 		
10	Construction of new facilities in retrieved land	<ul style="list-style-type: none"> • Refer Corresponding EMPs: for Landfill, Treatment Plants, and ECoPs in Section 07. 		
11	Pest / Vermin Control (Odour, flies, rodent / other pest menaces)	<ul style="list-style-type: none"> • Regular cleaning and approved pest control measures to be adopted. • Biopesticides / biological control shall be followed. • Banned pesticides/insecticides shall not be used. • Workers shall be made aware of storage and use of pest control measures and PPEs to be used 	Contractor	PIU
C	Operation & Maintenance Phase			
1	Impacts due to vehicle movement for new activities: MCF/MRF, RRFs, Treatment plant, landfill cell (Air, water environment, a nuisance to communities, Health impacts)	<ul style="list-style-type: none"> • The movement route shall be scheduled for each vehicle. • Enforce speed limits applicable and make drivers aware of this. • Vehicles movement shall be tracked by Health Supervisors to ensure keeping up to schedule; preferably using GPS. • Clean fuel shall be used in vehicles. Any adulterated fuel shall be avoided. There shall be periodic emission tests for vehicles. • Provision of Personal Protective Equipment such as face mask, gloves, nose masks & goggles to all workers in C&T vehicles, Maintenance yards 	Facility operator	SPMU

Sl No	Probable Negative Impacts	Mitigation Measures	Implementation Responsibility	Monitoring Responsibility
		<ul style="list-style-type: none"> • Proper lubrication shall be provided to minimize squeaking noise due to friction. • Honking shall be minimized to eliminate any possible discomfort to the nearby people. • The most optimum route is planned with minimum no. of vehicles with the help of GIS mapping and apps for the public. • Traffic will be managed at the site by providing adequate space for parking of vehicles. • Timely transfer and disposal of retrieved material shall be carried out by vehicles and should transfer materials only to designated areas as per design. • No waste or material shall be disposed in any place other than the designated area; including water bodies, coasts/forests, or sensitive areas. 		
2	Exhaust emissions (Air impacts)	<ul style="list-style-type: none"> • No idling of vehicles on site. • Regular maintenance of heavy equipment used at the site and waste hauling vehicles to ensure their exhaust emissions meet the emissions standards prescribed 	Facility operator	SPMU
3	Plying of vehicles through kutcha / unsurfaced roads and idling (Air pollution: SPM, CO, CO2)	<ul style="list-style-type: none"> • Vehicle movement shall be well planned – through topped roads. In case of necessity to move through Kucha roads, ensure sprinkling of water to suppress dust before and after the movement of the vehicle 	Facility operator	SPMU
4	Odor(Nuisance, Air)	<ul style="list-style-type: none"> • Daily soil covers to compacted wastes to manage odours. • Waste with a strong odour to be covered immediately they are emptied from delivery vehicles. • Control and manage leachate treatment plant to minimize odour. • Adhere to air quality regulations with quarterly air quality monitoring Maintenance of the buffer zone and protective berms • Provide buffers screens to curtail odour from reaching surrounding communities 	Facility operator	SPMU
5	Impact on the ambient noise	<ul style="list-style-type: none"> • Strictly adhering to designated working hours (daytime); Sensitizing 	Facility operator	SPMU

Sl No	Probable Negative Impacts	Mitigation Measures	Implementation Responsibility	Monitoring Responsibility
	quality during the operations (Noise, nuisance to sensitive receptors, health impacts)	<p>construction truck drivers and equipment operators to switch off idle engines.</p> <ul style="list-style-type: none"> • Using modern, well-maintained, and regularly serviced vehicles. • Ensuring that all generators and heavy-duty equipment be insulated or placed in enclosures to minimize ambient noise levels. • Provision of earmuffs and ear protection to workers and employees in high noise areas 		
6	<p>Occupational health and safety impacts of the workers:</p> <ul style="list-style-type: none"> • Health impacts of exposure to a variety of harmful materials of waste-related pollutants. • Accidental spillage by moving vehicles. • Cut & Bruises during handling of materials/rejects • Allergies from pathogen and airborne dust(Air environment, Health impacts) 	<ul style="list-style-type: none"> • All centres of labor contact points shall be provided with First Aid and other related activities. • Emergency Preparedness plans shall be prepared and implemented for all manpower working centres and its field extension centres. • An Environment Health & Safety policy shall be prepared and implemented throughout the activities area. • Adequate manpower manager staff shall listen and act upon the manpower related grievances. • Workers will be provided with PPE such as face mask, gloves, shoes, nose masks & goggles. • Provide non-slippery work areas. • Proper training will be provided regarding the maintenance of health. • Workers shall be provided with rest areas, toilet facilities (with septic tanks), food, and water in a hygienic environment (with proper handwash). Provide clean eating areas where workers are not exposed to hazardous or noxious substances. • First aid facilities will be available at accessible places. More than one first aid station if the site is large. • Tie-up with the local hospital / Primary Health Centre (or responsible JHI) will be arranged to provide an ambulance to handle emergency cases if required and for regular health checkups. Arrange daily health checkup for workers working on waste heaps. • Routine inspections, housekeeping, and maintenance will be carried 	Facility operator	PIU

Sl No	Probable Negative Impacts	Mitigation Measures	Implementation Responsibility	Monitoring Responsibility
		<p>out at regular intervals.</p> <ul style="list-style-type: none"> • Measures such as deferred timings and stretch break to be adopted. • Secure all installations from unauthorized intrusion and accident risks. • Provide H and S orientation training to all new workers to ensure that they are apprised of the basic site rules of work at the site, personal protective protection, and preventing injuring to fellow workers. • Provide visitor orientation if visitors to the site can gain access to areas where hazardous conditions or substances may be present. Ensure also that visitor/s do not enter hazard areas unescorted. • Ensure the visibility of workers through their use of high visibility vests when working in or walking through heavy equipment operating areas. • Ensure moving equipment is outfitted with audible back -up alarms. • Mark and provide signboards for hazardous areas such as energized electrical devices and lines, service rooms housing high voltage equipment, and areas for storage and disposal. Signage shall follow international standards and be well known to, and easily understood by workers, visitors, and the public as appropriate. • Disallow worker exposure to noise level greater than 85 dBA for more than 8 hours a day without hearing protection. • All workers shall be registered as per prevalent labor laws (including a workforce of subcontractors) and provided insurance cover. • Workers and their kith and kin shall be suitably informed about the registration, other details of workers, and insurance details and provide contact details of contractor's person/insurance agent. • While using heavy machinery like JCB, cranes, etc, inform workers on possible dangers and prevent going near operating / movement areas. Flagmen should be arranged on-site with a whistle. • While using heavy machinery like JCB, cranes, etc, inform 		

SI No	Probable Negative Impacts	Mitigation Measures	Implementation Responsibility	Monitoring Responsibility
		<p>communities to prevent children and others from going near operating / movement areas.</p> <ul style="list-style-type: none"> • Flagmen shall be arranged if work is near schools, hospitals, major roads, and traffic control is required with the support of police. • (Refer ECoP section 04) 		
7	Pest / Vermin Control (Odour, flies, rodent / other pest menaces)	<ul style="list-style-type: none"> • Regular cleaning and approved pest control measures to be adopted. • Biopesticides / biological control shall be followed. • Banned pesticides/insecticides shall not be used. • Workers shall be made aware of storage and use of pest control measures and PPEs to be used 	Contractor	PIU

8.7 Annexure:LABOUR MANAGEMENT PROCEDURE (LMP)

5.1 Introduction. The Labour Management Procedures (LMP) sets out the way in which project workers would be managed, in accordance with the requirements of National and State’s regulations along with World Bank’s Environmental & Social Standards. Accordingly, LMP for the K-SHORE has been developed in adherence to applicable National/State regulations and World Bank’s Environmental & Social Standard (ESS 2):

5.2 Objectives of LMP. The prime objectives of the LMP includes:

- To promote safety and health at work.
- To promote the fair treatment, non-discrimination and equal opportunity of project workers.
- To protect project workers, including vulnerable workers such as women, persons with disabilities, migrant workers, contracted workers and primary supply workers, as appropriate.
- To prevent the use of all forms of forced labor and child labor.
- To support the principles of freedom of association and collective bargaining of project workers in a manner consistent with national law.
- To provide project workers with accessible means to raise workplace concerns.

5.3 Applicability. The present LMP would be applicable to all the “project worker/ labours” working for subproject in the K-SHORE which includes:

- Direct Workers: people employed or engaged directly including contractual staffs to work in the subprojects of K-SHORE
- Contracted Workers: people employed or engaged through third parties (which may include contractors and sub-contractors, etc) to perform work related to core functions (i.e. for specific project activities without which project cannot continue)
- Primary Supply Workers: primary suppliers are those who on an ongoing basis, provide directly to the project goods or materials essential for the core functions of the K-SHORE.
- Community Workers: Community workers are included in the project in several different circumstances, including where labor is provided by the community as a contribution to the project, or where projects are designed and conducted for the purpose of fostering community-driven development.

The table below provides an estimate of project workers:

Table 16: Estimate of Project Workers

S. No.	Type of Project Workers	Requirement in Numbers
1	Direct Workers with PMU (KERS), 3 DPMUs, All PIAs	
1.1	State PMU	10
1.2	3 DPMUs	15
1.3	All PEAs	30
1.4	TAMC	15
	Sub-Total	70
2	Contracted Workers	

The	S. No.	Type of Project Workers	Requirement in Numbers
	2.1	Works at various work site – infrastructure and Environment friendly interventions	5000
	2.2	Personnel of various consultancy firms contracted for undertaking studies	100
	2.3	Workers at various MRF, other recovery facilities	500
		Sub-Total	5600
	3	Primary supply workers	200
	3.1	Agencies supply goods such as drones, patrol boats, etc.	2000
		Sub-Total	2200
	4	Community Workers	
	4.1	Workers engaged as Turtle friends, plastic mitra (friends)	1000
		Sub-Total	1000
		TOTAL	Approx. 9000

present LMP also sets out the mechanism to implement the various provisions for fair treatment, non-discrimination and equal opportunity, occupational health and safety to all project worker as defined above. It also provides grievance mechanism for all direct workers and contracted workers to raise workplace concerns.

5.4 Assessment of Key Potential labour Risks. Potential risks that may arise from the nature of activities to be undertaken include:

- a. Employment practice that are not compliant with either labor law or ESS 2. For example, not providing written documents of assignments, wages not proportionate with tasks performed, excess workload without provision of adequate rests and leisure, lack of hygiene facilities, discrimination towards women and labor with disability, unlawful termination and withholding of benefit, etc.
- b. Lack of Occupational Health and Safety (OHS) practice and procedures during construction and operation resulting in unsafe work environment.
- c. Short and long-term effects on health due to over exposure to dust, noise levels, and exposure to chemicals /hazardous wastes.
- d. Absence or inadequate or non-responsive emergency response mechanism for rescue of workforce, during natural calamities like cloud bursts, landslides, disasters due to earthquake/floods/fire outbreak, etc. at work/subproject sites.
- e. Lack of adequate sanitation and health facilities at the work/ subproject sites.
- f. Community health and safety issues, especially rise of communicable diseases, including Malaria and Cholera to the workforce, and staff.
- g. The conduct of hazardous work, such as working at heights or in confined spaces, use of heavy machinery, or use of hazardous materials.
- h. Generation of solid, liquid and faecal wastes, especially around labor camps and toilet area.
- i. Rise of incidence of Gender-Based Violence GBV (Sexual Harassment, Sexual Exploitation, and Abuse, Rape and Discrimination) emanating from the labors.
- j. Increased competition over resources due to influx of labor; labor conflicts and work conditions.
- k. Other project related risk may include of child and forced labor by primary suppliers and use of unscrupulous labor practice, and denial for workers' rights to form workers organizations, etc. (particularly for unskilled construction workers/labor), etc.

- 5.5 Overview of labour Legislation.** The prime applicable National and State legislations which regulate the terms and conditions of employment in the project workers/ labours includes, (i) The Industrial Employment (Standing Order) Act 1946, (ii) Factories Act, 1948, (iii) Payment of Wages Act, 1936, (iv) The Minimum Wages Act, 1948, (v) Child and Adolescent Labour (Prohibition and Regulation) Act 1986, (vi) Employee Compensation Act, 1923, (vii) Contract Labour (Regulation and Abolition) Act, 1970, (viii) Equal Remuneration Act, 1976, (ix) Sexual Harassment of Women at Workplace (Prevention, Prohibition and Redressal) Act, 2013.

The World Bank's Environmental & Social Standard ESS2 on labor and working condition requires promoting worker-management healthy relationship, developing strategies to improve working condition like fair treatment of workers and vulnerable groups that are involved in the project and preventing all forms of forced and child labours. This standard helps to monitor health of the worker, working condition, hours of work and other necessary requirements including grievance mechanism and measures related to Occupational Health and Safety and shall be complied in accordance with ESS.

- 5.6 Labour and Working Conditions.** The LMP have been evolved in accordance with requirements of national regulations as well as ESS 2. The key elements of LMP includes:

(a) Terms and Conditions of Employment.

- Project Workers/ labours will be provided with information and documentation that is clear and understandable regarding their terms and conditions of employment including their rights related to hours of work, wages, overtime, compensation and other benefits at beginning of the working relationship.
- Project worker will be paid on regular basis as per the contract daily/weekly/monthly.
- Deduction from payment of wages will only be made as per employment terms and conditions with written information to concerned project workers.
- Where required Project worker/labours will get written notice of termination of employment.
- All wages that have been earned, social security benefits, pension contributions and any other entitlement will be paid on or before termination of working relationship with project workers.

(b) Non-discrimination and Equal Opportunity

- Project Workers/ labours will be employed only based on the principle of equal opportunity and fair treatment and there will be no discrimination with respect to any aspects of employment relationship.
- Measures to prevent and address harassment, intimidation and/or exploitation would be taken as per applicable national regulations.
- Measures will be provided to address the vulnerability of specific groups of project workers such as women, people with disabilities, migrant worker.

(c) Worker's Organisations

- The national law recognizes workers' rights to form and to join workers' organisations to bargain collectively.
- The role of legally established workers' organisations and legitimate workers' representative will be respected, and they will be provided with information needed for meaningful negotiation in timely manner.

(d) Child Labour and Forced Labour

- No child labour is proposed to be involved in proposed project considering the nature of work and activities under various components of Project.
- No forced labour i.e. bonded labour, indentured labour, etc are proposed to be employed in connection with proposed project.

5.7 Contractors will keep records in accordance with specifications set out in this LMP. The PMU may at any time require records to ensure that labour working conditions are met. The PIU/PMC will review records against actual at a minimum on a monthly basis and can require immediate remedial actions if warranted. A summary of issues and remedial actions will be included in quarterly reports to the World Bank.

5.8 The code of conduct of the workforce serves to establish the broad framework within which an action, or default by work force may be judged. Any action, or default, which conflicts with the code, is unacceptable. The description incorporates the necessary skills of labor worker as well as general labor duties and responsibilities specifically to avoid conflicts with the local population, transmission of diseases including Covid-19, any form of sexual harassment and violence, Personal Integrity and Discrimination. The major duties and responsibilities that workforce should strictly follow in their work place includes:

i. Prevention of Labour Conflicts with the Local Community. To prevent labor conflicts with local communities, the labors to follow the code of conduct listed below:

- The workers should not allow themselves to be influenced in the execution of their duties by any consideration other than the legitimate and reasonable interests of the respective labors.
- The workers are advised to refrain from unnecessary interactions with the local population. They are also advised to avoid conflicts and altercations with the locals at any cost.
- The workers should spend more time either at workplace or their company provided residences, if any.
- The workers should show respect towards local languages, culture and traditions and shouldn't make any derogatory remarks towards them either by words or actions even unintentionally.
- The workers show respect towards the local womenfolk.
- Restriction in use of local resources.

ii. Prevention of Transmission of Diseases. To prevent significant risk of transmission of any serious disease, it is duty of the labor to follow the code of conduct listed below:

- The Workers should disclose complete information about their existing health conditions including any ailment prior to joining.
- The workers should inform the project manager to get their health checked as soon as possible if he/she witnesses any symptom of communicable disease and start treatment as soon as possible to avoid transmission to others.
- It is the duty of the worker to avoid being exposed to any communicable diseases wherever possible by taking care not to be in contact with affected people.

- The transient workers should adhere to national requirements and guidelines with respect to COVID-19.
 - Labors need to comply with any reasonable instruction and cooperate with any reasonable policy or procedure relating to health and safety at the workplace.
 - The workers must avoid promiscuous behaviour as this may expose them to serious communicable diseases such as HIV-AIDS. Adequate safety measures such as restriction on outsiders' entry into labor camp particularly in night be imposed
- iii. **Prevention of Sexual Harassment and Violence.** Prevention of harassment and violence in the workplace it is duty of the project workers to follow the code of conduct listed below:
- All supervisor and workers must understand their responsibility towards provide a safe work environment. It must be understood by the workers that sexual harassment doesn't only violates company's charter but also prohibited under applicable National Regulations
 - No worker should indulge in sexual harassment of other workers either by actions or by words.
 - The workers should avoid videos, films or books with objectionable content.
 - Any worker who is subject to sexual harassment either by actions or words must immediately bring the matter to the attention of his supervisor/manager as well as project manager.
- iv. **Personal Integrity.** Maintaining highest degree of integrity both in personal and professional conduct by each member of work force is a primary requirement for ensuring a conducive work environment. Accordingly, the workers must ensure the followings
- Utmost honesty in both personal and professional dealings.
 - Refrain from fraudulent behavior in both personal as well as professional matters
 - Refrain from stealing and other nefarious activities.
 - Non-disclosure of Company's confidential information.
 - The workers shouldn't accept any gifts, favors or other considerations of anything more than token value, from any other party.
- v. **Discrimination.** Discrimination in any form will not be tolerated. All workers should be aware of:
- No worker should discriminate against other workers on any basis including that of Religion, Caste, Language, Nationality, Ethnicity etc.
 - Nobody should refer to others' Religious, National, Ethnic and caste/language-based identities in derogatory language/terms.
 - Nobody should pass comments/jokes etc on others' Religious/ National/ Ethnic/ Racial/ Caste/ Language based identities.
- 5.9 **Occupational Health and Safety (OHS) Plan.** The OHS Plan has been formulated in compliance with national and state regulations as well as the World Bank's ESS 2. The prime objectives of the OHS Plan includes increased safety consciousness and awareness among PMU/PIU/PMC, contractors, and sub-contractors by uplifting the safety standards and setting the trend in safety excellence through established goals and objectives, training programs, audits and motivations.

PMU/DPMU/PEA/TAMC shall be responsible for planning, reporting, implementing and monitoring all OHS requirements and compliance of all laws and statutory requirements. The Contractor shall also ensure that the OHS requirements are clearly understood and faithfully implemented at all levels at site.

The OHS Plan includes the following:

- All contractors/sub-contractors shall ensure that OHS standards & procedures requirements shall be strictly adhered.
- All Contractors/Subcontractors must ensure that their employees are competent and qualified to carry out their specific tasks.
- All necessary PPE's shall be provided by the contractors/sub-contractors.
- Contractors/sub-contractors should deploy a qualified/experienced safety officer/supervisor at site who will work in close co-ordination with PIU/PMC E&S specialist and will be responsible for implementation of safety norms at site. The credentials of the safety Officer/Supervisors must be submitted to the PIU/PMC for approval.
- All contractors/sub-contractors should ensure that their workers have been given safety Induction by their Safety officer.
- All contractors/sub-contractors should ensure that the non-conformities observed during the site inspection by the PIU/PMC are closed within the stipulated period.
- All contractors/sub-contractors should arrange for all site facilities of their workers viz. First Aid, drinking water, toilets, waste bins on suitable location at the site.
- Contractors/sub-contractors should ensure that all the equipment's and tools and tackles (Crane, Hydra, slings, shackles etc.) being used at site is duly certified by competent authorities. A copy of these certificates should be submitted to PIU/PMC for verification, approval and record.
- All contractors/sub-contractors should follow any other guidelines given by PIU/PMC as per site specific requirements.

5.10 Addressing Worker's Grievances. Contractors of ongoing civil works have established and functioning internal HR/Admin systems that look into grievances of employees, and these shall continue. Contractor of respective construction packages (each contract) will be obligated to set up/continue a GRM, especially to redress complaints relating to workers deployed for construction works. The GRM will have due representation PIU, Contractor, Workers and women (either from PMU office/contractor/workers) and function under PMU office. The mandate for PMU, Institutional arrangements, procedure for receiving complaints, timelimits for redressal of complaints and escalation level for unresolved cases and resolution thereof will be finalized during the approval of C-ESMP by PMU office. KERS through the DPMUs and PEAs will have an oversight of this labour GRM. The GRM for the Workers will be set up during mobilization phase of the contractor. The GRM will also be designed to address labor related SEA/SH.

5.11 Policies and Procedures. Policies and Procedures are listed under the following sub-headings: i) Incidents and Accident related; ii) Labour influx and GBV/SEAH related;

5.12 Incidents and Accident Notifications. The contractor will promptly notify to the PIU within 24 hours of any incident or accident related or having an impact on the Project which has, or is likely to have, a significant adverse effect on the environment, tangible cultural heritage, the affected communities, the public, or workers. They will provide sufficient detail regarding the incident or accident, indicating immediate measures taken to address it, and including information provided by any contractor and supervising entity. Further, the PIU will appraise this to PMU and the World Bank.

5.13 Labour Influx and GBV/ SEAH. Project interventions related to construction/upgradation works will involve construction contracts, which will be for a medium duration (say 18 to 24 months) while nature-based solutions may at best involve 2-3 months followed by periodic maintenance. The project will be utilizing largely contracted workers who will be employed through local contractors. Hence the labour risks associated with the contract work are expected to low to moderate.

5.14 Contractors will maintain the information of all workers. Further, contractors will lay down a Code of Conduct (CoC) for the workers to adhere to maintain harmonious relations with local communities. The CoC commits all persons engaged by the contractor, including sub-contractors and suppliers, to acceptable standards of behaviour. A model CoC has been provided in Annexes 2 and 33, respectively for workers and the contractor's firm. The CoC will include sanctions for non-compliance, including non-compliance with specific policies related to gender-based violence, sexual exploitation, and sexual harassment (e.g., termination). The CoC will be written in plain language and signed by each worker to indicate that they have:

- received a copy of the CoC as part of their contract.
- CoC has been explained to them as part of induction process.
- acknowledged that adherence to CoC is a mandatory condition of employment.
- understood that violations of the CoC can result in serious consequences, up to and including dismissal, or referral to legal authorities.

5.15 Primary Suppliers. The project will engage primary suppliers for procurement of emergency kits under disaster management works. The list of equipment to be procured is given in chapter 4. Where there is a significant risk of serious safety issues related to primary supply workers, the PMU will require the relevant primary supplier to introduce procedures and mitigation measures to address such safety issues. Such procedures and mitigation measures will be reviewed periodically to ascertain their effectiveness.

5.16 Community Workers. Community workers will be engaged for activities such as Plastic Mitra, Turtle Mitras, and other watch wards. The engagement letter of the community workers as volunteers and CQRT are given in Annexes.

5.17 Age of Employment

- i. **Direct Workers:** The Direct workers will be technically qualified, with ages ranging between a minimum of 18 years and a maximum of 60 years. The direct workers drafted to KERS, PEAs and DPMUs will be regular or contractual employees, whose credentials would be duly verified by GoK, at the time of recruitment itself.

- ii. **Contract Workers:** The age of the technically qualified and or skilled contract workers can range from a minimum of 18 years to a maximum of 60 years, whereas the age of unskilled workers can range between 18 to 50 years and in no case, it can be expected to exceed 60 years.
- iii. Age of the personnel deployed by TAMC could be verified by PMU through valid documents like AADHAR Card /Voter Card/Passport/Valid Driving License.
- iv. The age of the skilled and unskilled personnel deployed by Contractor could be verified by PIUs through valid documents like AADHAR Card/Voter Card/Passport/Valid Driving License. In exceptional cases, where the unskilled worker(s) are unable to produce valid age proof documents for whatsoever reason, the age could be ascertained through medical examination by competent medical authority at Government hospital at the expense of Contractor.
- v. **Child Labor.** Under no circumstance, children less than 14 years of age will be engaged in any kind of work and is a prohibited activity as per Gol and state government norms, including World Bank's ESF. The same is in accordance with the Child Labour Prohibition Act, 1986 and Child Labour (Prohibition and Regulation) Amendment Rules framed there under. In case, it is detected by PIU/ Concerned Department / PMTC officials, contractor will be immediately issued show cause notice for termination of contract and matter will be duly reported to the district labour office. The contractor needs to collect Aadhar Card details of each worker employed, and these details need to be submitted to the PIU and Labour Commissioner on a monthly basis. Based on the Aadhar Card details, the PIU/ labour commissioner will identify persons under the age of 18. The PIU will report to labour commissioner if there is any child labour. Under the Child Labour Tracking System of the Ministry of Labour, each Labour Commissioner has formed Flying Squad with Police, Labour Officers, and NGOs as members. These Flying Squads would conduct surprise inspections to all labour licensee sites and will identify child labour, if any. The rescued children will be sent for rehabilitation. A case will be booked on the contractor for further prosecution and legal action.

5.18 Primary Supply Workers. In case of primary suppliers for construction materials, KERS and TAMC shall be required to carry out due diligence procedure to identify if there are significant risks that the vendors/suppliers are exploiting child or forced labour or exposing workers (14-18 years) to serious safety issues as well as to introduce provisions of relevant acts in the bid and contract documents. If there are any risks related to child and forced labour, and safety identified, the TAMC will notify PMU/PIUs and will address these risks and may avoid such suppliers, where possible. In case, any lapses in the implementation of this LMP are detected by PIU/ Concerned Department / TAMC officials, contractor will be immediately issued show cause notice for termination of contract and matter will be duly reported to the district labour office.

5.19 Community Workers. For the community workers, the minimum age is 18 years. The community workers will be engaged by ASDMA, whose credentials would be duly verified by PIU, at the time of recruitment itself.

5.20 Terms and Conditions

i. Specific Wages

- (a) **Direct Workers:** The Direct workers engaged for K SHORE are government officers, whose salary and other emoluments will be in conformity to the Rules and Regulations as issued by the Department of Human Resources Management, GoK.
- (b) **Contracted Workers:** The wages of consultants/personnel deployed by the PMU and PIUs, through PMTC, or other consultancy firms for various studies, are contracted services and determined through two-stage competitive bidding (technical and financial) procedure and determined by prevalent market rates and normally expected to be higher than state government wages.
- (c) The wages of technically qualified, skilled, unskilled workers, to be engaged by the Contractor are determined by the Department of Labour and Employment, subject to the provisions of Minimum Wages Act, 1948. There will not be any discrimination of wages paid to male and female workers and same wages will be paid for equivalent work to all workers in conformity with the provisions of the Equal Remuneration Act, 1976.
- (d) **Community Workers.** The community workers will be paid outcome aligned incentives. Community Workers collecting data will be doing so on voluntary basis.

ii. **Work Hours and Maximum Number of Work Hours.** The Direct workers at the PMU, PIU and concerned Department will work as per State Government Rules, which will be in compliance with the relevant notification by the Department of Human Resources Management, GoK. The work hours for contracted workers will not be more than 8 hours per day 48 hours per week with 2nd and 4th Saturdays as official holiday.

iii. **Specific Terms and Conditions.** The following terms and conditions will need to be added to the contracts issued by contractors to the workers:

- No contracted worker will be required or allowed to work continuously for more than five hours unless he had an interval of rest of not less than half an hour.
- The working day of contracted workers will be so arranged that inclusive of the intervals of rest, if any will not spread over more than twelve hours on any day.
- Subject to provisions of Building and Other Construction Workers (Regulation of Employment and Conditions of Services), every worker will be allowed a day's rest every week, which will ordinarily be Sunday, but the contractor will fix any other day of week as the rest day.
- No worker will be made to work on any day, which has been notified by Central or State Government in the official Gazette as a Gazetted holiday or any day, which is declared as National Holiday.
- All categories of contract workers particularly unskilled workers can be directly engaged by the contractor or sourced through labour contractors. In such cases, the labour contractor shall have valid registration and licence with the competent authority in Karnataka.
- All wages to contracted workers, especially for unskilled workers are to be paid directly by the Contractor, even if the unskilled workers are engaged through labour contractors or any sub-contractors. All payments to the labourers will be done directly by the main contractors instead of routing through labour contractors. If not, the main Contractor confirms to the PIUs, on a periodic basis, that payments have been in time to all workers and keeps payslips for monitoring purposes.

- Any denial in and/or untimely payment of wages to workers will render the contractor liable to an action before the relevant Labour court/Industrial Tribunal under the Legislations mentioned above.
- Conditions of employment for skilled and unskilled workers will conform to Building and Other Construction Workers (Regulation of Employment and Conditions of Services)
- Under no circumstances, child labour or forced labour (in any form) shall be engaged, as these are prohibited under National and State Government Norms.
- Contractor will also be liable to be prosecuted in his personal capacity under the provisions of Indian Penal Code 1860 and other Penal legislations before criminal courts in case of gross negligence and dereliction of duty or contraventions of any such statute resulting in death or injury of the workers.

5.21 Grievance Mechanism. Typical workplace grievances include demand for employment opportunities; labor wages rates and delays of payment; disagreement over working conditions; and health and safety concerns in the work environment. It requires establishment of a separate grievance mechanism for project workers (direct workers, and contract workers), as required in ESS-2 and which will also address labor-related SEA. Handling of grievances will be objective, prompt, and responsive to the needs and concerns of the aggrieved workers. Different ways for workers to submit their grievances will be made available, such as submissions in person, by phone, by email or by complaint registers. The grievance raised will be recorded and the timeframe for redress will depend on the nature of the grievance, health and safety concerns in work environment. The grievance mechanism for workers are as follows:

- i. Direct Workers: The PD and CPD of KERS, will be responsible for providing guidance and advice on all worker related grievances and their redressal, in line with the State Government, Government of India Rules and Regulations.
- ii. Contract Workers: The contractor of respective construction packages will be obligated to set up a GRM, especially to redress complaints relating to workers deployed for construction works. The official designated by the PIU and TAMC is also responsible for overseeing the GRM. The mechanism will function under the respective PIU. The mandate for GRM, institutional arrangements, procedure for receiving complaints, time limits for redressal of complaints and escalation level for unresolved cases and resolution thereof will be finalized during the approval of C-ESMP by PIUs and the concerned Department. The GRM for the workers will be set up during mobilization phase of the contractor. The contractor will also be responsible for tracking and resolving workers grievances and maintain records about grievances/complaints received, minutes of discussions, recommendations and resolutions made thereof and intimation of resolution of grievance to the complainant.
- iii. The consultancy agencies that have been contracted by PMU will ensure that they have established/ functioning GRMs to address respective workers' concerns. Also for primary suppliers, the respective vendors will be furnish details of GRM that addresses workers grievances, to PMU, DPMUs and PEA shall periodically seek such information/confirmation from them.

- iv. **Community Workers:** The Executive Engineer, PEAs, will be responsible for providing guidance and advice on all worker related grievances and their redressal, in line with the State Government, Government of India Rules and Regulations. For the community workers, the community level GRM at the field level at the respective division will be applicable. This will be mentioned in the engagement letter as an annexure.

Workers will also be able to submit their grievances through the district Labour Department, whose address and contact telephone numbers will be prominently displayed by contractors for the visibility of all workers at all worksites.

5.22 Dissemination of information on GRM: Information relating to the availability of GRM without any retribution, its institutional set up, timings and procedure for receiving complaints, mechanism of handling complaints, maximum time limits for redressal of complaints and escalation level for unresolved cases and resolution thereof will be disseminated to the workers on a regular basis. Some of the GRM dissemination avenues are:

- During Induction training for new workers
- During Toolbox meet/briefings by work supervisors
- During periodic tail gate sessions, to review and refresh site protocols on safety procedures at work.
- Through pictorial illustrations and posters in local language installed at prominent places like entry/exit points, canteen, entertainment areas, health camp sites etc.
- During awareness campaigns for safety at work and response to Emergency Response Plans
- Awareness and briefing on community safety, while at work

Annexure 8.5.1

List of Information to be maintained by Contractors.

The information database on contracted workers to be maintained by the contractor will include but not limited to the following:

1. Name and Age (to be supported by AADHAR /Voter Card)
2. Father's Name and Permanent Address
3. Marital Status and Name of the Spouse (if married)
4. Number of Children with Gender (as applicable)
5. Place of Stay of Spouse and Children during work engagement
6. Address and Contact Number (in case of any emergency)
7. Key Skills and Years of Experience
8. Work activities, Schedule, Duration of Engagement
9. Duration of Contract and Rotation Arrangements
10. Facilities Arranged by Contractor including health check-ups prior to engagement, accommodation (onsite workforce camps, with local community, transportation to work site and other facilities (to be specified by Contractor)

11. Pre-Employment Check-ups, Fitness Tests and Health Awareness Campaign for workers

A. Model Code of Conduct for Contractor’s Personnel

We, the Contractor, [enter name of Contractor] have signed a contract with [enter name of Employer] for [enter description of the Works].

These Works will be carried out at [enter the Site and other locations where the Works will be carried out]. Our contract requires us to implement measures to address environmental and social risks related to the Works, including the risks of sexual exploitation, sexual abuse, and sexual harassment.

This Code of Conduct is part of our measures to deal with environmental and social risks related to the Works. It applies to all our staff, laborers and other employees at the Works Site or other places where the Works are being carried out. It also applies to the personnel of each subcontractor and any other personnel assisting us in the execution of the Works. All such persons are referred to as “Contractor’s Personnel” and are subject to this Code of Conduct.

This Code of Conduct identifies the behaviour that we require from all Contractor’s Personnel.

Our workplace is an environment where unsafe, offensive, abusive, or violent behaviour will not be tolerated and where all persons should feel comfortable raising issues or concerns without fear of retaliation.

B. Required Conduct. Contractor’s personnel shall:

1. Carry out his/her duties competently and diligently.
2. Comply with this Code of Conduct and all applicable laws, regulations, and other requirements, including requirements to protect the health, safety and well-being of other Contractor’s Personnel and any other person.
3. Maintain a safe working environment by:
 - a. ensuring that workplaces, machinery, equipment, and processes under each person’s control are safe and without risk to health.
 - b. wearing required personal protective equipment.
 - c. using appropriate measures relating to chemical, physical, and biological substances and agents; and
 - d. following applicable emergency operating procedures.
4. Report work situations that he/she believes are not safe or healthy and remove himself/herself from a work situation which he/she reasonably believes presents an imminent and serious danger to his/her life or health.
5. Treat women, children (persons under the age of 18), and men with respect regardless of race; colour; language; religion; political or other opinion; national, ethnic, or social origin; sexual orientation or gender identity; disability; birth or other status.
6. Not use language or behaviour towards women, children or men that is inappropriate, harassing, abusive, sexually provocative, demeaning or culturally inappropriate.
7. Not engage in Sexual Harassment, which means unwelcome sexual advances, requests for sexual favours, and other verbal or physical conduct of a sexual nature with another Contractor’s or Employer’s Personnel;

8. Not engage in Sexual Exploitation, which means any actual or attempted abuse of position of vulnerability, differential power or trust, for sexual purposes, including, but not limited to, profiting monetarily, socially or politically from the sexual exploitation of another.
9. Not engage in Sexual Abuse, which means the actual or threatened physical intrusion of a sexual nature, whether by force or under unequal or coercive conditions.
10. Complete relevant training courses that will be provided related to the environmental and social aspects of the Contract, including on health and safety matters, and Sexual Exploitation, Abuse and Harassment (SEAH);
11. Report violations of this Code of Conduct; and
12. Not retaliate against any person who reports violations of this Code of Conduct, whether to us or the Employer, or who makes use of the grievance mechanism for Contractor's Personnel or the project's Grievance Redress Mechanism.

C. Raising Concerns. If any person observes behaviour that he/she believes may represent a violation of this Code of Conduct, or that otherwise concerns him/her, he/she should raise the issue promptly. This can be done in either of the following ways:

- a. Contact [enter name of the Contractor's Social Expert with relevant experience in handling gender-based violence, or if such person is not required under the Contract, another individual designated by the Contractor to handle these matters] in writing at this address [] or by telephone at [] or in person at []; or
- b. Call [] to reach the Contractor's hotline (if any) and leave a message.

The person's identity will be kept confidential, unless reporting of allegations is mandated by the country law. Anonymous complaints or allegations may also be submitted and will be given all due and appropriate consideration. We take seriously all reports of possible misconduct and will investigate and take appropriate action. We will provide warm referrals to service providers that may help support the person who experienced the alleged incident, as appropriate.

There will be no retaliation against any person who raises a concern in good faith about any behaviour prohibited by this Code of Conduct. Such retaliation would be a violation of this Code of Conduct.

D. Consequences Of Violating the Code Of Conduct. Any violation of this Code of Conduct by Contractor's Personnel may result in serious consequences, up to and including termination and possible referral to legal authorities.

E. For Contractor's Personnel:

I have received a copy of this Code of Conduct written in a language that I comprehend. I understand that if I have any questions about this Code of Conduct, I can contact [enter name of Contractor's contact person with relevant experience] requesting an explanation.

Name of Contractor's Personnel: [insert name]

Signature: _____

Date: (day month year): _____

Countersignature of authorized representative of the Contractor:

Signature: _____

Date: (day month year): _____

A. Code of Conduct for Company (Contractor). This CoC is part of our measures to deal with the environmental and social risks related to the Works. This company-level CoC should be signed by the Project Manager and shared throughout the company.

[Company] is committed to creating and maintaining an environment in which gender-based violence (GBV) has no place, and in which it will not be tolerated by any employee, associate, or representative of the company. Therefore, in order to ensure that all employees, associates, and representatives of [Company] are aware of this commitment, and in order to prevent, identify, and respond to any allegations of GBV, the following core principles and minimum standards of behaviour will apply to all company employees, associates, and representatives without exception:

- (i) [Company] will comply with this Code of Conduct and all applicable laws, regulations and other requirements, including requirements to protect the health, safety and well-being of other Personnel and any other person.
- (ii) [Company]—and therefore all employees, associates, and representatives—commit to treating women, children (persons under the age of 18), and men with respect, regardless of race; color; language; religion; political or other opinion; national, ethnic or social origin; sexual orientation or gender identity; disability; birth or other status. GBV is in violation of this commitment.
- (iii) In the eyes of [Company], GBV constitutes acts of gross misconduct and is therefore grounds for sanction, which may include penalties and/or termination of employment. All forms of GBV are unacceptable, regardless of whether they take place on the worksite, the worksite surroundings, at workers’ camps, or off-site (i.e. involving individuals not employed by the company). In addition to the potential sanctions listed above, legal prosecution will be pursued, if appropriate, for any employees, associates, and representatives alleged to have committed GBV.
- (iv) Demeaning, threatening, harassing, abusive, or sexually provocative language and behaviour are prohibited among all company employees, associates, and representatives.
- (v) Sexual favours—for instance, making promises or favourable treatment dependent on sexual acts—are prohibited.
- (vi) All employees, including volunteers and sub-contractors are expected to report suspected or actual GBV by a fellow worker, whether in the same company or not. Reports must be made in accordance with GBV allegation procedures.
- (vii) All employees are required to be trained on joining work to ensure they are familiar with the GBV Code of Conduct.
- (viii) All employees will be required to sign a code of conduct for Contractor’s Personnel confirming their agreement to comply to the same.

I do hereby acknowledge that I have read the foregoing Code of Conduct, and on behalf of the company agree to comply with the standards contained therein. I understand my role and responsibilities to prevent and respond to my employees’ grievances. I understand that any action inconsistent with this Code of Conduct or failure to take action mandated by this Code of Conduct may result in disciplinary action.

Signature: _____

Name of Project Manager: _____

Company Name: _____

Date: _____

Annexure 8.5.3

Monitoring Checklist for Construction Sites (for Monthly monitoring)

	Questions	Answers
General		
1.	Name of the work awarded	
2.	Details of the Executing Agency (Name and Address)	

3.	Time Frame of the Work		
4.	How many labor camps are set up by the contractor?		
Workplace facilities and conditions			
18.	What is the source of water for workers?		Male Female
19.	Whether sufficient safe drinking water and mobile toilets are available at the worksite		
2.	Total number of skilled, semi-skilled and unskilled workers		
20.	How many toilets are there at camp – separately for males and females?		
3.	Total number of local and migrant workers.		
4.	Source of workers i.e., where does the contractor source workers?		
21.	How frequently are these toilets cleaned?		
22.	If yes, at what locations (provide photo)		
5.	Are the ages of workers confirmed to be at least 18 years of age or above?		
23.	Have all the workers been explained the Code of conduct and signed it?		
6.	If so, what is the document used for age verification (Aadhar card, Driving license etc.)		
24.	Are sanitizers provided to workers?		
7.	Are all workers provided with written contracts?		
8.	Does the contract document clearly lay terms and conditions of work, including OHS aspects, e.g. nature of work, payment, the timeline of work, etc. (please provide sample copy)		
26.	Are there first aid kits available at the site?		
27.	Are there first aid kits available at the site?		
28.	Does the contractor have a tie-up with local hospitals?		
29.	Are all workers provided with contracts? (Please provide a sample copy)		
30.	If so, how many workers have received both doses?		
31.	What is the rate paid for semi-skilled and unskilled workers?		
11.	Is there a mechanism for workers to raise workplace grievances?		
12.	Are these rates displayed on a notice board?		
13.	Do migrant workers get the same type of work as locally recruited workers?		
32.	Do migrant workers get the same type of work as locally recruited workers?		
33.	If so, how many grievances and what is the nature of grievances?		
13.	Do females get the same wages as males for the same type of work? (Please provide copy of the payslip)		
34.	Are there GBV awareness posters at worksites?		
Work location and access			
36.	Does the contractor firm have an Internal Complaints Committee to deal with SEA/SI issues?		
14.	Can everyone reach the work area safely? (Yes/ No)		
15.	If no, give reasons, what is the constraint?		
Workplace procedures and related issues			
16.	If so, what is the mode of transport?		
37.	Whether proper tools are provided to the workers to conduct their work		
17.	Are all access routes throughout the site in good condition and in easily understood language		
38.	Safety equipment/gears are being used where appropriate?		
39.	Workers had been given instructions and guidance regarding their work/job tasks.		
40.	Whether community access to facilities, services, or resources hampered?		
41.	Whether construction/upgradation of embankment/revetment is hampering the business activity of locals? (Provide details on the number of locals, type of business, and measure adopted)		
42.	If yes, then what are the measures that have been taken up by the contractor?		
43.	Whether construction activity affecting the adjoining private property?		
44/40	If yes, then what are the measures that have been taken up by the contractor?		

Feedback from Workers		
45.	Workers reported contracts have been provided	
46.	Workers/laborers reported that they received the correct and timely wages	
47.	Workers reported that they have/retain their original identification documents.	
48.	Workers reported on drinking water	
49.	Workers reported clean toilet facilities	
50.	Workers reported on medical facilities	
51.	Workers reported on covid vaccination status	
52.	Workers reported on the presence/effectiveness of GRM for raising workplace grievances	
53.	Has any worker reported having been sexually harassed by anyone on the site?	
54.	If yes, explain	
55.	Did the contractor take proper action if the incident of sexual harassment occurred?	
56.	If yes, explain	
57.	Worker report having been abused or experience violence by anyone on the site.	
58.	If yes, explain	
59.	Did the contractor take proper action of incidents if incidents of violence by anyone onsite?	
60.	If no, explain	
61.	Female worker reported they had been given same opportunities as men to participate in training.	

Engagement Letter for Community Workers (as Volunteer)

Date:								
[Name & Address of Community Volunteer]								
<p>We are pleased to inform that..... [Name of Community volunteer] with Aadhar Card No./ Voter ID. _____ is hereby engaged as..... [Designation] with[Name of employer (organisation/ company)]. He/She will work as a volunteer who will collect data for VDMP.</p>								
<p>The engagement details are as below.</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;">Designation</td> <td></td> </tr> <tr> <td>Date of joining</td> <td></td> </tr> <tr> <td>Place of posting</td> <td></td> </tr> <tr> <td>Brief scope of work</td> <td></td> </tr> </table>	Designation		Date of joining		Place of posting		Brief scope of work	
Designation								
Date of joining								
Place of posting								
Brief scope of work								
<p>During your engagement, you will be provided with the following:</p> <ul style="list-style-type: none"> i. Personal Protection Equipment (PPE) kits ii. Work/ domain related training including usage of PPE kits and OHS aspects iii. Medical care and quarantine facility, in case tested positive for COVID-19 <p>You are directed to follow the guidelines of Occupational Health & Safety and use PPE kits diligently. (Add a sentence on who they will raise grievances with?)</p> <p>Please confirm your acceptance of this offer, by signing and returning a copy of this Engagement Letter to the undersigned.</p>								
<p>Thanking you,</p>								
<p>Name & Designation of employer: _____</p> <p>Office Address: _____</p> <p>Date: _____</p>								
<p>I have hereby read and understood the terms and conditions laid in this Engagement Letter, and accept the offer thereof.</p> <p>Signature of Community volunteer</p>								

Engagement Letter for Community Worker

Date:

[Name & Address of Community Worker]

We are pleased to inform that..... [Name of Worker] with Aadhar Card No. /Voter ID. _____ is hereby engaged as..... [Designation] with [Name of employer (organisation/ company)]. The employer will pay Rs.X/- as incentives (maximum ceiling).

The engagement details are as below.

Designation	
Date of joining	
Activity based Monthly Incentive (Max.)	
Place of posting	
Brief scope of work	

During your engagement as X members, you will be provided with the following:

- i. Work/ domain related training
- ii. Personal Protection Equipment (PPE) kits
- iii. Medical care and quarantine facility, in case tested positive for COVID-19

Also, during your tenure of service you are directed to follow the guidelines of Occupational Health & Safety.

Please confirm your acceptance of this offer, by signing and returning a copy of this Engagement Letter to the undersigned.

Thanking you,

Name & Designation of employer: _____

Office Address: _____

Date: _____

I have hereby read and understood the terms and conditions laid in this Engagement Letter and accept the offer thereof.

Signature of Worker

8.8 Annexure:RESETTLEMENT POLICY FRAMEWORK (RPF)

6.1 Introduction. K-SHORE involves multiple sub-projects whose design are not known at this stage and will be known only during project implementation. Hence a Resettlement Policy Framework (RPF) is prepared that deals with project related land acquisition and restriction on land use resulting in adverse impacts to communities and persons, Physical or economic displacement (relocation, loss of residential land or loss of shelter, loss of income) and so on. To mitigate the IR impacts a resettlement policy which includes the entitlements to the impacted is detailed out in this section. This RPF guides for development of appropriate mitigation and compensation measures, for land acquisition, resettlement and rehabilitation, permanent and temporary impacts caused by project activities whose exact locations are not known.

6.2 Project impacts. The K-SHORE is likely to have the following types of involuntary resettlement impacts that are eligible for compensation and mitigation measures:

- (i) loss of assets, including land and structures.
- (ii) loss of income or livelihood; and,
- (iii) collective impacts on groups, such as loss of common property resources and loss of access or limited access to such resources.

As seen from the interventions listed in Chapters 3 or 4, the land requirement will be small quantum in almost all cases with the maximum land taking required for MRF or megafauna rehabilitation centre (up to half-acre or 1-2 acres). Every effort will be made during the preparation of detailed design to minimize acquisition of land and other assets and to reduce any involuntary resettlement impacts. Hence KERS will aim to totally avoid private land for any project/sub-project requirements. However, there are chances of encroachment and informal occupation on public land as well as well as temporary, minor impacts such as on access or other temporary disruptions to livelihoods. Displacement under the subprojects will be limited to the area required for the subprojects and their safety zones, referred to as the direct impact zone. Only structures and other encumbrances within this zone will be affected. Every effort will be made during the preparation of the detailed design to minimize acquisition of land and other assets and to reduce negative socio-economic impact. The structures and assets falling outside the direct impact zone will be left undisturbed. Impacts, unforeseen to the structures or assets outside will also be compensated in accordance to the principles of this resettlement framework.

6.3 Approach to Land Taking. KERS, PEAs will prioritize government land or based on screening alternative lands i.e., effectively change the design or location of the sub-project, wherever possible, to avoid any impact on private land. Very often, the land belonging to other landowning departments is required to be used for various facilities to be proposed. Generally, necessary permissions and approvals for land alienation take a long time. In case of all Government land, obtaining necessary "No Objection Certificate" from land owning agencies or other authorities concerned, prior to contract award is a pre-requisite and the land alienation must be completed as soon as possible and prior to commencement of construction in those respective facilities/sites. However, if there are cases, where no government or community lands are available and private land taking cannot be avoided, in that case KERS shall acquire such private land using "Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act 2013 (RFCTLARR 2013) Based on RFCTLARR Act 2013 and RFCTLARR (Karnataka amendment) Act 2019, state policies and regulations.

6.4 Principles. The following resettlement principles are adopted for this program:

- (i) Screening of the project to identify involuntary resettlement impacts and risks. Minimizing and avoiding land acquisition and resettlement impacts of each subproject by exploring all viable alternative designs.
- (ii) where unavoidable, time-bound resettlement plans will be prepared and affected persons will be assisted in improving or at least regaining their pre-program standard of living.
- (iii) full information and close consultations with affected persons including consultation with affected persons on compensation, disclosure of resettlement information to affected persons, and participation of affected persons in planning and implementing subprojects will be ensured; Disclose a draft resettlement plan, including documentation of the consultation process in a timely manner to affected persons and other stakeholders. Disclose the final resettlement plan and other documents such as the monitoring reports to affected persons and other stakeholders.
- (iv) Where the resettlement impacts are unavoidable, the displaced persons should be assisted in improving or at least regaining their standard of living.
- (v) Vulnerable groups comprising below poverty line households, including female-headed households, disabled persons, elderly, children, landless, non-titled households with no tenure security, and schedule castes and scheduled tribe households will be given special assistance.
- (vi) payment of compensation to affected persons including non-titled persons (e.g., informal dwellers/squatters, and encroachers) for acquired assets at replacement cost.
- (vii) payment of compensation and resettlement assistance prior to the contractor taking physical acquisition of the land and prior to the commencement of any construction activities.
- (viii) provision of income restoration and rehabilitation; and
- (ix) establishment of appropriate GRMs.

6.5 Entitlements. The K-SHORE will recognize three types of physically displaced persons like:

- (i) persons with formal legal rights to land lost in its entirety or in part.
- (ii) persons who lost the land they occupy in its entirety or in part who have no formal legal rights to such land, but who have claims to such lands that are recognized or recognizable under national laws; and
- (iii) persons who lost the land they occupy in its entirety or in part who have neither formal legal rights nor recognized or recognizable claims to such land. The involuntary resettlement requirements apply to all three types of physically displaced persons. It also applies to all types of economically displaced persons – those facing permanent income loss as well as those facing temporary income loss. In accordance with the involuntary resettlement principles of this Resettlement Framework, all affected persons will be entitled to compensation/resettlement assistance. Compensation and assistance will be based on the nature of ownership rights on lost assets and the impacts, including vulnerability status of the affected persons.

A detailed description of each compensation measure and assistance is provided in the entitlement matrix. The matrix has special provisions for non-titled persons, affected persons/displaced persons will be entitled to a combination of compensation measures and resettlement assistance, depending on the nature of ownership rights of lost assets and scope of the impact, including social and economic vulnerability of the affected persons.

6.6 Definitions. For purposes of this framework, the following definitions will be applicable:

- (i) **Affected Area** means such area as may be notified by the appropriate Government for the purposes of land acquisition and which land will be acquired under RTFCTLARR Act, 2013 through declaration by Notification in the Official Gazette by the appropriate Government or for which land belonging to the Government will be cleared from obstructions.
- (ii) **Agricultural land:** Means land used for the purpose of: (i) agriculture or horticulture; (ii) dairy farming, poultry farming, pisciculture, sericulture, seed farming breeding of livestock or nursery growing medicinal herbs; (iii) raising of crops, trees, grass or garden produce; and (iv) land used for the grazing of cattle.
- (iii) **Below poverty line (BPL) or BPL family:** means below poverty line families as defined by the Planning Commission of India, from time to time and those included in the BPL list for the time-being in force.
- (iv) **Building:** Means a house, out house or other roofed structure whether masonry, brick, wood, mud, metal or any other material whatsoever but does not include a tent or other portable and temporary shelter.
- (v) **Corridor of impact (COI):** Refers to the minimum land width required for construction including embankments, facilities, and features such as approach roads, drains, utility ducts and lines, fences, green belts, safety zone, working spaces etc. Additional land width would be acquired/purchased or taken on temporary lease if the Corridor of Impact extends beyond the available Right of Way.
- (vi) **Cut-off date:** (i) In the cases of land acquisition affecting land holders the cut-off date would be the last date of publishing Notification for land acquisition u/s 11 (1) of RTFCTLARR Act, 2013 in the local newspaper. .
- (vii) **Encroacher:** A person who has extended their building, agricultural lands, business premises or workplaces into public/government land without authority.
- (viii) **Income:** Income of the PAP shall mean the amount prior to the cut-off date from all occupations taken together calculated by an objective assessment.
- (ix) **Land:** "land" includes benefits to arise out of land, and things attached to the earth or permanently fastened to anything attached to the earth
- (x) **Land acquisition" or "acquisition of land":** means acquisition of land under the RTFCTLARR, 2013.
- (xi) **Non-agricultural labourer:** means a person who is not an agricultural labourer but is primarily residing in the affected area for a period of not less than five years immediately before the declaration of the affected area and who does not hold any land under the affected area but who earns his livelihood mainly by manual labour or as a rural artisan immediately before such declaration and who has been deprived of earning his livelihood mainly by manual labour or as such artisan in the affected area;
- (xii) **Notification:** means a notification issued from time to time by appropriate government for land acquisition under the provisions of RTFCTLARR, 2013.
- (xiii) **Project Affected Family** (as defined in RTFCTLARR Act 2013): It includes -
 - a family whose land or other immovable property has been acquired.
 - a family which does not own any land, but a member or members of such family may be agricultural labourers, tenants including any form of tenancy or holding of usufruct right, sharecroppers or artisans or who may be working in the affected area for three years prior to the acquisition of the land, whose primary source of livelihood stand affected by the acquisition of land.
 - the Scheduled Tribes and other traditional forest dwellers who have lost any of their forest rights recognised under the Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 due to acquisition of land.

- family whose primary source of livelihood for three years prior to the acquisition of the land is dependent on forests or water bodies and includes gatherers of forest produce, hunters, fisher folk and boatmen and such livelihood are affected due to acquisition of land.
 - a member of the family who has been assigned land by the State Government or the Central Government under any of its schemes and such land is under acquisition.
 - a family residing on any land in the urban areas for preceding three years or more prior to the acquisition of the land or whose primary source of livelihood for three years prior to the acquisition of the land is affected by the acquisition of such land.
- (xiv) **Project Affected Person (PAP):** Any person affected either directly or indirectly by the project and/or project related activity, irrespective of the legal status and would include:
- Patta/Title holders,
 - Encroachers,
 - Squatters,
 - Tenants, Leaseholders, Sharecroppers,
 - Employees, Landless labourers,
- (xv) **Project Affected Household (PAH):** A social unit consisting of a family and/or non-family members living together and is affected by the project negatively and/or positively.
- (xvi) **Rent:** Means whatever is lawfully payable in cash or in kind, partly in cash and partly in kind, whether as a fixed quantity of produce or as a share of the produce, on account of the use or occupation of land or on account of any right in land but shall not include land revenue.
- (xvii) **Potential Temporary Economic Impacts:** The potential temporary economic impacts will be largely small business enterprises (for e.g., hawkers, mobile vendors, roadside shops etc) fouling with project pipeline alignment. These impacts will be identified as part of social baseline survey and necessary compensation as per entitlement matrix to be worked out and include the same in the ESIA/RP, as applicable.
- (xviii) **Replacement Cost:** A replacement cost/value of any land or other asset is the cost/value equivalent to or sufficient to replace/purchase the same land or other asset and other applicable taxes to be incurred by the affected person. The depreciation and salvage value will not be subtracted in determining the structure cost.
- (xix) **Shop:** Means any premises where any trade or business is carried on and where services are rendered to customers.
- (xx) **Squatter:** A person who has settled on public/government land, land belonging to institutions, trust, etc and or someone else's land illegally for residential, business and or other purposes and/or has been occupying land and building/asset without authority.
- (xxi) **Temporary Impact:** Impact expected during implementation of the project in the form of earth spoil, tremors, and vibrations, etc. affecting land and structures.
- (xxii) **Tenant:** A person who holds/occupies land-/structure of another person and (but for a special contract) would be liable to pay rent for that land/structure. This arrangement includes the predecessor and successor-in-interest of the tenant but does not include mortgage of the rights of a landowner or a person to whom holding has been transferred; or an estate/holding has been let in farm for the recovery of an arrear of land revenue; or of a sum recoverable as such an arrear or a person who takes from Government a lease of unoccupied land for the purpose of subletting it.
- (xxiii) **Vulnerable Households:Vulnerable PAPs:** Vulnerable PAPs are those living below poverty line, SC / ST families and women headed households, Widows, Physically Challenged persons; Elderly persons above the age of 60 years among the affected families.
- (xxiv) **Wage earner:** Wage earners are those whose livelihood would be affected due to the displacement of the employer. The person must be in continuous employment for at least six months prior to the cut-off date with the said employer and must have reliable documentary evidence to prove his/her employment.

- (xxv) **Compensation for Land and Related R&R.** Wherever Land Acquisition is involved in the projects, compensation for the land and related R&R to the PAPs will be made as per the provisions of the RTFCTLARR 2013 and WB ESS 5. The District Administration / concerned authorities will carry out private land acquisition and R&R implementation based on the provisions of RTFCTLARR Act, 2013 and WB ESS 5. The project affected assigned landowners will be treated similar to the project affected landowners. The need for resettlement and rehabilitation arises when the land which is acquired or alienated or transferred results in involuntary displacement and/or loss of livelihood, sources of income and access to common properties/resources on which people depend for economic, social, and cultural needs irrespective of their legal status. Though the squatters and encroachers are not entitled to legal compensation for land that they have occupied, this policy will provide for resettlement and rehabilitation of such persons with the aim of improving their standard of living. This policy will also be applicable to those landowners from whom land would be acquired. In case of those affected families living in the lands reserved under Development Plans with or without approval of construction of structures will also be assisted for resettlement and rehabilitation as per the Entitlement Framework in this ESMF,
- (xxvi) **Entitlement for PAPs.** The entitlement for different categories of impacts is explained in the following entitlement matrix. The principles of the entitlement matrix are in accordance with the RTFCTLARR, 2013 and World Bank ESF -ESS5 Land Acquisition, Restrictions on Land Use and Involuntary Resettlement.

8-6-1: Entitlement Matrix

Sl. no.	Application	Definition of Entitled Unit	Entitlement	Details
A. Loss of Private Agricultural, Homestead & Commercial Land				
1	Land for the Project	Titleholder family and families with traditional land Right	Compensation at Market value, Resettlement and Rehabilitation	<p>a. Land for land, if available. Or cash compensation for the land at replacement value, which will be determined as provided under Section 26 of the RFCTLARR Act 2013.</p> <p>b. The land if allotted will be in the name of both husband and wife.</p> <p>c. If post-acquisition, residual land is economically unviable, the land owner will have the choice of either retaining or sell off the rest of the land.</p> <p>d. Refund of stamp duty and registration charges incurred for replacement land to be paid by the project; replacement land must be bought within a year from the date of payment of compensation to project affected persons.</p> <p>e. Subsistence allowance of Rs. 36000 as one-time grant</p> <p>f. One-time grant of Rs. 500,000 or annuity</p> <p>g. Compensation at market value for loss of crops, if any</p>
	Residual land	Titleholder family and families with traditional land rights.	Compensation at replacement value, Resettlement and Rehabilitation	<p>In case residual land is found to be economically unviable, PAPs have the choice of:</p> <ul style="list-style-type: none"> • selling off the residual land at the market value to the project • take 25% of the compensation value and retain the land parcel.
B. Loss of Private Structures (Residential/Commercial)				
2	Loss of Structure	Title Holder/ Owner	Compensation at Market value, Resettlement & Rehabilitation Assistance	<p>a. Cash compensation for the structure at the Market value which would be determined as per as per section 29 of the RFCTLARR Act 2013. House under Indira Awas Yojana in rural area or Rs 50,000 in lieu off</p>

Sl. no.	Application	Definition of Entitled Unit	Entitlement	Details
				<p>and house under RAY in urban area or Rs 100,000 in lieu off. The house if allotted will be in the name of both husband and wife.</p> <ol style="list-style-type: none"> b. Right to salvage material from the demolished structures. c. Three months' notice to vacate structures. d. Refund of stamp duty and registration charges for purchase of new alternative houses/shops at prevailing rates on the market value as determined in (a) above. Alternative houses/shops must be bought within a year from the date of payment of compensation. e. In the case of partially affected structures and the remaining structure remains viable, an additional 10% to restore the structure. In the case of partially affected structures and the remaining structure becomes an unviable additional 25% of the compensation amount as severance allowance. f. Subsistence allowance equivalent to Rs. 36,000 as a one-time grant. g. Each affected family getting displaced shall get a one-time financial assistance of Rs 50,000 as a shifting allowance. h. Each affected family that is displaced and has cattle, shall get financial assistance of Rs 25,000/- for construction of cattle shed. i. One-time grant of Rs. 50,000 as resettlement assistance j. Each affected person who is a rural artisan, small trader or self-employed person and who has been displaced (in this project owner of any residential-cum commercial structure) shall get a one-time financial

Sl. no.	Application	Definition of Entitled Unit	Entitlement	Details
				<p>assistance of Rs 25,000/-for construction of working shed or shop.</p> <p>k. One-time grant of Rs. 500,000</p>
3	Structure	Tenants/ Lease Holders	Resettlement & Rehabilitation Assistance	<p>a) Registered lessees will be entitled to an apportionment of the compensation payable to structure owner in case the lessee has erected any art of1 the structure as per applicable local laws.</p> <p>b) In the case of tenants, three months written notice will be provided along with Rs 50,000 towards shifting allowance.</p>
C. Loss of Trees and Crops				
4	Standing Trees, Crops	Owners and beneficiaries (Registered/ Un-registered tenants, contract cultivators, leaseholders & sharecroppers)	Compensation at market value	<p>a) Three months advance notice to project affected persons to harvest fruits, standing crops and removal of trees.</p> <p>b) Compensation to be paid at the rate estimated by:</p> <p>i) The Forest Department for timber trees</p> <p>ii) The State Agriculture Extension Department for crops</p> <p>iii) The Horticulture Department for fruit/flower bearing trees.</p> <p>c) Registered tenants, contract cultivators & leaseholders & sharecroppers will be eligible for compensation for trees and crops as per the agreement document between the owner and the beneficiaries.</p> <p>d) Un-registered tenants, contract cultivators, leaseholders & sharecroppers will be eligible for compensation for trees and crops as per mutual understanding between the owner and the</p>

Sl. no.	Application	Definition of Entitled Unit	Entitlement	Details
				beneficiaries.
D. Loss of Residential/ Commercial Structures to Non-Titled Holders				
5	Structures on Government land	Owners of Structures or Occupants of structures identified as per Project Census Survey	Resettlement & Rehabilitation Assistance	<ul style="list-style-type: none"> a) Non-vulnerable encroachers shall be given three months' notice to vacate occupied land b) Vulnerable encroachers¹⁸ will be provided cash assistance at replacement cost for loss of structures as described in section 29 of the RFCTLARR Act 2013. c) Any encroacher identified as non-vulnerable but losing more than 25% of the structure used will be paid cash assistance at replacement cost for loss of structures. The amount will be determined as per

¹⁸ Vulnerable encroachers will include those who (i) are either below poverty line; or (ii) women headed households; or (iii) belongs to scheduled community as caste or tribe; or (iv) elderly or disabled

Sl. no.	Application	Definition of Entitled Unit	Entitlement	Details
				<p>section 29 of the RFCTLARR Act 2013.</p> <p>d) All squatters to be paid cash assistance for their structures at replacement costs which will be determined as mentioned in section 29 of the RFCTLARR Act 2013.</p> <p>e) All squatters (other than kiosks) will be eligible for a one-time grant of Rs 36,000 as a subsistence allowance.</p> <p>f) All squatters other than Kiosks will be given a shifting allowance of Rs 50,000 per family as a one-time grant for a permanent structure and Rs. 30,000 for a semi-permanent structure and Rs. 10,000 for a temporary structure.</p> <p>g) Each affected person who is a rural artisan, small trader or self-employed person assistance' of Rs 25,000/- for construction of working shed or shop.</p> <p>h) In the case of Kiosks, only Rs 5000 will be paid as a one-time grant.</p>
E. Loss of Livelihood				
6	Families living within the project area	Title Holders/Non-Title holders/fishermen, boat operators, sharecroppers, agriculturallabourers and employees	Resettlement & Rehabilitation Assistance	<p>a) Subsistence allowance of Rs. 36,000 as a one-time grant. (PAPs covered under 1(f), 2 (f) and 5 (e) above would not be eligible for this assistance).</p> <p>b) Training Assistance of Rs 10,000/- for income generation per family.</p> <p>c) Temporary employment in the project construction work to project affected persons with particular attention to vulnerable groups by the project contractor during construction, to the extent possible and preference in the employment of semi-skilled and unskilled jobs in</p>

Sl. no.	Application	Definition of Entitled Unit	Entitlement	Details
				the project with adequate training for the job.
F. Additional Support to Vulnerable Families				
7	Families within the project area	As per the definition of vulnerable	Resettlement & Rehabilitation Assistance	One-time additional financial assistance of Rs. 50,000. Squatters and encroachers already covered under clause 5 are not eligible for this assistance.
G. Loss of Community Infrastructure/Common Property Resources				
8	Structures & other resources (e.g. land, water, access to structures, etc.) within the project area	Affected communities and groups	Reconstruction of community structure and common property resources	Reconstruction of community structure and Common property resources in consultation with the community.
H. Temporary Impact During Construction				
9	Land & asset temporarily impacted during construction	Owners of land & Assets	Compensation for temporary impact during construction e.g. damage to the adjacent parcel of land/assets due to the movement of vehicles for transportation of equipment, machinery and construction activities for infrastructure development.	Compensation to be paid by the contractor for loss of assets, crops and any other damage as per prior agreement between the 'Contractor' and the 'Affected Party'.
I. Resettlement Site				
10	Loss of residential structures	Displaced titleholders and non-titleholders	Provision of resettlement site/vendor market	<ul style="list-style-type: none"> a) Resettlement sites will be developed as part of the project if a minimum of 25 project displaced families opt for assisted resettlement. b) Vulnerable PAPs will be given preference in allotment of plots/flats at the resettlement site. c) Plot size will be equivalent to size lost subject to a maximum of provision given in the

				<p>RFCTLARR Act 2013.</p> <p>d) Basic facilities shall be provided by the project at the resettlement site as per the provisions given in the Third Schedule of RFCTLARR Act 2013.</p> <p>e) Similarly, if at least 25 displaced commercial establishments (small business enterprises) opt for shopping units, the Project Authority will develop the vendor market at a suitable location in the nearby area in consultation with displaced persons.</p> <p>f) Basic facilities such as approach road, electricity connection, water, and sanitation facility, will be provided in the vendor market by the project.</p> <p>g) Vulnerable PAPs will be given preference in allotment, of shops in the vendor market.</p> <p>h) One displaced family will be eligible for only one land plot at the resettlement site or shop in the vendor market.</p>
J. Land on lease				
11	Titleholders	Landowners/ Titleholders	Annual Lease rental for use of land	<p>a) Annual Lease Rent as per pre-agreed rate with the landowners giving consent for sparing their land for the project</p> <p>b) Provisions regarding the increase in lease rent on predetermined rates and timeframe</p> <p>c) Provisions related to loss of structure/ trees/ crops as per the provisions of Clause 2 and 4 respectively</p>
12	Agricultural Labor	Non-Titleholders/sharecroppers, agricultural labourers and employees		As per Clause 6 above

6.7. If payments are made after year 2024, then the CPI of that year, during which payment is made, will be used for calculation of inflation rate. The unit rates will revise every year prior to month of March. Illustrative table with assistance amounts adjusted to inflation are presented below for the period ending November 2022.

Table 17: Unit Rates and revised as of November 2022

S.No	Entitlement	Unit rates as of January 2014 (in INR)	Revised as of November 2022 (latest available)
1	Livelihood assistance (Lumpsum)	5,00,000	774509
2	Livelihood assistance (Annuity)	2,000/per month for 12 months x 20years	2,000/per month for 12 months x 20 years (to be adjusted every year as per CPI index)
3	One-time assistance for loss of Cattle shed/petty shop	25,000	38,725
4	One-time assistance for displaced artisan/small traders/small shops	25,000	38,725
5	Cash in lieu of house, if opted (as per indexed and updated figures at time of payment)		
	Rural	1.3lakhs	Amounts to be updated as per PMAY guidelines as prevalent at the time of implementation.
	Urban	1.5lakhs	
6	Transportation/ Shifting assistance for Displaced	50,000	77,450
7	Subsistence allowance for displaced @INR 3000 per month for 1 year	36,000	55,764
8	One-time Resettlement Allowance	50,000	77,450

6.8 Coordination with Civil Works. The land acquisition and resettlement implementation will be co-coordinated with the timing of procurement and commencement of civil works. The required coordination has contractual implications, and will be linked to procurement and bidding schedules, award of contracts, and release of cleared sections to the contractors. The project will provide adequate notification, counselling, and assistance to affected people so that they are able to move or give up their assets without undue hardship before commencement of civil works and after receiving the compensation. The bid documents will specify the extent of unencumbered land to be handed over at the time of commencement of works and subsequent milestones. This will be strictly followed to ensure that land is provided on a timely basis to the contractors and plan implementation of land acquisition and resettlement in line with procurement and civil works schedule. The below table lists the actions to be completed by different stages:

Table18: List of Actions Linked to Civil Works Implementation

Stage of civil works	Activities
Before issuance of civil work bids	Preparation of Land Acquisition Plan and Strip Plan
	Preparation, approval and disclosure of RAP based on Social Impact Assessment comprising Census & Socio-Economic survey of affected persons and its disclosure
	List of encumbrance free stretches available for construction
	Issuance of draft Notification 11 of the Land Acquisition
	Appointment of Arbitrator
	Formation of District Level Land Purchase Committee
Before Award of civil works contract	Appointment of RAP implementation agency/NGO
	Private Negotiations with Titleholders by District Level Land Purchase Committee & Award
	Identification & Verification of PAPs by NGO
	Valuation of structures
	Preparation of Micro Plans for Rehabilitation & Resettlement by the NGO
	Issuance of ID Cards
	Update draft Resettlement plan to reflect surveys, consultations, design changes, and due diligence results
	Consultations disclosure & awareness generation
	Compensation Award for Titleholders R&R for Non-Titleholders
	Preparation and Approval of Micro Plans
Disbursement of Compensation and R&R assistance amounts	
Before hand over of land to contractor	List of encumbrance free stretches available for construction by first & second milestone dates. For the remaining milestones the required encumbrance free stretches should be made ready before start of work on that milestone
	Handover of land to contractors first & second milestone
	Payment of compensation and Resettlement assistance before handing over of land to contractor
	Notice period for vacating sites as per prescribed time frame

6.9 Grievance Redressal Mechanism. See stakeholder Engagement Plan for GRM for details on processes for registration and resolution.

6.10 Resettlement Budget and Funding. The resettlement budget will comprise itemized estimate of compensation for land, structures, trees, crops, various resettlement assistances, rehabilitation, or replacement of CPRs including land, if government land is not available, institutional cost, contingency, additional studies if required, cost towards implementation, engagement of RAP implementation agency, evaluation consultants, etc. Based on the initial estimates provided by the RAP preparation consultants and later by the RAP implementation agency, the PMU shall update and prepare final estimates for compensation and assistances payable. They shall jointly review the compensation for land with the Revenue department and with Public Works Department for cost of structures and CPRs. Based on these estimates, the PMU shall prepare a request for funds and submit the same to the GoK for release of funds for disbursal. The source of funds is GoK and the budget will be approved. The funds will be transferred to KERS from the GoK, and from there will be released to Deputy Commissioners of the concerned districts.

The costs of LA and R&R has been budgeted as part of the overall project costs and shall be met with GoK funds and included in the counterpart funds. The funds as estimated in the budget for the financial year and additional fund as required based on the revised estimates, shall be available at the disposal of KERS. KERS being PMU of the project will provide necessary funds for compensation of land and structure and cost of resettlement assistance in a timely manner to the jurisdiction of the respective Deputy Commissioners. The World Bank's loan will be available for costs purchase of goods and NGO consultancy, M&E services, if required following the applicable procurement guidelines.

6.11 Consultation & Disclosure. Consultations with various stakeholders will be carried out throughout the project cycle, i.e., preparation, implementation and post implementation, in accordance with the Project's overall Stakeholder Engagement Plan. Consultations will be held with special emphasis on vulnerable groups. Encouraging public participation in consultations informs the public of the project and serves as a venue for the public to express their opinion on priorities which the project should address.

The PMU and PIUs will ensure that PAPs and other stakeholders are informed and consulted about the project sites, its impact, their entitlements and options, and allowed to participate actively in the development of the sub-project.

As per Access to Information Policy of the WB, this RPF will be made available at the World Bank Portal and will also be kept in the KERS portals and their District offices.

6.12 RAP Implementation Monitoring. The RAP implementation monitoring at the site level will be the responsibility of the concerned PIUs. This internal monitoring will include:

- a. Administrative monitoring: daily planning, implementation, feedback and troubleshoot, individual PAP file maintenance, and progress reports, etc.
- b. Socio-economic monitoring: baseline information for comparing PAP's socio-economic conditions, disbursement of compensation and R&R assistance, community relationships, dates for consultations, etc.
- c. Monitoring and evaluation reports documenting progress on resettlement implementation, and RAP completion reports based on the data captured will be provided by the KERS to the World Bank for review.

6.13 Internal Monitoring. Tables below provides indicative monitoring Indicators for Physical & financial Progress and grievances. These indicators would be finalized during implementation.

Table 19: Indicative monitoring Indicators for Physical Progress

Monitoring Indicators	Implementation Target	Revised Implementation Target	Progress this Month	% against Revised Implementation Target
Preparation and dissemination of leaflets to various stakeholders				
Compensation for Structures, other assets (cattlesheds)				
Preparation and approval of micro-Plans				
Number of joint bank accounts opened				
Issuance of identity cards				
Submission of monthly progress reports				
Onetime rehabilitation grant provided				
Livelihood Restoration Allowance for affected Categories				
Allowances paid to Vulnerable groups				
Community Assets rehabilitated/ Restored				
No. of PAPs who have received training for livelihood restoration/enhancement				
PAP untraceable				

Table 20: Indicative monitoring indicators for financial Progress

Category	Estimated Cost(INR)	Progress this month
R&R Assistance		
RAP Implementation NGO		
M&E Services		

Table 21: Monitoring of Grievances received and redressed.

Particulars	Quarters			
	Q1	Q2	Q3	Q4 & CumulativeTotal
No. of cases referred to GRC				
No. of cases settled by GRC				
No. of cases pending with GRC				
a. Project Level				
b. District Level				
c. PMU Level				
Average time taken for settlement of				
No. of GRC meetings				
No. of PAPs moved Court				
No. of pending cases with the court				
No. of cases settled by the court				

6.14 External Evaluation. The KERS will engage the services of an independent agency not associated with project implementation to undertake concurrent monitoring quarterly and evaluation twice – at mid and at end term. The external agency, with previous experience in resettlement activities and familiarity with Government and World Bank, will be engaged to monitor and verify RAP implementation to determine whether resettlement goals have been achieved, livelihood and living standards have been restored, and provide recommendations for improvement. The external agency will undertake impact evaluation on a sample basis during mid-term and project completion. It will record PAPs views on resettlement issues; PAPs understanding of entitlement policies, options, and alternatives; site conditions; compensation valuation and disbursement; grievance redress procedures; and staff competencies. The agency will also evaluate the performance of the PMU related to resettlement issues.

Table 22: Indicative Impact Evaluation Indicators

Parameter	Breakup of parameter	Baseline (%)	Mid-Term (%)	End-Term (%)
Occupation of HH*	Agriculture			
	Trade/Business			
	Petty shopkeeping			
	Agri labour			
	Non-Agri labour			
	Service			
Average Annual Income*	<Rs 75000			
	Rs 75001–1lakh			
	Rs 1lakh–2.5lakh			
	Rs 2.5lakh–5lakh			
	Below Poverty Line			

Possession of Assets*	TV			
	Fridge			
	Cycle			
	Motorcycle			
	Car			
Housing Conditions	Pucca house (RCC Roof, BrickWalls,CementFlooring			
	Semi-PuccaHouse (Bamboo, Sheet Roof, Mud/ Brick Walls, Mud/cement flooring)			
	Kutch House (Thatched Roof, Mud Wall, Mud Flooring)			
Land Assets	Marginal Farmers			
	Small Farmers			

6.15 Updating of Resettlement Policy Framework. This RPF will be an “up to date” or a “live document” enabling revision, when and where necessary. Since the more sub-basin/sites can be taken up and any unexpected situations and/or changes in the project or subcomponent design would therefore be assessed and appropriate management measures will be incorporated by updating the Resettlement Policy Framework to meet the requirements of country’s legislations and Bank ESF. Such revisions will also cover and update any changes/modifications introduced in the legal/regulatory regime of the country/ state. Also, based on the experience of application and implementation of this framework, the provisions and procedures would be updated, as appropriate in consultation with stakeholders and PAPs and approved by KERS and redisclosed.

6.16 Indicative Contents of a Resettlement Action Plan are as follows:

- Description of the project,
- General description of the project,
- Identification of the project area,
- Potential impacts,
- Identification of the project components or activities that give rise to displacement, explaining why the selected land must be acquired for use within the timeframe of the project.
- the zone of impact of such components or activities.
- the scope and scale of land acquisition and impacts on structures and other fixed assets.
- any project-imposed restrictions on use of, or access to, land or natural resources.
- alternatives considered to avoid or minimize displacement and why those were rejected; and

the mechanisms established to minimize displacement, to the extent possible, during project implementation.

8.9 Annexure Tribal Development Framework: Tribal context in K SHORE

The three project districts:

Table 23: Project Districts

Sl.no	Parameters	Dakshina Kannada	Udupi	Uttara Kannada
1	Total population (lakhs)	20.85	11.78	14.40
2	ST population (Nos.)	83400	53010	34560
3	Percentage of ST population (%)	3.94	4.5	2.4

Further, in Uttar Kannada, the main tribes of the district are Sidhi, Kunabi, Halakki Vokkaliga, Gonda and Gouli. Sidhis are said to have been brought by the Portuguese from Africa as slaves some four hundred years ago. Their population is around ten thousand and are generally found in Haliyal, Yellapur and Ankola taluks. Now their culture is completely Indian and have adopted mainly Hindu religion. A small population of them are Muslims and Christians. They are extremely poor and backward and work mainly as agriculture labourers in the fields of Havyak Brahmins.

Dakshin Kannada and Udupi districts: The main tribe here is Koraga people are a tribal community found mainly in Dakshina Kannada and Udupi districts of Karnataka, as well as the Kasaragod district of Kerala in south India. The Koraga are also found in small numbers in adjoining districts of Uttara Kannada, Shimoga, and Kodagu. They are classified by the Government of India as a particularly vulnerable tribal group. The Koraga have their own language, which is classified as an independent Dravidian language and is strongly influenced by Tulu, Kannada, and Malayalam—languages commonly found in their area.

Legal and Regulatory Framework

Constitutional Safeguards. The constitutional safeguards related to tribals are:

- (i) Article 14, related to Equal rights and opportunities.
- (ii) Article 15, prohibits discrimination on grounds of sex, religion, race, caste etc.;
- (iii) Article 15 (4) enjoins upon state to make special provisions for the tribals.
- (iv) Article 16 (3) empowers state to make special provisions for reservation in appointments or posts in favour of Scheduled Tribes.
- (v) Article 46 enjoins upon State to promote with special care educational and economic interests of tribal people, protection from social injustice and exploitation.
- (vi) Article 243D related to the reservation of seats for Scheduled Tribes in Panchayats & Municipalities
- (vii) Article 275 (1), Grant-in-aid for promoting the welfare of Scheduled Tribes.
- (viii) Article 330, 332, 335, related to the reservation of seats for Scheduled Tribes in Lok Sabha, State Assemblies, and official positions in central & state governments; and
- (ix) Article 339, 340, related to Control of the Union over the Welfare of tribal and powers to investigations thereof.

The World Bank's Environment and Social Standards 7 (ESS-7). The objectives of this ESS are as follows:

- To ensure that the development process fosters full respect for the human rights, dignity, aspirations, identity, culture, and natural resource-based livelihoods.
- To avoid adverse impacts of projects or when avoidance is not possible, to minimize, mitigate and/or compensate for such impacts.
- To promote sustainable development benefits and opportunities in a manner that is accessible, culturally appropriate, and inclusive.
- To improve project design and promote local support by establishing and maintaining an ongoing relationship based on meaningful consultation throughout the project's life cycle.
- To obtain Free, Prior, and Informed Consent (FPIC) in the following three circumstances
 - adverse impacts on land and natural resources subject to traditional ownership or under use or occupation.
 - cause physical relocation of tribal communities from their land and natural resources subject to traditional ownership or under customary use or occupation; or
 - significant impacts on the cultural, spiritual, natural and or religious heritage of the tribal communities.
- To recognize, respect and preserve the culture, knowledge, and practices, and to provide them with an opportunity to adapt to changing conditions in a manner and in a time-frame acceptable to them.

The ESS-7 aims to ensure that the Scheduled Tribe Communities present in, or with collective attachment to, the project area is fully consulted about, and have opportunities to actively participate in, project design and the determination of project implementation arrangements. The scope and scale of consultation, as well as subsequent project planning and documentation processes, will be proportionate to the scope and scale of potential project risks and impacts as they may affect the Tribal Communities present in the project area. Potential Impacts due to project interventions.

In ESS 7, the term “Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities” (or Scheduled Tribes) refer exclusively to a distinct social and cultural group possessing the following characteristics in varying degrees:

- Self-identification as members of a distinct indigenous social and cultural group and recognition of this identity by others; and
- Collective attachment to geographically distinct habitats, ancestral territories, or areas of seasonal use or occupation, as well as to the natural resources in these areas; and
- Customary cultural, economic, social, or political institutions that are distinct or separate from those of the mainstream society or culture; and
- A distinct language or dialect, often different from the official language or languages of the country or region in which they reside.

The possible impacts due to project interventions are as follows:

Tribal Development Framework (TDF). The main features of TDF are:

- Provide guidance and establish requirements for screening, consultations, preparation of TDPs.

- Provide guidance on avoiding or minimizing and/or mitigating any potential adverse impacts on tribal households and their livelihoods.
- Ensure that the project obtains Free, Prior and Informed Consent (FPIC) with tribal people in the entire process of planning, implementation and monitoring of project.
- ensure that project benefits are accessible to the tribal communities living in the project area.
- Establish appropriate strategies for information sharing, communication, and capacity building of tribal stakeholders at all stages of the project and proposes additional interventions/ investments that may be required to enhance project benefits and their outreach/ access to the tribal communities.
- Ensure that a grievance mechanism is established as described in Stakeholder Engagement Plan for this project and that it is culturally appropriate and accessible to affected tribal groups and considers the availability of judicial recourse and customary dispute settlement mechanisms such tribal groups.

Screening. The project will undertake a screening for tribal populations with the help of tribal community leaders and local leaders. Screening Format is given in Annexure 1. The screening will check for the following:

- Confirm the presence of tribal population in the project area which exhibit the characteristics as out lined in Section 3.5
- Names of tribal groups in the project influence area
- Total number of tribal groups in the project influence area
- Percentage of tribal population in project influence area versus total population
- Number and percentage of tribal households to be affected/ benefitted in the project influence area.
- Vulnerability of the tribal groups in the project influence area
- Clarifies if any project activities will trigger adverse impacts on tribal groups.
- If the project activities solely benefit tribal groups

The vulnerability of especially Tribal Groups and their existing socio-economic conditions that may further deteriorate due to project impacts are assessed. As per the requirements of the ESS-7, if such especially vulnerable groups among the Scheduled Tribal community are identified within the project area, the project will take appropriate measures to recognize, respect and protect their land and territories, environment, health and culture, as well as measures to avoid all undesired contact with them as a consequence of the project.

Framework for Meaningful Consultations, and Free, Prior and Informed Consent (FPIC)

K SHORE requires obtaining Free, Prior and Informed Consent (FPIC) for any project interventions that are likely to cause:

- adverse impacts on land and natural resources subject to traditional ownership or under customary use or occupation.
- Cause physical relocation of tribal communities from their land and natural resources subject to traditional ownership under customary use or occupation; or

- significant impacts on the cultural, spiritual, natural and/ or religious heritage of the tribal communities.

No activity that does not receive FPIC will be taken up under the project. Further as the in case of activities/actions that rely on cultural traditions of coastal communities and which may include tribal communities) involving their intellectual property rights, if relevant and (E&S due diligence including E&S screening would be undertaken to ensure that:

- information on the interventions have been/are, adequately conveyed including the usage or application of such cultural traditions and are consistent with national framework on Intellectual property rights; and
- their broad community consent will be obtained and documented before undertaking any such activity.

For this purpose, the implementing agencies (KERS and relevant PIUs) will undertake a participatory process in conducting meaningful consultations and will involve: Gram Panchayats; community leaders, community groups (fishing community, Village Headman, and which will ensure the active inclusion of tribal communities, including their farmers and leaders and other disadvantaged groups. Tribal communities will be involved in the planning, implementation, and monitoring process. Identification of these stakeholders will be undertaken in accordance with the Stakeholder Engagement Plan based on the type and nature of project intervention. The consultations document the feedback, concerns, and needs of these tribal groups which will be incorporated into the project activities.

A Stakeholder Engagement Plan (SEP) has been prepared as a separate document with the objectives of i) systematic approach to stakeholder engagement and information disclosure; ii) maintenance of positive relationships with them; iii) monitoring of stakeholder interests and feedback. The Stakeholder Engagement Plan (SEP) – to be included in the ESMP of each project will ensure that the tribal groups are able to engage with the project in socially and culturally meaningful way/language on queries, information disclosure, and grievances. Other project-related information will be shared with the primary stakeholders in Kannada language, where necessary.

Mitigation measures to address project impacts.

The various mitigation measures which apply to the tribal groups are given in the table below:

Table24: Mitigation Measures

S.No.	Mitigation Measure	Responsibility
1	Screening of Subprojects	PIU with support from KERS & TAMC
2	FPIC wherever, there are adverse impacts on tribals	PIU with support from KERS & TAMC
3	Capacity Building of tribals including vulnerable tribals such as women, persons with disabilities, gender minorities, etc.	PIU with support from KERS & TAMC

4	R&R entitlements; wherever R&R is involved, Free Prior Informed Consultations will be conducted with Tribals wherever there are adverse impacts on them	PIU with support from KERS & TAMC
5	Coverage under household census/socio-economic surveys	PIU with support from KERS & TAMC
6	Monitoring and evaluation of implementation of these special provisions, etc.	PIU with support from KERS & TAMC
7	Grievance Redress Mechanism: In projects where Tribal presence is there, the Grievance Redress Committees at the project level will have membership from the tribal communities.	PIU with support from KERS & TAMC
8	The project development benefits and opportunities will be informed to the tribal groups on regular basis, and they will be assisted in reaping those benefits, viz., employment opportunities in the contract works.	PIU with support from KERS & TAMC

Table 25: Application of Tribal Development Framework to sub-projects

Stage	Actions for Social Assessment, Meaningful Consultations and Tribal Development Plan
Preparation stage	<ul style="list-style-type: none"> • Screen for presence of tribal communities in project village (using screening checklist) /ascertain if the project site is located that is being used for commercial or residential purposes. • Name(s) of IP community group(s) in the area. • Total number of IP community groups in the area. • Percentage of IP community population in the area compared with the total population; and • Number and percentage of IP households to be affected by the sub-project. • List nature of potential activities and related interventions likely to be undertaken in presence and/or tribal groups • List the nature of tribal groups present or likely to be affected by the interventions. • Conclude on the need for: <ul style="list-style-type: none"> • A Tribal Development Plan and its likely content depending on whether it is only for: <ul style="list-style-type: none"> • for obtaining FPIC (indicate type of impact i.e., on land, requiring relocation, cultural heritage) • The scope and scale of consultation, as well as subsequent planning /documentation and TDP preparation processes, will be proportionate to the scope and scale of potential project risks and impacts as they may affect such tribal groups
	<ul style="list-style-type: none"> • Identify stakeholder–tribal groups, areas, and households. • Engage Social experts to support the PMU with relevant knowledge of the area Capacity building of SDS and other PIU personnel on TDF. • Develop culturally appropriate IEC materials for dissemination in the project

Stage	Actions for Social Assessment, Meaningful Consultations and Tribal Development Plan
	<p>areas with ST population.</p> <ul style="list-style-type: none"> • Orient tribal communities on project objectives, interventions, and implementation processes through use of culturally appropriate IEC materials. • Disclose of interventions and approach under TDF • Mobilize tribal households for proposed interventions. • Prepare of socio-economic baseline of the tribal groups including profiling of tribal communities in GPs. • Hold Gram Sabha meetings ensuring representation of the tribal households on project interventions. Send letters of intimation to Gaon Sabha, PRI Members, local Civil Society Organizations about the meetings/ consultations in advance say at least 10 days before. Along with the intimation send project activity related details and agenda. Ensure that there is participation from all sections of tribals including females and more than two thirds participation. Record the meeting discussions and issue minutes/ proceedings and maintain records. Take consent of the Gaon Sabha for any project activity. • Hold regular, periodic consultations with affected and benefitted tribal communities during planning by involving: <ul style="list-style-type: none"> • Representative bodies and organizations other community members. • Provide sufficient time for decision-making processes; and • Allow for effective participation in the design of project activities or mitigation measures that could potentially affect them either positively or negatively. • Identify existing Grievance resolution mechanisms and processes respected and used by the locals. • Identify schemes that promote social and economic empowerment of tribal communities with which project activities can be converged. • Hold consultations with other departments and facilitate convergence of other existing government schemes through support from the project.
Preparation of TDP (within DPR or ESMP)	<ul style="list-style-type: none"> • KERS /PIUs will take all necessary measures to screen and identify such locations and avoid any additional land procuring through design interventions without jeopardizing the safety standards to be followed. • The IPPF provides for rehabilitation/reconstruction of any damaged/ impacted community assets through community participation. • In case encroachments are found, these will be dealt with as per the Resettlement Policy Framework (RPF) for this project. • Depending on the presence of tribal people and their socio-economic vulnerability and cultural distinctiveness the, prepare sub-project specific TDPs as part of DPR per outline presented below: <ol style="list-style-type: none"> (i) A summary of Targeted Social Assessment, including the applicable legal and institutional framework. (ii) Baseline seriocomic data that profiles occupations, landholdings, household incomes, existing customary usufruct rights over forest resources, participation in project operations as well as community institutions to assess impact. (iii) A summary of the results of the meaningful consultation; and FPIC where

Stage	Actions for Social Assessment, Meaningful Consultations and Tribal Development Plan
	<p>necessary formal, written community endorsement/sign off the subproject/activity (locations, design, etc.) by elected representatives and customary tribal leaders.</p> <p>(iv) Specific Measures to avoid, minimize, mitigate, or compensate for any potential adverse impacts identified.</p> <p>(v) Specific Measures for ensuring culturally appropriate social and economic benefits for tribal communities, e.g., preference in provision of benefits from tourism development, water recreation activities, etc. In case of flood shelters FPIC will be taken during the onsite social screening also collective resolution of all the stakeholders may be documented for further legitimacy. In case of FPIC is unsuccessful, then record the proceedings about the same in the records.</p> <p>(vi) Details of cost estimates, financing plan, schedule, and implementation arrangements.</p> <p>(vii) Accessible and culturally appropriate grievance redressal procedures</p> <p>(viii) Project Monitoring and Evaluation arrangements including monitoring indicators and evaluation parameters.</p> <p>(ix) Disclosure arrangements</p>
Implementation	<ul style="list-style-type: none"> • Continue holding consultations as per TDP and SEP using IEC materials developed. • Administer and monitor mitigation measures stated in the TDP. Key monitoring indicators would be: <ul style="list-style-type: none"> (i) Coverage of tribal households in different activities implemented under the project. (ii) Benefits rendered to and accessed by the tribal households. (iii) Number of tribal families selected under capacity building activities. (iv) Number of tribal family members having engaged in civil work, (v) Liaise with other relevant departments involved in convergence. (vi) Progress Reporting including reporting on functioning of grievance redressal

Implementation arrangements of TDP

The TDP implementation responsibility will be in sync with the overall implementation strategy of the project. The Social Specialist at the PMU – KERS being responsible for its implementation under the overall guidance provided by the Head of the IA, Project Director. The Social Specialists will also be responsible for coordinating with other line departments, provide requisite support for organizing community consultations, data collection and provide oversight on the process of preparation and quality of the TDF.

The role and responsibilities of the Social Specialists are as follows:

- Support the implementing entities in preparation and finalization of tribal plans for their greater inclusion.
- Overall planning, designing, guiding, implementing, and coordinating institutional development and capacity building strategies proposed for tribal’s and institutions existing in scheduled areas.

- Identifying stakeholders and ensuring their participation.
- Monitoring implementation of the framework by different implementing entities as per TDF.
- Designing the community manual and guidelines for the support organization and developing training modules/ manuals/ IEC materials.

Monitoring the activities of the unit.

Ensuring timely implementation of capacity building measures, considering specific needs of the tribals.

The Social Specialists will be the responsible person to guide the overall process related to tribal inclusion and their greater participation in the development process. She/he will monitor the processes followed in execution of the planned activities and realization of the tribal inclusion parameters. In addition, an external consultant will be hired for preparation of the tribal development plans.

Implementation Costs and budget: Implementation of the TDP would need to factor in the following and will be reflected in the SEP.

Table 26: Budget table for implementing the TDP (Indicative)

Items (indicative)	Unit	Rate	No.	Amount
Additional resource persons (Tribal experts etc.)				
Conducting FPICs (vehicle, fuel, photography, videography)				
Training				
IEC materials develop and dissemination				
Budget for any identified special community needs				

Monitoring arrangements of TDP

Throughout the implementation of the project, the Social Development Specialist of PMU KERS and concerned PIUs and will monitor the project compliance with TDP. The Social Development Specialist will visit the project sites at least on a quarterly basis since the planning until three months and meet the tribal communities and their leaders. The Specialist will also monitor activities to ensure adequate participation and inclusion of ST persons in availing benefits under the project. Upon the completion of the sub-component and implementation of IPDP, the Social Specialist will carry out an IPDP completion assessment to confirm that all measures under this TDP have been fully implemented.

Conduct periodic monitoring and audit of TDP implementation to provide early alert to redress any potential problems; and,

Conduct mid-term, annual and end term monitoring, and audit to assess target achievements and slippages with respect to implementation of IPDP.

Grievance redressal mechanism – monitors and audits its functioning and processes along with complaints received and resolved shall be monitored and audited.

The results of this monitoring and audit shall be summarized in reports which will be submitted to the KERS on a regular basis. Provision will be made for participatory monitoring involving the PAPs. The summarized reports of this monitoring and audit should be sent to the World Bank on quarterly basis.

8.10 Annexure:GENDER ACTION PLAN

Gender Equity. K-SHORE project emphasizes inclusive community development through a number of integrated interventions, especially taking into consideration the vulnerable coastal communities – sustaining by traditional means of utilizing coastal and marine resources. In order to make the project more inclusive and participatory, it is required that women associate themselves in different activities which they find feasible. This approach of inclusion and equity, specifically involvement and engagement of women will be helpful to attain social justice and reduce marginalization of women and empower them to avail maximum benefit from the project. Thus, incorporating gender and other social issues in the development projects helps to improve project performance and facilitate the achievement of the Bank's goal of poverty reduction. A gender approach in the overall project framework takes care of key gender issues and brings in parity in association and participation of women and minimises the gap between males and females at the project level. A gender approach is also a way to comprehend the impacts on the women beneficiaries and ensures equality in project induced wellbeing.

During the environmental and social assessment, consultations will be organised with different stakeholders to understand gender issues and possible measures that can help women in ensuring their participation in the overall process. The assessment helped to identify certain key issues pertaining to women and their involvement in different livelihood activities as well as other activities which will directly or indirectly impact their lives.

Policy Provision

Directions in Constitution. The constitution of India provides provisions to secure equality in general and gender equality in particular. Various articles in the Constitution safeguard women's rights by putting them at par with men socially, politically, and economically. The Preamble, the Fundamental Rights, Directive Principles of State Policies (DPSPs) and other constitutional provisions provide several general and special safeguards to secure women's human rights. The Preamble to the Constitution of India assures justice, social, economic and political; equality of status and opportunity and dignity to the individual. Thus, it treats both men and women equal.

The policy of women empowerment is well entrenched in the Fundamental Rights enshrined in our Constitution. For instance:

1. Article 14 ensures to women the right to equality;
2. Article 15(1) specifically prohibits discrimination on the basis of sex;
3. Article 15(3) empowers the State to take affirmative actions in favour of women;
4. Article 16 provides for equality of opportunity for all citizens in matters relating to employment or appointment to any office. These rights being fundamental rights are justifiable in court and the Government is obliged to follow the same.

Directive principles of State Policy also contains important provisions regarding women empowerment, and it is the duty of the government to apply these principles while making laws or formulating any policy. Though these are not justifiable in the Court but these are essential for governance nonetheless. Some of them are:

- Article 39 (a) provides that the State to direct its policy towards securing for men and women

equally the right to an adequate means of livelihood.

- Article 39 (d) mandates equal pay for equal work for both men and women.
- Article 42 provides that the State to make provision for securing just and humane conditions of work and for maternity relief.

Fundamental Duties. Fundamental duties are enshrined in Part IV-A of the Constitution and are positive duties for the people of India to follow. It also contains a duty related to women's rights. Article 51 (A) (e) expects from the citizen of the country to promote harmony and the spirit of common brotherhood amongst all the people of India and to renounce practices derogatory to the dignity of women.

Other Constitutional Provisions. Through the 73rd and 74th Constitutional Amendment of 1993, a very important political right has been given to women which is a landmark in the direction of women empowerment in India. With this amendment, women were given 33.33 percent reservation in seats at different levels of elections in local governance i.e., at Panchayat, Block and Municipality elections. Thus, it can be seen that these Constitutional provisions are very empowering for women and the State is duty bound to apply these principles in taking policy decisions as well as in enacting laws.

Specific Laws for Women. Some specific laws, which were enacted by the Parliament in order to fulfil the Constitutional obligation of women empowerment are:

- The Equal Remuneration Act, 1976.
- The Dowry Prohibition Act, 1961.
- The Immoral Traffic (Prevention) Act, 1956.
- The Maternity Benefit Act, 1961.
- The Medical termination of Pregnancy Act, 1971.
- The Commission of Sati (Prevention) Act, 1987.
- The Protection of Women from Domestic Violence Act, 2005
- The Prohibition of Child Marriage Act, 2006.
- The Pre-Conception & Pre-Natal Diagnostic Techniques (Regulation and Prevention of Misuse) Act, 1994.
- The Sexual Harassment of Women at Workplace (Prevention, Protection and) Act, 2013.

Above mentioned and several other laws are there which not only provide specific legal rights to women but also give them a sense of security and empowerment.

International Commitments. India is a part of various international conventions and treaties which are committed to secure equal rights of women. One of the most important among them is the Convention on Elimination of All Forms of Discrimination against Women (CEDAW), ratified by India in 1993. Other important international instruments for women empowerment are: The Mexico Plan of Action (1975), the Nairobi Forward Looking Strategies (1985), the Beijing Declaration as well as the Platform for Action (1995) and the Outcome Document adopted by the UNGA Session on Gender Equality and Development & Peace for the 21st century, titled "Further actions and initiatives to implement the Beijing Declaration and the Platform for Action". All these have been whole-heartedly endorsed by India for appropriate follow up.

National Policy for Woman. In the year 2001, the Government of India launched a National Policy for Empowerment of Women which was revised in the year 2016. The National Policy for Women, 2016 (draft) having the vision of "A society in which women attain their full potential and are able to participate as equal partners in all spheres of life and influence the process of social change". The objectives of the policy are:

- Creating a conducive socio-cultural, economic, and political environment to enable women enjoy de jure and de facto fundamental rights and realize their full potential.
- Mainstreaming gender in all-round development processes/programmes/projects/ actions.
- A holistic and life-cycle approach to women's health for appropriate, affordable, and quality health care.
- Improving and incentivizing access of women/ girls to universal and quality education.
- Increasing and incentivizing work force participation of women in the economy.
- Equal participation in the social, political, and economic spheres including the institutions of governance and decision making.
- Transforming discriminatory societal attitudes, mindsets with community involvement and engagement of men and boys.
- Developing a gender sensitive legal-judicial system.
- Elimination of all forms of violence against women through strengthening of policies, legislations, programmes, institutions and community engagement.
- Development and empowerment of women belonging to the vulnerable and marginalized groups.
- Building and strengthening stakeholder participation and partnerships for women empowerment.
- Strengthen monitoring, evaluation, audit and data systems to bridge gender gaps.

World Bank's Approach. The World Bank's approach to promoting gender equality makes all staff responsible for ensuring that the Bank's work is responsive to the differing needs, constraints, and interests of males and females in client countries. Gender equality is now a core element of the Bank's strategy to reduce poverty. There is a clear understanding that until women and men have equal capacities, opportunities and voice, the ambitious poverty-reduction agenda set out in the Sustainable Development Goals will be difficult to achieve.

Issues of Significance. Mainstreaming gender equity and empowerment is already a focus area in K-SHORE. In the sub projects, activities related to diversification of livelihood, improvement of basic services and protection of coastal and marine resources will address women's needs. At the sub project level, gender analysis will be part of the social assessment and the analysis will be based on findings from gender specific queries during the primary data collection process and available secondary data. The quantitative and qualitative analysis will bring out sex disaggregated data and issues related to gender disparity, needs, constraints, and priorities; as well as understanding whether there is a potential for gender based inequitable risks, benefits, and opportunities. Based on the analysis, the specific interventions will be designed and if required Gender Action Plan (GAP) will be prepared.

The participation of beneficiaries and focus on poverty reduction are two other key determinants of the effectiveness and sustainability of any project. Any project must address the constraints on women's participation in project design, construction, and monitoring and evaluation (M & E). The project must also focus on the linkage between gender and poverty, by identifying, for example, relation between the household income and occupation of the women of the fisherman community. An adaptive, learning and process-oriented approach works better than a blueprint approach; continuous dialogue between the PMU/PIU through engaging the Gram Sabha in case of rural areas and local urban bodies in case of urban areas, and the beneficiaries / PAPs is therefore important. Project beneficiaries are likely to have a stronger sense of ownership when the project gives them enough time, design flexibility, and authority to take corrective action. In this way, they find it easier to incorporate their earlier learning and negotiate with project staff and service providers. Therefore, a mechanism must be built into the project to allow such reciprocal interactions between the beneficiaries and the service providers.

Three major tools are used to identify and deal with gender issues in the project cycle: gender analysis, project design, and policy dialogue.

Gender analysis should be an integral part of the environmental and social assessment at the screening stage itself. The issues identified can be scaled up during the feasibility and detailed analysis can be carried out during the project preparation stage.

The project designs should be gender responsive based on gender analysis and should be included in the ESIA document. The findings and recommendations from the gender analysis during project planning and feedback from beneficiaries during implementation must be discussed thoroughly to determine the need for further action.

Consultations will be organised with different stakeholders to understand gender issues and possible measures that can help women in ensuring their participation in the overall process. The consultations helped to identify certain key issues pertaining to women and their involvement in the proposed interventions.

Significant Gender Issues. The following are the major common gender issues applicable to most of the interventions.

- Lack of options of occupation for the women of the fisherman community. Absence of diversity of work other than helping with the catch at the landing sites affects the income of household especially for the small traditional fishing communities during the lean period.
- Exclusion of women in fisheries related activities such as community mariculture
- Low land holding of traditional dual farming and hence low production and insecure livelihood.
- Occupational health issues due to prolonged duration of engagement during small community-based fisheries related activities or farming.
- Drudgery of women in agricultural activities due to less usable agricultural equipment.
- Limited access to technical equipment, capital, and training for developing alternative livelihood options
- Few women holding productive resources such as land, animals, and machinery.
- Negligible role of women in the decision-making process of the community for conservation of resources (such as mangroves or turtles) or disaster management.

- Active participation in community institutions is limited to a few women and large section either do not participate or remain passive.

Listed below are the key action points:

General Check list

- Identify key gender and women's participation issues.
- Identify the role of gender in the project objectives.
- Prepare terms of reference (TOR) for the gender specialist (refer Annexure 4) or social development specialist of the PMU/PIU
- Conduct gender analysis as part of the overall Social Assessment.
- Draw up a socioeconomic profile of key stakeholder groups in the target population and disaggregate data by gender.
- Examine gender differences in knowledge, attitudes, practices, roles, status, wellbeing, constraints, needs, and priorities, and the factors that affect those differences.
- Assess men's and women's capacity to participate and the factors affecting that capacity.
- Assess the potential gender-differentiated impact of the project and options to maximize benefits and minimize adverse effects.
- Identify government agencies and nongovernmental organizations (NGOs), community-based organizations (CBOs), and women's groups that can be used during project implementation. Assess their capacity.
- Review the gender related policies and laws, as necessary.
- Identify information gaps related to the above issues.
- Involve men and women in project design.
- Incorporate gender findings into the project design.
- Ensure that gender concerns are addressed in the relevant sections (including project objectives, scope, poverty and social measures, cost estimates, and institutional arrangements).
- List out major gender actions.
- Develop gender-disaggregated indicators and monitoring plan.
- Core Requirement for Mainstreaming Gender
- All data should be disaggregated by gender, caste, ethnicity, location, and age
- Issues of division of labour, access to resources and decision-making power (who is doing what, who has access to what, who makes the ultimate decision) have to be assessed for their gender differential impact on women and men of different social identity groups.
- Assessment of policies, programs, institutional arrangements, human resources issues, and M&E system has to be done from a gender perspective of the project, project authorities and community groups.

Steps of Gender Mainstreaming. Three major tools will be used to identify and deal with gender issues in the project cycle: initial gender assessment, gender action plan, and policy note. The initial gender assessment should be an integral part of the environmental and social assessment at the screening stage. The issues identified can be scaled up during the feasibility study and detailed analysis can be carried out during the detailed project report stage. The project design should be gender responsive based on gender analysis and should be included in the detailed project report in the form of a gender action plan. The findings and recommendations from the gender analysis during project planning and feedback from beneficiaries during implementation must be discussed thoroughly to determine the need for further action.

Table 27: Inputs and Process Indicators

Focus of Intervention	Inputs and Process Indicators	Data Source
Policy checklist	<p>What are the requirements of the national gender equality policy, if any, and the executive support provided to it? Which ministry focal point or unit is responsible for advocacy and gender inclusion at the policy and project level?</p> <ul style="list-style-type: none"> • Are women and men civil society stakeholders consulted on policies and programs; included in teams analyzing policy and strategy; included in decision making? • Is there a system for monitoring the implementation of gender and other components of sector policies and strategies? • Sex disaggregation of beneficiary data and key gender indicators outreach and capacity building on gender and other social dimensions grants for addressing gender issues. • Are there training sessions on gender including gender-sensitive planning? • Is stakeholder consultation facilitated? • Is there participation in implementing agencies or community organizations? • How many women are represented on gender boards and in works prioritization and decision-making forums related to the planning, implementation, monitoring, and evaluation of sub projects? 	Contract documents; the Ministry of Women and Child Development; Society For Poor People Development (SPPD)
Project cycle: Project identification, preparation, and design	<ul style="list-style-type: none"> • Conduct a rapid assessment to identify and quantify potential gender-related issues and impacts affecting access, risks, benefits, and participation. • Identify disadvantaged or vulnerable groups, including who they are, where they live, and their socioeconomic characteristics (scheduled castes, 	Stakeholder and beneficiary assessments: user satisfaction survey, project concept note, social assessments

Focus of Intervention	Inputs and Process Indicators	Data Source
	<p>women-headed households, widows, disabled)</p> <ul style="list-style-type: none"> • Examine the impacts of the subproject on these groups. • Identify the gender-specific implications of land acquisition and resettlement. • Identify gender-specific implications of employment opportunities to be created under the project. • Identify gender-specific constraints in receiving information and providing feedback and complaints on the project. • Discuss identified gender and other social issues in the project. • Include both females and males affected by the project in stakeholder consultations. • Use separate focus groups to enable women to voice their views separately from men. • Analyze the data collected to highlight gender differences in uses and the underlying causes of women’s and men’s project related problems. • Examine relevant inter-sectoral linkages, such as access to health services, HIV/AIDS prevention, and access to markets and schools. • Ensure that analysis of gender differences in needs, use, constraints, and access are included in the terms of reference for the social assessment. • Identify the gender-related issues that need to be addressed to ensure the effectiveness and sustainability of the project. • Develop approaches for addressing the gender-related issues identified and creating opportunities for equal access to project benefits for men and women, including training, organizational capacity building, grants programs, targets for women’s participation. • Develop indicators for measuring progress on gender-related issues within the relevant project components (e.g., construction works, institutional arrangements, land acquisition, and resettlement benefits, privatization, livelihood restoration, awareness building, consultations, complaint handling) 	<p>(household surveys and focus group discussions in project influence area), mid-term and end term evaluation surveys</p>
Project cycle: Methodology	<ul style="list-style-type: none"> • Desk review (secondary literature) • Review available information (e.g., statistics, gender analysis etc.,) in the project area and the 	<p>Other projects in the country/state and gender policy</p>

Focus of Intervention	Inputs and Process Indicators	Data Source
	<p>socioeconomic profile of the target population.</p> <ul style="list-style-type: none"> • Review the relevant legal framework (e.g., inheritance law), policy framework (e.g., resettlement and rehabilitation), and institutional framework (e.g., current administrative system for land acquisition, compensation disbursement, grievance handling, awareness creation) and their gender implications. • Review government programs for encouraging equal opportunities and participation of women in the project influence area. • Household surveys (primary survey) • Draw up gender- disaggregated socioeconomic and cultural profiles and identify the problems faced by and needs of the target population. • Conduct group discussions, random interviews, and transect walks to study the activity pattern. • Collect quantitative information. • Participatory methodologies (e.g., participatory rapid appraisal) • Collect qualitative information that cannot be collected through surveys (socio cultural norms, behavioral questions) • Define ways in which men and women beneficiaries and other stakeholders, especially poor women, can equally participate in the project. • Map out the target areas and assess which are the most disadvantaged areas and sections of society (widows, female-headed households, disabled men and women) in terms of access to services and poverty level. • Identify major stakeholder groups and their positions. • Staffing • Ensure adequate gender balance in field teams. • Select field team members with gender awareness, local knowledge, cultural understanding, and willingness to listen 	<p>documents, household surveys, national sample survey, latest census data, participatory rapid appraisal of target area, focus group discussions, consultations with beneficiaries</p>
<p>Project cycle: Data collection</p>	<ul style="list-style-type: none"> • Socioeconomic profile: Gender-disaggregated data • Demographic: Gender, sex ratio, caste, marriageable age, female-headed households, migration trend, household size • Economic: Income level and source, expenditure pattern and decision making, access to land and 	<p>District, block, and village census data, national sample survey data, health survey data, household surveys,</p>

Focus of Intervention	Inputs and Process Indicators	Data Source
	<p>resources</p> <ul style="list-style-type: none"> • Health: Population growth rate, infant and adult mortality rate, availability of medical facility, reproduction-related decision making, HIV/AIDS awareness • Education: Literacy, school enrolment and dropout ratio, child labor • Status of women: Political representation and awareness, socio cultural perceptions and practices of men and women, domestic violence, trafficking, gender-discriminatory policies and laws, gender roles, responsibilities and gender division of labor in productive areas (e.g. agriculture, income-generating activities) and reproductive areas (e.g. household chores, child care), and time allocation for each responsibility • Availability, quantity, and quality of fuel and fodder, who collects fuel, fodder, and water for the family, sources of drinking and agricultural water, how men and women store and use water collected, dry season management, how far away these resources are located, time spent on collection of the resources, mode of transport used to collect the resources, availability of sanitation service (chargeable or not, who runs it) • Access, control, constraints • How men and women differ in their access to and control of land, agricultural inputs, extension, markets, employment opportunities, and credit • Whether external assistance is provided to improve access and control, and by whom. • Participation • Factors affecting the level of participation of men vs. women, incentives and constraints, means of information dissemination about the project preferred by men vs. women, labor demand for men vs. women, which modes of participation men and women favor (e.g., decision making in planning, cash contribution, labor contribution for construction, training, financial management, organizational management) • Perception of benefits and impacts • Men's and women's perceptions of positive and negative impacts of the project, how negative effects can be mitigated 	<p>focus group discussions, behavioral surveys, observation</p>

Focus of Intervention	Inputs and Process Indicators	Data Source
Project implementation: Gender action plan	<ul style="list-style-type: none"> • Prepare a gender action plan. Under this: • Undertake quality social and gender analyses. Identify constraints to participating and benefiting men and women; develop strategies for each component to ensure that men and women participate and benefit equally. • Revisit gender design strategies at inception to develop a detailed gender action plan. The plan needs to be tested and reviewed early in implementation; identify detailed activities, targets, resources, and responsibilities for implementation. • Citizen Engagement Framework: The gender action plan must be fully owned and understood by the PMU/PIU. Use a participatory and flexible approach to developing the plan; a strong rationale that is directly linked to overall project objectives is needed for targeting and working with women. • Identify realistic targets linked to loan objectives. Targets and strategies should enable step-by-step progress, bringing incremental changes and challenging culture without threatening it; linking targets to loan objectives helps all stakeholders to understand the rationale for focusing on women and helps monitoring of participation and benefits. • Include gender capacity building in the gender action plan. Both formal training and ongoing support and mentoring are needed for developing skills, ownership, and commitment. • Provide adequate skills and resources for the implementation of the gender action plan. Long-term gender specialists in the PMU/PIU or project team and adequate resources for implementation of actions; nongovernmental organizations and other agencies contracted to implement project activities should have a demonstrated gender capacity. • Monitor and follow up gender-related targets and activities. Systematic follow-up to ensure that policy reforms and gender actions are implemented; routine monitoring and reporting; gender-sensitive indicators and gender-related risks must be included in project logical frameworks. 	Gender expertise, Discussion, and participation with beneficiaries, separate focus group discussions with men and women, government departments, labor and employment laws, provisions in project and budget, learning approaches from good practice cases

Focus of Intervention	Inputs and Process Indicators	Data Source
Project implementation: Participation strategy	<ul style="list-style-type: none"> • Develop a participation strategy for men and women during project implementation and monitoring and evaluation: • Avoid overly high expectation of women’s participation and develop a practical schedule for participation. • Planning. Conduct women-specific consultation to take their views and suggestions on the design. Any mechanism established during the project design, such as grievance mechanisms, should have adequate representation of women. • Construction. Ensure work conditions that are conducive to women’s participation (e.g., gender-equal wage rates, construction season, toilet and childcare facilities) • Training options. Identify ways to link up with income generation, literacy, and other activities to support an integrated approach to poverty reduction and women’s empowerment. • Staffing, scheduling, procurement, and budgeting. Hire female project staff. • Consider seasonal labor demand in scheduling civil works. • If appropriate, set a minimum percentage of female labourers and prohibit the use of child labourers in the civil works contract. • Ensure adequate and flexible budgeting to allow a learning approach (e.g., training budget, consulting service budget for women’s organizations) 	Gender expertise, Discussion, and participation with beneficiaries, separate focus group discussions with men and women, government departments, labor and employment laws, provisions in project and budget, learning approaches from good practice cases
Project cycle: Impact	<ul style="list-style-type: none"> • Establish whether men and women perceive positive and negative impacts of the project differently and assess how the negative effects can be mitigated. • Consider whether the benefits are likely to be distributed equitably. • For disadvantaged or vulnerable groups, find out who they are, where they live, what are their socioeconomic characteristics (scheduled castes, women-headed households, widows, disabled), and how the project will affect them. • Assess the gender-specific implications of the following: • land acquisition and resettlement: extent of land being acquired. 	Project monitoring reports, audits, group discussions, household survey, land tenure details

Focus of Intervention	Inputs and Process Indicators	Data Source
	<ul style="list-style-type: none"> • utility relocation: what and where • tree cutting how many and local dependence • diversion of forest land: how much and local dependence 	
Monitoring and Evaluation: Feedback mechanism	<ul style="list-style-type: none"> • Develop a feedback mechanism in which both males and females have a voice. • Disaggregate all relevant indicators by gender, such as the number of women gaining access to credit, increase in women's income, and career prospects for project-trained women. • Integrate sex-disaggregated beneficiary data and relevant measures of gender equality into the baselines and other routine monitoring and evaluation processes. • Measure the impacts of the project components on women and men. • Assess the value added by women's participation in the project 	Focus group discussions, project monitoring reports
Monitoring and Evaluation: Gender-informed indicators	<ul style="list-style-type: none"> • Develop gender-informed results indicators for monitoring. These include: • Increased income, employment, and entrepreneurship. • Time saving and increased productivity. Reduced women's and men's time for domestic work (collection of water, fuel wood, food crop collection, fodder, etc.); increased productive time used for economic activities. • Improved affordability. Percentage increase of income among women and men; increased participation in decision making; number of women and men participating in community decision meetings; reduced incidence of harassment, crime, and human trafficking; increased awareness of HIV/AIDS transmission and prevention; number of women and men leading committees; number of women and men managers in agencies; women control their income and establish bank accounts in their names; increased recognition of women's contributions to the household and community 	Review of gender-informed results indicators

Key Activities in Project Cycle. The involvement of women groups in the identification of impacts and opportunities through project activities shall form the basis for the preparation of gender sensitive project activities. The procedure to be followed and process and outcome are presented in the following matrix.

Table 28: Opportunities for Involvement of Women during Project stages

Project Stages	Key Activities	Responsibility
Planning Stage	<ul style="list-style-type: none"> • Identify gender concerns/issues related to the project with due consultation with women group. • Organize women stakeholders' meetings to inform about the project activities, its benefits, and key expectations from the project. • Sensitize and discuss the project and its components. • Sensitize other stakeholders on gender concerns/issues. • Identify key areas of constraints that may be improved through the project. • Prepare project component wise activity plan where women can be engaged in different project activities. 	Social Development Specialist, Gram Panchayats/ Urban Local Bodies, PMU/PIU
Implementation Stage	<ul style="list-style-type: none"> • Implementation of provisions of project activity specific plan addressing gender concerns as per the GAP. • Monitoring engagement of women in different project activities, skilled and unskilled works. • Monitor safety and security measures of women in work and camp sites. • Monitor women specific provisions and facilities created in the project site and camps. • Supervising adherence to wage payment norms 	Social Development Specialist, PMU/ PIU, External M&E Agency
Post-Implementation Stage	<ul style="list-style-type: none"> • Continuation of activities initiated under the project. • Monitoring sustenance of project inputs and its benefits accessed by women 	Social Development Specialist, PMU/PIU

Monitoring Gender Action Plan. The indicators, frequency, and agency recommended for monitoring are presented in Table 29.

Table 29: Monitoring Indicators for Gender Action Plan

Aspects	Monitoring Indicators (Process and Outcome)	Frequency	Monitoring Responsibility
Economic	<ul style="list-style-type: none"> No. of women engaged in different activities and their proportion to the total workforce. Days of engagement of women in different wage / non-wage activities and proportional days of engagement in comparison to their male counterpart. Growth in income of women due to such engagements. Reduction in no. of days of migration (if migrating earlier). No. of women having additional/new market oriented employable skills for self-engagement. No. of women accessed different govt. schemes/provisions including beneficial enrolment in agricultural interventions. Improvement in asset holding of women (productive and household assets). 	<ul style="list-style-type: none"> Planning Stage: for the baseline data Half yearly Monitoring Mid Term Review (MTR) Final Impact Assessment 	<ul style="list-style-type: none"> PMU/PIU Third party Monitor along with PMU/PIU
Social	<ul style="list-style-type: none"> Improvement of association of women in local institutional and decision-making process (membership, management position, etc.); 	<ul style="list-style-type: none"> Planning Stage: for the base line data Half yearly Monitoring Mid Term Review (MTR) Final Impact Assessment 	<ul style="list-style-type: none"> PMU/PIU Third party Monitor along with PMU/PIU

8.11 Annexure: on Gender Based Violence Mitigation Framework

Understanding GBV & SEA

Gender-based violence (GBV) is violence directed against a person based on gender. It constitutes a breach of the fundamental right to life, liberty, security, dignity, equality between women and men, non-discrimination, and physical and mental integrity that, non-discrimination, and physical and mental integrity. Sexual Exploitation and Abuse (SEA) is a form of GBV, defined as any actual or attempted abuse of a position of vulnerability, differential power, or trust for sexual purposes, including, but not limited to, profiting monetarily, socially, or politically from the sexual exploitation of another. Acts of SEA may involve actual or threatened violence or inducements such as protection, food, shelter, or the like, in exchange for sex.

The Context

Global Context: Violence against women and children takes many forms, including sexual, physical, emotional, and economic abuse. It occurs in the home and on the streets and in times of peace and in conflict and crisis. Recent estimates by the World Health Organization indicate that 35 percent, or one in three women worldwide, have experienced some form of physical or sexual assault. GBV is an expression of gender inequality that prevents women and their families from escaping poverty drains public resources and impedes human development and economic productivity.

National Context: Women and girls in India today continue to experience multiple forms of violence, across multiple intersections, including of religion, caste, class, abilities, and sexual orientation. In India, the global data on gender violence is complemented by the recently concluded NFHS-4 data (2015-2016) at the national level which shows that 30 percent of women have experienced physical violence since age 15, and 6 percent have ever experienced sexual violence in their lifetime. 33 percent of ever-married women have experienced physical, sexual, or emotional spousal violence. Despite this, only 14 percent of women who have experienced physical or sexual violence by anyone have sought help to stop the violence.

State Context:

Table 30. Statistical Data of Project Districts:

Project Districts	Female Population	Female Literacy (%)	Sex Ratio	Female work Participation %
Dakshin Kannada	1,054,935	84.13	1094	35.7
Udupi	615,230	81.58	1020	
Uttar Kannada	710,913	78.39	979	
Dakshin Kannada				

*Source: Statistical Handbook: Karnataka 2021

GBV in Infrastructure Projects

Civil works, which include construction, maintenance and/or upgrading of infrastructure, can exacerbate the risk of GBV in both public and private spaces by a range of perpetrators in a number of ways, for example:

Projects create changes in the communities in which they operate and can cause shifts in power dynamics between community members and within households. Male jealousy, a key driver of GBV, can be triggered by labour influx on a project when workers are believed to be interacting with community women. Hence, abusive behaviour can occur not only between project-related staff and those living in and around the project site, but also within the homes of those affected by the project.

Construction workers are predominantly younger males. Those who are away from home on the construction job are typically separated from their family and their normal sphere of social control. This can result in inappropriate behaviour, such as sexual harassment of women and girls and illicit sexual relations with minors from the local community.

When land redistribution occurs—for example due to resettlement for civil works—women may be extremely vulnerable to GBV. This is particularly true in countries where the legal systems preclude women from holding land titles.

Projects with a large influx of workers may increase the demand for sex work—even increase the risk for trafficking of women for the purposes of sex work—or the risk of forced early marriage in a community where marriage to an employed man is seen as the best livelihood strategy for an adolescent girl. Furthermore, higher wages for workers in a community can lead to an increase in transactional sex. The risk of incidents of sex between laborers and minors, even when it is not transactional, can also increase.

The project's focus on enhancing livelihood and employment opportunities could potentially lead to sexual exploitation and abuse.

The temporary displacement of vendor stalls, small businesses, and informal establishments (e.g., fisherman huts and fish landing sites) may negatively impact access, livelihoods, and security, potentially raising the risk of GBV/SEA/SH

Women and girls' job opportunities are limited due to a lack of appropriate transportation options. When creating job opportunities for women within projects, teams should be aware that traveling to and from work in some settings can force women and girls to use unsafe, poorly lit commuter routes, or unsafe public transport. Increased risk of violence is experienced when women are confronted with traveling long distances to access work opportunities or forced to travel at night.

Increased interactions between the incoming workforce and the local community may result in increasing rates of communicable diseases, including sexually transmitted diseases and HIV/AIDS.

4. Legal and Policy Environment for Women's Safety

International Instruments: The international legal and policy framework establishes standards for action by countries to meet their legal obligations and policy commitments to address violence against women. Some of the key International instruments⁶ for the protection of women include:

United Nations General Assembly, Convention on the Elimination of All Forms of Discrimination against Women (CEDAW): Under CEDAW, States ensure through competent national tribunals and other public institutions the effective protection of women against any act of discrimination and refrain from engaging in any practice of discrimination against women and to ensure that public authorities and institutions shall act in conformity with this obligation.

Fourth World Conference on Women, Beijing Declaration and Platform for Action: The Platform for Action states that 'women may be vulnerable to violence perpetrated by persons in positions of authority in both conflict and non-conflict situations. Training of all officials in humanitarian and human rights law and the punishment of the perpetrators of violent acts against women would help to ensure that such violence does not take place at the hands of the public officials in whom women should be able to place trust, including police and prison officials and the security forces' (Para. 121).

United Nations General Assembly, Resolution 52/86 on Crime Prevention and Criminal Justice Measures to Eliminate Violence Against Women

World Bank's Guidance note on Management of Labour Influx, 2016. The document Provides guidelines to address issues and risks arising from influx of migrant labour leading to gender-based violence, forced labour etc.

National Instruments

India has signed and ratified Convention on Elimination of Discrimination against Women (CEDAW). Since then, the national policy for Women 2016 and other policies and amendments on acts has been reflecting the principles highlighted in the related international conventions. The goal of this Policy is to bring about the advancement, development, and empowerment of women.

The Sexual Harassment of Women at Workplace (Prevention, Prohibition and Redressal) Act, 2013, aims to prevent and provide redressal of complaints of sexual harassment. One of the main provisions in this act is that it calls for constituting an Internal Complaints Committee at each office or branch with 10 or more employees/workers.

One Stop Centres

Ministry of Women and Child Development (MWCD) has formulated a Centrally Sponsored Scheme for setting up One Stop Centres, a sub-scheme under the umbrella scheme for National Mission for Empowerment of Women including Indira Gandhi Matritav Sahayog Yojana. In line with the national guidelines, these Centres are established across the state to provide integrated support and assistance under one roof to women affected by violence, both in private and public spaces.

¹⁰ https://wcd.nic.in/sites/default/files/OSC%20Directory_0.pdf

Box11 (SHe-Box) is an effort of MWCD, Gol to provide a single window access to every woman, irrespective of her work status, whether working in organised or unorganised, private, or public sector, to facilitate the registration of complaint related to sexual harassment. Any woman facing sexual harassment at workplace can register their complaint through this portal. Once a complaint is submitted to the 'SHe-Box', it will be directly sent to the concerned authority having jurisdiction to take action into the matter.

World Bank Good Practice Note

The World Bank Good Practice Note (GPN) provides a comprehensive understanding of the nature and kinds of GBV. The GPN establishes an approach to identifying risks of GBV, in particular sexual exploitation and abuse and sexual harassment that can emerge in major infrastructure projects with civil works contracts. The GPN builds on World Bank experience and good international industry practices, including those of other development partners.

The GPN is guided by several key principles reflected in the 2017 GBV Task Force Report:

- Be survivor-centered: Approach considerations related to GBV prevention, mitigation and response through a survivor-centered lens, protecting the confidentiality of survivors, recognizing them as principal decision-makers in their own care and treating them with agency, dignity and respect for their needs and wishes.
- Emphasize prevention: Adopt risk-based approaches that aim to identify key risks of GBV and to undertake measures to prevent or minimize harm.
- Build on existing local knowledge: Engage community partners—local leaders, civil society organizations, and gender and child advocates— as resources for knowledge on local level risks, effective protective factors, and mechanisms for support throughout the project cycle.
- Be evidenced-based: Build on existing global research and knowledge on how to address GBV effectively.
- Be adaptable: Operational guidance presented in this note provides the foundation for an effective GBV risk management approach; adapt and adjust mitigation measures to respond to the unique drivers and context in any given setting.
- Enable continuous monitoring and learning: Ensure operations integrate mechanisms for regular monitoring and feedback to track effectiveness and to build internal knowledge of what works to prevent, mitigate and respond to GBV.

The GPN outlines the three Steps that need to be undertaken during project preparation and implementation as described below.

1. Identify and assess the risks of GBV during social assessments and include measures for their mitigation in project design. Ideally, this is done during project preparation, with the understanding that GBV risk assessment is a continuous process and should take place throughout the project life cycle as GBV can occur at any moment.
2. Address the risks during project implementation by identifying and implementing appropriate GBV risk mitigation and monitoring measures – that are commensurate to the risk level, on an ongoing basis.

3. Respond to any identified GBV incidents, whether related to the project or not, ensuring that effective monitoring and evaluation mechanisms are in place to report on such incidents and to monitor follow up.

11http://www.shebox.nic.in/user/about_shebox

Assessment of GBV Risks. As per the SEA/SH risk assessment tool for projects involving major civil works, the risk is assessed to be low. The work will be carried out in rural areas, and only local labourers will be involved. Although project involves civil works, the scale will be small, and the project will support income generating activities that will be in a group and in presence. The IAs are required to implement “The Sexual Harassment of Women at Workplace (Prevention, Prohibition, and Redressal) Act, 2013 (POSH Act 2013)” as part of the Government of India requirement. Existing reports and research materials at national and state level were reviewed for the assessment of area of impact and GBV risks. The assessment of GBV risks vis-à-vis the area of impact is shown in the table below.

Table 31: GBV and risk assessment

SN	Area of Impact	Risk Assessment
1	Community women and girls in close vicinity to the project sites	<ul style="list-style-type: none"> • Increased interaction between the staff/workers and the communities can cause inappropriate behaviour, such as sexual harassment of women and girls and illicit sexual relations with minors from the local community. • It may also increase rates of communicable diseases, including sexually transmitted diseases and HIV/AIDS. • The movement of transport vehicles through the residential areas in the villages and towns could make the public places (like markets, schools, playgrounds, access roads etc.) • unsafe for women, adolescent girls and children.
2	Women staff/ workers at work sites	<ul style="list-style-type: none"> • Cultural insensitivity towards women and the stigma associated with GBV, make women silent and skeptical about an unbiased redressal. • Lack of adequate and safe means of commuting to the project site and back. The risks are augmented significantly if travel is required at night. • There is lack of awareness of compliance to the existing acts and legal provisions. Women staff is often not aware of the redressal mechanism (even within the organization). • Absence of separate toilets for women at sites. • Adequate lighting in the work sites. • It is suggested Self-help groups, particularly those led by women, might serve as effective channels for conducting SEA/SH awareness programs
3	Labour Camps	<ul style="list-style-type: none"> • Negligence and non-compliance to national labour laws with regards to safety and security provisions for women labourers can increase risk of GBV. The absence of the following requirements can augment the situation. • Adequate provisions for the separate bathing area and toilets. • Separate accommodation for women workers. • Appropriate area breastfeeding and a crèche. • Adequate lighting in the labour camps and the toilets. • Display information on the redressal mechanism and contact details of the concerned personnel for registering of complaints. • The suggested actions to mitigate the risk of GBV-SEAH in the LMP are to be implemented by contractors

With reference to the World Bank’s SEA/SH Risk Assessment Tool¹⁹, the risk score is calculated on a scale of 0 to 25: projects that score 0-12.25 are considered “Low” risk; 12.5-16 “Moderate” risk; 16.25-18 a “Substantial” risk, and 18-25 “High” risk. Based on the internal risk assessment tool, the GBV risk rating for the project is considered **Moderate**.

GBV Action Framework

As a part of the ESMF preparation process and based on consultations with stakeholders including women’s groups, civil society organizations, administrative/field officials, the GBV risk rating for K-SHORE at appraisal stage is observed to be ‘Moderate.’ The ESMF notes that the KERS, Department of Forest, Ecology and Environment, GoK, Directorate of Fisheries, GoK, Karnataka State coastal zone Management Authority and other stakeholders are well-equipped to address GBV related risks in the context of proposed subproject interventions.

Subproject interventions involve civil works, albeit not on a large scale and likewise Environment friendly nature-based interventions such as mangrove afforestation too are on moderate scale. Such construction/upgradation activities will be utilizing largely contract workers who will be employed through small, local contractors, including migrant labor. However, the scale of these activities and the associated impacts is likely to be localized and hence GBV risk mitigation measures are built-into the occupational health and safety aspects of labor management and sensitization of communities.

To mitigate potential risks related to on-site safety and GBV, the KERS (PMU) will ensure that PEA with support from DPMUs will undertake the following steps and measures.

Table 32: GBV action framework

S.No	Key Actions	By when	Responsibility
1	Screening of GBV risk levels along with risk tier score (L/M/S/H) and include findings in sub-project documents	Before Start of activity	KERS and PEAs of PIAs
2	Include SEA/SH as topics during consultations with stakeholders/beneficiaries	Before Start of activity and continue during implementation	KERS and PEAs of PIAs
3	Include GBV/ SEA requirements in Bid-documents and also the requirement for a CoC which addresses SEA	Before issuance of bid or contract documents	KERS
4	Develop a SEA/SH prevention and response action plan and an accountability and response framework as part of the ESMP included within the DPRs for various sub-projects	Within four month of effectiveness	KERS

¹⁹Tools for assessing SEA/SH risks in Major civil works and social protection

S.No	Key Actions	By when	Responsibility
5	To address complaints related to GBV/ SEA, the implementing agencies are mandated to constitute ICC, at headquarters as well as division / district level.	Within 3 months of project effectiveness	KERS
6	Further, GBV Service providers will be mapped including an assessment of the capabilities of the service providers, at State and District level to provide quality survivor centred services including GBV case management. Linkages will be formalized with the implementing agencies through signing of MoUs to support in case referral, redressal, and awareness on GBV/ SEA. The ICCs of the PIAs will thus be responsible for addressing complaints related to GBV/ SEA. These committees will be notified. Additionally, information on Sexual Harassment electronic Box (SHe-Box) an online portal by MWCD, GoI will be provided. If any GBV/ SEA/ SH related grievances are received by the GRCs, the same will be forwarded to the respective ICs.	Within 3 months of project effectiveness	KERS
7	Popularise and communicate about the Internal Committee (IC) as per provisions contained in Section 4 of the Sexual Harassment of Women at Workplace (Prevention, Prohibition & Redressal) Act 2013 along with ToR of the Committee at headquarters as well as division/ district offices. Additionally, information on Sexual Harassment electronic Box (SHe-Box) an online portal by MWCD, GoI will be provided. If any GBV/ SEA/ SH related grievances are received by the GRCs, the same will be forwarded to the respective ICs.	Within 3 months of project effectiveness	KERS
8	Designate Social Expert with PMC of KERS to supervise all SEA/SH actions during preparation and implementation	throughout project implementation	KERS and PMC
9	Train project personnel on GBV/ SEA/ SH/ VAC and redressal / referral mechanism/including GRM personnel. Training of project personnel on GBV/ SEA and grievance redressal/ referral mechanism, including GRM committee members and personnel Awareness programs and FGDs will be conducted with STs, SCs, OBCs communities on SEA/SH and grievance redressal/ referral mechanism.	First event to be done within six months of project effectiveness and subsequently throughout project implementation	KERS Service Provider
10	Inform and consult those affected by the project, of the SEA/SH risks and project activities	throughout project implementation	KERS, PEA, DPMUs

S.No	Key Actions	By when	Responsibility
11	Develop IEC materials for awareness on GBV risks and measures to mitigate or respond including information on SHe-Box Online Complaint Management System http://www.shebox.nic.in/	Within 6 months of project effectiveness	KERS, PEA, DPMUs
12			
13	Expand the scope of GRM to address GBV cases; also popularise SHe-Box Online Complaint Management System http://www.shebox.nic.in/	throughout project implementation	KERS
14	Ensure Codes of Conduct (CoC) are clearly understood and signed by Contractors/ staff/ officials; Train staff/ officials on CoC	throughout project implementation	KERS KERS, PEA, DPMUs
15	Implement appropriate project-level activities such as: Separate, safe and easily accessible facilities for women and men in the place of work and the labour camps. (e.g. toilets should be located in separate areas, well-lit) Display signs that the project site is an area where SEA/SH is prohibited.	throughout project implementation	KERS and Contractor
16	Evaluate Contractor's SEA/SH accountability and response framework	Before contract signing	KERS with support from PMC and WB
17	Review C-ESMP, where applicable	Before commencement of activity	KERS- PMC with support from WB
18	Report in the quarterly progress report and also during Bank's Implementation Support Mission	All phases	KERS

8.12 Annexure: Terms of Reference of conducting ESIA of Substantial Risk Projects

Scope of Work

In line with the requirements of the World Bank's ESF, (Insert Name of Implementing Agency) now wishes to engage a Consulting Firm (hereafter named "the Consultant") for the preparation of an Environmental and Social Assessment and preparation of management/mitigation instruments to address project's E&S risks and impacts for sub-projects in K-SHORE. The scope of work to be carried out by the Consultant shall include but not limited to the following:

- a) Undertake **review of due diligence** and screening activities as summarized in **ESDD report**.
- b) Conduct detailed Environmental and Social Impact Assessment (ESIA) for the sub-projects in accordance with Bank's new ESF. In addition, the Consultant will prepare as necessary Environmental and Social Management Plan (ESMP), Biodiversity Conservation and Sustainable Management of Living Natural resources Plan (BCSMP), Resource Efficiency and Pollution Prevention and management plan (REPPMP), Community Health and Safety Plan (CHSP), Resettlement Policy Framework (RAP), Tribal (Indigenous)/Indigenous Peoples Development Plan (IPDP), Labor Management Procedure and Stakeholder Engagement Plan (SEP) etc. as appropriate.
- c) The Consultant will support the client in complying with requirements such as preparation of application and supplementary reports (survey and preparation) required per local regulatory requirements for obtaining project's clearances like forest /environmental/wildlife clearances, if applicable, and presentation before expert panel committees of MoEF&CC, Govt. of India.
- d) Develop a coordination mechanism to ensure timely sharing/exchange of information and documents with DPR Consultant. The Consultant shall ensure DPR Consultant/Implementing Agency integrates recommendations on environmental and social mitigation measures in design, working drawings, developing specifications, estimates of quantity and ESMP budget; and linking quantity and management measures in bid document.
- e) The Consultant shall **conduct consultations** with identified stakeholders and project-affected parties/community from early project planning and design stages of the assignment. The Consultant shall support the client in developing Stakeholder Engagement Plan (SEP) for entire project cycle and its disclosure.
- f) Support (Insert Name of Implementing Agency) **complying with** 'Environment and Social Commitment Plan' (ESCP) agreed with the World Bank. The ESCP will provide according to a specific timeframe (a) a list of management plans, based on ESA/ESIA findings that borrower will develop and implement, (b) the appropriate plans and actions required for the project to meet ESSs requirements, (c) adaptive management process for changes in project scope and unforeseen circumstances, and (d) include targets and performance indicators for borrower's monitoring.
- g) **Conduct capacity building training** on Bank's new Environmental and Social Framework (ESF), Environmental and Social Management Plan, and aspects like efficient use of raw materials i.e. use of local materials, recycled aggregates; climate resilient measures; water conservation and management, GHG reduction, emergency preparedness etc. which are integral part of Bank's ESF policy.

4.0 Detailed Scope of Work

Task A: Activities to be undertaken during Inception Stage

- a) The Consultant shall use the inception period to familiarize with the project details. The Consultant shall be cognizant/take cognizance of engineering studies already prepared/being prepared in parallel. The Consultant should also recognize that due care and diligence planning during the inception stage helps in improving the timing and quality of the ESIA reports.
- b) During the inception period the Consultant shall (i) study the project information to appreciate the context within which the ESIA should be carried-out, (ii) carry out review of due diligence of each project and identify the magnitude of risk and impacts and likely influence area or impact zone. Finding of this due diligence will be shared with the consultant to identify the detailed scope of ESIA/ESMP. The consultant shall identify the sources of secondary information on the project and on the project area and conduct preliminary planning survey to understand environment settings, available/existing land and required land for sub-project activities; design and developing formats for field and design survey. The consultant shall prepare preliminary estimation of impacts on private and community properties including impacts on non-titleholders and carry out identification of stakeholders, plan consultations with stakeholders and likely project affected parties. The consultant shall study the various available surveys, techniques, models and software in order to determine the most appropriate options in the context of the project.
- c) The Consultant shall review and identify Borrower's E&S rules/regulations to identify required actions considered necessary for the project to achieve compliance with local legal requirements, insofar as they do not contradict the Bank ESF Policy.
- d) The Consultant after appreciation of consultancy assignment scope and site conditions, shall fine-tune the methodology(ies) that shall be used to carry out Environmental and Social Impact Assessment (ESIA) for the sub-project.
- e) The Consultant shall interact with the /Implementing Agency to determine how the ESIA activities fits into the overall project preparation/ project cycle; and to appropriately plan the timing of the deliverables of the ESIA process. In addition, a mechanism for continuous interaction between the Implementing Agency and ESIA Consultant teams shall be formalized and succinctly documented in the Inception Report.

Deliverable at this stage:

1. Inception report consisting of review findings, proposed plan of action, support required, deployment of resources and deliverables timeframe.
2. Suggested ESMP and contents
3. Primary data collection plan for detailed ESIA based on Secondary data availability and ESDD.
4. Outline of different Environmental management plans, RAP, TDP (if applicable) required.

Task B: Undertaking ESIA and Preparation of Sub-project specific E&S assessment and plans

As this stage, social and environmental assessment will be undertaken as per tasks listed below.

- a) Define project's 'study area' or project influence area.

The Consultant shall define the 'study area' considering different project activities and associated facilities²⁰ and environment setting in likely influence area. Specify the boundaries of the study area for the assessment: in-migration and settlement, natural resource exploitation, commercial development for financial resource generation, air and noise pollution, terrestrial and aquatic ecology of the area (presence of forests areas, national parks etc), land use, etc.

b) Surveys

The Consultant shall collect information on the existing environment & socio-economic profile/setting from authentic secondary sources, and identify gaps to be filled, relevant to the environmental & social screening needs from primary surveys. Primary surveys shall include baseline monitoring of air, water, soil, noise and vibration at representative and sensitive locations, and identification of all macro-level environmental & social issues within the project's study area. The extent of primary data collection may vary depending upon the project activities and extent of associated risk and impacts identified during inception stage.

The Consultant shall survey the environmentally & socially sensitive locations in the sub-project area as well as within the project's study area. All regionally or nationally recognised environmental resources and features within the project's study area shall be clearly identified, and studies in relation to the proposed scope of the project. Typically, these will include areas ecological importance, congested habitation area around the sub-project and which are likely to be impacted, trees; land use around sub-project area including depiction of environmental and common property resources such as forests, water bodies; archaeological sites and major/minor physical cultural properties such as temples, shrines, mosques, etc, transportation systems, migratory route of animals if any, public utilities like water supply line depended on sub-projects, waste disposal sites etc All these parameters for impact assessments shall be depicted using an toposheet and area map. The information of longitude, latitude should be indicated for importation locations and sensitive areas. In addition, the consultant is to ascertain presence of tribals in sub-projects whose characteristics match with requirements as listed under ESS 7 and thereby assess the need to prepare Tribal Development Plans for such dam sub-projects.

c) Review of Environmental & Social Legal Requirements

Taking cognizance of existing state and national's social and environmental acts, rules and regulations, the Consultant shall review environmental and social legal requirements set forth per local regulations to assess their applicability to the project. The permissions and clearances required shall be listed beforehand for implementation of the project.

d) Baseline Data

²⁰Refer ESF, 2016 of the World Bank

The Consultant while planning baseline data collection shall ensure (a) relevance of baseline data to predict impact and design mitigation measures; (b) identify data gaps and uncertainties associated with prediction; (c) based on current information, assess the scope of the area to be studied based on physical, biological, and socioeconomic conditions; (d) takes into account current and proposed development activities within the project area but not directly connected to the project. This section should indicate the accuracy, reliability and sources of the data and consequences for assessing impacts and their mitigation). This section will address the separate Project influence Area (PIA) of each of the sub-project and will present GIS map, as appropriate.

e) Analysis of Impacts and Management Measures

The Consultant shall conduct a preliminary analysis of the nature, scale, and magnitude of the impacts that the project is likely to cause on the environment, especially on the identified sensitive environmental receptors, and classify the same using established methods and tools. For the negative impacts identified, alternative avoidance/mitigation/management options shall be examined (in line with mitigation hierarchy outlined in the ESF), and the most appropriate ones suggested. For the positive measures identified, alternative and preferred enhancement measures shall be proposed.

f) Scoping

The Consultant shall define boundaries of the project ESIA after careful consideration of the baseline scenario, likely potential environmental risks and impacts on the identified sensitive environmental receptors/VECs, and the proposed mitigation and enhancement measures. The scoping shall include a listing of potential environment issues that do not deserve a detailed examination in the project ESIA (covering induced impacts that may be outside the purview of the client) along with a justification. The scoping needs to identify potential environmental risks and impacts that should be studied during ESIA and recommend additional studies needed to comply the requirements of Environmental and Social Standards (ESSs) of the World Bank. If extensive study is recommended in future which is beyond the scope of the project, the draft ToR should be attached in the Annex. Detailed content of ESDD shall also form part of Scoping report.

g) Stakeholder Engagement Plan

The Consultant shall develop a draft Stakeholder Engagement plan that shall be applicable throughout the project cycle. Nature and scope of stakeholder engagement would be proportionate to the nature and scale of the project and its potential risks and impacts. In preparing this SEP, the Consultant shall carry out preliminary consultations with communities that are likely to be affected, NGOs, selected Government agencies, and other stakeholders. An indicative (but not exhaustive) list of stakeholders indicates stakeholders to be: district administrations of areas with sub-projects, departments of forests, horticulture, agriculture, revenue and tourism; local communities civil society organizations, media agencies – both print and audio/visual; police authorities, district administration, State Disaster Management Authority (SDMAs) and National Disaster Response Force (NDRF), and people likely to be affected due to pre-construction and construction stage impacts; and response providers i.e. NGOs/CSO involved as part of the GBV risk mitigation plan.

The purpose of these interactions would be to: (a) collect baseline information, (b) obtain a better understanding of the potential risks and impacts and capacities (c) appreciate the perspectives/concerns of the stakeholders. Consultations shall be preceded by a systematic stakeholder analysis, which would (a) identify the individual or stakeholder groups relevant to the project and to social and environmental issues including affected parties, other interested parties, disadvantaged/vulnerable groups (b) determine the nature and scope of consultation with each type of stakeholders, (d) determine the tools to be used in contacting and consulting each type of the relevant stakeholders (e) mode of consultation and time of consultation (f) management functions and responsibilities (g) monitoring and reporting. Consultation with the stakeholders shall not be treated as a project information dissemination session but as step to improve the plan and design of the project and shall continue through project implementation. A single Stakeholder Engagement Framework (SEF) is prepared for the overall project that would lay down principles, process, and protocol to be followed for consultations, identification of stakeholders, etc. at each sub-project level.

Deliverables at this stage:

a. Scoping Report and b. Stakeholders engagement plan

C. Tasks for Conducting ESIA's

h) Environmental inputs to Engineering Feasibility Studies

The Consultant shall make location-specific design recommendations, wherever possible, construction material use, , erosion control, and mitigation & enhancement measures. For all the different alternative improvement proposals under consideration, using acceptable/established valuation techniques, the Consultant shall prepare {a} an estimate of economic costs of the environment damages, and economic benefits from the direct positive impacts that the project is likely to cause, and {b} an estimate of financial cost on the mitigation and enhancement measures that the project is likely to require, and financial benefits, if any.

i) Legal and Institutional Framework

The Consultant shall review and assess applicability of existing national and state's Environmental and social requirement according to applicable policies, laws, regulations, rules and procedures, as well as the institutional framework relevant to environmental and social aspects. The assessment will identify inconsistency or lack of clarity and aspects relevant to address project's E&S risks and impacts; and deviations with respect to requirements in ESSs. Based on assessment findings, the Consultant in discussion with (Insert Name of Implementing Agency) shall suggest actions to address E&S risks and impacts that may be implemented during project preparation and implementation. The Consultant based shall assist the client in preparing application and supplementary reports for obtaining requisite clearances or permits.

j) Baseline Surveys:

The Consultant will {a} collect information from secondary sources that are relevant to understand the baseline, as well as the design of mitigation measures pertaining to physical, biological and socio-cultural environments; consultant will provide details of sources of these secondary data in ESIA report {b} carry out site visits and identify environmentally sensitive features locations within direct or indirect project area and document them on the base maps to identify conflict points with preliminary designs.

All surveys shall be carried out in compliance with the (Insert name of State) GoI standards/guidelines/norms. However, extent of duration of baseline survey may vary. Wherever such guidelines/norms are not available, the techniques, tools and samples employed for the surveys shall conform to the international practices. Whenever directly relevant secondary data is available, these should be used, while indirectly relevant data should be verified through primary survey. Environmental quality (air, water, noise, and vibration) monitoring shall include an adequate number of samples, as established on a sampling network to provide a representative picture of pollution levels in sub-project areas. Additional data for sensitive environmental / ecological receptors, if any, shall be collected such as to analyse and predict the possible risks and impacts to a degree and precision of acceptable standards. The surveys shall necessarily cover inventory of trees, historical/cultural sites, construction material sources, settlements, land use, sensitive receptors etc. in project areas, including preparation of tree cutting schedules and forest land diversion case if involved. Further, additional specialized surveys, such as biodiversity assessment survey, and hydrological surveys shall be conducted, if and when required as part of environmental scoping.

The Consultant shall collect information on all regionally or nationally recognized environmental resources and features within the project area, which shall be clearly identified and studied in relation to activities proposed under the project. These will include all protected areas (national parks, wildlife sanctuaries, reserved forests, biosphere reserves, wilderness zones), unprotected and community forests and forest patches, all wetlands, and surface water bodies.

The Consultant shall consolidate all such information on maps in digital database and superimposed with the sub-projects area.

k) Social Impact Assessment

- i. Consultations with stakeholders: The Consultant shall carry out meaningful consultations as outlined under ESS 10 with each stakeholder category and present a Stakeholder Analysis of local stakeholders such as local government, associations, who could play a role in the project implementation process (including R&R) with positive/negative influence on the outcomes. These consultations will also cover issues relating to Gender Based Violence (GBV) and GBV-related concerns about the project. It shall record and analyse people's perception of the project, its adverse impacts, and minimum acceptable mitigation measures (relocation options, if any are required assistance offered) that will enable them to cope with displacement or loss of livelihoods – temporary or permanent in nature, if any. As part of this process, disadvantaged and vulnerable groups will be identified and separate focused group discussions (FGDs) with such groups besides women will be held.
- ii. In case of tribals, the Consultant shall conduct consultations and identify if the project impacts are result in loss of land, livelihood, relocation; and has significant impacts on indigenous peoples' cultural heritage that is material to their identify and /or the cultural/ceremonial/spiritual aspects of their lives and in such cases obtain Free Prior and Informed Consent of the affected indigenous persons/tribals. In case FPIC cannot be ascertained, the project will not proceed with those sub-projects/activities. The same shall be recorded in the ESCP. Summarize the concerns, suggestions by stakeholder for consideration by project authorities during design.

- iii. Quantitative and qualitative surveys: This shall involve identification of adverse (on the finalized alternative) and positive impacts of the project through consultations and quantitative survey. Survey should cover all categories of impacted persons and results of the Census and Socio-economic survey on affected households, should be presented segregated by gender and social category. It will help to establish impact categories that is critical to the determination of potential adverse impacts and help analyse the relative vulnerability of, and risks to, the affected communities. The assessment should analyse key impacts on different groups of people (such as landowners, small, farmers; small businesses, shopkeepers; commercial establishments, SCs/STs, disadvantaged and vulnerable groups and women²¹), and communities (common properties, lands). The impacts should be segregated by pre-construction and construction stage (such as disruption, loss of access, loss of livelihood, debris disposal following hill cutting, impact on host community, if any, issues arising due to labour influx, etc.). Besides all the affected community assets such as worship place, drying up of drinking water source, impacts to schools and the community facilities need to be recorded. As some of the districts and possibly some sub-project corridors have presence of scheduled tribes, and if the Screening exercise indicates the need, the SIA needs to assess the current socio-cultural living style of the tribal communities in line with the World Bank's ESS 7 and ascertain required measures.
- iv. Entitlement policy and assistance package: In context of the already developed Resettlement Policy Framework for this project, analyse state specific approaches to land taking, compensation and assistances along with national acts. The consultant should further assess the approach to better understand the processes and whether the method meets the requirements of ESS 5. Also, the gap analysis between this method and ESS5 requirements will cover the treatment of non-title holders, such as squatters and encroachers. Hence, based on discussions with (Insert name of State) and WB, the study will help establish the criteria for eligibility of compensation and other resettlement assistance and present entitlements by type of impacted assets and category of impacted persons including disadvantaged and vulnerable persons.
- v. Identification of gender concerns/gaps: In order to meet the Bank's requirements on gender, the project should carry out sub-project specific assessment of projects through gender perspective; hold separate FGDs with women households (amongst affected households) and those likely to be affected in case of Sub-project emergencies; and women site engineers; and explore areas for potential intervention. The exercise is expected to formulate commensurate actions relating to gender and help devise suitable monitoring indicators.
- vi. Identify modes for citizen engagement: As persons and communities would be impacted/influenced by the project activities, identify all the relevant stakeholders, revise the preliminary stakeholder analysis and plan, to identify means to engage with citizen/communities in respect to design and mitigation measures, monitoring, grievance mechanisms.
- vii. Institutional Capacity Building & Training: Assess the role of the key institutions, departments, and stakeholders involved in the project and describe their roles, responsibilities, and relationship with the project activities in specific relation to implementation of RAP, TDP. Provide an assessment of the strengths, weaknesses, and opportunities for capacity enhancement to address social and gender issues.

²¹ In accordance with Bank Directive on Addressing Risks and Impacts on Disadvantaged or Vulnerable Individuals or Groups

- viii. Labor related aspects: Project will involve a) Direct workers KERS and all PIAs/PEAs; b) contracted workers engaged in construction works including migrant skilled workers, consultancy services firms (for preparing DPRs, RAP & IPDPs where required, SEPs); c) primary supply workers could include suppliers of equipment necessary towards the many structural and non-structural interventions. At present due to the nature of the project, involvement of community workers is not envisaged, however there could be community volunteers involved in plantations, plastic management, etc.
- ix. Preparation of ESIA will assess the following aspects towards preparation of Labor Management Procedure: applicability of labour laws and, non-discrimination and equal opportunity, potential risks of child labor and forced labor, including the workers to be brought to the project by brokers (sub-contractors); grievance mechanism to all workers, occupation health and safety aspects, etc. Assess applicability of labour laws and, non-discrimination and equal opportunity, potential risks of child labor and forced labor, including the workers to be brought to the project by brokers (sub-contractors); grievance mechanism to all workers, occupation health and safety aspects, etc. The assessment to be carried out in accordance with 'ESS 2 – Labor and Working Conditions' will scope out impact and absorptive capacity on host communities to address risks that arises from labour influx and identify measures that need to be incorporated in the bid documents for the civil works contractor.
- x. Gender Based Violence aspects: To minimize the risk of GBV (and Sexual Exploitation and Abuse), the consultant shall: (a) Assess the overall GBV risks in the project area based on (i) existing gender country diagnostics/country action plans; (ii) data on partner/non-partner physical violence against women; (c) cultural practices vis-à-vis women (early marriage, physical practices); and (d) information obtained from consultations carried out as part of consultations with stakeholders; b) Prepare a mapping of GBV service providers in the project area that indicates the type of services, including formal service providers (i.e., hospitals, NGOs, government offices) and informal (i.e., women's groups, community elders, etc). The mapping should indicate any capacity constraints of informal GBV service providers; c) Confirm the GBV risk assessment rating provided by the World Bank for the project and assess the capacity of the implementing agency to supervise GBV mitigation measures; d) Identify GBV mitigation measures linked to activities to manage labor influx (including specifications for placement of worker camps, signage, infrastructure for men and women, etc.); e) Consult with women's groups, groups that advocate for children and adolescent rights, and other stakeholders.

These consultations should feed into the identification of potential GBV issues and possible prevention and mitigation strategies. As part of these consultations, those affected by the project should be properly informed of GBV risks and project activities to get their feedback on project design and safeguard issues. Community consultations should never directly ask about experiences of GBV and should follow ethical protocols; f) Depending on the project risk rating, prepare a draft GBV Action Plan and Accountability and Response Framework which provides details on (i) available service providers; (ii) the responsibilities of the Grievance Redress Mechanism to handle complaints and link to service provision; (iii) monitoring arrangements and responsibilities; and, (iv) awareness raising strategy in the local community (stakeholder engagement plan); g) Identify potential actions or initiatives to support GBV broader prevention in the project area such as: (i) need to broader support to health services or for health provision; (ii) youth engagement; or (iii) behaviour change communication, among others. The draft ESIA report shall articulate the findings of the targeted consultations and GBV mapping and present a matrix off issues and recommendations of the consultant to mitigate the critical GBV issues, including the engagement third party monitoring, as required.

l) Environmental and Social Risk and Impacts and Mitigation Measures:

The Consultant shall determine all relevant direct, indirect and cumulative environmental and social risks and impacts of the project related to key issues identified through the scoping, such as, but not limited to (a) construction impacts such water and soil contamination from wastewater generated from construction/workers camps; spillage and handlings of chemical and hazardous materials; damage to vegetation; disposal of spoils ; air pollution due to fugitive dust from repair/ rehabilitation work , and emission from operation of vehicle, equipment and plants; cutting of trees reduction of natural resources base and degradation due to extraction/quarrying; land degradation from project induced development; change in aesthetic of landscape; impacts on archaeological and historical sites/assets, culturally and socially important common properties, religious properties/sites, sacred groves on or near the project; distress of public/community due disruption of utility services; and likely direct, indirect and induced impacts on ecological functions of forests, other natural habitats including protected areas; community health and safety risks and issues; (b) occupational health and safety risks and issues during construction and operation; (c) operation stage safety concerns and risks, (d) environmental impacts during operational e.g. air pollution, noise, traffic safety, and impacts on wildlife, etc.

The Consultant shall (a) identify feasible measures for resource efficiency i.e. energy use, water usage and management, and raw materials so as to minimize project's foot prints on finite natural resources; (b) estimate carbon and GHG emissions due to implementation of project, identify feasible measures for reducing such emissions, creating carbon sink, and climate resilient measures to suite local needs and challenges.

The Consultant for identified environmental risks and impacts shall prepare Environmental and Social Management Plan, in accordance with 'mitigation hierarchy', which will (a) identify the set of responses to potentially adverse impacts; (b) determine requirements for ensuring that those responses are made effectively and in a timely manner; and (c) describe the means for meeting those requirements.

m) Analysis of Alternatives

The Consultant while doing analysis of alternatives shall compare feasible alternatives to the proposed project site, technology, design, and operation—including environmental and social risks and impacts “with project” and “without project” scenarios. The Consultant shall quantify and provide estimated budget for the alternative mitigation measures; and suggest institutional, training and monitoring requirements for implementation.

The Consultant shall suggest on efficient use of environment friendly construction materials and technologies, energy and resource efficiency, water conservation and management, reduction of GHG emission and increasing carbon sink, climate resilient measures etc. The Consultant to the extent possible shall attach economic values where feasible.

Deliverables at this stage:

1. Environmental & Social Assessment Report (Detailed ESIA).
2. GBV Mitigation Framework

TASK D: PREPARATION OF SUB-PROJECT SPECIFIC PLANS & INSTRUMENTS

- Based on the environmental and social impacts assessed, ESMPs, RAP, TDP (if required) and other plans as required for conforming to ESS1 to ESS10 for each sub-project shall be prepared that consists of a set of mitigation, monitoring, and institutional measures required to eliminate/address adverse environmental and social risks and impacts. These instruments shall be prepared as per the requirements of WB’s ESSs and should identify responses to potentially adverse impacts; determine requirements for ensuring timely responses; and describe the means for meeting those requirements. The technical details for each mitigation measure shall include the type of impact to which it relates, the conditions under which it is required (e.g., continuously or in the event of contingencies), as well as preliminary design, equipment descriptions, and operating procedures, as appropriate.
- Estimate the impacts and costs of the mitigation measures for each of the activities separately and of the institutional and training requirements to implement them. Assess compensation to affected parties/persons for impacts that cannot be mitigated. However, this assessment and subsequent compensation plan are to be more strongly addressed in the Resettlement Action Plan document.
- The Consultant shall recommend feasible and cost-effective measures to prevent or reduce significant negative impacts to acceptable levels. Apart from mitigation of the potential adverse impacts on the environmental component, the ESMP shall identify opportunities that exist to induce positive impacts of project. This shall include but not limited to the enhancement of specific locations as water bodies, enhancement of community and cultural assets, fisheries productivities, etc. Residual impacts from the environmental measures shall also be clearly identified. Include measures for emergency response to accidental events (land slide during construction or operation.), as appropriate.
- The ESMP shall include: a) specific or sample plans, such as for management and redevelopment of quarries, borrow areas and construction camps; b) detailed specification, bill of quantities, execution drawings and contracting procedures for execution of the environmental mitigation and enhancement measures suggested, separate for pre-construction, construction and operation period; c) actions identified based on assessment of potential quarry sites if any are identified, conditions of primary supply workers with a focus on child, forced labor and OHS; and d) good practice guides that relates to construction and upkeep of plant and machinery.
- Responsibilities for execution and supervision of each of the mitigation and enhancement measures shall be specified in the ESMP.

- To monitor implementation of ESMP, for different stage of project (pre-construction, construction, post construction), the Consultant shall identify the performance indicators, approach of monitoring, and frequency. The performance indicators should include both quantitative and qualitative types, but the Consultant shall consider practicality aspect and provide approach for monitoring each identified indicator.
- The Consultant shall also prepare a detailed management plans with specific actions to be taken by the contractors and sub-contractors with regard to working conditions and management of workers, management of chemical, hazardous and non-hazardous material/waste, noise, occupational health and safety of workers and community, labor influx (workers accommodation, HIV/ AIDS prevention etc.) and other key impacts under contractors' control.
- The ESMP shall specify the environmental supervision, monitoring and auditing requirements. The monitoring program shall specify performance indicators, monitoring parameters (air, water, noise, soil and vibration), reference standards, monitoring method, frequency, duration, location, and reporting on progress and results of mitigation. In addition, the program will specify what action should be taken and by whom in the event that the proposed mitigation measures fail, either partially or totally, to achieve the level of environmental protection expected. An outline of the contents of the EMP to be included in the project's Operational Manual should be provided along with environmental/social protection clauses for contracts and specifications.
- ESMPs should include provisions/actions relating to construction stage social impacts, gender mainstreaming, citizen engagement, management of labor influx²², HIV/AIDS and gender-based violence, etc.
- The ESIA shall highlight the special environmental clauses (SECs) to be included in the Tender Document under General/Particular Specification. These clauses are aimed at ensuring that the Contractor carries out his responsibility of implementing the EMP and other environmental and safety measures. The EIA shall also include a health safety plan of the project to be included in the tender document.
- The Consultant shall provide assessment on existing institutional/organizational status to support timely and effective of environmental and social project components. The findings shall be basis to identify measures and actions to strengthen environmental and social management capability in (Insert Name of Implementing Agency). The ESMPs shall describe the implementation arrangement needed for the project, especially the capacity building proposals including the staffing of the environment unit adequate to implement the environmental mitigation and enhancement measures. For each staff position recommended to be created, detailed job responsibilities shall be defined. Equipment and resources required for the environment unit, training plan and modules shall be specified, and bill of quantities prepared. All key actions identified essential for capacity development for effective implementation of project's E&S mitigation measures shall be linked with ESCP.
- The Consultant in the ESMP shall provide implementation schedule for measures that must be carried out as part of the project, showing phasing and coordination with overall project implementation plans; and estimated cost and sources of funds for implementing the ESMP (integrated into the total project cost tables).

²²Guidance note on managing the risks of adverse impacts on communities from temporary project induced Labour Influx, 2016

- The ESMP prepared shall be incorporated into the ESCP. The Consultant shall ensure implementation costs of mitigation measures and actions is integrated into the project's overall planning, design, budget, and implementation.
- Prepare Resettlement Action Plan: The scope and level of detail of the resettlement plan vary with the magnitude and complexity of resettlement. The plan shall be prepared based on detailed Census and Socio-economic survey that should cover the impacts on the community and other adversely affected groups and provides mitigation measures²³.
- Prepare Tribal Development Plan: Commensurate instruments, such as Tribal Development Plans (TDPs), will be developed for sub-projects identified. FPIC would be undertaken in sub-projects involving impacts on land, livelihood, cultural heritage and in cases requiring relocation and in case FPIC cannot be ascertained, the project will not proceed with those activities. On the basis of the social assessment and in consultation with the affected Indigenous Peoples' communities, Consultant shall prepare an Tribal Development Plan that sets out the measures through which the project will ensure that (a) tribals affected by the project receive culturally appropriate social and economic benefits; and (b) when potential adverse effects on tribals are identified, those adverse effects are avoided, minimized, mitigated, or compensated for.²⁴

Deliverables at this stage

1. Labor Management Procedures²⁵
2. Stakeholder Engagement Plan based on overall Stakeholder Engagement Plan
3. GBV Mitigation Plan (if required) based on the overall GBV Mitigation Plan
4. Sub-project Specific ESMP i.e., RAP, EMP, TDP (if required)
5. Pollution Prevention, Resource Conservation, occupational health and safety and community safety plan, biodiversity conservation and sustainable management plan

Task E: Public Disclosure

²³Indicative contents of RAP placed at Annexure 10

²⁴ Indicative content of TDP is placed at Annexure 14

²⁵ Outline placed at Annexure 14

The Consultant will prepare a plan for in-country disclosure, specifying the timing and locations; translate the key documents into local language, such as the executive summary of Environmental and Social Impact Assessment, Environmental and Social Management Plan, RPF, RAP, TDP, or any other documents in local language and draft advertisement for the newspaper announcements for disclosure; and help the client to place all the related Environmental and Social Impact Assessment reports on the client's website. The draft ESIA and management plans should also be available in a public place accessible to affected groups and local NGOs for appropriate consultation.

Relevant materials will be provided to affected groups in a timely manner prior to consultation and in a form and language that is understandable and accessible to the groups being consulted. The Consultant should maintain a record of the public consultation and the records should indicate means other than consultations) e.g., surveys used to seek the views of affected stakeholders; the date and location of the consultation meetings, a list of the attendees and their affiliation and contact address; a video of the consultation workshop and summary minutes. Formal consultation shall be organised prior to ESIA preparation and after ESIA preparation. The public consultation input shall be duly addressed in the ESIA/mitigation measures.

Task F: Environment, Social, Health and Safety Requirements for Bidding Document

Based on the special environmental clauses (SECs) identified from the EIA study – which require to be included in the Bidding documents, the Consultant shall prepare detailed specifications for environmental, social, health and safety (ESHS) requirements for the bidding documents. These would also cover (Insert Name of Implementing Agency)'s ESHS policies that will apply to the project, minimum requirements for bidder's code of conduct, and requirement of contractors ESHS staff and other aspects identified as relevant to civil works.

Task G: Other Assistance to the Client

The Consultant shall support the client to furnish any relevant information required for obtaining clearance from various state and central government agencies where required. This may include {a} assisting the client in the submission of application for the Clearance of Reserved or Protected Forests to the State Forest Department, which shall include marking boundary pillar of proposed right-of-way, conduct tree counting survey and its enumeration, preparation of forest land diversion map and delineate its boundary by conducting DGPS survey, coordinate verification of trees for cutting and forest area to be acquired, presentation of case before MoEF& CC, preparation of forest diversion proposal, coordination and follow-up with forest departments till obtaining FC approvals; {b} completion and submission of the MoEF&CC questionnaire for Environmental Appraisal for the project, if applicable; {c} assistance in presentation to the Wildlife Board of the MoEF&CC in obtaining clearance for any area passing through the Wildlife Reserves or Sanctuaries or other protected areas, if any; {d} assistance in submission for any other clearance requirements with respect to the environmental components relevant to the project; {e} to prepare presentation, brochures, pamphlets for any kind of stakeholder consultation and disclosure; {f} consultation with WB Mission as and when required upon instruction of client; {g} to attend all progress review meetings with Team Leader as and when called by the client as well as to prepare progress review reports.

Task H: Training of Client's Staff

The Consultant shall conduct training for the client at various levels. The training should as far as possible be conducted in the (Insert Name of Implementing Agency) office at X. This is to ensure that the

knowledge, skills and perspectives gained by the Consultant is transferred to the client so that these can be utilized effectively during project implementation. The training should be focused (a) borrower's responsibilities and ESSs requirements of the World Bank and (b) on ESMP's covering both central and field offices. The Consultant shall develop a plan for training the client's staff. The plan should specify the types of training, the participants for each training type, the number of sessions required, the duration of each session and when it should be conducted. At the end of the training, when the ESMPs are ready, brief reports shall be prepared for the training conducted and observations relevant for future training, if any.

Task I: Co-ordination with DPR Consultant:

The Consultant shall at the direction of (Insert Name of Implementing Agency) to ensure absolute coordination and shall include but not limited to the following as part of the scope of work:

- Coordination with Consultant hired for DPR and preparation of detailed design report.
- Provide assistance to (Insert Name of Implementing Agency) as appropriate in preparation of the project.
- Develop mechanism to establish a strong co-ordination with the other project-preparation /management Consultant appointed in the project.
- Work under the overall supervision of (Insert Name of Implementing Agency) will facilitate the consultancy in contacting relevant officials, departments and agencies.
- Ensure the timely flow/exchange of information and documents with DPR Consultant and stakeholders of the project.

5.0 Inputs to be provided by the Client

The Client shall provide all necessary and reasonable support to the Consultant to collect secondary data by issuing authorization letters. The Consultant will be responsible for any translation of documents and for processing of data. The Project Director or his representative will liaise with the Consultant for all activities and participate as possible in the study. The (Insert Name of Implementing Agency) will provide the following reports:

- ESDD report of the Sub-project sub project
- All relevant documents related to the specific projects and any other background documentation and studies, available with (Insert Name of Implementing Agency)
- Making all necessary arrangements for supporting the work of the Consultant(s), by e.g. facilitating access to government authorities and other project stakeholders and infrastructure facilities.

Reporting Schedule:

Terms of Payment:

Duration of the Assignment:

Key Qualifications:

8.13 Annexure: Terms of Reference for Environmental and Social Audit

1. Background

(Provide brief background of the K SHORE project)

To facilitate the process laid down within its ESMF, SPMU intends to appoint consultants to audit projects taken up under K SHORE.

2. Objectives

- To audit the conformity of environmental and social categorization of projects with respect to the categorization prescribed in the ESMF.
- To audit the compliance of the environmental, climate and social aspects of approved projects, which are under implementation; and,
- Review and comment on how the recommendations of the previous audit have followed so far.

3. Scope of Work

- To carry out environmental and social audit with respect to the subprojects taken up under this project
- The various departments involved in the implementation areThe list of sub-projects to be audited is provided in the Annexure.

4. Outline of the tasks to be carried out:

The selected Consultant will essentially provide services to NPMU as required, for the following tasks.

a) Audit the Environmental and Social Categorisation of Projects:

The consultants will audit the conformity of the environmental and social categorization of projects based on the ESMF. The consultants will also review the adequacy of screening procedures to identify the possible issues; considerations of incorporating the social and environmental issues identified during the screening process into the engineering designs and action plans.

This audit will cover all the E1 category projects and 25 percent of the E2 projects (or E2 projects of special importance), and all those projects involving land acquisition and resettlement & rehabilitation.

Auditing the compliance of the Projects:

The consultants will

- Cover the compliance aspects of ESMF with reference to the agreed process at different stages of project development as well as the technical content of the EAs/ESMPs and RAPs/TDPs/LMP and SEP and GBV risk mitigation plans. Such an exercise shall include the effectiveness in translating the ESMPs into contract conditions and technical specifications.
- Critically review and report the compliance on Bank's recommendations during various supervision missions.
- Undertake field visits to ascertain actual level of compliance in implementing the ESMPs and RAPs.

- Audit and confirm that the payment of compensation and assistance has been paid in accordance with ESMF procedures wherever payment of compensation and assistance is involved for the projects affected people,
- Undertake field visits to interact with the beneficiaries on a sample basis to assess their levels of satisfaction with the process followed in delivering the entitlements.
- Review the process followed for redressing the grievances filed by the affected people with regard to compensation, R&R assistance or any other related complaints.
- Review and confirm that the disclosure of documents has been carried out in accordance with the established procedures; and,
- Review the internal monitoring followed by NPMU / SPMUs in managing the social and environmental impacts during the implementation of the sub-projects and suggest suitable measures for improving the process as needed.

The consultant will audit the compliance of environmental and social aspects during construction, operation and maintenance of projects approved under ENCORE, across all categories and different sub-project locations. The selection of sub-project shall be approved by NPMU before the commencement of the Audit. The audit will be carried out in the presence of the representatives of SPMUs/ Implementing Agencies.

Adequacy of the ESMP/SMP

The consultant will audit the adequacy of the ESMP/SMP and recommend practicable measures to include/improve the management measures and the agency responsible for carrying out the measures wherever found inadequate. The consultant will also document the best practices and possible environmental and social enhancement measures with respect to the audited projects. Apart from documenting the good practices, it shall discuss the deviations in following the ESMF and corrective measures (project level and in overall process).

Reporting

The consultant shall review the status report submitted by the SPMUs / Implementing Agencies on the implementation of ESMP / SMP and the process adopted by design consultants in identification and mitigation measures while preparing the DPRs. To report on the adequacy and timely submission of the Quarterly Progress Reports including the process involved in addressing the risk management.

Documentation

The consultant shall document the good practices and lessons learned with respect to Environmental and Social Safeguards implementation and management in the sub-projects.

Preparation of Audit Report

The findings of the review and audit should be summarized in a tabular form to include compliance, noncompliance, best practices and enhancement measures along with the name of the agency responsible for each of the above. This matrix should be provided as an attachment to the main report. In case of non-compliance, the consultants need to undertake a follow-up visit after giving sufficient time (depending on the type of corrective measures) for the agency responsible to take corrective actions.

5.Data, services, and facilities to be provided by the Client:

A copy of the ESMF and details of the projects sanctioned, Copy of ESIA's / RAP/TSP available, monitoring reports if any will be shared by the client.

The consultant would be required to submit __copies of each of the reports besides providing a soft copy of all reports, etc. All the pages in reports shall be printed in duplex mode except for A3 pages.

Procedure for review of reports:

The review committee will review the progress of work during each stage of the assignment and as and when required. The decision/suggestion of the review committee will be communicated in the form of minutes, for taking action.

Outputs, Payments and Time Schedule

Reports	Duration	Payment
On submission and acceptance of Initial Report on Compliance	Within 3 weeks from the date of award of contract.	15 percent of the contract value
On submission and acceptance of the Draft Audit Report	Within 10 weeks from the date of award of contract	55 percent of the contract value
On submission and acceptance of Final Report	Within 12 weeks from the date of award of contract	30 percent of the of Submission contract value

List of key positions, whose CV and experience would be evaluated.

Sl. No	Key Professional	No. of persons	of Experience
1.	Environmental Specialist	1	Postgraduate in Environmental or Public Health Engineering, Environmental Planning/ Environmental Science with about 5 years of experience in preparation of EIA Reports, carrying out Environmental Audit, experience on Climate Change Adaptation and Mitigation etc.
2.	Social Development Specialist	1	Postgraduate in any of Social Sciences work with 5 years of experience preferably in social auditing, experience in land acquisition and resettlement issues in development projects

Necessary support staff as required shall be engaged by the consultant in order to achieve the objective of the assignment.

Annexure: List of Sub-projects to be audited.

8.14 Annexure:CULTURAL HERITAGE PROTECTION PLAN

The Sub-project interventions may have interface with cultural heritage of the area and needs to plan for heritage protection during project implementation.

ESS8 recognises that cultural heritage provides continuity in tangible and intangible forms between the past, present, and future and the CHPP is prepared.

Though the sub-project activity work is unlikely to have interface with cultural heritage of the area, however considering its importance this plan is included. The Contractor shall prepare as part of C-ESMP, the procedure to address chance finds having physical cultural heritage significance.

Scope of Cultural Heritage Protection Plan (CHPP):

CHPP shall meet the following aspects:

1. Identify the presence of Archaeological protected monuments, present in sub-project or close vicinity of the sub-project.
2. Identify applicable legislative restriction and comply with them.
3. Identify physical, cultural or any religious heritage of importance to communities in the area close to or in the vicinity of sub-project and is/ are likely to have impact.
4. Define procedure for minimising the impact if any on cultural heritage of the areas.
5. To define procedure for dealing with chance find

CHPP Preparation and Approval

CHPP shall be prepared prior to start of construction, by Contractor in consultation with SPMU, finalised and approved by IA and in accordance with ESMF provisions.

Contents of Site Specific CHPP

- i. Identification of cultural resources and likely impact from the project

All agroecologically protected monuments and physical cultural resources of the community shall be identified. Risk and impact of the interventions on these resources shall be determined. Prior legislative permits, if applicable, shall be obtained.

- ii. **Undertake community consultation and other stakeholders' consultation** so that Community consultation and evolve sustainable protection measures.
- iii. Identification and Protection of Chance Find:

Any chance discovery of historical or areological importance shall be informed to authority concerned and it shall be preserved under secure conditions.

- iv. Reporting

Contractor shall share the CHPP monitoring reports with SPMU on regular basis.

- v. Responsibility

Prime responsibility of developing and implementation of CHPP shall be of the contractor. However, IA will ensure its preparation and implementation in consultation with the Contractor. The IA shall also ensure deployment of experienced Cultural Heritage expert.

8.15 Annexure:Suggestive ToR for the position of Environmental Specialist in KERS SPMU

A. Project Description

B. Scope of Work

As such project is prepared as per the World Bank's new ESF Policy and infrastructure interventions would trigger Environmental and Social Standards in the policy, therefore these need to be factored into the preparation of necessary mitigation instruments (action plans and frameworks), besides ensuring compliance to existing and relevant national and state legislations. In this regard, PMU needs to hire an experienced Environmental Specialist in its unit to effectively coordinate necessary studies as part of project preparation and implementation. Specific tasks by preparation and implementation/monitoring stages are as follows:

- Assist KERS in Environment Studies, ESDDs, ESIA and ESMP for all sub projects in reviewing the preparation and its successful execution at the respective states levels in line with Environmental and Social Management Framework (ESMF) of the Project.
- Familiarize self with World Bank's new ESF policy and advise KERS actions to meet with ES standard during project implementation. In addition, will monitor and advise on actions for project to comply with Environmental and Social Commitment Plan, part of loan agreement.
- Understand scopes of ESIA and management in consultancies procured or being procured for project planning and implementation under the project and ensure timely and quality deliverable.
- Preparation or support to modify ToR and Bidding/contractual documents for Hiring of Consultant firms for EIA, EMP, Biodiversity assessment, and any studies, if required
- Facilitate co-ordination with DPR technical design and ESIA team as well as other relevant governmental officials/departments.
- Provide all necessary support and facilitation on behalf of KERS to ESIA consultants and to investment planning and design teams on environment related aspects during site assessments stakeholder consultations, field surveys, maintenance, consultation etc.
- Will help PEAs to co-ordinate with Revenue, PWD and Forest authorities in preparing and processing the forest diversion aspects, monitor and submit quarterly progress reports.
- Undertake critical review of DPR reports and provide design inputs in agreement with KERS official for avoiding/minimizing/mitigating project's design induced environmental risk and impact.
- Review all draft and final deliverable submitted by the ESIA team and provide detailed comments. Provide overall evaluation, oversight and co-ordination during preparation of Environmental Screening/Scoping, ESIA, EMP reports including various other reports, formats, checklists and guidelines.
- Ensure integration of ESIA findings in investment plans, engineering designs and bidding documents
- Assist in assessment of impacts to physical, biological, cultural and social environment, and identification of effective mitigation and management measures, as required.
- Look for opportunities and propose / plan proactive measures to enhance sustainability of the project activities, as applicable.
- Compile pollution monitoring data, reports preparation and co-ordination with the monitoring agencies.
- Prepare plan for stakeholder engagement and communication with affected communities, relevant government agencies, and other stakeholders about the project.
- Assist and guide KERS for information dissemination, stakeholder consultations, and proper disclosure of documents.

- Facilitate capacity building activities for KERS SPMU and participating PIA/PEAs / implementing agencies and Contractors on environmental aspects including preparation of training material; intensive training to selected/designated field Officials of the State Government and Environmental Officers of the Contractors
- Preparation of checklists/guidelines for sustainability of practices/ long term usage by KERS SPMU
- Supervise and monitor to ensure compliance of environmental aspects with reference to preparation of status/monthly/quarterly reports for CWC and the World Bank
- Co-ordinate with other departments and agencies as required.
- Any other duties as may be assigned for the efficient and smooth execution of the project by KERS SPMU

The consultant shall be based full time at the KERS project office, with frequent field travel to different state project sites to monitor and evaluate implementation of ESMP measures as per planned schedule and in agreement ESCP and also to take corrective measures within limit of project agreement.

C. Qualifications:

The candidate with Bachelor of Civil Engineering/ Environmental Engineering with Master's degree in Environmental Science/Engineering or Equivalent from a recognized University.

D. Experience:

- Minimum 10 years in the area of conducting ESIA, environment modelling & preparing Environmental Social Management plans for infrastructure projects including coastal shoreline projection projects.
- Essentially, preference will be given to candidate having experience of design review, integrating environmental requirements in design, preparing BOQ and budget for EMP, implementation of EMP in at least 2 externally aided/FIDIC based major highway projects in hilly and biodiversity rich area.
- He should have adequate experience in implementing EMPs and organizing training to Contractor's and Employer's staff. Experience in advisory position on procedures involved in obtaining Environmental & Forest clearances for project roads passing through protected forest, reserve forests, national parks or sanctuaries, etc. is preferred.
- Field experience in assessing project site issues, vulnerabilities/risks, as well as supervising/inspecting/monitoring projects during implementation to mitigate and monitor environmental impacts.
- Strong understanding and past experience of implementing World Bank Environmental Safeguard policies and ESHS guidelines. Candidate's familiarity with objectives and requirements of Bank's new Environmental Social Framework will be an added advantage.
- Proficiency in use of Computers to manage data base and generation of reports, with overall.
- good communication skills (in English and Hindi/local language).
- The applicant must be physically fit for extensive touring with age of less than 50 years.

E. Duration of assignment

The duration shall be for minimum period of 3 years, to be reviewed and renewed based on performance and work requirement. The consultant shall be based full time at the KERS SPMU project office at Bangalore and must be willing to undertake field visits and tours as per the project requirements.

8.16 Annexure: Suggestive ToR for the position of Social Development Specialist in KERS SPMU

A. Project Description:

B. Scope of work

As such project's interventions would trigger Bank Environment and Social Framework (policy and standards), therefore these need to be factored into the preparation of necessary mitigation instruments (action plans and frameworks), besides ensuring compliance to existing and relevant national and state legislations. In this regard, PMU needs to hire an experienced Social Development Specialist in its unit to effectively coordinate necessary studies as part of project preparation and implementation. Specific tasks by preparation and implementation/monitoring stages are as follows:

Preparation stage

- Overall responsibility for overseeing the preparation of key plan documents including: ESDD, ESMP and ESIA Social Impact Assessment (SIA), Resettlement Policy Framework, Resettlement Action Plan(s), Tribal Development Plan (if required), Stakeholder Engagement Plan, Labor Management Procedure and Gender Based Violence Risk Mitigation Plan and Labor Influx Management Plan by coordinating with ESIA consultant agency, DPR consultant, Revenue Department. In this respect, s/he will liaise with and facilitate interaction with necessary institutional stakeholders, communities, organizing of community level consultations, facilitating data collection for socio-economic surveys and impact assessments,
- Manage Consultants responsible for the preparation of the afore-mentioned plan documents.
Review draft outputs of the contracted agencies for conducting ESIA, provide timely feedback, observations and comments
- Ensure integration of ESIA/ESMP findings related to social aspects in investment plans, engineering designs and bidding documents and feedback on these draft outputs towards finalization and approval of the reports (Social Impact Assessment (SIA), Resettlement Policy Framework, Resettlement Action Plan(s), Tribal Development Plan (if required), Stakeholder Engagement Plan, Labor Management Procedure Gender Based Violence Risk Mitigation Plan and Labor Influx Management Plan)
- Assist and guide IAs for information dissemination, stakeholder consultations, and proper disclosure of documents and ensure disclosure of these outputs including translation of the executive summaries into local language of the prepared mitigation instruments.
- Facilitate establishment of Grievance redressal committees
- Undertaken any other activities as may be assigned for the efficient and smooth execution of the project in accordance with the Environment and Social Commitment Plan of the project.

Implementation/Monitoring stage

- Support the IA in implementation of the above mitigation plans (Social Impact Assessment (SIA), Resettlement Policy Framework, Resettlement Action Plan(s), Tribal Development Plan (if required), Stakeholder Engagement Plan, Labor Management Procedure and Gender Based Violence Risk Mitigation Plan and Labor Influx Management Plan
- During implementation, s/he will also be responsible for internal monitoring of the implementation of mitigation plans, besides facilitating and contributing to the periodic external impact evaluation studies that would be undertaken at specified intervals during implementation stage of the project.

- Contribute to the continued implementation of the citizen engagement and feedback system during implementation stage.
- Support IAs in responding to queries from stakeholders.
- Undertake other tasks as required for satisfactory completion of the above-mentioned tasks.
- Work with contractors (and other consultants), and others as applicable to organize and facilitate consultations and workshops with stakeholders.
- Coordinate the meetings of various committees established for the implementation of Resettlement Action plans.
- Ensure compliance to all labor laws **such** as prohibition of child labour, HIV/AIDS and gender issues by conducting necessary training/orientation programs.
- Prepare Annual Action plan for implementation of these plans including stakeholder engagement.
- Undertake periodic field visits as appropriate to review the progress at ground level.
- Track, document, and ensure follow up to stakeholders on all grievances and provide reporting data for progress reports.
- Undertake capacity building activities for PIU personnel on provisions and actions listed in the safeguard documents and process to be adopted.
- Prepare monthly or quarterly status reports for KERS SPMU and the World Bank on social management aspects (grievance management, implementation progress on management plans, etc.) based on site visits, inputs from contractors and construction supervision consultants.
- Any other duties as may be assigned for the efficient and smooth execution of the project by IA

C. Qualifications

Masters/ Post Graduate degree in Social Sciences relevant discipline e.g., Social work /Sociology / Anthropology.

D. Experience

Candidate must have /possess:

- Minimum seven to ten years' experience in the area of social impact assessment, including facilitating land acquisition processes, undertaking stakeholder consultation, conducting/facilitating socioeconomic surveys, undertaking social impact assessments and preparation of Resettlement Action
- Plans, Indigenous Peoples Development Plans in accordance with World Bank's ESF. S/he should have worked on at least three (3) infrastructure projects preferably of similar nature, of which at least one should have been funded by multilateral agencies.
- Knowledge of legal/regulatory requirements of GoI on land acquisition, resettlement, and rehabilitation and existing government welfare /rehabilitation schemes.
- Experience of working as Social Development Expert/Officer for major Infrastructure projects.
- Familiarity with the working with Donor (World Bank, ADB, etc.) funded projects and other donor development agencies.
- Proficiency in use of Computers to manage data base and generation of reports, with overall good communication skills (in English, Hindi)
- Prior experience of implementation and monitoring of such safeguard activities would be considered as an added advantage.
- The applicant must be physically fit for extensive touring with age of less than 50 years.

E. Duration of Assignment

The duration shall be for minimum period of 3 year, to be reviewed and renewed based on performance and work requirement. The consultant shall be based full time at the X project office in X and must be willing to travel extensively to different project sites.

F. Travel Requirements

The Social Specialist will be required to undertake field-visits and tours as per the project requirements.

G. Reporting and Performance Review

The Social Specialist will report to the Project Director of KERS. The work and performance of the Environmental Specialist shall be reviewed by the project director on a periodic basis.

H. Facilities to be Provided by the Client

- i. The client will provide office accommodation in the PIU office at X.
- ii. The Client will provide pooled vehicle for field visits outside X only.
- iii. The Social Expert shall be paid TA & DA for field visits as per the applicable relevant X Govt. Rules.

