Environmental and Social Framework

ENHANCING LANDSCAPE AND ECOSYSTEM MANAGEMENT PROJECT (P179935)

May 2025
Government of Tripura

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LIST OF ABBREVIATIONS

ANR	:	Added Natural Regeneration
AR	:	Artificial Regeneration
ASI	:	Archaeological Survey of India
BIS	:	Bureau of Indian Standards
BMC	:	Biodiversity Management Committees
BMP	:	Biodiversity Management Plan
BOCWW	:	Building and Other Construction Workers Welfare
BOD	:	Biochemical oxygen demand
C&D	:	Construction and demolition
CEO	:	Chief Executive Officer
CGWA	:	Central Ground Water Board
CITES	:	The Convention on International Trade in Endangered Species of Wild Fauna and Flora
CPCB	:	Central Pollution Control Board
CTE	:	Consent to Establish
CTO	:	Consent to Operate
DFO	:	Divisional Forest Officer
DLC	:	District Level Committee
DPR	:	Detailed Project Report
E&S	:	Environmental and Social
EDC	:	Eco Development Committee
EHSG	:	Environmental Health and Safety Guidelines
EIA	:	Environmental Impact Assessment
ELEMENT	:	Enhancing Landscape and Ecosystem Management Project
EPA	:	Environmental Protection Act
ESA	:	Environmental and Social Risk Assessment
ESCP	:	Environment and Social Commitment Plan
ESF	:	Environmental Social Framework
ESIA	:	Environmental and Social Impact Assessment
ESMF	:	Environmental Social Management Framework
ESMP	:	Environmental and Social Management Plan
ESS	:	Environmental and Social Standards
ESZ	:	Eco Sensitive Zone
FC	:	Forest Conservation
FDA	:	Forest Development Agency
FI	:	Financial Intermediaries
DISTRICT-MU	:	FDA Management Units
FPIC	:	Free, Prior, and Informed Consent
GA	:	Geographical Area
GAP	:	Gender Action Plan
GBV	:	Gender-Based Violence
GDP	:	Gross Domestic Product
GIM	:	Green India Mission
GIS	:	Geographic Information System
GoI	:	Government of India
GoT	:	Government of Tripura
GPN	:	Good Practice Note
GRC	:	Grievance Redress Cell

GRM	:	Grievance Redress Mechanism
GSDP	:	Gross State Domestic Product
ha	:	Hectare
HoFF	:	Head of Forest Force
IBAs	:	Important Bird and Biodiversity Areas
IMD	:	India Meteorological Department
INM	:	Integrated Nutrient Management
INMP	:	Integrated Nutrient Pest Management
IPM	:	Integrated Pest Management
IPNM	:	Integrated Pest & Nutrient Management
ISFR	:	India State of Forest report
IUCN	:	International Union for Conservation of Nature
JFMC	:	Joint Forest Management Committee
LMP	:	Labour Management Procedures
MoEF&CC	:	Ministry of Environment, Forests and Climate Change
MSL	:	Mean Sea Level
MT	:	metric ton
MTS	:	Multi-Tasking Staff
NAPFF	:	National Action Plan on Forest Fires
NBWL	:	National Board for Wildlife
NER	:	Northeast Region
NERLP	:	North-East Rural Livelihood Project
NGO	:	non-governmental organizations
NO2	:	Nitrogen dioxide
NOC	:	No Objection Certificate
NTFP	:	Non – Timber Forest Product
NWQMP	:	National Water Quality Monitoring Programme
OBC	:	Other Backward Classes
PAP	:	Project Affected People
PA	:	Protected areas
PCCF	:	Principal Chief Conservator of. Forests
PD	:	Project Director
PDO	:	Project Development Objective
PF	:	Preserved Forest
PIA	:	Project Implementation
PM10	:	Particulate Matter10
PM2.5	:	Particulate Matter2.5
PMC	:	Project Management Consultancy
PMU	:	Project Management Unit
PPE	:	Personal Protective Equipment
ppm	:	Parts per million
PPR	:	Preliminary Project Report
R&D	:	Research and Development
R&R	:	Resettlement and Rehabilitation
RF	:	Reserved Forest
RFCTLARR	:	Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement

SC	:	Scheduled Caste
SEA	:	Sexual Exploitation and Abuse
SEP	:	Stakeholder Engagement Plan
SH	:	Sexual Harassment
SHG	:	Self Help Groups
SLSC	:	State Level Steering Committee
SO2	:	Sulphur Dioxide
SOE	:	Standard Operating Environment
ST	:	Scheduled Tribes
TCD	:	Tree Canopy Density
TFD	:	Tripura Forest Department
TSFRI	:	Tripura Sustainable Forest Research Institute
TSPCB	:	Tripura State Pollution Control Board
TTAADC	:	Tripura Tribal Areas Autonomous District Council
UGF	:	Unclassified Government Forest
VC	:	Village Committees
VLEMC	:	Village Landscape & Ecosystem Management Committees
WB/WBG	:	World Bank / World Bank Group
WLPA	:	Wildlife Protection Act
WLS	:	Wildlife Sanctuary

Executive Summary

Tripura Forest Department (TFD) has launched the Enhancing Landscape and Ecosystem Management (ELEMENT) project, an initiative based on a landscape approach. Its main objective is to protect and restore degraded forest landscapes in Tripura while enhancing productivity through community institution development. This project promotes integrated and sustainable land use practices, including improved tree cover, soil moisture, carbon stock building, and sustainable livelihood enhancement programs. The key activities of the project include strengthening community institutions, revamping protection mechanisms, enhancing ecosystem services, implementing project management and governance, and developing necessary infrastructure. The exact number of infrastructure developments is yet to be finalized by TFD.

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

The Environmental and Social Framework (ESF) of the World Bank has been effectively utilized in the) ELEMENT to comprehensively evaluate, handle, and mitigate any potential risks linked to the direct, indirect, and cumulative impacts associated with project activities. With the exception of ESS9 (Environmental and Social Standard 9), which is not applicable due to the absence of a financial intermediary's involvement, all other ESSs are relevant and applicable to the ELEMENT project. In order to address the environmental and social risks, social risk management instruments have been developed, including Environmental and Social Management Framework, Environmental and Social Management Plans, that envisage preparation of other management plans such as Biodiversity Management Plan and Labour Management Plan per site-specific detail as and when site-specific activities are detailed out. These instruments are designed to ensure proper management and mitigation of the identified risks and impacts within the project's scope.

Environmental and Social Assessment for ELEMENT

The ELEMENT project's environmental and social assessment (ESA) was conducted thoroughly. Secondary information was gathered from various sources, while primary data was collected through site visits and stakeholder consultations at select project locations from eight districts of Tripura. The ESA report covered legal and policy provisions set by the Government of India and the Government of Tripura and incorporated the World Bank's Environmental and Social Standards (ESS 1 to 10). Stakeholder engagement was prioritized throughout the assessment, and the report emphasized the outcomes of these activities. Additionally, the ESA report analysed the existing environmental and socio-economic conditions in the state, with a focus on aspects affected by the ELEMENT project. It evaluated the environmental and social impacts of the project's sub-projects, providing a comprehensive understanding of potential effects on the environment and local communities.

Environmental and Social Risk Assessment Summary

Overall Risks

The overall E&S risk rating is Substantial with both environment and social risks rated as Substantial owing to activities pertaining to forest and landscape restoration, civil works, eco-tourism and value chains enhancement as well as capacity gaps specific to World Bank's ESF. However, the risks are expected to have temporary, limited, localized, predictable, and reversible impacts that can be managed through stringent screening and implementation of mitigation measures and continuous monitoring during project implementation.

Environmental Risks

The ELEMENT project faces substantial environmental risks due to its geographical diversity and the limited capacities of district and village-level implementing agencies to assess and manage these risks. However, these risks are expected to be temporary, localized, predictable, and manageable. Anticipated risks include air, water, and noise pollution, erosions, threats to biodiversity, human-animal conflict, and water and soil contamination and inadvertent promotion of monoculture species. The project has measures in place to mitigate these risks, such as a robust screening process, the engagement of environmental experts, and the involvement of community institutions and stakeholders throughout the planning and implementation stages, third-party verifications, planned training of in-house staffs and periodic monitoring and reporting through MIS system. The screening process and exclusion list will help in avoiding high-risk activities and promote sustainable practices to minimize environmental impacts.

Social Risk

The social risk rating is assessed to be 'Substantial' due to (i) possible exclusion of vulnerable groups in planning, selection, decision making and implementation of sub-projects which can be exacerbated due to presence of particularly vulnerable tribal groups (PVTGs) in Tripura (ii) weak capacities of the district and village level institutions to manage participatory processes which are integral to sustainability of integrated landscape management; (iii) exposure of workers and communities to health and safety hazards from small civil works, pesticide use and human-wildlife conflict; (iv) temporary restriction or limitations on accessing forest resources, conserved areas which may have temporary impact on livelihood. However, land acquisition, physical displacement of tribal households or any adverse impacts on customary tribal lands, and cultural properties is not anticipated due to the project activities. Some of the ongoing customary traditional practices which have had long-term adverse impacts on natural resources and are deemed unsustainable would be restricted for durations that will be decided by the communities themselves through their landscape management plans. No major construction activities are proposed, land requirements for project activities are small in scale and will be met through forest land or patta land. Any activity that requires land acquisition, leads to displacement or adverse livelihood impact will be in the exclusion list.

Some project villages have the presence of multi-ethnic communities. Also, the scheduled areas in Tripura have complex, traditional forest governance systems. However, the IAs have the experience of working closely with STs and with their multiple (customary) governing institutions under several government programs, as well as externally aided projects supported by international development partners, such as Deutsche Gesellschaft für Internationale Zusammenarbeit and Japan International Cooperation Agency. To manage capacity gaps on participatory processes, major impetus of component one and two of the project is on developing the capacity of IAs (at state and district level) as well as village level community institutions and collectives on approaches and methods for community mobilization, vulnerability mapping, participatory planning and social inclusion, supporting preparation and roll out of a robust stakeholder engagement strategy and staffing the PMU/ SPMU with domain expert specialists (tribal affairs, community engagement &participatory planning), in addition to Social Development Specialists with domain expertise in tribal development.

Sexual Exploitation and Abuse/Sexual Harassment (SEA/SH) Risk

The SEA/SH risk is assessed as Moderate at Appraisal stage (using the SEA/SH risk assessment tools for social protection and civil works projects). Risks are owing to participation in NTFP collection in the forest areas and processing activities that are largely undertaken by women, participation in skilling and training initiatives for women entrepreneurs. Since the scale of construction is limited, the risk of labour influx for the host population related to SEA/SH related risks is expected to be minimal. The mitigation measures on SEA/SH prevention and response that have been included in the ESMFs and the SEPs

include awareness and sensitization of project teams, village institutions and members of women's collectives,mapping of GBV service providers, creating a safe space facility, codes of conduct and behavioural standards on zero tolerance of SEA/SH, provisioning of Internal Complaint Committee (ICC)in the IAs and special provisions within the behavioural Redress Mechanism (GRM) to handle SEA/SH related grievances and ensuring anonymity of the complainants. The grievance focal points (Field Level- Grievance Redress Officers and State Level-Grievance Redress Officers) will be providing additional sensitization trainings to handle and refer such complaints.

The project will have low requirements of labour force in civil construction activities and labour influx is also not anticipated to be a major issue. The construction labour is expected to be drawn largely from local communities and hence the SEA/SH risk from migrant labour force is low. Consultations carried out with the local community and personal discussions with women residing in the project locations, revealed that the risks related to SEA/SH are low.

Findings of Stakeholder Consultations

Consultations were conducted as an integral part of the ELEMENT project to gather valuable insights and engage multiple stakeholders. The consultations aimed to discuss environmental and social issues, identify community needs, and align project interventions accordingly. Stakeholders consulted included members of Self-Help Groups, Joint Forest Management Committees, local communities, tribal people (including women, disabled individuals, and the elderly), and institutional representatives. Overall findings revealed strong support for the project, with stakeholders emphasizing the importance of disseminating detailed project information, improving connectivity, providing local employment opportunities, and addressing the specific needs of tribal communities.

Implementation Arrangements

The overall institutional capacity risk is Substantial. The science-based landscape management approach is largely unfamiliar to the state. This approach requires multiple departments to work together. SFDs are often unable to build the kind of inter-departmental collaboration that can foster systemic reform. The complex relationships between the state, district/block and local governments in landscape restoration programs can further slow planning and implementation, especially if accountability is weak. In addition, the lack of experience of the lead implementing agencies in Tripura with Bank-financed projects, particularly with respect to Bank's fiduciary, environmental, and social policies and human capacity constraints could hinder its ability to manage a project at scale and across stakeholders. Mitigation of this risk is in the focus of Component 1 which includes activities to strengthen institutional coordination, decision support systems and capacity for landscape planning and implementation. This will enable transparency among stakeholders and their efficient and effective coordination. Project Management Consultants for the overall project and Technical Support Agency (for the Value Chain component) are envisaged for Tripura.

The ELEMENT project in Tripura is overseen by a Project Steering Committee (PSC) chaired by the Chief Secretary, with participation from Principal Secretaries of relevant departments. Implementation is carried out through the State Forest Development Agency (PMU), which includes Forest Development Agencies (FDAs) at the district level and various village-level committees and groups. A Project Management Unit (PMU) called the PMU, led by a Project Director (PD), is established within the State Forest Development Agency. The PMU is supported by a Project Management Consultancy (PMC) and staffed with experts in areas such as tribal affairs, community engagement, and participatory planning. Environmental and Social risk management specialists and social and environmental experts are appointed at different levels to ensure compliance with the Environmental and Social Management

Framework (ESMF). The project prioritizes the inclusion of vulnerable groups and builds the capacity of local institutions through training and communication strategies.

Legal and Policy Framework

The Assessment has identified the Legal and Policy Framework at the National and State level that will apply to the project. The key environmental laws and policy at the national and state level on forests, biodiversity,critical habitat,eco sensitive zones, pollution, waste management and agriculture and social laws and policy on constitutional safeguards, land acquisition and donation, Scheduled Tribes and rights and conditions for labour and their applicability to the project are covered by the assessment.

Environmental and Social Framework (ESMF)

As the sub-project locations and details are not known by appraisal, a framework approach will be adopted. A stand-alone Environmental and Social Management Framework (ESMF) has been developed. The Environmental and Social Management Framework (ESMF) addresses the applicable Environmental and Social Standards (ESS) in lieu of the risks and impacts identified by the assessment and has prepared specific tools and guidance to address these risks as per ESS 1 to ESS 10 standards except for ESS9. A summary features of ESMF is outlined below:

Assessment and Management of Environmental and Social Risks and Impacts (ESS1)

The ELEMENT project is anticipated to have overall positive environmental and social impacts and strengthened capacities of state and local institutions will enable better management of E&S risks and provide overall opportunities for community participation and social inclusion. ESMF outlines how the project contributes to improving environmental and social conditions while managing risk and impact at the sub-project level based on their different typologies and planned activities. The ESMF also includes procedures for undertaking E&S screening of sub-projects, an exclusion / negative list that prohibits project financing and support to high-risk activities and procedures for preparing site-specific Environmental and Social Management Plans (ESMPs). The ESMF finally includes and recommends the institutional capacity needs and gaps (including staffing and skills) required to implement applicable safeguard instruments of environmental and social standards (ESSs).

Labour and Working Conditions (ESS2)

State specific Labour Management Procedures (LMP) has also been prepared and adopted before the engagement of any project workers (direct, contracted or community workers). LMP will provide guidance on the working conditions and terms of employment of the direct and contracted workers engaged at the PMUs and District-level MUs as well as those deployed at select construction sites in the project. The LMPs will also provide guidance on how community workers will be engaged, including the terms of their engagement. Large scale migrant labour requirement is not anticipated in this project.

Resource Efficiency & Pollution Prevention and Management (ESS3)

During the implementation of the ELEMENT project, there are potential environmental risks associated with civilconstruction work, eco-tourism activities, afforestation, and agroforestry. These risks include air and water pollution, improper waste disposal, increased human-wildlife conflict, and unsustainable use of natural resources. To mitigate these risks, the project has integrated measures into the Environmental and Social Management Framework (ESMF) and will ensure compliance with environmental standards. The fragility of the project locations requires community safety measures and identification of areas prone to natural disasters. In terms of social risks, there is a focus on addressing potential health, safety,

and gender-based violence risks to local tribal communities through mitigation measures and safeguarding mechanisms. Overall, the project aims to minimize environmental and social risks and promote sustainable practices throughout its implementation.

Land Acquisition, Restriction on land use and involuntary resettlement: ESS 5

ESS 5 is relevant although land acquisition will not be done in this project. Physical and economic displacement of tribal households or any adverse impacts on customary tribal lands, and cultural properties is not anticipated. The project, through the Negative List in the ESMFs, will exclude any sub-project activities that (i) involve private land acquisition or lead to involuntary resettlement of tribal households, or which create economic displacement or loss of livelihoods for communities, and; (ii) may have significant, adverse, irreversible impacts on customary tribal lands, natural or cultural resources. Land requirements are expected to be small scale, scattered and will be identified and made available by the communities (included in the selection criteria of the sub-projects).

Related impacts of the project include temporary loss of livelihood and income due to self-restrictions imposed by the community on access to common property resources for conservation and protection or for restoration of Jhum lands. Duration of these access restrictions will be collectively agreed to and spelt out by village-specific, community led landscape management plans. The process for beneficiary selection, including prioritizing those impacted, will be detailed in the Community Operations Manuals. Guidelines and Checklist for voluntary land donation are also prepared and annexed in this ESMF.

Biodiversity Conservation and Natural Resources: Impact and Mitigation (ESS 6)

The Bio-diversity conservation and management is one of the key aspects of ELEMENT, hence the project is anticipated to have positive impact on improving the living natural resources in the project areas through plantation, agro forestry and afforestation.

Due to community access to forests for plantation, afforestation, harvesting of NTFP/HVFP, implementation of soil and water conservation and erosion control structures in forest and non-forest areas may have an impact on biodiversity and increase human-animal conflict. The project activities related to civil construction and minor utilize at high tech nursery would be planned on degraded land and no tree felling will be undertaken in ELEMENT. Promotion, including plantation, of agarwood, bamboo, and other NTFP-based value chains are among the species selection risks envisaged under the project. Private sector participation in NTFP based livelihoods may further accentuate the impacts by promotion of monoculture/alien species to achieve economy of scale. Owing to labour movement and unmanaged community access to forests for ELEMENT activities such as plantation, afforestation, harvesting of NTFP, check dams in vulnerable areas in forest and non-forest areas and eco-tourism sites may have some chances of impacts on biodiversity, habitats and Man-Animal conflict.

The project is likely to improve the living natural resources through plantation activities at mega level and also through the improved production and harvesting techniques under enhanced service delivery aspect of ELEMENT. Appropriate site-specific measures for managing biodiversity impact and prevent Man-Animal conflict will be incorporated in the ESMP as part of this ESMF.

Scheduled Tribes (Indigenous Peoples) (ESS 7)

Tripura consists of 8 districts and 58 blocks, with 23 tribal-dominated blocks administered by the Tripura Tribal Areas Autonomous District Council (TTAADC) and locally elected Village Committees (VC). The targeted project areas and landscapes have a significant tribal population, with over 90% falling within Schedule VI areas. As Indigenous and Tribal peoples are the main beneficiaries, an Indigenous Peoples

Planning Framework (IPPF) is not prepared for the project. All landscape restoration activities will be carried out in consultation with and aligned with the customary practices of local institutions. Work and management plans require endorsement and ownership by representative village institutions before any physical interventions are initiated. A participatory process will be implemented during the planning phase to ensure representation of all stakeholders, including the vulnerable and disadvantaged. Stakeholder engagement activities will be culturally appropriate and conducted in local languages and dialects. The project will also provide tribal communities access to a grievance redress mechanism (GRM) in addition to existing village mechanisms for conflict resolution.

Grievance Redress Mechanism

The Project will establish a Grievance Redress Mechanism (GRM) with the aim to respond to queries or clarifications or complaints about the project and address complaints/concerns and grievances of the stakeholders including SEA/SH grievances. 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. The institutional arrangement, channels, and processes for a successful GRM are part of the SEP.

Other components of ESMF

In addition to the ESMF Report, Stakeholder Engagement Plan (SEP) and Labour Management Plan (LMP) is also prepared.

Institutional Arrangement

The institutional arrangement for the ELEMENT project in Tripura involves key government agencies such as the Tripura State Forest Development Agency (T-SFDA), Forest Development Agencies (FDAs), Joint Forest Management Committees (JFMCs), and Eco-Development Committees (EDCs). Implementation will be carried out through a two-tier structure, including the project SFDA and village-level JFMCs/SHGs. Efforts will be made to enhance the capacities of community institutions and create a capable community cadre for landscape planning and implementation. The project has conducted comprehensive environmental and social assessments, ensuring the capacity to effectively assess, manage, and mitigate risks. A capacity development strategy is in place, encompassing training and support for stakeholders, dissemination of project information, addressing the specific needs of tribal communities, improving connectivity, and providing local employment opportunities. The strategy aims to build the necessary capacities for sustainable and successful project implementation.

Borrower's Capacity

The Implementing Agencies for ELEMENT project in Tripura is not exposed to World Bank's Environmental and Social Framework. In Tripura, the project will be implemented through SFDA which has direct experience on E&S management. While the district and village level IAs have capacity weaknesses in risk assessment and management and managing participatory processes, they do have the experience of working closely with Scheduled Tribes (STs) and with their multiple (customary) governing institutions under several government programs.

The Borrower and Implementing Agencies do not have dedicated environmental and social staff with the required skills and experience in implementing E&S mitigation procedures.

Stakeholder consultations have highlighted strong community demand for landscape management, water, and soil conservation and NTFP based remunerative markets, stronger community desire to participate in village level landscape planning. This feedback has been incorporated in project planning, community engagement, village, and beneficiary selection processes, as well as in ESMF, SEP, and LMP. The project will undertake in-depth and hands-on trainings for various stakeholders (at state, district, block, and village level) on E&S risk screening, management and mitigation related to various activities proposed; approaches and methods for community mobilization; vulnerability mapping, participatory planning, and social inclusion.

Capacity Building Strategy

This capacity building and IEC strategy has been outlined as part of this ESMF developed for the project aims at building environmental and social awareness and management capacity in the project administration structure as well as in the intended target communities. The objectives of the capacity building initiatives are a) To build and strengthen the capability of PMU, District MUs(FMUs), and JFMC/EDC/Green Mitras as well as of line departments to integrate sound environmental and social management into sub project implementation and b) To orient the project staff, participating implementing agencies and communities to the requirements of the project's ESMF.

Key measures to strengthen institutional capacity are recruitment of qualified E&S specialists in each PMU as well as District and Zonal level Management Units, and training and implementation support on ESMF/ESMP implementation by Bank's E&S Team. Importantly, state will engage a social specialist with domain knowledge on tribal affairs. The project envisages sensitizing and enhancing capacities of Joint Forest Management Committees (JFMCs), Eco Development Committees(EDCs),Village Committees /Councils, working with them for forest and biodiversity protection in the identified landscapes.

Trainings will be provided to trained staff and trainers on different training components who will in turn conduct onsite or offsite trainings (at district, block or Village council levels) depending on training requirement. The training programs consists of Orientation/ Learning Training Programs, Training on the ESMF and ESMP and Training on Environmental and Social Management. Contractor's training program for managing environment, health and safety including GBV/SEA/SH and social issues will be an ongoing activity within its operation. District MU/PMC will closely monitor this and external monitoring/audit agency will gather information on such trainings and present to the World Bank through SPMU.

Monitoring, Auditing and Reporting

In order to carry out monitoring, evaluation and reporting, project will have specific arrangements made at PMU, FMU, and PMC levels as mentioned above. Each participating departments in TFD will be treated as PIA and Head of that department will be nodal officer in the capacity of Implementing agency level, who will in addition to his other functions, also be responsible for coordinating with environmental and social safeguard specialist with PMU and FMU for all the environmental and social safeguard provisions as defined in the ESMF under their project interventions. Environmental and social experts at PMC level will guide the field level implementing units. The internal environmental social monitoring will be done as part of the regular monitoring by the PMC and FMU. However, the project will appoint Independent Environmental and Social Monitoring and Evaluation Consultants to do the six monthly environmental and social monitoring and evaluation.

The PMU will prepare a report, to be submitted to The World Bank, of the environmental and social safeguards status in the project districts as per monitoring indicators defined in this ESMF. community consultations held during sub project identification and finalization, (xxix)Number of households from marginalized groups participated in the community consultations, (xxv)Number of beneficiaries from

marginalized groups, (xxvi)Number of grievances received and resolved at block level, (xxvii)Number of grievances escalated to district level and resolved, (xxviii)Number of grievances escalated to state level. The ESMF will be suitably revised as and when required by the PMU with prior approval of the World Bank.

Environmental and Social Management Budget

The total administrative budget for environmental and social management activities under the proposed project has been worked out approximately INR 58 million.

Disclosure Plan

ESMF and supporting safeguard instruments are disclosed on the project website along with the translation of the executive summaries in local language. The documents along with the executive summaries in local language, will be kept at the PMU, FMUs and Beat/ Village level institutions such as JFMC/EDC etc.

1 INTRODUCTION

1.1. BACKGROUND

1. The state of Tripura, spanning approximately 10,491 square kilometres, boasts an impressive 73.6% forest cover, encompassing 7,721 sq. km. Within this rich ecosystem, there are six Protected Areas, comprising four Wildlife Sanctuaries, two National Parks, and one Ramsar site. However, this natural treasure faces challenges as excessive exploitation of forest resources and shifting cultivation practices have led to degradation, including soil erosion and reduced water retention capacity. Over the years, Tripura has lost about 113,000 Ha of forests, amounting to a 17% decrease in tree cover from 2000 to 2021, significantly impacting essential ecosystem services crucial for forest and related activities.

2. The topography of Tripura is hilly and undulating, with forest-covered hills susceptible to heightened runoff, landslides, and soil erosion. Moreover, the state is prone to frequent natural calamities such as floods, winds, and cyclones, adding to its challenges. However, the Tripura Forest Department (TFD), under the Government of Tripura, has been devotedly working to protect the forests and support the livelihoods of forest-dependent communities through various state, national, and funded forest development schemes. Previous efforts have yielded promising results.

3. In its ongoing commitment to enhance the state's environmental health, the TFD has sought financial assistance from the World Bank to achieve specific goals by 2030. These goals include raising the average forest cover density from the current 51% to an ambitious 70% and improving the quality of forest cover over 338 sq. km. Achieving these targets would contribute to a remarkable 8 million MT increase in Tripura's Forest Carbon Stock, building upon the existing 70 million MT. This ambitious endeavour demonstrates the state's dedication to preserving its natural heritage and ensuring a sustainable future for all.

1.2. THE PROJECT

4. The Tripura Forest Department (TFD) with assistance from World Bank has launched a landscape-oriented project called the Enhanced Landscape and Ecosystem Management Project, also known as the ELEMENT project. This initiative aims to protect and restore degraded forest landscapes in Tripura while enhancing their productivity. It focuses on developing and strengthening community institutions to promote integrated and sustainable land use practices, including improved tree cover and soil moisture, building up carbon stock both within and outside forests through climate-smart models. Sustainable livelihood enhancement programs such as agro-forestry, horticulture, organic cultivation, and certification will be implemented, along with efforts to augment Non-Timber Forest Product (NTFP) resources.

5. The key activities of the ELEMENT project include strengthening community institutions, implementing advanced protection mechanisms with the use of geo-spatial technologies, enhancing ecosystem services through soil and moisture conservation, sustainable agriculture, and ecotourism-based services, and effective project management and governance. The project will also involve some infrastructure development projects, including office buildings, quarters/hostels, and nursery development and modernization.

6. The TFD will be the lead department for the project, with active support from other relevant departments such as Tribal Welfare, Rural Development, Public Health & Engineering, Agriculture, Horticulture, Land Resources, and Horticulture.

7. To ensure environmental and social considerations are integrated into the activities of ELEMENT, the TFD engaged LEA Associates to support preparation of Environment and Social Management Framework (ESMF). The ESMF has now been prepared and will be applied to assess and mitigate risks associated with the ELEMENT project. As all sub-projects have not been identified at this stage, this framework will guide the project's environmental and social due diligence process, integrating it throughout the project cycle from conception to completion. By implementing the ELEMENT project and its associated measures, Tripura aims to achieve sustainable forest management and ecosystem restoration, fostering a harmonious relationship between communities and nature for a prosperous future.

1.3. PURPOSE OF ESMF

8. The ESMF has been preparedin-line with the World Bank's Environmental and Social Framework (ESF) and Environmental and Social Standards (ESS) to screen and assess risks and impacts of the activities of the projects as being planned and thereby identify mitigation measures, and appropriately appraise E & S instruments, and monitor the environmental and social performance.The ESMF includes:

- Understanding of applicable policies and procedures for conducting environmental and social assessment
- Approach and Methodologies for Environmental and Social due diligence of projects sub-components;
- Initial screening and risk categorisation
- Establishment of Baseline Conditions
- Environment and Social impact assessment
- Stakeholder consultation and disclosure
- Preparation of Environment and Social Management Plans
- Development of Institutional arrangement framework
- Development of resettlement planning framework
- List/Criteria for subprojects exclusion from ELEMENT support/ funding;
- Grievance Redress mechanism,
- Capacity building and training requirement
- Provisions for ESMF implementation Budget
- Details of environmental and social performance monitoring criteria against the ESSs

1.4. METHODOLOGY

9. The ESMF has been meticulously developed through field visits, team discussions with District Forest Officers (DFOs), staff from Range, and Beat levels and taking environment and social experts' support. Meaningful stakeholder consultations were also carried out in a participative manner, involving identified stakeholders like staff of Implementing Agencies, state level Departments, members ofJoint Forest Management Committees (JFMC), Eco-Development Societies (EDS), Self-Help Groups (SHG), citizens of select villages (youth, women, elderly), representatives from traditional councils, and vulnerable communities

10. The preparation of the ESMF commenced with initial site visits and a comprehensive review of available information, data, and documents, including project appraisal documents, draft project implementation plans, and other safeguard documents. National and State regulatory requirements, as well as policies and safeguard standards of the World Bank, were assessed for applicability. To understand the role of other departments, regular consultations were held with various agencies, such as Tripura Rural Livelihood Mission, Tripura Forest Research Institute, Tripura Housing Board, Bio-tech Council, and officials from existing Japan International Cooperation Agency (JICA) and KfW projects on forestry. Additionally, community consultations were conducted with project beneficiaries, including Village Committees, JFMCs, EDCs, SHGs, Community Mobilizers, and Livelihood Coordinators.

11. Strategic project locations have been visited to appraise on baseline conditions and assess preliminary risks and impacts associated with the proposed project activities. During these visits, the communities shared their specific requirements and concerns. Based on these interactions, consultations, and reviews of the geographical and socio-economic context of the project region, the ESMF identified both positive and potentially adverse environmental and social risks and impact.

1.5. STAKEHOLDER CONSULTATIONS &DISCLOSURES

12. The stakeholders in the context of the ELEMENT project comprise a diverse group of individuals and entities directly impacted, related, or benefitingfrom the project activities. These stakeholders include forest dependent local communities, encompassing village residents, farmers, agricultural laborers, and inhabitants in and around the forest-fringed project areas. Joint Forest Management Committees (JFMCs) and Eco-Development Committees (EDCs), actively involved in forest conservation, as well as Self-Help Groups (SHGs) promoting women's empowerment, are crucial stakeholders. Scheduled Tribes (STs), with distinct cultural involvement with forest, are also involved. Government departments, such as the Tripura Rural Livelihood Mission and Tripura Forest Research Institute,

alongside organizations like the Tripura Housing Board and Bio-tech Council, play significant roles. By fostering open and transparent engagement with all stakeholders, the ELEMENT project strives for inclusive and sustainable land use practices, promoting environmental preservation and community well-being in Tripura.

13. The process and proceedings of such consultations were documented and TFD responded to the issues raised during the consultations. The Consultation guidelines and checklists havebeen presented in Stakeholder Engagement Plan (SEP).

1.6. REVISIONS

14. This ESMF is a dynamic document which can be changed as per emerging project changes and simultaneously other E & S tools and instruments will also be visited and if found necessary will be revised in consultation with the World Bank and the revised documents/ instruments will be disclosed as and when they are prepared/modified.

1.7. STRUCTURE OF THE ESMF DOCUMENT

15. This document is structured into following seven chapters, including this section on Introduction. Core contents of the chapters are duly supported by Annexure with this document.

Table 1-1: Structure of the ESMF document

Chapter	Description
Chapter 1	**Introduction** This chapter deliberates on the background of the project ELEMENT as a project, Introduction of ESMF, Project beneficiaries, brief Methodology of ESMF preparation, stakeholder consultation and Disclosure, scope of revisions of ESMF.
Chapter 2	**Project Description** This chapter presents the Rationale, Scope and Strategy, Project development Objective and overall understanding of the project location and detailed profile of the same.
Chapter 3	**Applicable Laws, Policies, Standards, and procedures for carrying environment and social assessment** This chapter discusses in detail the Environmental and Social rules and regulations of Government of India (GoI) and Government of Tripura (GoT) applicable to the project and further exploring the World Bank Safeguard Policies that will guide the environment and social safeguard for the project.
Chapter 4	**Environmental & Social Baseline** The chapter presents a brief environmental and social profile of the area including physio-geography, climate, environmental ecosystems (air, water & biological), climate and other hazard profile and socio-economic /demographic profiles at various administrative levels
Chapter 5	**Potential Environment and Social Risks, Impacts & Mitigation Measures** In this chapter, assessment of existing baseline conditions, Potential Impacts have been critically assessed.
Chapter 6	**Environmental & Social Framework** The Chapter sets upon detailing the entire environmental & social framework that will support the project at its core presenting ESMF adoption Framework; Project's Subcomponent Identification, Categorization & Preparation; Monitoring Evaluation and Reporting, Institutional; and Implementation Arrangements, SEP. Excluded and Negative Activities not to be taken up under ELEMENT have also been presented.
Chapter 7	**Stakeholder Engagement, Grievance Redress Mechanism, Information Disclosure** The chapter presents details on the Stakeholder Engagement Strategies through analyses and proposals on Stakeholder identification, Strategy and guidelines for stakeholder engagement, public disclosure, and information dissemination, GRM, Implementation Arrangement and Monitoring Mechanism and Budget allocation

2 Project Description

2.1. PROJECT BACKGROUND AND OBJECTIVE

16. The "Enhancing Landscape and Ecosystem Management Project of Tripura" (ELEMENT), developed by the Tripura Forest Department with World Bank support, aims to increase the state's forest cover from 51% to 70% by 2030. It is estimated that this will add 8 million MT to the existing 74.97 million MT of Forest Carbon Stock. As explained in the chapter 1 also, the project focuses on empowering forest fringe communities through capacity building, knowledge dissemination, and technology enablement. Adopting a landscape approach, ELEMENT seeks to enhance the resilience of both landscapes and forest-dependent communities in Tripura, promoting inclusive green growth for sustainable development.

2.2. PROJECT DEVELOPMENT OBJECTIVE

17. The Project Development Objective (PDO)with reference to the State of Tripura is “To improve landscape management and increase benefits for targeted forest dependent communities in Tripura”.

18. ELEMENT has the following four components as a Project:

I. Strengthening Capacities for Integrated Landscape Management. This component will finance consulting services, goods, small works adopting climate responsive design and materials, and equipment, training to support the participating states’ institutional capacity, Information and Communications Technology (ICT) systems in support of decision making, and infrastructure to enable government partners to operate effectively.

II. Restoring Landscapes for Improved Ecosystem Services. The objective is to restore and maintain the ecological functions and productivity of the targeted landscapes. Component 2 activities involve preparation and implementation of community-led climate-resilient landscape management plans.

III. Enhancing Landscape-based Value Chains for Economic Transformation. This component will provide support for creating -income and entrepreneurship opportunities by promoting processing units, market, and forward linkages along value chains of high value forest products, bio-resources, agriculture, and allied activities, and by promoting nature-based tourism.

IV. Project Management, Monitoring and Evaluation. Funding will be provided for Project management, PMUs’ staff and operational costs to deliver on the project development objectives.

V. Contingent Emergency Response Component (tbc) - Reallocation of credit proceeds from other components to provide immediate recovery and reconstruction support following an eligible crisis or emergency, as needed.

19. The overarching framework for the ELEMENT is summarized in **Error! Reference source not found.**.

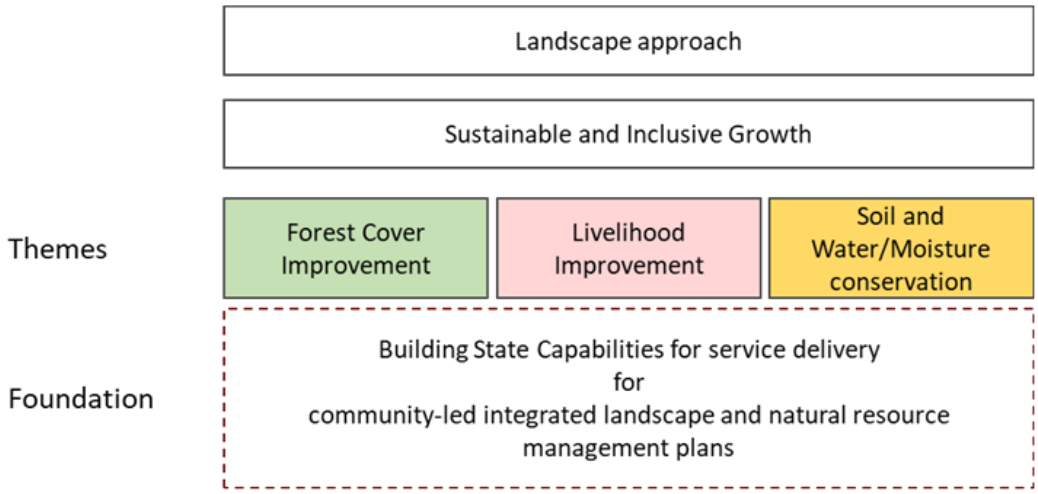


Figure 2-1: Overarching framework of the ELEMENT

20. The four project components are explained in detail subsequently.

COMPONENT 1: Strengthening Capacities for Integrated Landscape Management

21. This component will largely focus on Capacity Building of forest officers at various levels of ranks for them to enhance their skills and motivation for implementing the project. The courses will be short to medium term including exposure visits within India and outside. Large scale strengthening will take place in GIS and IT capacity of the forest department from Beat level to HQ level. Software, hardware, and networking will be significantly enhanced for better information collection and quick response. Drones[1] will also be purchased in order to capture better pictures and videos. Handheld customized instruments will be added to the daily working of forest headquarter and DFO level. High end GPS trimble will be given to range level officers and eTREX Gramin GPS equipment will be provided to Beat level users. Infrastructure Development will largely be on developing buildings, quarters and Beat offices. Some hostels for girls, playground etc., will also be constructed under this component.

22. Forest Fire Management will largely focus on training of various level forest officers for fire management. Basic trainings will also be provided to member of JFMCs and EDCs for immediate response to fire cases.

COMPONENT 2: Restoring Landscape for Improved Ecosystem Services

23. This component will involve supporting forest department at Beat level upwards in managing activities such as eco restoration, enrichment plantation, soil and moisture conservations; forest protection; nursery development and modernisation, wildlife and biodiversity conservation and entry point activities. It is estimated that 500 JFMCs will be involved through entry point activities and each JFMC will have approximately 100 members. The same number of JFMCs will be targeted for participatory rural appraisal (PRA), baseline survey, micro plan development and skill enhancement trainings. As part of agro-forestry promotion, a good amount of investment will be made for Agar and Bamboo development and production in the state. JFMC training will include various aspects such as skill development for high value forest products such as Bamboo and Agar; fire protection; nursery plantation techniques and fishery; record maintenance; seed collection and storage; ecotourism aspects such as tourist management and home stay; intelligence gathering and patrolling and livelihood related skills such as processing of NFTP and marketing.

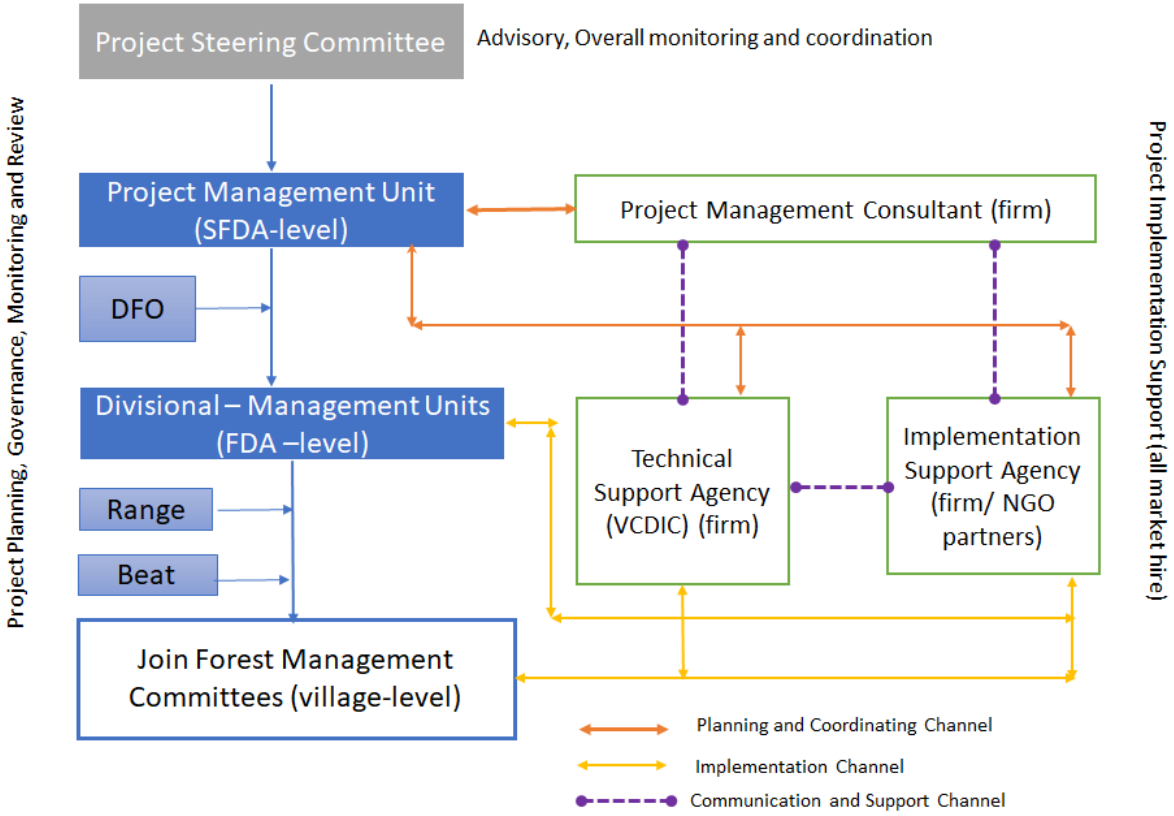
COMPONENT 3: Enhancing Landscape based value chains for Economic Transformation

24. This component will consist of initiatives towards upgrading infrastructure for research institute such as Tripura sustainable forest research institute (TSFRI), green building and associated development.

[1] Government of India Drone rules, 2021 (amendment in 2023) will be followed, the anticipated risks are lack of maintenance/servicing of drone, unsuitable take of/landing area, lack of competence of drone operator, operation of drone in poor weather conditions, collision with external obstacles (e.g. birds, trees, spectators/community members etc.) and operation of drone without proper licensing / permits. The risks can be reduced by proper maintenance as per supplier guidance, use of drone as per manufacture guidelines, take-off and landing areas is to be agreed with the community, Barriers/ signage will be provided. Operator must be fully conversant with and trained on the use of the drone, should poses the authorized license for operation. Drone must not be flown any higher than 400 ft above the earth's surface. (https://www.civilaviation.gov.in/index.php/ministry-documents/rules/drone-amendment-rules-2023)

Better scientific equipment will be procured for forest mensuration, forest utilization kit and climate monitoring stations, etc. Component will also aspire for value chain development, public private partnership development, software and hardware for integrated forest management system. Community mobilization and value chain integration will be another key subcomponent that will go a long way in enhancing market opportunity for economic transformation. Knowledge partnership, national as well as international and exposure visits of forest officials will play a big role in shaping economic transformation through ELEMENT project. Component 3 will spend a big chunk of fund on wildlife and biodiversity management and conservation in the whole state and in some specific areas such Unakoti, Khowai and Sepahijala south where Human and wildlife conflict is common and also In Gomati& South where management plan for reserve conservation is involved. Bio village (100 to start with) will also be developed under this component.

Figure 2: Tripura - ELEMENT Organogram 2-2



COMPONENT 4: Project Management, Monitoring and Evaluation

This component will be focused on formation of project management consultancy and teams, implementation and monitoring and evaluation requirement and associated cost for the ELEMENT as a project.

2.3. AREA OF OPERATION FOR ELEMENT

25. The ELEMENT project will be implemented in eight forest districts, namely North Tripura, Unakoti, Dhalai, Khowai, West Tripura, Sepahijala, Gomati, and South Tripura. It will cover a total of 17 forest sub-divisions, 4 wildlife sanctuaries, 59 forest ranges, 283 forest beats, and 22 Forest Protection Units. The project's coverage will be completed in a phased manner to ensure a comprehensive approach across the designated areas.

2.4. INSTITUTIONAL ARRANGEMENT FOR IMPLEMENTATION

26. The Government of Tripura has established a Project Steering Committee (PSC) for oversight, guidance, and authorization for the effective and efficient implementation of ELEMENT. The PSC is chaired by the Chief Secretary and includes the Principal Secretaries of all participating line departments. The project will be implemented through State Forest Development Agency (SFDA) having Forest Development Agencies (FDAs) at district levels and Joint Forest Management Committees (JFMCs), Eco-Development Committees (EDCs), Biodiversity Management Committees (BDMC) as well as Self-Help Groups (SHGs) at village level. A Project Management Unit (PMU) headed by a Project Director (PD) will

be constituted at the State Forest Development Agency. This PMU will be called PMU and a Project Management Consultancy(PMC) will also be commissioned to support PMU with adequate subject experts. PMU will be staffed through internal staff from the Forest Department as well as external recruits for management of financial, procurement and environmental and social matters. The FDAs will act as PIUs (8 districts) and coordinate with respective JFMCs/ SHGs ensuring overall 40% women participation.

2.5. NEED AND RATIONALE FOR THE ELEMENT PROJECT

27. Tripura is the third smallest state in the Northeast Region (NER) of India with a population of 3.7 million people (Census 2011), of which 74% reside in rural areas. The State is landlocked and has only 27% cultivable land and 73.68% of Tripura's total geographical area is covered by forests (2021).

28. Good rainfalland fertile soils are suitable for afforestation; in Tripura which provides abundant forest cover, 51 %; thus, forestry is the major source of income of the state along with agriculture. The proportion of the work force in agriculture and forest is high.

29. About 74% of the state's population lives in rural areas, and in particular, the majority of scheduled tribes which account for about 31.8% of the state's population, live by relying heavily on forests. The excessive extraction of forest resources by these poor people and shifting cultivation have severely degraded the forests, and canopy density. As a result, soil runoff and deterioration of water retention capacity were also serious problems. Under such circumstances, the state government has been making efforts to promote participatory and sustainable forest management and biodiversity conservation as part of its forestry sector reforms and anti-poverty measures. State forest department is promoting joint forest management, transforming shifting cultivation to agro-forestry which plays as a livelihood support.

30. Soil erosion which further decreases the access to drinking water in rural communities. To decrease these adverse impacts on their living environment, appropriate interventions, such as the improvement of degraded forest through artificial regeneration (AR) and added natural regeneration (ANR) and mitigation of soil erosion risks by the construction of check dams, need to be implemented in timely manner.

31. In addition to these direct interventions for arresting the increasing forest degradation and soil erosion, government also understands that it is important to address a major cause of the expansion of shifting cultivation. In Tripura, local people in rural communities still live under unfavourable socioeconomic conditions today. For example, land resources available for their income and job opportunities in rural communities are quite limited. This situation makes it difficult for local people to conduct settled agriculture especially in hilly area with steep slopes wherein agricultural water accessibility is challenging, and local people still need to depend on shifting cultivation. Under these circumstances, market linkages for local people need to be explored in order to slow the expansion of shifting cultivation and the increasing forest degradation and soil erosion.

32. Therefore, on this rationale, the project ELEMENT is planned by the Tripura Forest Department, Government of Tripura (GoT), with support from the World Bank to improve quality of forest in the targeted catchment with main focus on catchment protection;(1) sustainable forest management, (2)soil and moisture conservation,(3)livelihood development. In order to ensure effectiveness and efficiency of project activities the project shall be implemented at Forest Beat wise; Forest Beat is the smallest administrative unit of Tripura Forest Department (TFD) with which JFMC makes arrangement for managing allocated forestlands.

2.6. SCOPE AND STRATEGY OF ELEMENT

33. The World Bank is well positioned to support the Government of Tripura (GoT) through ELEMENT to address forest and natural resource degradation, forest encroachment and poor livelihood conditions in various villages around territorial and protected forest. This is the World Bank's first engagement with Tripura Forest Department, and it is expected to bring to the State Forest Department its expertise, technical know-how across sectors, and international experience. Tripura's vision of reducing forest degradation and encroachment, increasing incomes and improving learning outcomes in its most backward tribal blocks will require a strategic, multi-sectoral solution. The project will be implemented over five years by adopting a "landscape approach", i.e., taking both geographical and

socio-economic approach to managing the land, water and forest resources that form the foundation – the natural capital – for meeting goals of inclusive green growth.

34. Besides economic benefits, ELEMENT will also leverage the Bank's extensive experience on projects in India to ensure social and environmental benefits. The ELEMENT design will build on JFMCs/EDCs and SHGs as platforms to drive community level investments in value chain development and forest protection. This is expected to result in higher employment especially for women and economically weaker section, more so tribal women in the state. Investments in capacity building of elected representatives of JFMCs/EDCs and data systems are expected to lay the foundations for need-based planning and better targeting of welfare schemes to forest based livelihood dependent people.

2.7. PROJECT BENEFICIARIES

35. The primary beneficiaries of the ELEMENT project will be rural households, farmers, forest dwellers, tribals, villages, and forest-dependent communities, along with resource user groups interested in adopting landscape restoration practices. These communities will receive technical and financial support to enhance their livelihoods, build resilience, and contribute to ecosystem restoration. Government agencies will also benefit, gaining improved technical and operational capacity for integrated landscape governance, aiming to resolve conflicts arising from different land uses. Additionally, the government will receive funding for restoration activities in forests and protected areas. In Tripura, around 248 villages will be included in project activities, benefitting an estimated 110,000 people. The project has a special focus on targeting women and youth.

36. Local communities, Joint Forest Management Committees (JFMCs), Eco-Development Committees (EDCs), Village Councils, and Block Management Committees (BMCs) within the target landscapes will also benefit from the integrated community landscape management plans. 250,000 households are expected to benefit directly from project participation, with additional indirect benefits from improved value chains, green jobs, and enhanced ecosystem services. Villages will enjoy improved water availability, increased agricultural output through soil conservation, and eco-tourism opportunities. Furthermore, land restoration and increased tree cover will contribute to biodiversity conservation, preserve traditional knowledge, and support rural economies. Farmers, Non-Timber Forest Product (NTFP) traders, various government departments, women self-help groups (SHGs), and others will also benefit from the project's positive impact.

3 Relevant Laws, Policies, Standards and Institutions

37. This chapter deals with the laws, regulations and policies, of GoI, GoT, and the World Bank pertaining to E&S risks and impacts. The laws, regulations and policies potentially relevant to the Project are discussed here. This section may be updated should new laws, regulations and policies are made and enforced or the existing ones are amended. Applicable laws, regulations and policies need to be considered for effective management of environmental and social aspects.

3.1. INDIAN NATIONAL AND STATE LAWS,REGULATIONS AND POLICIES

38. There are several existing national/state level laws and policies potentially applicable to the Project. The following table 3.1 details the various regulatory frameworks pertaining to the project ELEMENT.

Table3-1: Relevancy of various Environmental and Social Legislations under GOI and GOT

S.N.	Name of relevant Act/Policies/Rules	Objective	Relevance to Subproject Interventions
1	Environment (Protection) Act 1986	EPA (1986) is an umbrella Act that provides for introduction of various regulations aimed at environmental conservation and protection	**Applicable** to this project because investment is likely to happen in construction of training centre, few concrete development (log huts, canteen etc.) of ecotourism, park, staff building in high tech Nursery development, construction which would require ready mix concrete plant in civil part i.e., training centre, staff quarter etc. Consent to Establish (CtE), Consent to Operate (CtO) from the Pollution Control Board During construction and operation phase of the project, applicable standard of ambient Air, water, noise quality standard (published by CPCB) shall be applied under this act.
2	Water (Prevention and Control of Pollution) Act 1974, amendments	This Act is applicable for maintaining or restoring wholesomeness of water. Central Board and state board are empowered to enforce them	
3	Air (Prevention and Control of Pollution) Act 1981	Applicable to reduce Air pollution during construction, operation phases of the project. The Rules are applicable as the construction related activities supported by the project have the potential to create air pollution.	
4	The Noise Pollution (Regulation and Control) Rules 2000	Applicable to reduce noise pollution during construction, operation phases of the project. The Rules are applicable as the construction related activities supported by the project have the potential to create noise pollution.	

S.N.	Name of relevant Act/Policies/Rules	Objective	Relevance to Subproject Interventions
5	Environmental Impact Assessment Notification, 2006 & amendment	The Notification makes it mandatory clearance from MOEF&CC for Building and Construction projects that have ≥ 20,000 sq.m. and <1,50,000sqm, however educational institutes are exempted.	**Not Applicable** Buildings to be constructed for Training, research purposes have been exempted from the requirement of Environmental Clearance and project will not take up construction size of a scale larger than 20,000 sq.m.
6	Central Ground Water Authority- 'Guidelines to control and regulate groundwater extraction in India' September 2020	To regulate and control groundwater extraction in India. Rural drinking water supply schemes, Agricultural activities are exempted under this scheme.	**Not Applicable,** since rural drinking water supply schemes, Agricultural activities are exempted under this scheme. **Guideline applies** in case of extraction of ground water for commercial purpose from a fresh bore well. Although no project components will involve any extraction of ground water for commercial purposes during construction and operation phase of the project. During construction stage of building work, if any fresh bore well connection is required then NOC from CGWA shall be applied under this guideline. No extraction of ground water without prior approval from CGWA shall be allowed under the project.
7	E-Waste Management Rule, 2016, amended 2018	To regulate & manage e-waste generated during the manufacture, using of any electrical and electronic equipment and channelize it for recycling or disposal	**Applicable** The project includes strengthening of GIS and IT capacity, which include purchase of electronic hardware. The likely generated E-waste should be managed as per this Rule.
8	Indian Forest Act 1927	This act enables the state to acquire ownership over forests and their produce and regulates access, use and extraction of forest resources for consumptive use. Section 26 of this act restricts grazing to only identified grazing units or in adjoining forest ranges.	**Applicable** In Project components of enhanced plantation on government forest area and to ensure non-encroachment of forest land and limiting access to and use of forest resources in Reserve Forests, unless specifically permitted In Protected Areas (PAs) it prevents/ regulates right of community/ individual to access any portion of protected forest for extracting forest produce, cut grass and pasture cattle.

S.N.	Name of relevant Act/Policies/Rules	Objective	Relevance to Subproject Interventions
9	The Indian Wildlife (Protection) Act, 1972	Applicable for protection to listed species of flora and fauna and establishes a network of ecologically important Protected Areas (PAs) Under section 33 of WLPA,1972- Control of sanctuaries The Chief Wildlife Warden shall be the authority who shall control, manage and maintain all sanctuaries and for that purpose, within the limits of any sanctuary,may construct such roads, bridges, buildings, fences or barrier gates, and carry out such other works as he may consider necessary for the purposes of such sanctuary:	**Applicable to prepare "exclusion list" to prevent project activities** within Protected area, national Park. All the ecotourism activities have been planned outside of the boundary of National Park, Wildlife sanctuary areas.However, this act will be applicable in eco-tourism activities where any modification in planning under the project takes place in future (in case of any activities involves in NP, WLS, Eco sensitive zones) the wildlife approval from NBWL shall be applicable.
10	Ecotourism guidelines in and around protected areas 2021"	To regulate and encourage planned development of areas in and around protected areas	**Applicable** As per guideline, Ordinarily, only basic tourist conveniences such as toilets, rain-shelters, zero impact or seasonal tented camping facilities, hiking/ biking trails, dirt tracks, hides/ Machan etc. shall be allowed to be developed on the forest land. Ecotourism activity should be proposed in buffer area of the protected areas. The Ecotourism sites planned under the project ELEMENT shall follow this guideline
11	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** Labour influx and management during construction, operation phases of the project will be under purview of this code.
12	The Ancient Monuments and	The Act aims to stop the encroachment and	**Not applicable**

S.N.	Name of relevant Act/Policies/Rules	Objective	Relevance to Subproject Interventions
	Archaeological Sites and Remains (Amendment and Validation) Act, 2010	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.	The screening process under the ESMF excludes possibility of any activities in the 'prohibited or regulated area' around protected monuments through an "exclusion list". None of the project intervention are planned within regulated area of ASI monuments
13	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** **The project is envisaged to protect and restore the degraded forest landscapes in Tripura.** **As per section 2 of the Act, the activities related to any work relating or ancillary to conservation, development and management of forests and wildlife is allowed.** **Agar and bamboo planation planned under the project are planned on government owned forest land**.
14	The Indian Forest Act (Tripura amendment) Act 1984 & amendments	Envisaged to consolidate the law relating to forests, the transit of forest-produce and the duty leviable on timber and other forest-produce & Declaration of RF, PF	
15	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	**Applicable** Project interventions like upgrading infrastructure, Check Dam preparation may require tree cutting in non-forest areas, thus the guideline applies.
16	Forest Right Act - 2006, The Scheduled Tribe and Other Traditional Forest Dwellers (Recognition of Forest Right) Act, 2006	To recognize and vest certain forest rights in the forest dwelling Scheduled Tribes and other traditional forest dwellers such as the collection of Minor Forest produce, access to grazing grounds and water bodies, traditional areas of use by nomadic	**Applicable** Civil work-related activities such as Infrastructure development and up gradation may need forest approval, hence NOC from Forest Rights Committees of respective Gram Panchayat and Village Committees under Tripura Tribal Area Autonomous District Council via District magistrate (District Level Committee (DLC) on Forest Rights Act, 2006) shall be required under this act. Furthermore, in tribal area, if any forest land

S.N.	Name of relevant Act/Policies/Rules	Objective	Relevance to Subproject Interventions
		or pastoral communities etc.	diversion involves below 1 hectare with maximum 75 nos. tree impacted, the forest diversion approval will need to be obtained from District Forest office only after recommendation from Village Committees under Tripura Tribal Area Autonomous District Council (under this act. Since all the project are planned in the tribal rural area, this act shall be applicable in case of felling of trees, ensuring right of forest tribes.
17	Biological Diversity Act 2002, and Biological Diversity Rules, 2004 The Tripura biological diversity rules (2008) stipulate	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, knowledge and for matters connected therewith or incidental thereto. Tripura Biological diversity rules of 2006, consisting of 25 sections, establish composition, duties and responsibilities of the Biodiversity Management Committees and Bodies, entitled to manage and protect sectors relating to conservation of biological diversity, sustainable use of biological resources and equitable sharing of benefits arising out of the use of biological resources shall be nominated by the State Government, in particular for forestry, agriculture and fisheries sectors	**Applicable to prepare "exclusion list" to prevent project activities having to access biological resources** near the environmental sensitive areas including national parks, wildlife sanctuaries and biodiversity heritage sites,causing erosion of the ecosystem and environmental damage. Biological Management Committees and people's biodiversity register are two important aspect of this rule. Biodiversity Management plan is prepared by BMC based upon People's biodiversity register

S.N.	Name of relevant Act/Policies/Rules	Objective	Relevance to Subproject Interventions
18	Farmer Producer Company in India Under Companies Act, 2013	It aims at upliftment of rural producers. objectives of the producerare that Company shall relate to production, harvesting, procurement, grading, pooling, handling, marketing, selling, export of primary produce of the Members or import of goods or services for their benefit:	**Applicable** Agar and Bamboo development and production under project may come under purview of this act. Under this act, activities such as manufacture, sale or supply of machinery, equipment or consumables are mainly to its members; the act envisage provision of education on the mutual assistance principles, to its members and others etc.
19	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 to regulate the import, manufacture, sale, transport, distribution and use of insecticides with a view to prevent risk to human beings or animal	**Applicable** The project investments are likely to involve use of pesticides (in high-tech nurseries and plantation activities). These activities will comply with the requirements of the Insecticide Act – especially regarding non-use of banned pesticides, safe use of pesticides, etc. Central Insecticides Board, GoI, banned pesticides should be under exclusion list of the project ELEMENT.
	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** Project Interventions with reference to New Infrastructure Development (infra under training capacity building, ecotourism sites) may involve waste management during various phases of the project Construction waste management shall be major activity in the construction of work.
20	Construction and Demolition Waste Management Rules, 2016	Rules and regulation for construction & Demolition Waste.	
21	Hazardous and other Wastes (Management & Transboundary Movement) Rules, 2016	Rules and regulation to manage and reduce the hazardous waste	**Applicable** in case the activities supported under the project lead to creation of hazardous waste, (e.g., demolition or renovation of structures containing Asbestos, etc.). However, the screening process under the ESMF excludes possibility of any activity where Asbestos Containing Material (ACM) is involved - in construction or in demolition works.
22	The Building and Other Construction	This Act provides for safety, health and welfare measures of	**Applicable** to this project because investment is likely to happen for construction activities in training centres, ecotourism developments,

S.N.	Name of relevant Act/Policies/Rules	Objective	Relevance to Subproject Interventions
	Workers' (Regulation of Employment and Conditions of Service) Act 1996	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 day, weekly paid rest day, wages for overtime, provision of basic welfare amenities like drinking water, latrines, urinals, crèches, first aid, canteens, and temporary living quarters within or near the work site.	other staff quarter, sanitation blocks etc.
23	Joint Forest Management Policy 1993 (revised Feb 2000)	The policy seeks involvement of village communities in the regeneration of degraded forests and conservation of well-stocked forests. Subsequent guidelines shifted focus from timber to NTFP, encouraged people's participation in forest management, spelt mechanisms for sharing ecological as well as economic benefits with the community. National Afforestation Programme is a scheme under this Act.	**Applicable** Project activities involves constitution of JFMC and promoting joint forest management, transforming shifting cultivation to agroforestry, and providing alternative livelihood activities.
24	Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)	This international convention, to which India is a signatory category, lists the endangered flora and fauna and regulates trade of these species.	**Not Applicable since** Project Intervention does not involve any trade of significant endangered species.
25	Wetland (Conservation and Management) Rule 2010	To ensure better conservation and management and to prevent degradation of	**Applicable** to this project because investment is likely to happen for Check dam preparation.

S.N.	Name of relevant Act/Policies/Rules	Objective	Relevance to Subproject Interventions
		existing wetlands in India.	
26	Tripura Non-Timber Forest Product Policy 2020	To develop a long-term strategy, for creating all executive framework. and to enumerate strategic interventions for all integrated development of NTFP sector in the state of Tripura	**Applicable** to this project because investments will promote NTFP in the state.

Table 3-2: Relevant Social Rules and Regulations under GOI and GOT

Name of relevant Act/Policies/Rules	Objective	Relevance to Subproject Interventions
The Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013	The Act include the following key provisions related to land acquisition, resettlement, and rehabilitation: • mandatory social assessments to determine whether the said acquisition serves a larger public purpose or not; • requirement to ascertain the minimum land requirements for the purpose for which land is being acquired; • assessment of the impact of land acquisition on life, livelihoods, public infrastructure, common properties, customary rights and community assets of impacted communities and areas; • identification of steps to minimize any adverse or negative impacts of the acquisition; • social and economic cost-benefit analysis of the land acquisition to ascertain those benefits outweigh the costs; • livelihoods support for affected persons, including compensation and support for permanent or temporary relocation using realistic assessments; • detailed census and social impact assessment of affected families to map their socio-economic profile, potential losses or impacts; • special provisions for disadvantaged and	Not Applicable. The project interventions do not trigger acquisition of private land.

Name of relevant Act/Policies/Rules	Objective	Relevance to Subproject Interventions
	vulnerable persons and households; mandatory settlement of compensation and assistance before actual land acquisition; setting up of mechanisms for consultations, grievance redress and information disclosure.	
Tripura Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Rules, 2015	The State Rules mirror the requirements under the national legislation and provides some additional provisions	Not applicable. The project interventions do not trigger acquisition of private land.
Tripura Guaranteed Services to Citizens Act, 2020	It provides for guaranteed delivery of notified services to citizens within a stipulated time limit and creates appellate authorities for aggrieved citizens in case services notified under the Act are delayed or denied.	Applicable to the project
Tripura Tribal Areas Autonomous District (Establishment of Village Committee) Act, 1994	There shall be establishment of a village committee to deal with all or any of the matters. There shall be reservation for the scheduled tribes and scheduled castes in the village committees proportionate to their respective population of the area concerned.	Applicable to the project as the project interventions are taking place in the villages.
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
The Child Labour (Prohibition and Regulation) Act, 1986	The Act prohibits 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
The Bonded Labour System (Abolition) Act 1976	States that all forms of bonded labour stand abolished, and every bonded labour stands freed and discharged from any obligations to render any bonded labour	Applicable
Minimum Wages Act, 1948	This Act provides for fixing minimum rates of wages and associated rules in certain employments.	Applicable
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.	Applicable

Name of relevant Act/Policies/Rules	Objective	Relevance to Subproject Interventions
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 on the preceding 12 months as contract labour and to every contractor who employs or who employed on any day preceding 12months, 20 or more workmen. It does not apply to establishments where the work performed is of intermittent or seasonal nature. An establishment wherein work is of intermittent nature will be covered by the Act and Rules if the work performed is more than 120 days in a year, and where work is of a seasonal nature if work is performed more than 60 days in a year.	Applicable
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.	Applicable
The Right to Information Act, 2005	The Act provides for setting out the practical regime of right to information for citizens to secure access to information under the control of public authorities, in order to promote transparency and accountability in the working of every public authority	Applicable

39. Sixth Schedule to the Constitution of India: The Schedule provides for preservation of local/customary ways of life of the Tribal Communities living in the notified Schedule VI areas and creates provisions for self-governance and concurrence by the traditional local bodies for undertaking any developmental works in these areas.

40. Tripura Tribal Areas Autonomous District Council (TTADC): It provides powers to the Autonomous District Council for self-governance of the tribal population of the state. As per Article 244(2) of the Constitution of India, Tripura Tribal Areas Autonomous District Council (TTADC) is vested with the powers for self-governance of the tribal population of the state and also provides for creation of village level committees based on the customary laws.

41. For use of drones: Government of India Drone rules, 2021 (amendment in 2023) will be followed, the anticipated risks are lack of maintenance/servicing of drone, unsuitable take of/landing area, lack of competence of drone operator, operation of drone in poor weather conditions, collision with external obstacles (e.g. birds, trees, spectators/community members etc.) and operation of drone without proper licensing / permits. The risks can be reduced by proper maintenance as per supplier guidance, use of drone as per manufacture guidelines, take-off and landing areas is to be agreed with the community, Barriers/ signage will be provided. Operator must be fully conversant with and trained on the use of the drone, should poses the authorized license for operation. Drone must not be flown any higher than 400 ft above the earth's surface. (https://www.civilaviation.gov.in/index.php/ministry-documents/rules/drone-amendment-rules-2023)

3.2. APPLICABILITY OF THE WORLD BANK ENVIRONMENTAL AND SOCIAL FRAMEWORK

42. The Environmental and Social Framework (ESF) of the World Bank provides emphasis on implementation of commitments after projects are approved. The objective of WB's ESF is to facilitate achievement of these project development outcomes, through a system that integrates sound E&S management into Projects.Ten(10) Environmental and Social Standards (ESSs) set out in ESF provide for explanations on mandatory requirements that apply to the Borrower and projects. These Environmental and Social Standards (ESSs) are as follows:

Environmental and Social Standards (ESSs) of World Bank's new Environmental and Social Framework (ESF)

- *ESS 1 Assessment and Management of Environmental and Social Risks and Impacts;*
- *ESS 2 Labour and Working Conditions;*
- *ESS 3 Resource Efficiency and Pollution Prevention;*
- *ESS 4 Community Health and Safety;*
- *ESS 5 Land Acquisition, Restrictions on Land Use, and Involuntary Resettlement;*
- *ESS 6 Biodiversity Conservation, and Sustainable Management of Living Natural Resources;*
- *ESS 7 Indigenous Peoples;*
- *ESS 8 Cultural Heritage;*
- *ESS 9 Financial Intermediaries; and*
- *ESS 10 Information Disclosures and Stakeholder Engagement.*

Table 3-3: World Bank's ESF (ESSs) and applicability to ELEMENT

ESS	ESS Objectives	Applicability to ELEMENT
ESS 1 Assessment and Management of Environmental and Social Risks and Impacts	• To identify, evaluate and manage the environment and social risks and impacts of the project in a manner consistent with the ESSs.	ELEMENT project interventions will cause environmental and social risks and project is categorized as substantial. **Hence, ESS 1 is relevant**
ESS 2: Labour and Working Conditions	• To promote safe, healthy and fair working conditions for all types of labour involved in the projectand provide them with platform to raise their concerns	The ELEMENT project will involve employment of direct and contracted workers during 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 minimizing pollution including climate pollutants, pesticide use and hazardous/non-hazardous waste from project activities.	ELEMENT sub project interventions will involve use of natural resource for construction activities and pesticides in agriculture and horticulture/Nursery activities. **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,	Although the nature and scale of the most of the project activities are not expected to pose any community health risk, yet construction activity may pose temporary risks to the health and safety of affected communities from project activities in the

ESS	ESS Objectives	Applicability to ELEMENT
		vicinity. **Hence ESS4 is relevant**
ESS 5: Land Acquisition, Restrictions on Land Use and Involuntary Resettlement	• To mitigate unavoidable adverse social and economic impacts from land acquisition or restrictions on land use and to improve living conditions of poor or vulnerable persons who are physically displaced, through 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	The project will exclude any sub-project activities that (i) involve private land acquisition or lead to involuntary resettlement of tribal households or which create economic displacement or loss of livelihoods for communities, and; (ii) may have significant, adverse, irreversible impacts on customary tribal lands, natural or cultural resources. **However, ESS 5 is relevant** to ensure that small scale, scattered land requirements are made available by the communities (included in the selection criteria of the sub-projects). And to manage any impacts related to that.
ESS 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources	• To protect and conserve biodiversity and habitats and promote sustainable management of living natural resourceand support livelihoods of local communities, through the adoption of practices that integrate conservation needs and development priorities	The Project envisages activities which may have direct or indirect impacts on biodiversity and living natural resource. **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	Some of the Tribal households and forest dependent communities in the deep pockets of forest fall in this category of group and will need support under this provision. **Hence ESS 7 is relevant**
ESS 8: Cultural Heritage	• To protect cultural heritage from the adverse impacts of project activities and support its preservation.	Possible chance finding of notified cultural heritage site, beliefs, etc. may be located near the project areas. **HenceESS 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 FIs involved in this project. **ESS 9 is Not relevant**
ESS 10: Stakeholders Engagement and	• To establish a systematic approach to stakeholder engagements that will help Borrowers identify stakeholders and build and maintain a constructive	Project shall conduct free, prior and informed consultations and shall obtain consent and overall community support. **ESS 10 is relevant**

ESS	ESS Objectives	Applicability to ELEMENT
Information Disclosure	relationship with them, in particular 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	

43. Gap analysis between National and World Bank's policies and standards is provided in

44. **Table 3-4**.

Table 3-4: Gap Analysis between National and WB's ESF standards

S. No.	Environmental and Social Standards (ESS)	Equivalent National Environmental Policy and Regulations	Policy Gaps vs ESS and gap filling (redress) Measures
1.	ESS1: Assessment and Management of Environmental and Social Risks and Impacts	• The Environment (Protection) Act -1986 • The Wild Life (Protection) Act 1972, • Forest (Conservation) Act 1980 • Eco Sensitive Zone (ESZs) Notifications by MoEF&CC • Environmental Impact Assessment Notification-2006 & subsequent amendments • Various provisions of Environmental (Protection) Act, 1986 and Rules with amendments till date • Motor Vehicles (Amendment) Act 2019 • Guidelines to Regulate and Control Ground Water Extraction in India (With effect from 01.06.2019), • National Building Code 2016 and relevant standards of the Bureau of Indian Standards (BIS), • Energy Conservation Building Code 2017.	ESS1 is applicable for ELEMENT. Gaps exist regarding assessments, consultations, monitoring and ESCP. The following additional measures have been taken in ELEMENT project • Conduct an environmental and social screening of the subprojects, and prepare sub-project specific E&S instruments such as ESMP where necessary; • Undertake stakeholder engagement and disclose appropriate information in accordance with ESS10; • Develop an ESCP, and implement all measures and actions set out in the legal agreement including the ESCP; and • Conduct monitoring and reporting on the environmental and social performance of the project against the ESF.
2.	ESS2: Labour and Working Conditions	• The Building and Other Construction Workers (Regulation of Employment and Conditions of Service) Act 1996 and the Building and Other Construction Workers Welfare	The National and state legal provisions almost cover all requirements in ESS2 except relating to community workers and a functional GRM for different types of workers.

S. No.	Environmental and Social Standards (ESS)	Equivalent National Environmental Policy and Regulations	Policy Gaps vs ESS and gap filling (redress) Measures
		Cess Act, 1996 (BOCWW Cess Act) • Contract Labour (Regulation & Abolition) Act 1970, • Minimum Wages Act 1948, Payment of Wages Act 1936, • Child Labour (Prohibition & Regulation) Act 1986, • Bonded Labour System (Abolition) Act, 1976 • Inter-State Migrant workmen's (Regulation of Employment & Conditions of Service) Act 1979 • Employees Compensation Act 1923 • Employees P.F. and Miscellaneous Provision Act 1952 (since amended) • Maternity Benefit Act 1961 • Sexual Harassment of Women at the Workplace (Prevention, Prohibition and Redressal) Act, 2013 • Payment of Wages Act 1936 • Equal Remuneration Act 1976 • Payment of Bonus Act 1965 • Inter-State Migrant workmen's (Regulation of Employment & Conditions of Service) Act 1979 • Employer's Liability Act, 1938 • Employees State Insurance Act 1948 • The Personal Injuries (Compensation Insurance) Act, 1963	Hence, a separate Labour Management procedures (LMP) document has been prepared to cover above requirements.
3.	ESS3: Resource Efficiency, Pollution Prevention and Management	• Various provisions of The Environmental (Protection) Act, 1986and Rules with amendments till date • National Building Code 2016 and relevant standards of the Bureau of Indian Standards (BIS), • Energy Conservation Building Code 2017.	The majority of ESS3 requirements are addressed by the existing regulations and indirectly for resource efficiency, pollution prevention and management aspects. Further, provisions that need to be made have been included in detailed mitigation measures
4.	ESS 4: Community Health and Safety	• Air (Prevention and Control of Pollution) Act, 1981; • Water (Prevention and Control of Pollution) Act, 1974, for Pollution- Prevention-and-	While acts and rules cover for all of ESS 2 and ESS 4 requirements, gaps exist for community - community exposure to health issues.

S. No.	Environmental and Social Standards (ESS)	Equivalent National Environmental Policy and Regulations	Policy Gaps vs ESS and gap filling (redress) Measures
		Management; • The Noise Pollution (Regulation and Control) Rules, 2000 • Solid Waste Management Rules 2016 • Hazardous & Other Waste (Management and Trans-boundary Movement) Rules, 2016 • Construction & Demolition, Waste Management Rules, 2016 • Harmonized Guidelines and Space Standards for Barrier Free Built Environment for Persons with Disability and Elderly Persons 2016, • Occupational Safety, Health and Working Conditions Code 2019, • Insecticide Act 1968; Insecticide Rules 1971; Insecticide (Control) Order 1985	The gaps have been addressed through suitable provisions in ESMPs. Also, contractor obligation as part of ESMP for Community health and safety to include need for labour influx management, air and noise pollution control, proper disposal of wastes, sewage and water, etc. An integrated pest and nutrient management plan will be prepared.
5.	ESS 5: Land Acquisition, Restrictions on Land use and Involuntary Resettlement	• The Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013	Gaps relate to ensuring the voluntary nature of land donation and mitigating impacts of restrictions on land use and access to resources therein. Additional measures ensure consistency of customary land donation procedures with ESS5 requirements and mitigating livelihoods impacts of restricted land use have been provided in the ESMF.
6.	ESS 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources	• Biological Diversity Act, 2002, • Wildlife Protection Act 1972 (WLPA), • The Forest (Conservation) Act, 1980 and amendments and The Forest (conservation) Rules 1981 and amendments, State Forest Acts, • Eco Sensitive Zone (ESZs) Notifications by MOEF&CC	The National and state legal provisions almost cover all requirements in ESS6. The Project will adopt a negative list excluding Natural/critical habitats, eco-sensitive zones, Ramsar sites etc from ELEMENT influence area right at the screening stage and any sub-project falling under these habitats will be excluded. However, some subprojects are likely to be located in forest areas (un-notified / unprotected),

S. No.	Environmental and Social Standards (ESS)	Equivalent National Environmental Policy and Regulations	Policy Gaps vs ESS and gap filling (redress) Measures
			and hence biodiversity management measures will be planned and implemented through E&S screening and ESMPs where necessary to cover ESS 6 requirements.
7.	ESS 7: Indigenous Peoples/Sub-Saharan African Historically Underserved Tradition Local Communities	• Article 366 (25) of the Constitution of India • Article 244(1) of Constitution of India - The Fifth Schedule under Article 244(1) of a subsequent Act of Constitution "Scheduled Areas" as such areas as the President may by order declare to be Scheduled Areas after consultation with Governor of that State. • Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 • Panchayats (Extension to the Scheduled Areas) Act, 1996	While PESA Act requires clear communities' acceptance vide a Gram Sabha resolution on the proposed activity with a pre-defined quorum of participation, ESS 7 requires ascertaining free Prior and Informed Consent(FPIC) under these three circumstances – (1)impacts on land, (2)cultural heritage and (3)if requiring relocation. FPIC does not require unanimity and may be achieved even when individuals or groups within Indigenous Peoples/groups explicitly disagree. Hence, in such cases both Gram Sabha resolution and FPIC under these three circumstances will be required.
8.	ESS 8: Cultural Heritage	Ancient Monuments and Archaeological Sites and Remains Act, 1958	Provisions from the act meet the ESS 8 requirements. ESS 8 will be applicable only if any of the sub project directly or indirectly impacting any cultural heritage or chance finds during the construction of sub-projects
9.	ESS 9: Financial Intermediaries	Not relevant since no FI involved in ELEMENT project	Not Relevant
10.	ESS10: Stakeholder Engagement and Information Disclosure	• Environmental Impact Assessment Notification-2006 and subsequent amendments • RFCTLARR Act 2013 • Right to information Act 2005	There is a provision of public hearing in EIA Notification 2006 and also RFCTLARR Act 2013 mandates consultations with affected persons. Provisions of public hearing through EIA notification 2006 are not applicable in ELEMENT. The national statutory process on social side does not require preparation of a SEP or equivalent document as well as conducting meaningful

S. No.	Environmental and Social Standards (ESS)	Equivalent National Environmental Policy and Regulations	Policy Gaps vs ESS and gap filling (redress) Measures
			consultations and information disclosure that is accessible to all stakeholders. Measures to address the gap include – preparation of SEP wherein process of stakeholder consultations and engagement with all stakeholders – affected, other interested and physically disadvantaged information disclosure about project activities; feedback and GRM

4 ENVIRONMENTAL AND SOCIAL BASELINE

4.1. ENVIRONMENTAL BASELINE AND KEY IMPLICATIONS

45. The purpose of establishing baseline is to identify, evaluate and record the existingenvironmental and social conditions in and around influence area of the project ELEMENT while also comprehending their critical importance for the project. Baseline data/information was collected through mix set of activities such as: a) Secondary Data Collection from available reports and websites and Interaction with concerned department officials and staff members; b) Site Visits for physical observations. Baseline information for ELEMENT is presented under several subject titles as follow in this chapter. All project districts are depicted in figure 4-1 below.

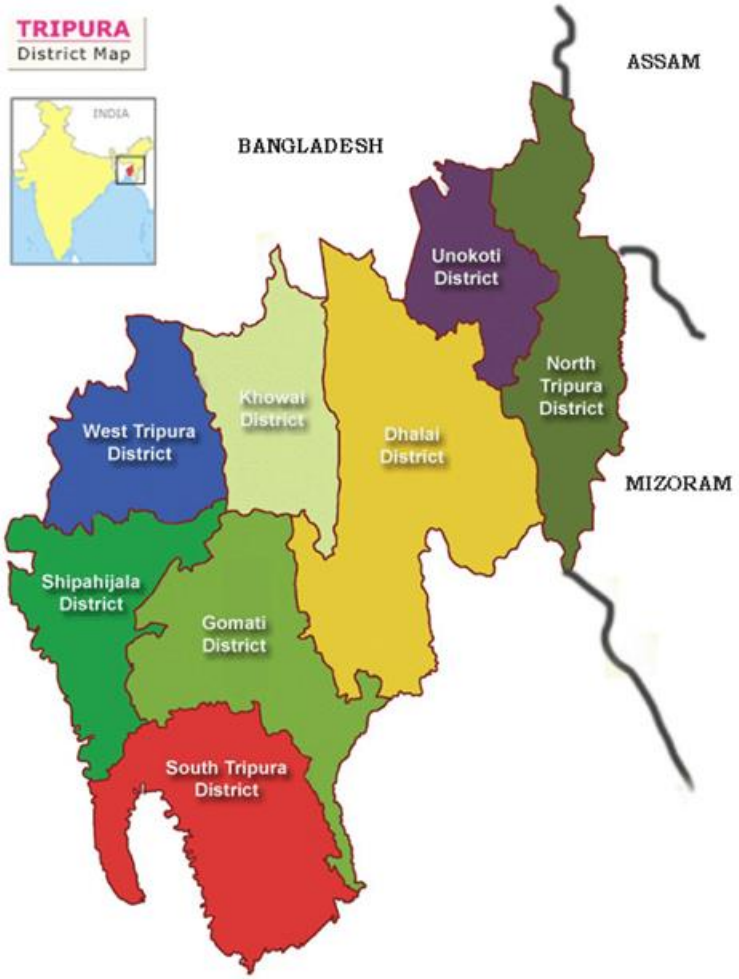


Figure 4-1: Project Districts

4.1.1. Geography & Location

46. Tripura with a geographical area of 10491 km2 lies between 22°57' and 24°33' N latitude and 91°10' and 92°20' E longitude. Tripura's geographical limits touch both national and international boundaries and this is a land locked state. The state has 839 km international boundary line with Bangladesh and has 53 km and 109 km length national boundary with Assam and Mizoram respectively. The state with 8 districts spread across 58 blocks covered with about 60% of forest area, approximately 6295 square kilometres. The ELEMENT project area covers all 8 districts.

47. The terrain of the state consists of parallel hills and ridges running from the northwest to the southeast direction, with alternating narrow valleys. There are several Hill ranges, Hillocks, Valleys and Undulating plateau, especially in the Tribal dominated areas, becoming one of the obstacles posing challenges of access to infrastructure, institutional and social development. Among the hill ranges,Beltingchhip is the highest peak. Traversing north to south there are five hill ranges in Tripura. The ELEMENT project area is having mixed topography (Figure 3-1). of 50 m -500m+ elevation ranges. The undulating terrain in particular of the project areas have an elevation range of up to 800+ meters around the Jampui Hills and should be accordingly considered for their respective terrain challenges and remoteness. State shows elevation of hills gradually increases in the east. The eastern range of the Jampui is situated at an elevation of 914 meters above MSL while the western range of the Baramura, Deotamura with its elevation of 244 meters above MSL is the lowest.

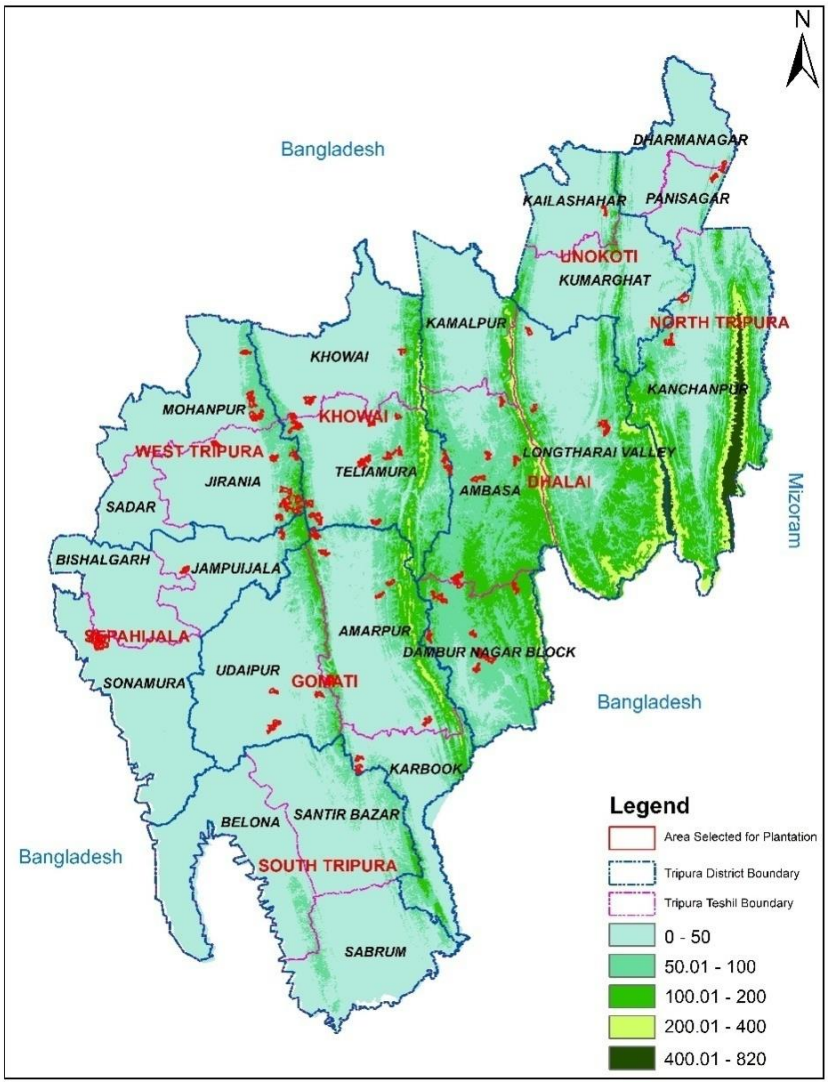


Figure 4-2: Elevation Map of Tripura

48. Sedimentary rocks represent the geology of the state. The rocks are sandstone, siltstone and shale grading into clay. The recent fluvial deposits occupy quite a large part of south Tripura district. The sedimentary rocks are deformed and folded.

4.1.2. Climate

49. The state of Tripura and project regions under ELEMENT presents Humid Eastern Himalayan Region Agro-climatic zone as per ICAR agro-climatic zonation system, and it is distinguished by a warm humid and subtropical climate. In certain places, local variances arise as a result of the geography. There are four distinct seasons: winter, pre-monsoon, monsoon, and post-monsoon. The temperature generally displays a pattern of decreasing from west to east. The mean temperature is 19.50°C during the summer, with a daily high temperature of 30.70°C. winter, from the end of November until February. The typical daily minimum temperature is only 8.9°C in January, the coldest month, while the highest temperature is 25.2°C. Temperatures range from roughly 9 to 31 °C with a declining trend from west to east.

50. The annual total mean rainfall in Tripura is 2108 mm from year 2010-2020. While the average annual rainfall the northern and eastern regions of the state have the most rainfall. Pre-monsoon and monsoon are the two seasons that overlap with the rainy season. In comparison to the central and western blocks of the project, the north and east region of the state may experience heavier rainfall. Due to closeness to Bay of Bengal to its s south, the state has fairly high humidity. The majority of the year is marked by high levels of humidity.

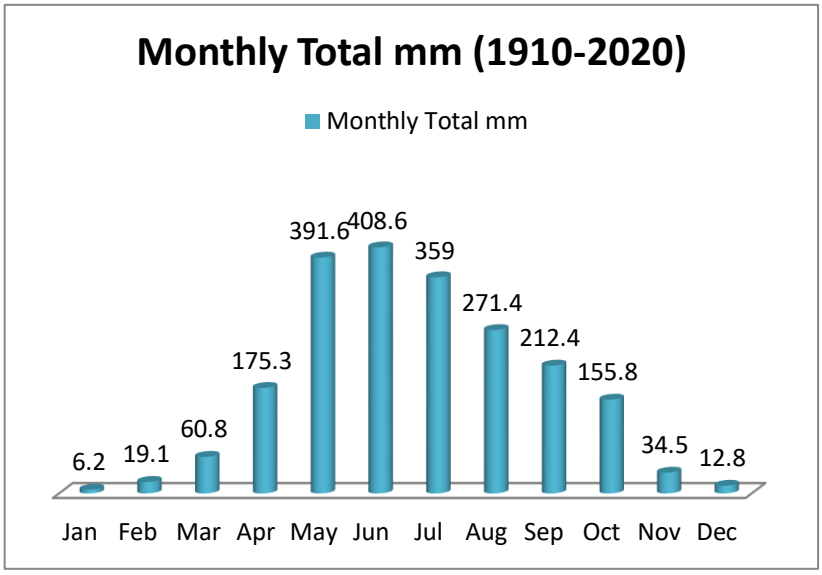


Figure 4-3: Rainfall record 1910-2020 (IMD)

4.1.3. Land Use

51. With 1.05 million hectares (10,491.6 sq. km) of land, the State of Tripura contains 0.61 million hectares of forestland, which accounts for roughly 58% of the total land area and followed by 26% (0.28 mha) as agriculture and remaining other biomass producing areas, fallow land etc.[2]The state's current land use profile shows that 0.13 mha is not suitable for cultivation. The distribution of land use in the state is summarised in table below.

Table 4-1:Land use Pattern in the State of Tripura

Sl.No.	Land use pattern		Area	Percentage
1	Forest area (Biomass producing common land)		0.61	58
2	Agricultural area		0.28	26
3	Other (Biomass producing area)		0.13	12
4	Miscellaneous crop		0.027	3
5	Cultivable wasteland		0.001	0
6	Fallow land	Old	0.001	0
		Current	0.004	0
		Total	0.005	0

[2]https://trpenvis.nic.in/test/land_use.html#:~:text=1.0%20Land%20and%20Land%20use,by%20agriculture%20(0.28%20mha).

4.1.4. Soil

52. The predominant nature of the soil of Tripura is Red Loam, sandy loam soil (43.07%) followed by Reddish Yellow brown sandy soil (33.06%)[3]. The red loam and sandy loam soils, which are rich in organic nutrients, are typically linked to forest ecosystems. Such soil is vulnerable to severe erosion in locations with frequent heavy rain, especially on slopes. Arable farming on red loam and sandy loam soil is not advised, especially without a strict regime of soil conservation, due to the potential effects of deep ploughing. In this soil zone, long Jhum cycles are a preferable method of crop production. Additionally, it is advised for plantations growing crops with sufficient room for ground cover, particularly rubber, tea, coffee, and pineapple. A suitable soil conservation measure is advised in the event that a forest in this soil zone is converted.

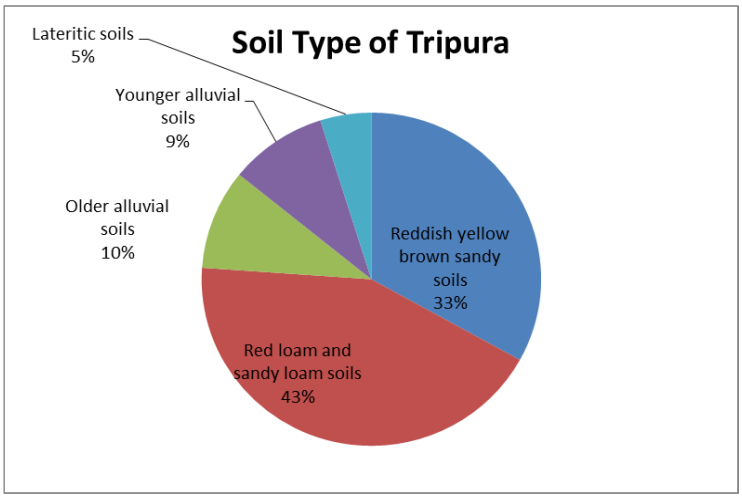


Figure 4-4: Soil Type of Tripura

53. Older alluvial soil covers roughly 10% of the State. The soil, which is typically found on high plains and river terraces, is rich in organic nutrients and suited for arable farming. However, there is still a lot of older soil covered by tropical forests. Older alluvial soil requires unique soil conservation methods due to the risk of gully erosion in uplands, slopes, and river terraces. Under older alluvial soil, at least five different series have been identified.

54. Approximately 5% of the state is Lateritic soil, especially along the western boundary of the state. The course of the soil in texture is very poor in nutrients, this soil type can support scrubland and wild bushes.

[3]https://trpenvis.nic.in/test/land_use.html#:~:text=1.0%20Land%20and%20Land%20use,by%20agriculture%20(0.28%20mha).

55. The soils of Tripura in general belong to five orders – Inceptisols (80%), Entisols (9%), Ultisols (7%), Alfisols(5%), and Histosols (0.2%). 49% of state has acidic soil with pH range 5.1-5.5. Organic content is moderate. Iron and Manganese content are sufficient. Phosphorus and Zinc content are low. Erosion, drainage and flooding are major issues as well. As per the order of the soil choice of crops must be decided as the Soil in Tripura is of Inceptisol order which are inherently infertile and hence need to be addressed accordingly to meet fertility requirements while presence of utlisol indicate presence of iron and aluminium oxides and hence choice of cropping must be done accordingly. Agro-Climatic Conditions. Soil has sufficient Iron and Manganese but lacks Zinc which is important for driving metabolic reactions in most crops. Based on agro ecological zones of Tripura, the project blocks of North and east parts of the state (Dumburnagar, Chawmanu, Dasda, Damcherra near JampuiHills) is having red and lateritic soil. Red Loam and sandy Loam is distributed majorly in the project blocks of northern and southernparts. Such soil is normally associated with forest ecosystem and is rich in nutrient. Due to heavy rain fall in the region, such soil is prone to heavy erosion, especially in slope areas.

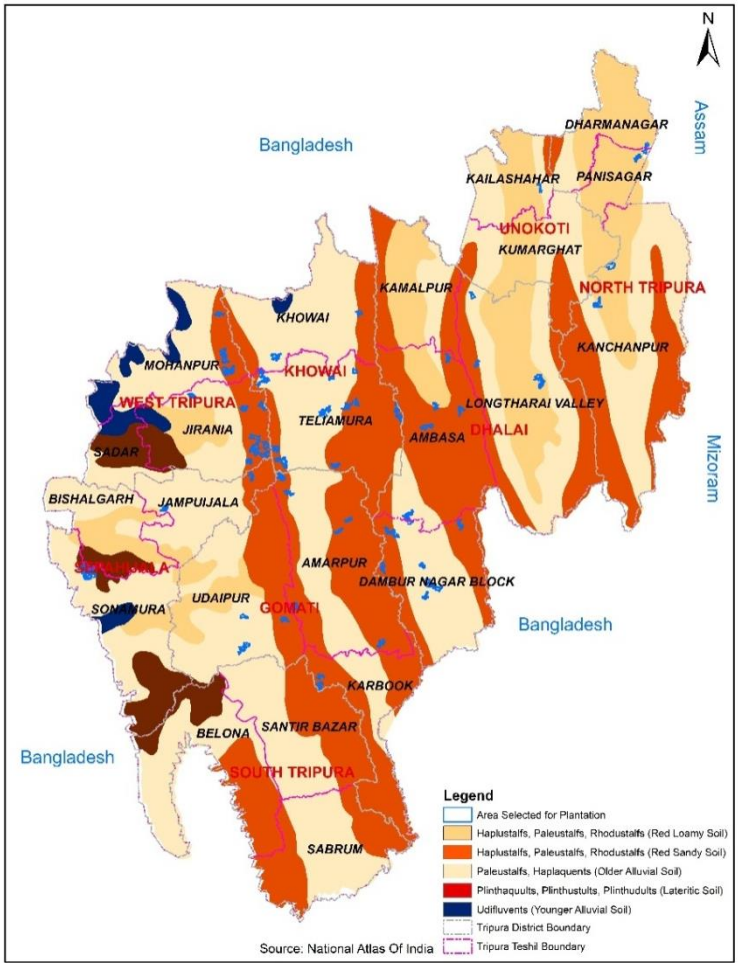


Figure 4-5: Soil Map of Project region

4.1.5. Air Environment

56. As per Tripura State Pollution Control Board (TSPCB), ambient air quality of has been studied for the available stations of Agartala city. As per latest available record (2021-2022), the monthly trend of Nitrogen dioxide (NO2), sulphur dioxide (SO2) was found within permissible limit of CPCB standard while suspended matters in the air i.e., PM10 & PM2.5 shows slight above than permissible standard during post monsoon season. Overall, the state maintains good constant Air Quality, except for the winter seasons when burning of fossil fuels. The project ELEMENT has been planned in rural tribe area; chances of pollution in comparison to urban city (like Agartala) would be very less.

4.1.6. Water Environment

57. The state has 10 rivers (Howrah, Gomati, Khowai, Dhalai, Manu, Juri, Feni, Burima, Deo &Muhuri) running over a total length of 903 km. across the state, please refer In ELEMENT project region and the state all rivers are rain-fed and ephemeral in nature. All these rivers have watershed/catchments areas of over 9433 ha covering 6 major hill ranges. Rivers in Tripura are Ephemeral and get polluted during lean seasons as they dry up.

58. As depicted in **Figure 4-6**, Gomati River has largest flow (31%) in the state followed by river Manu-Deo (21%). Apart from major rivers, minor river has flow sharing of 2%. Major events contributing to pollution due to rapid movement of population between urban areas/settlements, soil runoff etc. National Water Quality Monitoring Programme (NWQMP) has identified stretches of Priority V class in

Tripura – Burigaon (along Bishalgarh), Gumti (Telkajila to Amarpur), Haora (Agartala to Bishramgunj), Juri (Along Dharmanagar), Khowai (Along Teliamura) and Manu (Along Kailashahar). Most of the793 million cubic meters of surface flow in Tripura drain into Bangladesh.

59. Most fall in prominent urban areas. During April and August BOD levels are highest due to monsoon and decomposition from runoff. As such rural forest areas do not contribute to major pollution.

60.

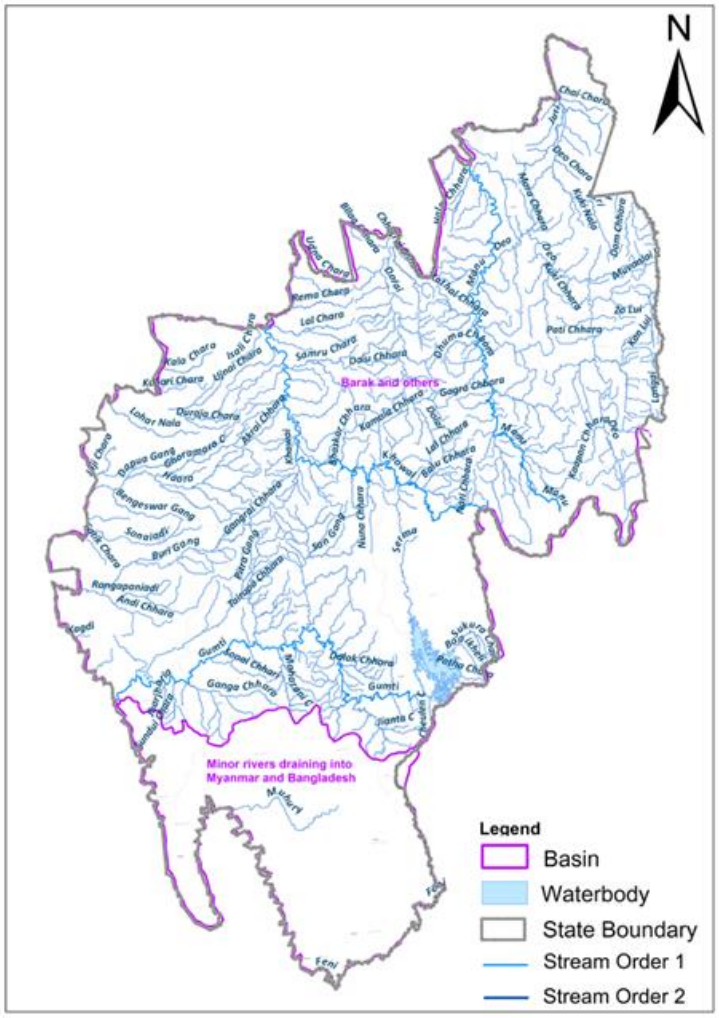


Figure 4-6: Water map in the project location

4.1.7. Wetlands

61. By virtue of being blessed with numerous rivers and streams, Tripura supports a rich diversity of inland wetland habitats. River/stream (42.30%) and waterlogged (16.79%) are the two main categories of natural wetland. There are six types of lakes with numbering of 408 wetlands, of which, water logged (seasonal) are most numerous followed by oxbow lakes and other lakes/ponds. State has 63% Inland natural wetlands dominated in the state with 63% share. Area-wise, reservoirs covered the larger area among the wetland types with 53.22 km2.

Table 4-2: Type of Wetland

Type of Wetland	Area (Sq.Km.)	No of. wetlands
Lakes/ponds	25.04	74
Oxbow lakes	3.60	84
Waterlogged (seasonal)	15.43	222
Reservoirs	53.22	5
Tanks	1.36	19
Waterlogged	0.30	4
Total	98.95	408

(Source: SAC(1998)/ https://forest.tripura.gov.in/wetlands-of-tripura)

62. From the point of view of biodiversity conservation and as centres of socio-economic values (through the water supply, fisheries, fuel wood, medicinal plants, livestock grazing, agriculture, energy resource, wildlife resource, transport, recreation and tourism, etc.), these wetlands are categorized and prioritized as**Table 4-3.**

Table 4-3: Type of Wetland

Sl. no	Name of the wetland	Rank
1.	Gomati reservoir (Dumbur lake)	1
2.	Rudrasagar (Nirmahal) (Ramsar site)	1
3.	Sepahijala reservoir	2
4.	Trishna wetlands	2
5.	Sttar Mia's Haor	2
6.	Batapara lake (Agartala)	3
7.	College Tilla lake	3

(Source: SAC (1998)/ https://forest.tripura.gov.in/wetlands-of-tripura)

63. The factors affecting the quality of the rivers are river discharge and vegetative cover. The rivers are ephemeral in nature and during the lean seasons tend to dry up and get pollutedwhile during the monsoon seasons become very muddy. Anthropogenic activities contribute a lot to the health of the river.

4.1.8. Ground Water

64. As per Central Ground Water Board's assessment, resources for ground water have been evaluated block-by-block. The State's annual extractable ground water resource is estimated to be 1.24 bcm and the total annual ground water recharge to be 1.47 bcm. Ground water extraction is 0.099 bcm annually, and the extraction stage is 7.94%. The 59 assessment units have all been assigned the category "Safe." There has not been a major change in the State's ground water recharge or extraction since the 2017 evaluation.

65. The depth of water level in all the districts shows a typical pattern. The water level becomes highest between the month of August and start declining from January to April4. As such in terms of ground water quality, Iron is present at more than 1.0 mg/l and affects Dhalai, North Tripura, South Tripura and West Tripura. The concentration of iron in water of North Tripura during Monsoon period ranges from 0.004-3.78 ppm5. The variations of iron during Pre-Monsoon period are 0.008 - 1.37 ppm. During Post monsoon period the content of iron varies from Tr - 14.67 ppm. During Monsoon Period iron

[4] ENVIS Centre: Tripura State Pollution Control Board

[5] S. Banarjee et al., Heavy Metal Contaminants of Underground Water in Indo Bangla Border Districts of Tripura, India;Int.J.ChemTech Res.; 3(1), 2011

contents in water of South Tripura varies from Tr - 1.86 ppm and during Pre and Post Monsoon period iron concentration are Tr - 7.35 ppm and 0.03 - 12.5 ppm respectively.

4.1.9. Agriculture

66. Tripura's economy is primarily agrarian, and agriculture and its allied activities contribute nearly 18 per cent to the state's Net Domestic Product with 42% of the population involved in this sector. Agriculture in Tripura includes settled farming in the plains and traditional Jhum (shifting) cultivation in the hills. Also, 88 per cent of cultivated area is under rice cultivation. Tripura has three cropping seasons as Pre-kharif, Kharif, and Rabi and 24% of geographical area can be attributed to net cropped area while 60% is under Forests.:

Total geographical area (ha)	1049169
Forest area (ha)	629426
Area sown more than once (ha	**231452**
Current fallow land (ha)	1055
Gross cropped area (ha)	487000
Net cropped area (ha)	255548

Table 4-4: Major crops of Tripura

Aush	Aman	Boro
Pre-Kharif (April–June)	**Kharif (July –Sept)**	**Rabi (Oct-March)**
Aus Paddy, Sesamum, Jute, Mesta, Cotton	Aman Paddy, Maize, Sorghum, Finger Millet, Kharif Moong, Kharif Black gram, Cowpea, Arhar, Rajmash, Soyabean, Kharif Groundnut	Boro Paddy, Rabi Maize,RabiBlackgram, Pea, Lentil,Gram,Rabi Groundnut, Rapeseed & Mustard, Flex (Linseed)

67. The state has encouraging climatic conditions for cultivating various fruit and horticultural crops comprising rice, jackfruit, pineapple, potato, sugarcane, chilli and natural rubber. The state has three cropping seasons as Pre-kharif, Kharif, and Rabi. The state with about 60% of its land under forest, the net area cropped in the State is only 255548 hectares (24% of geographical area). A large part of the land is upland / tilla land and hilly.

68. Around 55% of the agriculture area is sown under paddy (55%), Pulse and oilseed on 5% of the area, fruits and vegetables are covered on 21%, 10% under Rubber and 9% of the total cropped area is under miscellaneous crops like tea, medicinal plants etc.The state has a wide variety of medical plants having 266 medicinal plants, 379 species of trees, 581 herbs, 320 shrubs and 165 climbers.

69. Apart from agriculture; allied sectors like Animal Husbandry, Fisheries etc also contributes a significant role in the rural livelihood. It has been found that 85% of the community is engaged in Livestock farming followed by 68% in Agriculture and 46% in Non-farm activities to sustain their family needs (MART Study under NERLP, 2011). The 95% of total operational land holding in the state is below 2 hectare and account for 75% of the operated area. Average size of land holding has declined from 1.25 hectare in 1976 to 0.5 hectare in 2015-16. Due to continuous decline trend in operational land holding, Livestock rearing is done throughout the year in the state mainly as supplementary source of income and to a large extent as primary source of income.

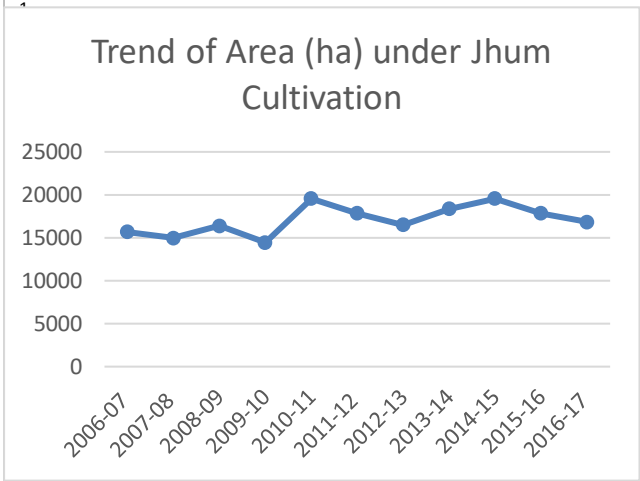
70. **Jhum Cultivation**: Jhum is practiced by many as tradition or low-risk activity especially when ownership of land is absent. Form last 20 years, main alternative offered to steer population away from Jhum is engagement in Rubber plantation which has contributed to economic upliftment of several cultivators. Jhum is low-risk/less yield type and is detrimental to the environment and allows no access to benefits of modern agriculture practices. In recent times, strategy adopted for Jhumiar rehabilitation in Tripura was to increase the coverage of rubber plantation in the state and to provide a lucrative alternative to Jhum cultivation. This practice has gained some success in changing the lifestyle of Jhumia people and provided better standards of living. Jhum cultivation presents a significant barrier to environmental management and conservation.

71. When compared to an average production of 18,190 M.T., the area under Jhum in Tripura was estimated to be around 16,843 hectares in the 2016–17 (Provisional) years. The production per acre is comparatively average. When compared to paddy farming in a populated area, Jhum paddy productivity

is significantly lower. Productivity under Jhum normally has stayed the same however, area under Jhum had increased in the past.

Table 4-5: Area, Production and Productivity of Jhum Crops in Tripura (2006-17)

Years	Area in ha	Production in MT	Yield in Kg/ha
2006-07	15667	15514	990
2007-08	14956	14956	1000
2008-09	16390	16472	1005
2009-10	14452	14423	991
2010-11	19540	20517	1050
2011-12	17859	19038	1066
2012-13	16511	17705	1072
2013-14	18351	18993	1035
2014-15	19540	20517	1050
2015-16	17859	19038	1066
2016-17 (P)	16843	18190	1080
CAGR (per cent)	1.75	2.6	0.85



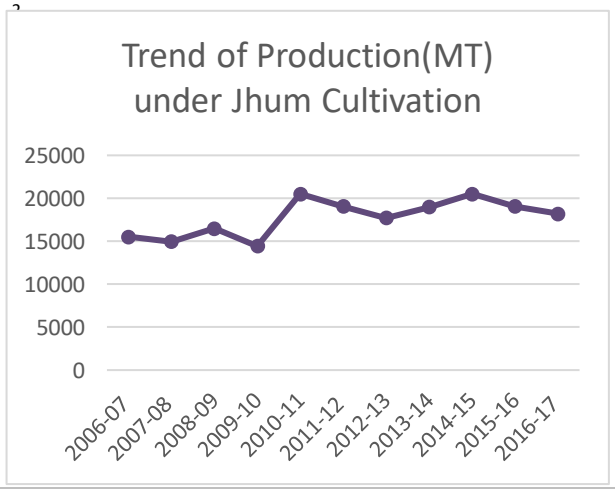


Figure 4-7: Trend of area under Jhum Cultivation

72. In context of ELEMENT project, Agroforestry, Agar and Bamboo plantation shall be promoted, which will improve the existing soil nutrient and reduce the soil moisture loss, soil erosion on the hills and prior Jhoom Lands.

4.1.10. Natural Hazard Profile

73. Tripura is prone to earthquakes, floods, forest fires, cyclones, storm events, drought and landslides. These events take heavy toll on the socio-economic fabric of the state.

74. **Earthquakes:**Tripura is located in the most seismic zone in the country, i.e., Seismic Zone V. Past Trends include seismic activities of Richter Scale 6.3 and 7.5 posing much danger to people and infrastructure.

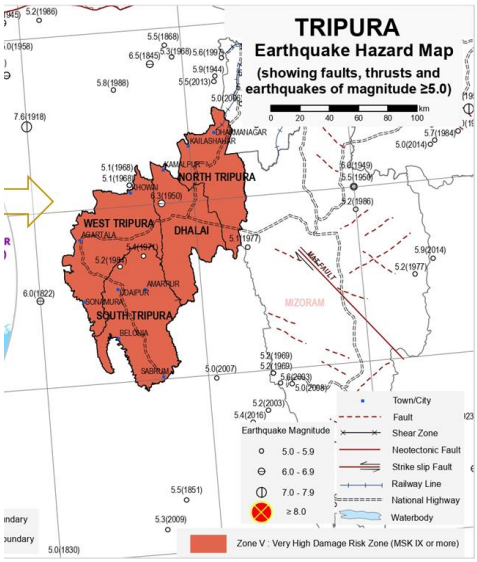


Figure 4-8: Seismic map of Tripura

75. **Floods:** The **s**tate experiences 92 average wet days each year, with a rainfall average of 212.2 cm. Low-lying locations are particularly vulnerable to an onslaught of heavy rain. During such occasions, erosion cause**s** extensive damage to land and property, and waterborne diseases also rise. All rivers that originate in hill ranges are capable of flooding during periods of significant precipitation. The danger level may range from 1.48 metres for the Haora River near Agartala to 31.50 metres for the Dhalai River near Kamalpur, according to the flood levels of at least five major rivers. Table 4-6show the recorded danger level, extreme danger level and highest flood level observed, for five of the major ten rivers of Tripura.

76. Soil conservation activities (check dam provisions) planned under this projection the potential watershed areas will be helpful to reduce the erosion impact of flood in the region. Table 4-6 below shows flood level of five major rivers in Tripura

Table 4-6: Flood level of five major rivers

Sl. No.	River & Site	Danger level (m)	Extreme danger level	Highest floodlevel observed (m)
1.	Gumti River			
	Amarpur	31.50	32.00	33.52
	Udaipur	20.80	21.50	22.52
	Sonampur	12.00	12.50	14.28
2.	Manu River			
	Kailashahar	22.00	22.50	24.60
3.	Dhalai River			
	Kamalpur	31.50	32.00	33.26
3.	Khowai River			
	Khowai	24.00	24.50	25.62
4.	Haora River			
	Agartala	10.48	10.78	11.08

Source: ENVIS Tripura

77. **Landslides:** The earth/rocks in Tripura's hill ranges are vulnerable to landslides. Recurrent landslides in the state's North Tripura, Unakoti, and Dhalai Districts disrupt surface communications, especially during the monsoon.

78. **Drought (Dry Spells):** Delayed rainfall in the months of April and May typically results to drought. There is shortage of drinking water as the level of the groundwater declines. This affects agriculture and Jhumia farmers to quite an extent. Past Trends includes dry spells in November 2005 and 1998.

79. **Cyclones/ Wind Storms**: regarding wind hazards, the entire State's design wind speed is cyclonic, at 55 m/s (198 kph), which could occasionally cross Bangladesh to reach the State. Due to the Bay of

Bengal's proximity to the state, cyclones only occasionally hit the entire state during the South-West Monsoon season.

4.1.11. Biological Environment

80. Tripura, situated in the Indomalaya realm, showcases diverse ecosystems, including mountains, forests, and freshwater areas. Approximately 60% of the state is covered by forests, mainly tropical evergreen, semi-evergreen, and moist deciduous types, with moist deciduous mixed forests prevailing in the project region. Grasslands and swamps are also found, particularly in the plains. The forest area is legally classified into Reserved Forests (RF), Protected Reserved Forests (PRF), Unclassed Government Forests (UGF), and Protected Forests (PF). Tripura currently has 41 Reserved Forests, with 45 proposed. Local communities residing in these areas are part of Eco-Development Communities and Joint Forest Management committees, actively engaging in forest protection and resource utilization programs.

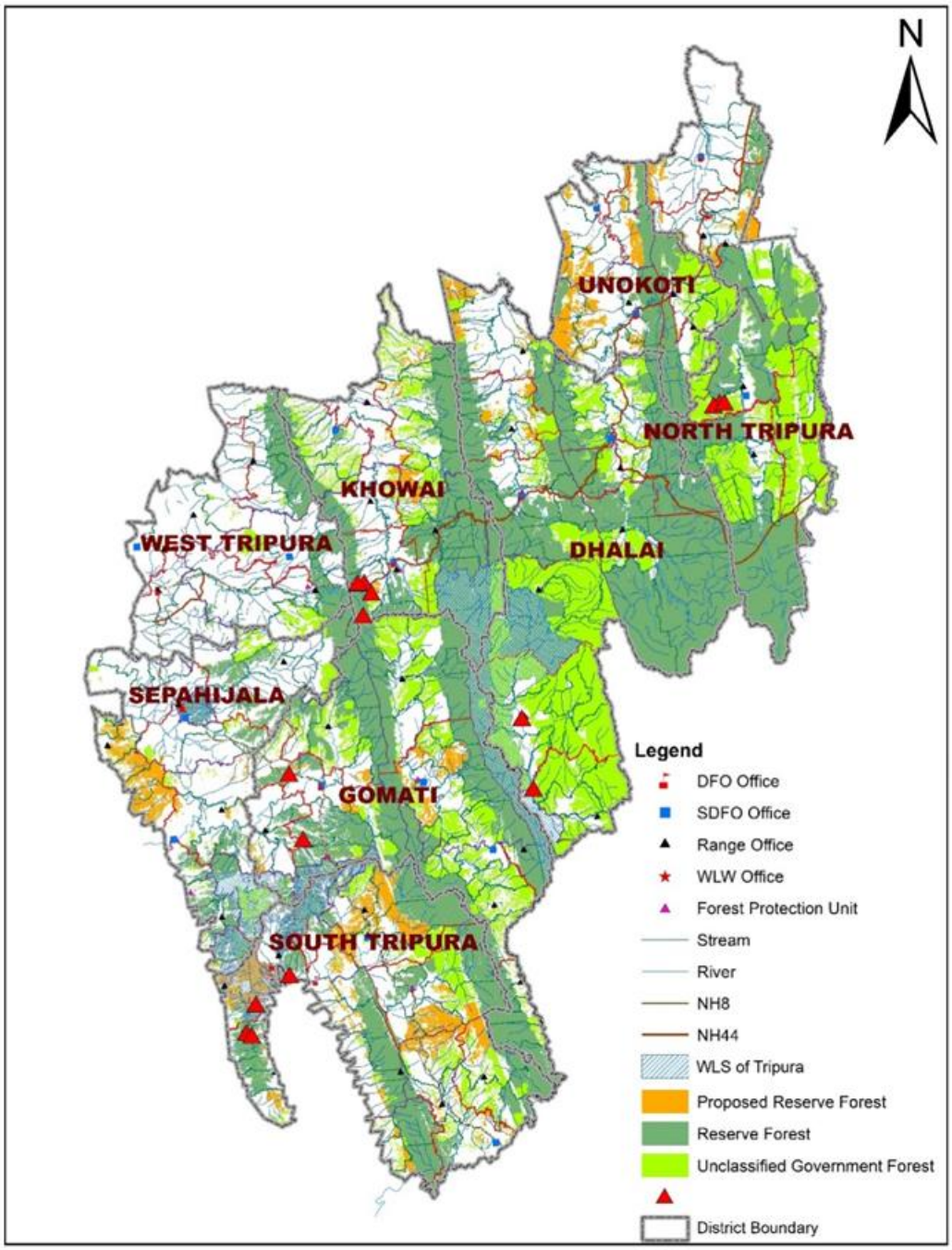


Figure 4-9: Forest and Wild Life Protected areas of Tripura

Table 4-7: Legal classification of forests (area in km2)

District	Civil Sub-division	Geographical area	Forest area (in km^2)					
			RF	PRF	UGF	PF	Total	% Forest area GA
North		1356.80	465.75	55.68	325.12	0.01	846.57	62
	Kanchanpur	769.04	328.29	0.00	281.50	0.00	609.79	79
	Dharmanagar	301.33	36.04	19.40	0.00	0.01	55.45	18
	Panisagar	286.41	101.42	36.28	43.62	0.00	181.33	63
Unakoti		711.47	181.52	97.37	97.85	0.00	376.74	53
	Kailashahar	235.92	27.27	42.17	0.00	0.00	69.44	29
	Kumarghat	475.55	154.25	55.20	97.85	0.00	307.30	65
Dhalai		2256.70	1091.90	44.41	722.54	0.56	1859.40	82
	Longtharai Valley	869.32	614.77	0.00	99.15	0.55	714.46	82
	Ambassa	549.09	308.00	1.09	207.92	0.00	517.00	94
	Gandachhara	451.18	31.58	0.00	394.06	0.00	425.64	94
	Kamalpur	387.08	137.51	43.32	21.42	0.01	202.26	52
Khowai		1016.40	404.81	28.96	153.45	0.00	587.22	58
	Khowai	508.03	116.86	16.196	100.72	0.00	233.78	46
	Teliamura	508.37	287.96	12.76	52.73	0.00	353.45	70
West		833.68	157.53	0.53	56.521	0.00	214.58	26
	Sadar	196.85	1.59	0.00	0.00	0.00	1.59	1
	Mohanpur	397.09	69.93	0.16	3.78	0.00	73.87	19
	Jirania	239.74	86.02	0.37	52.74	0.00	139.13	58
Sepahijala		1154.80	170.69	72.07	101.27	0.026	344.06	30
	Bishalgarh	385.59	16.11	1.66	1.99	0.00	19.76	5
	Jampuijala	287.51	77.67	0.07	20.38	0.00	98.12	34
	Sonamura	481.68	76.91	70.34	78.90	0.03	226.18	47
Gomati		1697.00	662.32	43.01	419.28	0.52	1125.10	66
	Udaipur	631.71	231.87	15.19	94.56	0.00	341.62	54
	Amarpur	766.92	352.51	27.82	191.40	0.42	572.16	75
	Karbook	298.37	77.93	0.00	133.32	0.10	211.35	71
South		1464.90	453.71	245.60	240.83	0.48	940.62	64
	Santirbazar	508.47	174.76	95.84	108.60	0.24	379.44	75
	Belonia	507.64	173.85	86.58	38.72	0.24	299.40	59
	Sabroom	448.80	105.10	63.17	93.51	0.00	261.78	58

District	Civil Sub-division	Geographical area	Forest area (in km^2)					
			RF	PRF	UGF	PF	Total	% Forest area GA
Total		10492.00	3588.20	587.63	2116.9	1.60	6294.30	60

(Source: https://forest.tripura.gov.in/forest-of-tripura)

Table 4-8 : Lists of Reserved Forest in Tripura

Sl. No	Name of Reserved Forest		Sl. No	Name of Reserved Forest
1	AtharamuraKalajhari R.F.		22	Khowai Catchment R.F.
2	BaramuraDeotamura R.F.		23	Longtarai R.F.
3	BetagaLudhua R.F.		24	Muhuripur R.F.
4	Champamura R.F.		25	Pathalia R.F.
5	Charilam R.F.		26	Pathalia Fuel R.F.
6	Chandrapur R.F.		27	Radhakishorepur R.F.
7	Chakmaghat R.F.		28	Ramchandraghat R.F.
8	Chandraipara R.F.		29	South Sonamura R.F.
9	Central Catchment R.F.		30	Samru-Halai R.F.
10	Choraibari R.F.		31	SalemaR.F
11	Deo R.F.		32	Tulakona R.F.
12	Damchhara R.F.		33	Tulatali Bari R.F.
13	Garjee R.F.		34	TekkaTulsi R.F.
14	Hatipara R.F.		35	Teliamura R.F.
15	Harishnagar R.F.		36	UjanMachmara R.F.
16	Jagannath Dighi R.F.		37	Unakoti R.F.
17	Juri R.F.		38	Unakoti Extension R.F
18	Karchakhola R.F.		39	Ultachhara R.F.
19	Kachigang R.F.		40	MCRF
20	Kashari R.F.		41	Kulai Extension RF
21	Kulai R.F.			

(Source: https://forest.tripura.gov.in/forest-of-tripura)

Table 4-9 : Lists of Proposed Reserved Forest in Tripura

Sl. No	Name of Proposed Reserved Forest		Sl. No	Name of Proposed Reserved Forest
1	Saydachhara PRF		24	Chandrapur Extension PRF
2	Chancap PRF		25	Debbari PRF
3	Chhaygharia PRF		26	Garjeechara PRF
4	Durlavpur PRF		27	Sichharachara PRF
5	Gandhigram PRF		28	Hirapur PRF
6	Kamalnagar PRF		29	Laxmipati PRF
7	khedabari PRF		30	Pipariakhola PRF
8	Taksapara PRF		31	PurbaCharakbai PRF
9	Telkajla PRF		32	PurbaLaxmichara PRF
10	Trishna Extension PRF		33	PurbaSingicharra PRF
11	Tulakona Extension PRF		34	R.K Pur Extension PRF
12	Indurail PRF		35	Radhakishore Ganj PRF
13	Amlighat PRF		36	Rajkang PRF
14	Tabaria PRF		37	Rani PRF
15	Melaghar PRF		38	Kalagangrai PRF
16	Manubazar PRF		39	Kalapania PRF
17	Krishnapur PRF		40	Motai PRF
18	Jalafa PRF		41	North Sonamura PRF
19	Taranagar PRF		42	Pramodnagar PRF
20	Abhanga PRF		43	Santinagar PRF
21	Ambassa PRF		44	Trishna PRF
22	Bampur PRF		45	Tuichandrai PRF
23	Bilashcherra PRF			

(Source: adapted from https://forest.tripura.gov.in/forest-of-tripura)

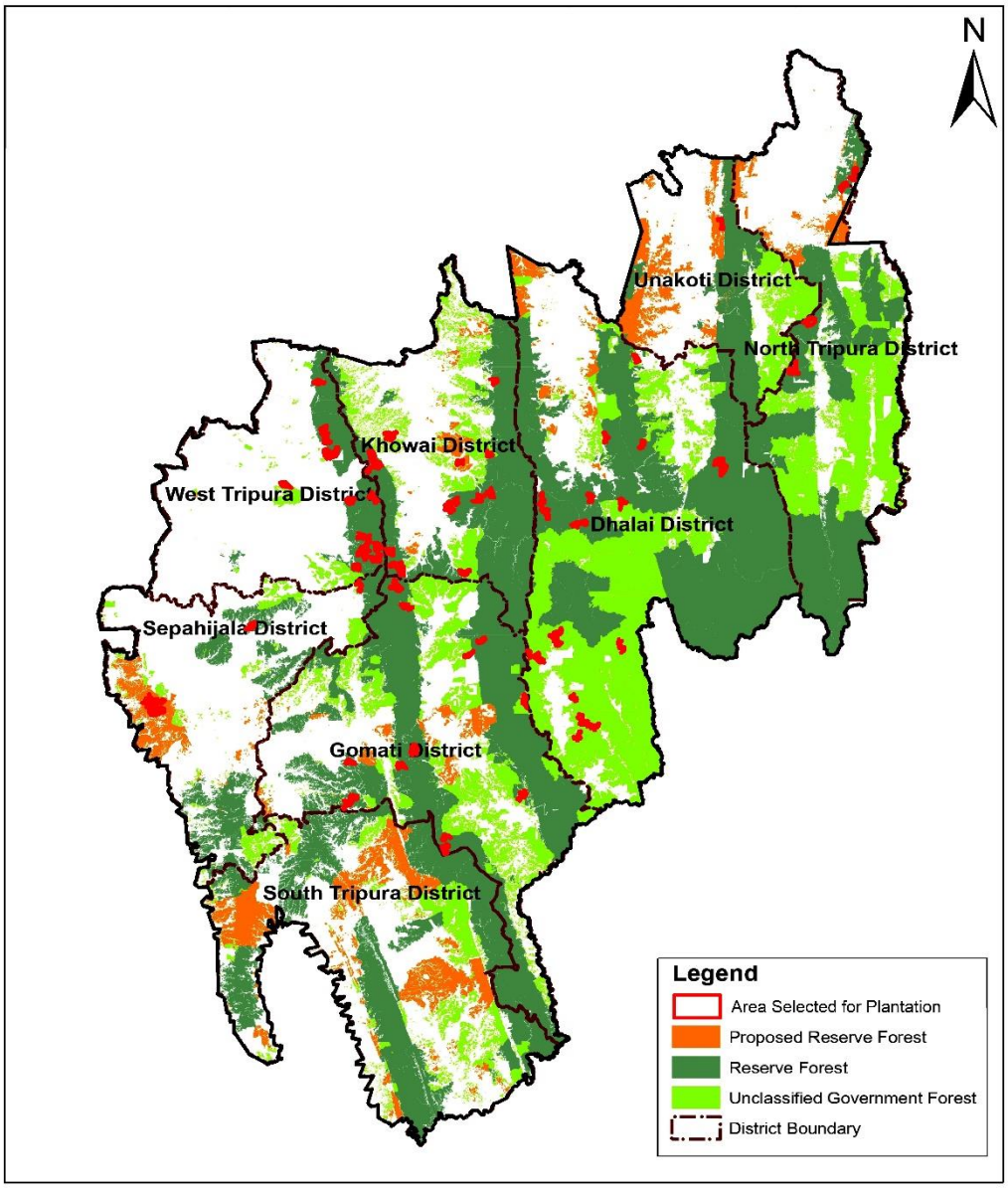


Figure 4-10: Reserve Forests

4.1.12. Critical Wild Life habitat:

81. An areas with high biodiversity importance or value, including habitat of significant importance to Critically Endangered or Endangered species, as listed in the IUCN Red List of threatened species or equivalent national importance, habitat of significant importance to endemic or restricted-range species, habitat supporting globally or nationally significant concentrations of migratory or congregators species, highly threatened or unique ecosystems, ecological functions or characteristics that are needed to maintain the viability of the biodiversity values.

82. As per discussion with forest office, two critical wild life habitats relevant for ELEMENT project are proposed to be declared as wild life critical habitat i.e.,Trishna Wild Life Sanctuary (13264 km) & Bison National Park (7737 sq.km.)

IBAs AND PROTECTED AREAS

83. There are 6 protected areas (4 Wildlife sanctuaries and 2 National Parks) in the state covering 5 districts. These protected areas occupy about 9.59% of the forest area in the state with about 603.65 km2 spread. As such these protected areas arenamed Sepahijala WLS, Trishna WLS, Gomati WLS, Rowa WLS, Clouded Leopard National Park, Bison National Park. Out of these six protected areas, two have relevance with ELEMENT project viz.:Gumti and Trishna, which are identified as Important Bird and Biodiversity Areas (IBA).

84. Elephant corridor has been notified in the project blocks of Tulashikhar and Mungiakami under Khowai district.

Table 4-10: List of Wild Life Sanctuary in Tripura

Protected Area name	Location/ Districts covered	Area (sq.km)	Major Floral Species	Other floral Species	Major Faunal Species	Other Faunal Species
Sepahijala WLS& ECZ	Sepahijala district	13.46	Artocarpus chaplasa, Albizzia procera, Caryea arborea, Gmelina arborea, Lagerstroemia sp, Mangifera indica, Schema wallichii, Bombax ceiba etc.	Bamboo species, Climbers, Medicinal herbs and shrubs	Birds and primates. migratory birds in the winter. Primates (including Spectacle Langur, Capped Langur, Pig-tailed Macaque, Slow Loris), Barking Deer, Clouded Leopard, Wild Boar	Civets (4 species), small cats, crab eating Mongoose, Flying Squirrel, Porcupine, birds including migratory terrestrial and water birds
Trishna WLS& ECZ	South Tripura Gomti and Sepahijala district	163.08	Artocarpus chaplasa, Albizzia procera, Caryea arborea Gmelina arborea, Lagerstroemia sp, Mangifera indica, Schema wallichii, Dipterocarpus Turbinatus, Termeneliabelarica, Termeneliachebula, Embelica officinalis, Bombax ceiba etc.	Bamboo species, Climber, Medicinal herbs and shrubs, Sabanah woodland. Kalai Bamboo	Bison (gaba), Hollock gibbon, Leopard cat, Primates (including Spectacle Langur, Capped langur, Pig tailed Macaque, Slow Loris), Barking Deer, Clouded Leopard, Wild Boar, Pangolin	Bison, leopard. barking deer, wild dog, capped languor, king cobra, spectacled monkey, slow lorries, etc.
Gomati WLS&ECZ	Gomati and Dhalai districts (Likely possibility of Khowai (in Mungikami)	389.54	Artocarpus chaplasa, Albizzia procera, Caryea arborea, Gmelina arborea, Lagerstroemia sp, Mangifera indica, Schema wallichii, Bombax ceiba etc.	--do--	Primates (including spectacle langur, capped langur, pig-tailed macaque, Slow Loris), Barking deer, Clouded Leopard, Wild Boar, Hillock Gibbon, Leopard cat.	Elephant, samber, barking deer, wild goats. serrow etc.
Rowa WLS& ECZ	North Tripura district	0.86	Artocarpus chaplasa, Albizzia procera, Caryea arborea, Gmelina	--do--	Primates Barking deer, Wild boar	Many species of birds and primates

Protected Area name	Location/ Districts covered	Area (sq.km)	Major Floral Species	Other floral Species	Major Faunal Species	Other Faunal Species
			arborea, Lagerstroemia sp, Mangifera indica, Schema wallichii, Bombax ceiba etc.			
Clouded Leopard National Park	Within the Sepahijala WLS	5.08	--do--	-- do--	Clouded Leopard	Primates, Barking deer, Clouded Leopard, Wild boar
Bison National Park& ECZ	Within the Trishna WLS	31.63	--do--	--do--	Bison	Civets (4 species), small cats, crab eating Mongoose, flying squirrel, Porcupine, birds including migratory terrestrial and water birds
Total PA		603.65				

(Source: adapted from https://forest.tripura.gov.in/forest-of-tripura

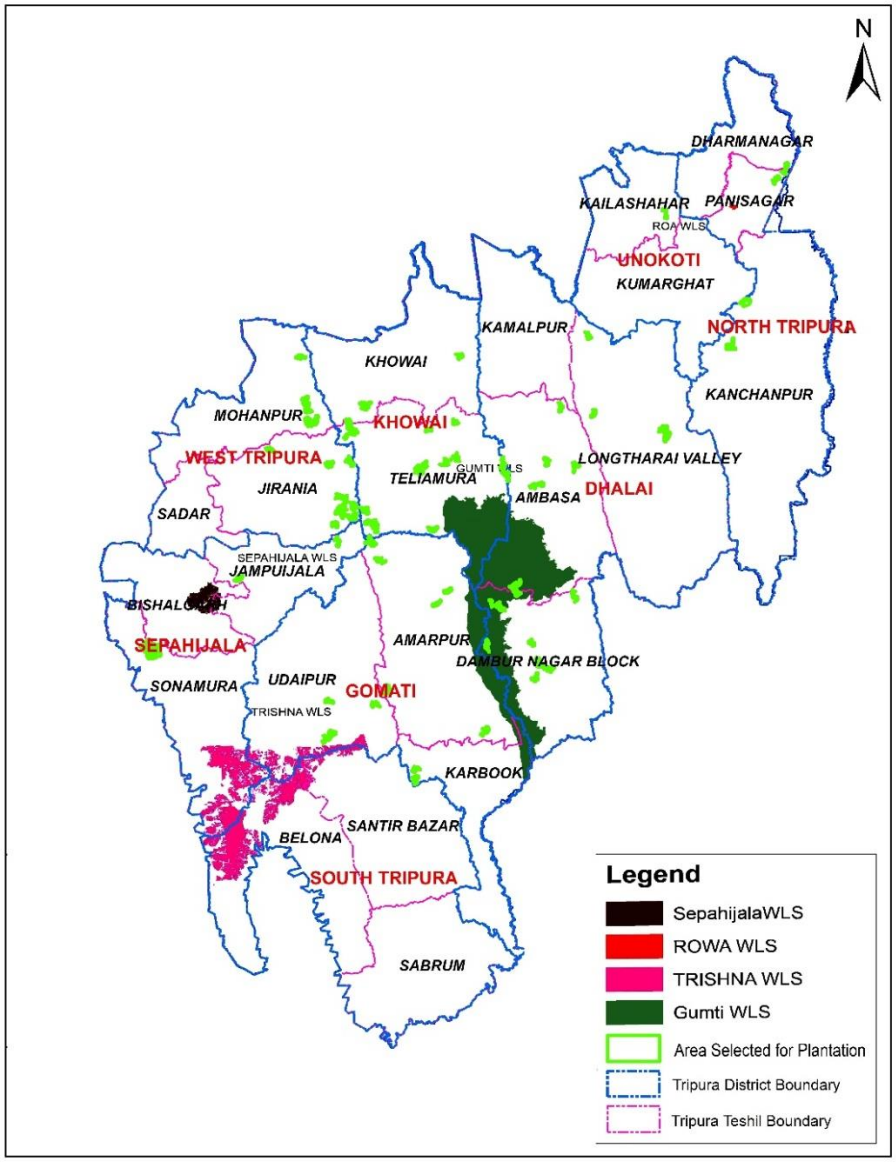


Figure 4-11: Map showing eco-sensitive zones

4.1.13. Floral and Faunal Resources

85. According to the Biogeographic classification of India; Tripura falls in North-East biogeographic zone. Local flora and fauna bear a very close affinity and resemblance with floral and faunal components of Indo-Malayan and Indo-Chinese sub-regions.

86. The evergreen forests on the hill slopes and the sandy river banks are dominated by species such as Dipterocarpus, Artocarpus, Amoora, Elaeocarpus, Syzygium and Eugenia. Two types of moist deciduous forests comprise the majority of the vegetation as moist deciduous mixed forest and Sal predominant forest. The interspersion of bamboo and cane forests with deciduous and evergreen flora is a peculiarity of Tripura's vegetation. Grasslands and swamps are also present, particularly in the plains. Herbaceous plants, shrubs, and trees such as Albizia, Barringtonia, Lagerstroemia and Macaranga flourish in the swamps of Tripura.

Flora

87. As per Forest Department record, current identification stands at 379 species of trees, 320 shrubs, 581 herbs, 165 climbers, 16 climbing shrubs, 35 ferns, 45 epiphytes and 4 parasites reveal that there are 50 plants species restricted to Tripura and its neighbouring States.

88. Out of species, 7 are endemic and 18 are rare plants. Angiopterisevecta, a fern and Gnetummontanum, a giant climber belonging to Gymnosperm are two rare species but occur in

profusely in Trishna Sanctuary. Tree ferns (Cyathia spp.), which are also primitive and endangered, are found in South Tripura. There are 24 species of orchids of which Dendrobium has the highest species diversity (14 species). Endangered orchids like Blue vanda (Vanda caerulea) and Red vanda (Renuntheraimschootiana) are found in the state. There are 266 species of medicinal plants in the State (68 trees, 39 shrubs, 71 herbs and 88 climbers). Maximum value of Plant-Diversity Index (Shannon-Weiner) reported is 5.23, which generally ranges from 3-4, indicating presence of a variety of species uniformly (floral information-excerpts fromhttps://forest.tripura.gov.in/forest-of-tripura)Most of the species reside close to habitation.

Table 4-11: List of some tree/plant species having importance to the local community

Sl. No.	High timber value		Fast Growing edible value		Fuel wood value	
	Botanical name	Common name	Botanical name	Common name	Botanical name	Common name
1	*Pterocarpus marsupium*	Andaman padack	*Moringa oleifera*	Drum stick	*Ailanthus excelsa*	Indian tree of heaven
2	*Artocarpus chaplasa*	Chamol	*Perkiajavonica*	Tree bean	*Cassia nodosa*	Pink shower Cassia
3	*Diospirosebonum*	Ebony	*Sesbania grandiflora*	Bakphool	*Cassia siamea*	Chakhunda
4	*Gmelina arborea*	Gamar	*Artocarpus heterophylla*	Kathal	*Lucaenaleucocephala*	Ubabul
5	*Dipterocarpus turbinatus*	Garjan	*Averrhoa carambola*	Kamranga	*Acacia auriculiformis*	Akashmami
6	*Albizia procera*	Koroi	*Emblica officinalis*	Amla	*Melia azadirach*	Ghora neem
7	*Swietenia mahogany*	Mahogony	*Tamarindus indica*	Tetul	*Peltoforumspp*	Radha chura
8	*Dalbergia latifolia*	Rose wood	*Dioscoreaalata*	Ban Alu	*Acacia mangium*	Mangium tree
9	*Pterocarpus santalinus*	Red sanders	*Asparagus racemosus*	Satmuli		
10	*Michelia Montana*	Sundi	*Cassia fistula*	Sonal		
11	*Shorearobusta*	Sal	*Cinnamomum obtusifolium*	Ban-tejpata		
12	*Tectona grandis*	Teak				

(Source: adapted from https://forest.tripura.gov.in/forest-of-tripura)

89. The Indian Wildlife (Protection) Act, 1972 amended till date include only six plant species while the Red Data Book on Indian Plants published by Botanical Survey of India contains data of more than 650 species considered rare and endangered. At least 15 of such species recorded from Tripura are known to be Rare or Threatened. The protection and enrichment of these species should be taken care in ELEMENT project. The wild life protection team should do proper census of biodiversity species so that monitoring and upgradation of those habitat can be taken care of. The awareness through JFMC/EDC should be given to avoid disturbance of these species.

Table 4-12: Rare/ Endangered species distribution in Tripura

Sl. No.	Name of the Species	Family	Distribution
1.	*Begonia surculigera*	Beginiaceae	Unokoti
2.	*Colona flagrocarpa*	Tiliaceae	Sakhan, Tlangsang
3.	*Ophiorrhizaviillosa*	Rubiaceae	Kumarghat, sipaijala
4.	*Torenia mucronulata*	Scrophulariaceae	Ghorakappa
5.	*Tournefortiaroxburghii*	Scrophulariaceae	Sabroom

6.	*Jasminum listeri*	Oleaceae	Jampui ranges
7.	*Wallichiacaryotoides*	Arecaceae	Baramura and Atharamura ranges
8.	*Cycas pectinata*	Cycadaceae	Baramura range
9.	*Podocarpus neriifolius*	Podocarpaceae	Lalijuri
10.	*Gnetummontanum*	Gnetaceae	Teliamura
11.	*Gnetumoblongum*	Gnetaceae	Silachari
12.	*Mangifera sylvatica*	Anacardiaceae	Telimura and Ambasha
13.	*Dischidiabenghalensis*	Asclepiadaceae	Tripura
14.	*Dischidianummularia*	Asclepiadaceae	Tripura
15.	*Dischidia major*	Asclepiadaceae	Tripura

Source: ENVIS Tripura

Table 4-13: List of plants endangered and threatened

Sl	Botanical name	Common name	Botanical name		Common name
Life form-Tree			**Life form-Climber**		
1	*Duabanga grandiflora*	Ramdala	**1**	*Dischidiaraflosiana*	Lantana kalasi
2	*Adina sessifolia*	Haludehaki	**2**	*Entada phaseolides*	Gila
3	*Michelia montana*	Champasundi			
4	*Magnolia pterocarpa*	Dulichampa	**Life form-Fern**		
5	*Lochiospermum*	Halde simul	**1**	*Angiopterisevecta*	
6	*Canarium Stricum*	Dhup	**2**	*Holmiathostachyszeylanica*	
7	*Aquiloriamelacensnis*	Agar			
8	*Pterocarpus santalinus*	Raktachandan	**Life form-Herb**		
9	*Santalum album*	Chandan	**1**	*Droseraburmanni*	Surjasisir
10	*Elaocarpusprunifolia*	Ban jalpai	**2**	*Rauvolfia serpentina*	Sarpgandha
11	*Mangifera sylavitica*	Laxmiam			
12	*Podocarpus aerlifolius*				
13	*Xantolisassamica*				
14	*Cyathea gigantea*				

(Source: adapted from** https://forest.tripura.gov.in/forest-of-tripura**)

Fauna

90. **According to estimates from studies, there are 90 mammal species in Tripura from 65 genera and 10 orders. Some species include** bear (*Melursus ursinus*), elephant (*Elephas maximus*), binturong (*Arctictis binturong*), wild dog (Cuonalpinus), porcupine (Artherurusassamensis), barking deer (Muntiacusmuntjak), sambar (Cervus unicolor), wild boar (Sus scrofa), gaur (Bos gaurus), leopard (Panthera pardus), clouded leopard (Neofelisnebulosa), and many species of small cats and primates. Seven primate species have been reported in Tripura out of a total 15 found in India. Of these primates, Slow Loris and Stumped tailed Macaques is reported to be rare. Phayre's langur (locally known as 'ChashmaBanar'), has a very restricted distribution in India, and is found in Tripura. Hoolock Gibbon is the only ape and found in India and is also reported in Tripura.

Table 4-14: Rare & endangered Wild Fauna of PAs in Tripura

Sl. No.	Common Name	Scientific Name	Schedule-I WL(P) Act	Appendix-I CITES
A.	**Mammal**			
1	Slow Loris	*Nycticebuscoucang*	+	-
2	Phayre's Leaf Monkey	*Presbytis phayrei*	+	-
3	Capped Langur	*Presbytis pileatus*	+	+
4	Hoolock Gibbon	*Hylobates hoolock*	+	+
5	Leopard	*Panthera pardus*	+	+

6	Marbled Cat	*Felis marmorata*	+	+
7	Leopard Cat	*Felis bengalensis*	+	+
8	Golden Cat	*Felis temmincki*	+	+
9	Common Otter	*Lutralutra*	-	+
10	Indian Elephant	*Elephas maximus*	+	+
11	Indian Bison	*Bos gaurus*	-	+
12	Chinese Pangolin	*Manis pentadactyla*	+	-

Source: ENVIS, Tripura

91. Avifauna Biodiversity: two protected areas are identified as IBAs, Gumti and Trishna. Twenty-one bird species with restricted ranges are recognised in this EBA. Gumti and Trishna are expected to include a wide variety of species. In the state, 342 bird species are reported, of which about 58 are migratory species. There is high diversity of birds of prey, frugivorous birds, marsh birds and flower peckers.

92. In the aquatic ecosystem 14 species of fish have been recorded, of which 2 are endangered (Anguilla bengalensis and Psuedeatroptusalterinoides) and 12 vulnerable. Dueto silting of river beds and filling up of wetlands, different species of marsh birds and fishes are reported to be declining.6

93. **Aquatic biodiversity**: around 129 species of fish from 32 families and 11 orders have been identified in the aquatic system, with the family Cyprinidae accounting for the greatest number of species (49; species include Rohu, Katla, Kalbasu, Puthi, Mahasheer, Chela, etc.). The state's

Table 4-15: Rare & endangered (Fishes) in Tripura

Sl. No.	Scientific Name
A.	**Vulnerable Species**
1	*Notopterusnotopterus* (Pallas)
2	*Cyprinionsemiplotus* (McClelland)
3	*Schismatorhynchusnukta* (Sykes)
4	*Labeopangusia* (Hamilton)
5	*Chaguniuschagunio* (Hamilton)
6	*Bitiaalmorae* Gray
7	*Rita rita* (Hamilton)
8	*Aorichthysaor* (Hamilton)
9	*Aorichthysseenghala* (Sykes)
10	*Pangasius pangasius* (Hamilton)
11	*Bagariusbagarius* (Hamilton)
B.	**Endangered Species**
12	*Raiamas bola* (Hamilton)
13	*Tor putitora* (Hamilton)
14	*Tor tor* (Hamilton)
C.	**Rare Species**
15	*Bariliusnelsoni*
16	*Puntius clavatusclavatus* (Hamilton)
17	*Puntius gelius* (Hamilton)

fishpopulation consists of three endangered species, 11 vulnerable species, and three rare species.

4.1.14. Forest Fire

94. As per ISFR 2015, severe fires occur in many forest types of dry deciduous forest, while evergreen, semi-evergreen and montane temperate forests are comparatively less prone in India. Around more than 36% of the country's forest cover has been estimated as prone to frequent forest fires. Nearly 4% of the country's forest cover is extremely prone to fire, whereas 6% of forest cover is

[6] **(Excerpts from https://forest.tripura.gov.in/forest-of-tripura)**

found to be highly fire prone7. The forest fire season in the country is normally from Nov to June, and with majority of fires being caused due to man-made factors (careless lighting of cigarette, bidi, leftovers from Jhum fires etc.). Below Figure 4-12, presents Tripura Forest fire prone area are centre and eastern Reserve Forest areas. Most forest fires are manmade and are linked to socio-economic and livelihood issues of the forest fringe communities.

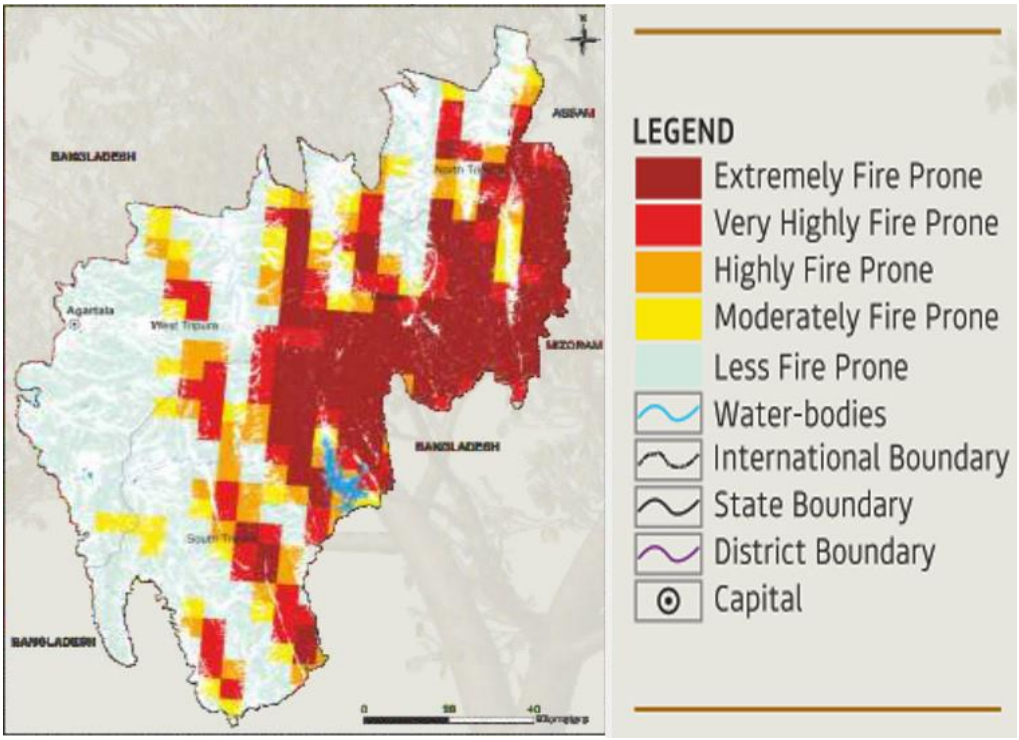


Figure 4-12: Forest Fire Map Tripura

95. As per Fire protection Action plan, 2021, Fire locations over the notified forests of Tripura have been detected in 8 forest Districts West, Sepahijala, Gomati, South, Khowai, Dhalai, Unakoti, North Tripura and PAs Trishna WLS, Gomati WLS, Sepahijala WLS, Rowa WLS and Bison National Park. Fire sensitive areas are presented subsequently.

Table 4-16: fire sensitive Beats

S.No.	District	Locations
1.	West	Baramura-Debatamura RF, Tolakona RF
2.	Sepahijala	Gopinagar, Kakalia,Bonshibari, Pathaliaghat, Torapadabari, Promodnagar, Jampuijala, Gabardi, Amarendranagar, Narayanbari, Tangpui para, boxanagar ,kathalia, Mohonbhog, Madhya centre, Rathiya bil, Ultamura and Hafizmura
3.	Gomati	RKPur RF, Barmaura-Debatamura RF , Garjee chara, kalajahari RF.
4.	Khowai	Barmura- Debatamura RF, Atharamura kalajahri RF, Teliamura RF, Ramchandraghat RF, Chakmaghat RF, Champamura RF.
5.	Dhalai	Central Cathment RF, Chailanta RF ,Manu RF ,Deo RF , Kulai RF, Nunachara RF
6.	Unokoti	Unokoti RF, Unoakoti Ext. RF, Shamruhalai RF.
7.	North	Manu chailengta RF, Central catchment RF, Ujjanmachmara RF, Juri RF, Piplachara RF, Banshul RF, Damchhara RF, Churaibari RF, Laxminagar RF, Chandrapur RF, Sanicharra RF.
8.	South	Baramura Debtamura RF (Part), Muhuripur RF, Kalagangrai RF, Trishna RF, Kashari RF, Garji RF (Part), South Sonamura (RF), Tekka Tulsi RF, Jagannath Dighi RF, Kalapania PRF, Betaga-LudhuaRF. ,

Source: State Action Plan for Forest Protection 2020-21

96. It is necessary to map and digitise the locations of existing fire lines and other infrastructure, such as roads, rail lines, and transmission lines that may serve as fire breaks. It is possible to analyse these fire lines' functionality, sufficiency, and maintenance condition as well as determine whether new

8

fire lines are necessary based on historical fire data, forest types, habitations, and other pertinent criteria.

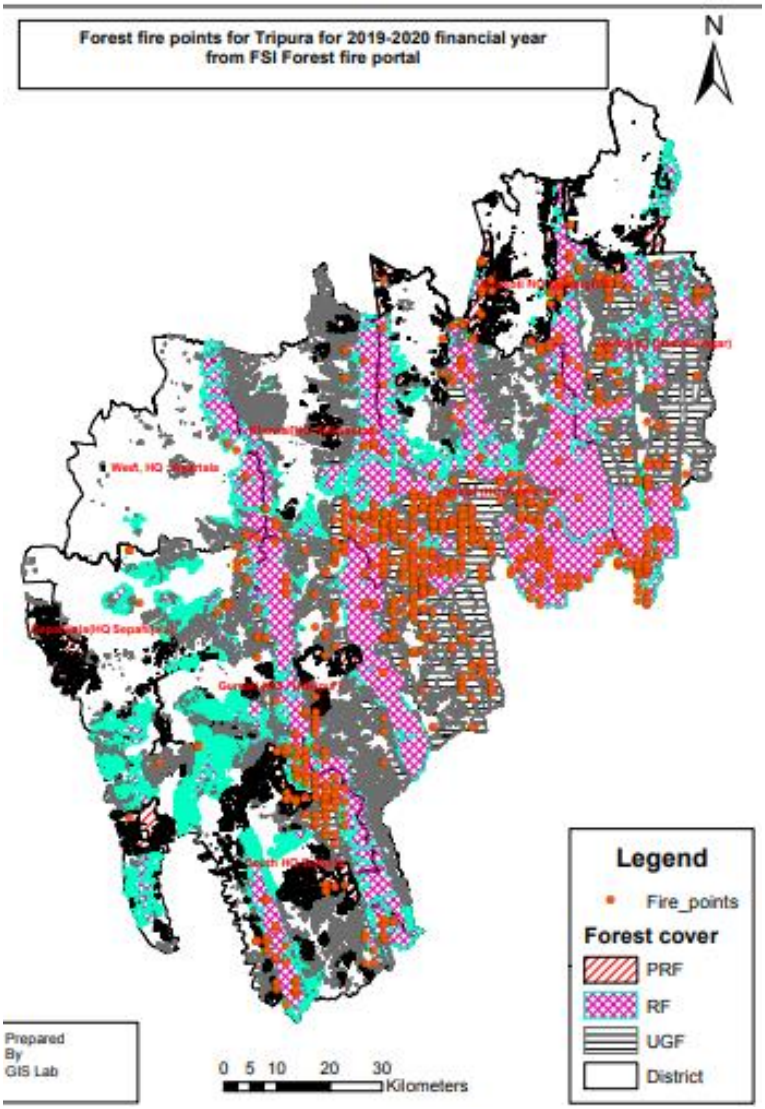


Figure 4-13: Forest Fire Points (2019-2020)

97. Communities are aware of the forest fire hazard, they report concerned beat officer, forester and EDC presidents about the forest fie accident in there nearby and coordinated in extinguish the fire.

4.1.15. Joint Forest Management Committees/ Eco-development Committees

98. Joint Forest Management Committee (JFMC) is an agency formed at a village level or a cluster of villages situated adjacent to Reserved Forests (RF) registered with the Territorial Divisional Forest Office.

99. JFMC is responsible for selecting the plant species to be planted in the forest, suggesting physical and financial targets, conducting awareness programs. The JFMC objectives are to ensure sustainable management of forest resources, to improve forest cover via afforestation, to restore degraded forest land, to promote conservation awareness through environmental education, restore watershed capability in catchment areas and to assure employment opportunities to the tribal communities.

100. Joint Forest Management (JFM) is a strategy and programme that was introduced in the context of the National Forest Policy of 1988. It involves state forest departments assisting local communities that live near or within forests in order to protect and manage the forests and share in the costs and benefits associated with doing so. Communities form a JFM Committee to protect and manage the local woods under the direction of bylaws and micro plans that were created locally. The main component of JFM is that communities have the authority to control how members and outsiders use forests. They gain direct control over the usage and sale of the majority of NTFPs, as well as a portion of the wood industry's revenue and other intangible benefits.

101. An Eco-Development Committee (EDC) is like to JFMCs, but intended for villages in Protected Areas and their buffer zones. Their area of operation is restricted to protected Areas (NP, WLS, BH), and forest and non-forest areas near protected areas. EDCs are set up with two objectives to protect wildlife and other biodiversity, and also undertake eco-development activities in the villages.

102. In a typical revenue village, there is only one JFMC. A JFMC may, however, span two or more villages in unique circumstances, such as historical collaboration between neighbouring villages or where it wouldn't make sense to divide the forest. JFMCs, on the other hand, may be established up at the sub-revenue village or hamlet level, particularly in tribal areas where one village may include multiple dispersed hamlets.

103. To promote participation of women, certain threshold criteria were proposed for JFMCs as General membership at least 50% women & at least 33% at Executive committee.

104. Generally, Forester / beat officer are representative from forest department in JFMC/EDC. The Beat offices are finest field level unit of forest department.

Table 4-17: List of information /data on JFMC/EDC under NAP/JICA/GIM& others Scheme under Forest Development Agency

SN	Name of FDA	Name of JFMC/ EDC				Project area in ha	Afforestation area in ha	Number of families involved				
		NAP	GIM	JICA	Total			ST	SC	OBC	Gen	Total
1	Ambassa	54	-	-	54	18,924.50	3,225.00	5,047	101	-	116	5,264
2	Manu	56	-	-	56	17,572.00	7,243.00	3,567	32	20	30	3,649
3	WLW, Gumti	40	-	-	40	21,774.90	7,854.28	2,498	-	-	-	2,498
4	Dharmanagar	25	-	9	34	8,336.25	2,791.11	1,423	48	123	81	1,675
5	Kanchanpur	57	-	32	89	22,028.00	7,186.00	6,509	35	15	11	6,570
6	Sadar	2	24	-	26	4,376.00	2,683.10	2,354	55	15	11	2,435
7	Mandai	26	8	9	43	9,365.90	3,417.10	3,604	164	123	13	3,904
8	Kailashahar	9	-	12	21	4,388.00	2,995.00	918	37	8	243	1,206
9	Kumarghat	12	-	54	66	11,944.40	8,768.61	4,048	180	221	117	4,566
10	Khowai	6	-	18	24	5,712.85	1,801.30	2,247	17	-	8	2,272
11	Teliamura	20	-	38	58	11,771.80	6,777.15	5,787	994	-	494	7,275
12	Sonamura	27	-	9	36	5,292.88	2,050.71	969	1,081	1,374	1,735	5,159
13	Bishalgarh	8	-	22	30	5,201.06	2,829.41	3,969	258	110	3,435	7,772
14	Sepahijala	11	-		11	1,662.00	536	129	163	210	508	1,010
15	Trishna	49	-	26	75	11,278.00	5,324.90	1,815	896	100	1,321	4,132
16	Bagafa	24	-	39	63	11,967.08	7,584.00	4,003	87	124	1,797	6,011
17	Sabroom	23	-	24	47	10,271.62	2,283.00	4,067	37	110	57	4,271

SN	Name of FDA	Name of JFMC/ EDC				Project area in ha	Afforestation area in ha	Number of families involved				
18	Amarpur	24	10	53	87	15,904.43	6,493.14	5,678	14	21	-	5,713
19	Udaipur	81	-	40	121	17,340.40	11,250.00	5,708	826	487	2,090	9,111
20	Korbook	17	-	54	71	11,413.00	6,526.66	8,897	70	-	52	9,019
	Total	**571**	**42**	**439**	**1,052**	**2,26,525.07**	**99,619.47**	**73,237**	**5,095**	**3,061**	**12,119**	**93,512**
Out of 1052 Committees 83 EDCs (Trishna-40, Sepahijala-11, WLW Gumti-19, Korbook-13)												

4.1.16. Forest based products:

105. Apart from lot many species of flora available in the state as if economic uses. Such use pattern includes manufacture of packing box (29 species), tea chest (14 species), plywood (30 species), musical instrument (13 species), match box (30 species), etc. In ELEMENT project Non timber forest produce shall be promoted in JFMC/EDC areas, while timber plant shall be promoted in plantation area inside the RF, UF areas. The trees species of economic use is presented below

Table 4-18: Scientific Name & Common Name

Sl. No.	Scientific Name	Common Name
1.	*Albizzia lucida*	Silkoroi
2.	*Albizzia procera*	Safed Siris
3.	*Artocarpus chaplasa*	Sam
4.	*Carrya arborea*	Kumbhi
5.	*Chukmsiavelutina*	Bogapoma
6.	*Cinnamomum bejolghta*	Tejpata
7.	*Dillenia indica*	Chalita
8.	*Dilleniapentagyna*	Akshi
9.	*Dipterocarpus turbinatus*	Kherjong
10.	*Duanbangagradiflora*	Kokam
11.	*Gmelina arborea*	Gomari
12.	*Lagerstroemia parsiflora*	Sida
13.	*Lagerstroemia speciosa*	Ajur
14.	*Magnolia pterocarpa*	Thouthua
15.	*Mesua ferrea*	Nahor
16.	*Micheliachampaca*	Titasopa
17.	*Palaquium polyantha*	-
18.	*Shorearobusta*	Sal
19.	*Sterospermumpersonatum*	Parolli
20.	*Syzygiumcuminis*	Zamun
21.	*Terminalia alata* var. *tomentosa*	Asan
22.	*Terminalia bellirica*	Bairah
23.	*Terminalia myriocarpa*	Hollock
24.	*Toona ciliata*	-

106. Along withtimber, the floral diversity of Tripura contributes considerably to the Bamboo and Cane furniture and craft industry. At least 13 different bamboo species and 6 cane species are known from the State.

107. As per various literature and record, Tripura state has at least 27 plant species which contribute towards Non-Timber Forest Produces (NTFP) including Tannin, Gum, Colouring material and others. In fodder around 107 species of plants are used, 60 species of plants for human food and at least 65 species are fruits (Nalini Chakrabarti, Media article, DainikSambad, Agartala, 31st January, 2001).Forest

Department of Tripura reported documentation and identification of around 266 species of medicinal plants (68 species trees, 38 species shrubs, 71 species of herbs and 81 species of climbers).

108. Agar is a precious herb with a wide range of uses, including both medical and commercial ones. It is frequently used to make incense sticks, oil, fragrances, and herbal medicines. Heartwood, bark-exuding resin, and Oudh oil (an essential oil made from the bark) are typically utilised for both practical and Ayurvedic medical purposes.

109. In term of usage, Agar is highly advantageous and no negative effects reported when used topically or consumed internally in the authorised doses.

110. Major agri-horticultural has varieties of agricultural crops, viz., rice, maize, millets, beans and pulses, horticultural crops including fruits viz. guava, ber, jackfruit, mango, papaya, vegetable crops viz. brinjal, cucurbits, chillies, leafy vegetables, beans, colocasia and alocasia possessing a significant genetic resource base. The State is quite rich in fruits and spice crops also. There are 60 fruit crops cultivated in Tripura. The indigenous fruit crops have huge genetic variety, viz. banana with good number of biotypes, jackfruit with 28 variables. Other indigenous fruits included Amra, Guava, Ber, Gulapzam, Zamrul, Bael, Satkara, Taal, Totka, Gaab, Kamranga, Sharifa, Chafta, Jalpai, Karamcha, Dalim, Paniphal etc.

4.1.17. Archaeological Sites

111. Cultural relics are wide spread in the state. The rock carvings, Buddhist remains, icons, brick structure etc. suggest the rich cultural heritage of the bygone era. There are 8 ASI protected sites, but none of them falls under Project blocks.

Table 4-19: Name of the monument /Location

Sl.No	Name of the monument / site	Location	District
1	Sculptures and rock-cut relief of Unakuti Tirtha, Unakuti Range,	Unakuti Range	North Tripura
2	Ancient Remains, Baxanagar,	Baxanagar	West Tripura
3	Gunavati Group of Temples, Radha Kishorpur,	Radha Kishorpur	South Tripura
4	Temple of Chaturdasa Devata, Radha Kishorpur,	Kishorpur	South Tripura
5	Bhubaneswari Temple, Rajnagar,	Rajnagar	South Tripura
6.	Thakurani Tilla, Paschim Pillak,	Pillak	South Tripura
7.	Ancient Mound called Shyamsundar Ashram Tilla, BaikhoraJolaibari	BaikhoraJolaibari	South Tripura
8.	Ancient Mound known PujaKhola, Paschim Pillak,	Paschim Pillak	South Tripura

112. Enhancement of tourism facilities at Unakoti Eco Park has been proposed under ELEMENT project. The Eco Park is located outside the regulated zone of the Unakoti Monument.

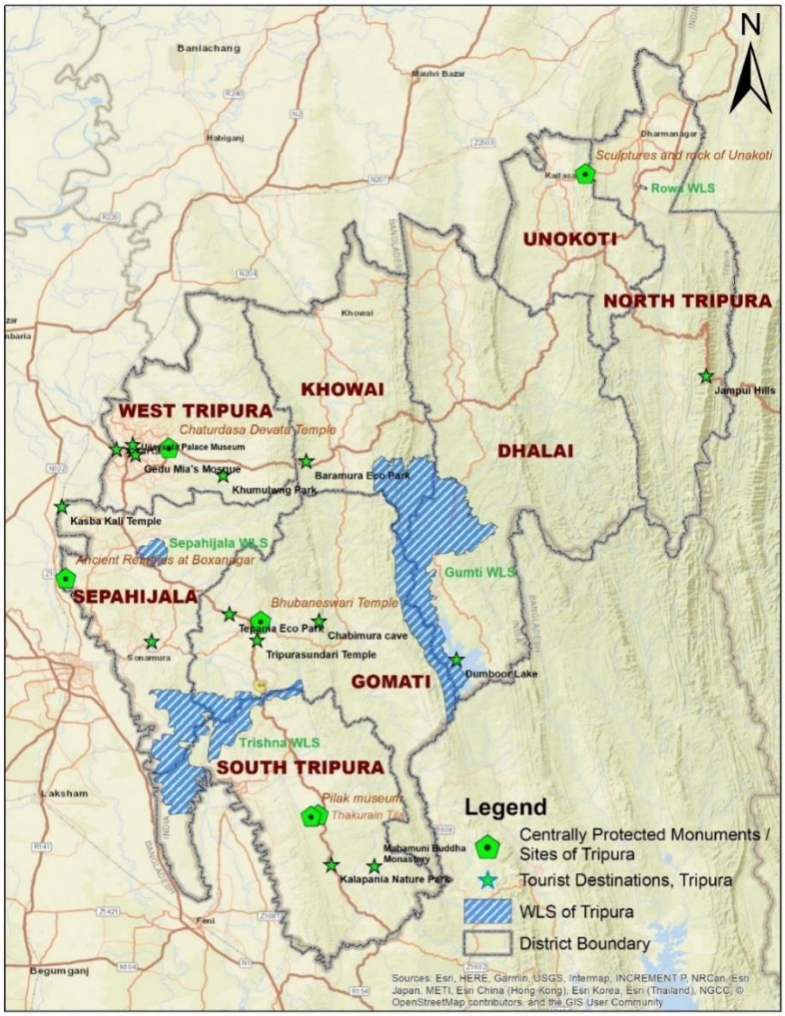


Figure 4-14: ASI monument and Tourist spots of Tripura

4.2. SOCIAL BASELINE AND KEY IMPLICATIONS

113. This section gives a brief note regarding the overall situation of Tripura with detailed descriptions of the project districts. The comprehensive explanation covers GDP, annual growth rate, demography, sectors of economy, tourism, physical infrastructure, transport & linkages, gender profile, poverty, education and health. The demography of the State is provided below:

- **Population:** Tripura's population stands at a total of 36,73,917, comprising 18,74,376 males and 17,99,541 females. Approximately 73.83% of the state's population resides in rural areas, reflecting the predominantly agrarian nature of the state. The population density in Tripura is 350 persons per square kilometre, indicating a moderate population concentration across the state's geographical area. These demographic indicators play a significant role in shaping the social and economic landscape of Tripura, with a focus on rural development and sustainable growth.
- **Sex ratio:** The sex ratio in Tripura is 960 females for every 1000 males, indicating a relatively favourable gender balance in the state. Moreover, the sex ratio has shown improvement between the census years 2001 and 2011, reflecting positive trends in gender equality and women's empowerment. Notably, Tripura's sex ratio is higher than the national average, which stands at 943 females per 1000 males. This indicates the state's efforts towards promoting gender equity and women's welfare, contributing to a more balanced demographic composition. However, despite the improvement, there may still be areas for further progress in addressing gender-related issues and promoting gender inclusivity in various aspects of society.
- **Literacy rate:** The literacy rate of the State is 87.22%, indicating a high level of education among its population. The urban areas have a higher literacy rate of 93.47%, reflecting better access to

educational facilities and opportunities. In rural areas, the literacy rate stands at 84.90%, still demonstrating a commendable commitment to education among rural communities. Tripura's literacy rate surpasses the national literacy rate, which is 74.04%. These figures highlight the state's dedication to promoting education and ensuring a literate population, which is essential for socio-economic development and overall progress. The focus on education has contributed to empowering individuals and uplifting communities in Tripura.

- **Workforce Participation:** Tripura's workforce participation is substantial, with a total of 14,69,521 individuals actively engaged in various economic activities. Among them, 11,59,561 individuals are considered as part of the main workforce, while 3,09,960 are part of the marginal workforce. The overall Workforce Participation Rate (WPR) in the state is 39.99%, indicating a significant proportion of the population actively contributing to the workforce. Furthermore, the rural population of Tripura exhibits a relatively higher work participation rate of 41.14%, showcasing the significance of agriculture and allied sectors as a source of employment in rural areas. This highlights the importance of rural livelihoods and agriculture-related activities in driving economic growth and supporting the livelihoods of a considerable segment of the population in Tripura. The active participation of the workforce in diverse economic activities contributes to the state's socio-economic development and plays a crucial role in shaping its overall progress.
- **Scheduled Tribes:** The total scheduled tribes' population is 11,66,813, which constitutes approximately 31.8% of the state's total population (males, numbering 5,88,327, and females, numbering 5,78,486). The state is home to a diverse range of ethnic groups, with a total of 19 distinct ethnic groups and numerous sub-groups residing within its borders. Among these groups, the Tripuri community stands as the largest, with a population of 5,92,255 individuals. Each ethnic group has its unique cultural heritage and traditions, contributing to the rich tapestry of Tripura's cultural diversity. See section 4.1.2 for more details.
- **ScheduledCaste:** Tripura exhibits a varied population with scheduled tribes, scheduled castes, and other castes. Notable among the scheduled castes are Bagdi, Bhuimali, Bhunar, Dandasi, Dhenuar, Dum, Kan, Ghasi, Kahar, Muchi, and Gur. In Dhalai District, the percentage of scheduled caste households is 16.11% out of 210,325 total households, while Gomati District has 18.02% out of 287,938 households. Khowai District has 22.57% out of 215,459 households, whereas North Tripura has 11.95% out of 252,686 households. Sepahijala District comprises 18.85% out of 270,965 households, while South Tripura has 14.52% out of 287,792 households. Unakoti District records 18.49% out of 123,683 households, and West Tripura has 23.43% out of 350,526 households. Moreover, 18.13% of a total of 1,999,374 households fall under the scheduled caste category based on income slab data. However, detailed information on income sources, house ownership, and other criteria influencing inclusion and exclusion is not provided.
- **Economy base:** with almost 44% of its people currently directly reliant on agriculture and related sectors, Tripura's economy is agrarian. Only about 26% of the land can be farmed; the remainder is hilly and covered in forest. The State's main crop is rice. Numerous horticultural and plantation crops, such as pineapple, jackfruit, tea, rubber, bamboo, etc., can thrive in the state's climate. A portion of the indigenous population cultivates using the Jhum (slash and burn) method also. Development is hampered by geographical isolation and communication problems. Tripura is a developing State in terms of industry, and its isolation from other nations is a major factor in this. The lack of adequate infrastructure has made it extremely challenging for the State to decentralise its economy.

114. Tripura is endowed with rich forest resources, covering around 60% of its geographical area. The state hosts various types of forests, including tropical evergreen, semi-evergreen, and moist deciduous forests. The major forest type in the project region is moist deciduous mixed forest. Additionally, grasslands and swamps can be found in the plains. Tripura's forests play a vital role in the state's ecological balance, providing habitat for diverse flora and fauna.

115. The forests of Tripura are not only important for biodiversity conservation but also serve as a significant source of income for the state. Timber, non-timber forest products (NTFPs) such as bamboo,

cane, medicinal plants, and various fruits contribute to the local economy. The state forest department promotes sustainable forest management and biodiversity conservation through initiatives like joint forest management and eco-development communities.

116. However, despite the abundance of forests, challenges such as excessive extraction of forest resources by local communities and shifting cultivation (Jhum) practices have led to severe forest degradation, soil erosion, and a decline in canopy density. The state government has been making efforts to promote participatory and sustainable forest management and conservation as part of its forestry sector reforms and poverty alleviation measures.

117. Preserving and restoring the health of Tripura's forests is crucial for maintaining ecosystem services, such as water retention, soil conservation, and climate regulation. The ELEMENT project aims to strengthen forest landscapes by implementing protection measures, restoring degraded areas, and adopting advanced technologies for better forest planning and wildlife conservation.

118. The demographic profile of the State and project district as per census 2011 is presented in ensuing sections:

Table 4-20: Demographic Profile of Tripura State

State Demographic Profile			
Sl. no.	**Parameter**	**Parameter Description**	
1	Population	Total - 36,73,917 Male - 18,74,376; Female - 17,99,541	• 73.83 per cent of the state population live in the rural areas • Density is 350 persons per sq. km
2	Sex Ratio	960 females for 1000 males	• Between census 2001 and 2011, sex ration has increase • The sex ratio of the State is more than the national average (943 females per 1000 males)
3	Literacy Rate	General – 87.22% Urban - 93.47 %; Rural - 84.90 %	• The literacy rate of the State is more than the National Literacy Rate i.e., 74.04 percent.
4	Workforce Participation	Total - 14,69,521 Main - 11,59,561; Marginal - 3,09,960	• The overall Workforce Participation Rate (WPR) is 39.99 percent. • The work participation rate among the rural population of the State is 41.14 percent.
5	Scheduled Tribes	Population - 11,66,813 (31.8%) Male - 5,88,327; Female - 5,78,486	• There are a total of 19 ethnic groups and many sub-groups. • The largest group Tripuri has a population of 5,92,255

119. The socio-economic profile of the State is as under:

Table 4-21: Socio Economic Profile of Tripura State

State Socio-Economic Profile			
Sl.no.	**Parameter**	**Parameter Description**	
General description – There are 08 districts, 23 subdivisions, 58 rural development blocks, 591 Gram Panchayats, eight Jilla Parishads, nine Nagar Panchayats, 10 Municipal Councils and 1 Municipal Corporation. In addition, 587 village committees are working as Gram Panchayats under 6th Schedule areas. Autonomous District Council (ADC) was created for preservation of language and culture of Tripura Tribal Areas. It encompasses 68.10% of total area and roughly is home to one third of the population			
1.	**Economic profile**	GDP - ₹ 5.89 million Avg. Annual Growth Rate between 2001-2001 - 3.34%.	• 42% of the population depends on agriculture and allied activities.
2.	**Education**	• Tripura has a total of 4,455 schools. • The total enrolment in all schools of the state is 767,672.	

State Socio-Economic Profile			
Sl.no.	**Parameter**	**Parameter Description**	
3.	**Health**	Birth rate - 13.9% Infant mortality rate – 28% Total fertility rate - 1.7%	• Public Health Care Indices are better than national average • The state is vulnerable to epidemics of malaria, diarrhoea, Japanese encephalitis and meningitis
4.	**Market**	• Tripura has 555 rural markets, 30 urban markets and 21 regulated market for the agricultural commodities. • Only 53% are accessible.	
5.	**Transport**	• Tripura is connected to Assam and other Indian states by the National Highway 44 & also connected through air and rail.	
6.	**Gender based violence**	• 153 rape cases, 157 molestation cases, 119 female kidnapping cases and 22 dowry deaths were reported in Tripura at a Glance 2021(Directorate of Economics & Statistics, Planning (Statistics) Department, GoT)	

4.2.1. Tribes of Tripura

120. The population of Tripura is characterized by diversity. The people of the Scheduled Tribes (ST) comprise of about one-third of the total population of the State. As per Census-2011, ST population of the State was 11,66,813 which is 31.8% of the total population of the State. The total Scheduled Tribes male was 5,88,327 and Scheduled Tribes female was 5,78,486.

121. Tripura has rich heritage of 19 different tribal communities. These communities are - Tripura/Tripuri, Riang, Jamatia, Noatia, Uchai, Chakma, Mog, Lushai, Kuki, Halam, Munda, Kaur, Orang, Santal, Bhil, Bhutia, Chaimal, Garo, Khasia, and Lepcha. The population of the Tribal community in the State of Tripura is presented in the table below:

Table 4-22: Population trend of communities

Sl. No.	Name of the Tribe	1971	1981	1991	2001	2011
1	TRIPURI / TRIPURA	250545	330872	461531	543848	5,92,255
2	REANG*	64722	84003	111606	165103	1,88,220
3	JAMATIA	34192	44501	60824	74949	83,347
4	NOATIA	10297	7182	4158	6655	14,298
5	UCHOI	1061	1306	1637	2103	2,447
6	KUKI	7775	5501	10628	11674	10,965
7	HALAM	19076	28969	36499	47245	57,210
8	LUSHAI	3672	3734	4910	4777	5,384
9	BHUTIA	3	22	47	29	28
10	LEPCHA	14	106	111	105	157
11	KHASHIA	491	457	358	630	366
12	CHAKMA	28662	34797	96096	64293	79,813
13	MOG	13273	18231	31612	30385	37,893
14	GARO	5559	7297	9360	11180	12,952
15	MUNDA / KAUR	5347	7993	11547	12416	14,544
16	SANTAL	2222	2726	2736	2151	2,913
17	ORANG	3428	5217	6751	6223	12,011
18	BHIL	169	838	1754	2336	3,105
19	CHAIMAL	0	18	26	226	549
20	GENERIC TRIBES ETC.	360	1500	0	7098	48,356
TOTAL		**450544**	**583920**	**853345**	**993426**	**11,66,813**

Source: *Primary Census Abstract *Particularly Vulnerable Tribal Groups (PVTG)*

122. Scheduled Tribes (ST) make up about one-third of the state's overall population. According to the 2011 Census, 11.66.813 or 31.8% of the State's total population, are STs. There were 5,88,327 male Scheduled Tribes and 5,78,486 female Scheduled Tribes in the total.

123. Tripura has achieved a high level of literacy at all India level and ranked third among the States after Kerala and Mizoram in 2011. As per report of 71st National Sample Survey (State Sector), the literacy rate of the State is 91.1 % in 2014. The Census-2011 data reveals that the overall Schedule Tribe literacy rate reached to 79.05 % from earlier 56.5 % in 2001.

124. Tribal people have traditionally relied on forest resources for sustenance, but there are some conflicts, such as the Chakma community facing risks in the forest due to wild animals. Tripura has a unique linguistic blend with Bengali, Kokborok, and Manipuri being the major languages spoken.

125. The tribes of Tripura possess a vibrant cultural heritage that encompasses various aspects of their traditions and customs. Their folk dances and music, such as the Hozagiri and Garia dances, showcase their artistic expressions and celebratory spirit. Skilled artisans create exquisite bamboo and cane handicrafts, while indigenous festivals like Kharchi Puja showcase their cultural diversity. Each tribe has its distinctive traditional clothing, adding to the colourful tapestry of their cultural identity. Indigenous cuisine, folklore, and oral traditions are cherished and passed down through generations, connecting them to their history and beliefs. Rituals and customs play a significant role in their social and religious practices, while their languages, like Kokborok, contribute to preserving their unique cultural heritage. The tribes of Tripura embody a deep-rooted connection with nature and a commitment to preserving their rich and diverse cultural practices.

126. The tribes of Tripura share a profound connection with the forests in their region. Forests are crucial for their livelihoods, providing resources like timber, bamboo, and wild edibles. These natural spaces hold deep cultural significance, being regarded as sacred areas with spiritual connections and serving as the backdrop for festivals and rituals. The tribes' traditional knowledge about flora, fauna, and sustainable resource management is invaluable. Forests also act as communal spaces, fostering unity among the tribes through shared activities and experiences. The tribes actively engage in forest conservation efforts, recognizing the importance of preserving these resources for future generations. The forests' presence is interwoven into their cultural practices, traditions, and sense of identity, reinforcing the vital role nature plays in their lives

5 POTENTIAL ENVIRONMENTAL & SOCIAL RISKS& MITIGATIONS

5.1. OVERALL ENVIRONMENTAL AND SOCIAL RISKS

127. The overall E&S risk rating is Substantial with both environment and social risks rated as Substantial. Environmental impacts are expected largely due to the geographical setting of the project, increased access to eco-sensitive zones, minor civil works and potential increase in monoculture practices and introduction of exotic species leading to outbreaks in pests and diseases in plantations. The key social risks relate to sensitivity of the project area which has a predominantly tribal, exclusion of disadvantaged and vulnerable social groups from participation in planning and managing their forest resources, and temporary restrictions on access to forest and other cultural resources by the tribal communities. These risks are further accentuated by lack of prior experience in E&S risk management as per World Bank's ESF and to manage participatory processes among the IAs. Though the project is rated as having Substantial risk, it is unlikely to result in significant impacts on the environment. The activities pertaining to civil works, plantations and value chains enhancement are expected to have temporary, limited, localized, predictable, and reversible impacts that can be managed through stringent screening and implementation of mitigation measures through site specific ESMPs.

5.1.1. Environmental Risks

128. The Environmental risk is rated as 'Substantial' due to (i) geographical setting of the project in different landscapes/watersheds covering large forest areas, difficult terrain and varied hydrometeorology, and;(ii) the weak capacities of the district and village level implementing agencies on understanding, identifying and mitigating environmental risks and impacts.

129. The potential environmental risks of the project are envisaged to be temporary, localized, predictable, manageable, reversible and can be readily mitigated as project activities are largely small to medium scale and mostly driven by the communities.

130. The environmental risks anticipated from the project include (i) localized air and water pollution and increased erosion and runoff and from civil works related to construction of Tripura Sustainable Forest Research and Institution Campus and small-scale infrastructure development activities (such as construction of check dams, spring-shed rehabilitation, post-harvest storage, small eco-huts for eco-tourism, etc.); (ii) threats to biodiversity due to increased access to forests and eco-sensitive zones (ESZs) from project activities such as collection of NTFPs and sourcing of materials from forests and ESZs for nursery establishments and plantations and development of eco-tourism (iii) potential increase in human-animal conflict due to increased accessibility to the project area; (iv) likely use of pesticides in agro forestry, and nurseries promotion may increase water and soil contamination, and direct and indirect GHG emissions from vehicular movements and use of construction materials. Private sector participation in NTFP/HVFP based livelihoods may further accentuate the impacts by promotion of monoculture and use of exotic species to achieve economy of scale which may adversely impact the floral and faunal biodiversity but may also lead to outbreaks of pests and diseases in plantations, but they will be managed through community outreach, sensitization, and involvement of JFMCs and village Chiefs, avoiding work in periods of wildlife movement etc. The Environmental and Social Management Framework (ESMF) has formulated an exclusion/negative list and a robust screening process that avoid high-risk activities. The project will also engage full time environmental experts to bridge the gap in assessing and managing risks, strengthening community institutions, and involving various stakeholders right from the planning process to implementation and management of sub-projects.

5.1.2. Social Risk

131. The social risk rating is assessed to be 'Substantial' due to(i) potential exclusion of vulnerable groups in planning, selection, decision making and implementation of sub-projects which can be exacerbated due to presence of particularly vulnerable groups (PVTs) in Tripura as well as weak capacities of the district and village level institutions to manage participatory processes which are integral to sustainability of integrated landscape management; (ii) exposure of workers and communities to health and safety hazards from small civil works, pesticide use and human-wildlife conflict; (iii) temporary restriction or limitations on accessing forest resources, conserved areas which

may have temporary impact on livelihood. However, physical displacement of tribal households or any adverse impacts on customary tribal lands, and cultural properties is not anticipated due to the project activities. Some of the ongoing customary traditional practices which have had long-term adverse impacts on natural resources and are deemed unsustainable would be restricted for durations that will be decided by the communities themselves through their landscape management plans, formalized as Village Grant Agreements (VGAs). Any suspension or prohibition or alteration to some such unsustainable activities that potentially impacts the livelihood will be addressed through collective effort involving local governing bodies and will be mainstreamed in the project design itself. No major construction activities are proposed, land requirements for project activities are small in scale and will be met through public or community owned land (and will be a part of the site selection criteria). Any activity that requires land acquisition, leads to displacement or adverse livelihood impact will be in the exclusion list. Some project villages have the presence of multi-ethnic communities. Also, the scheduled areas in Tripura have complex, traditional forest governance systems. However, the IAs have the experience of working closely with STs and with their multiple (customary) governing institutions under several government programs, as well as externally aided projects supported by international development partners, such as Deutsche Gesellschaft für Internationale Zusammenarbeit and Japan International Cooperation Agency.To manage capacity gaps on participatory processes, major impetus of component one and two of the project is on developing the capacity of IAs (at state and district level) as well as village level community institutions and collectives on approaches and methods for community mobilization, vulnerability mapping, participatory planning and social inclusion, supporting preparation and roll out of a robust stakeholder engagement strategy and staffing the PMU/PMC with domain expert specialists (tribal affairs, community engagement &participatory planning), in addition to Social Development Specialists.

5.1.3. Sexual Exploitation and Abuse/Sexual Harassment (SEA/SH) Risk

The SEA/SH risk is assessed as Moderate (using the SEA/SH risk assessment tools for social protection and civil works projects).Risks are owing to participation in NTFP collection in the forest areas and processing activities that are largely undertaken by women, participation in skilling and training initiatives for women entrepreneurs. Since the scale of construction is limited, the risk of labour influx for the host population related to SEA/SH related risks is expected to be minimal. The mitigation measures on SEA/SH prevention and response that have been included in the ESMFs and the SEPs include awareness and sensitization of project teams, village institutions and members of women's collectives, mapping of GBV service providers, creating a safe space facility, , codes of conduct and behavioural standards on zero tolerance of SEA/SH, provisioning of Internal Complaint Committee (ICC)in the IAs and special provisions within the project's Grievance Redress Mechanism (GRM) to handle SEA/SH related grievances and ensuring anonymity of the complainants. The grievance focal points (Field Level- Grievance Redress Officers and State Level-Grievance Redress Officers) will be providing additional sensitization trainings to handle and refer such complaints.Potential Environmental and Social RISKS/Impacts Relevant to the project AND COMPLIANCE WITH WB's ess STANDARD

132. The ensuing section provides the potential E&S risk and risk management as per World Bank's ESS requirements

5.1.4. Assessment and Management of Environmental and Social Risks and Impacts (ESS1)

133. The ELEMENT project is anticipated to have overall positive environmental and social impacts including improved landscapes, forests and natural resource management, enhanced value chains and access to markets for timber and non-timber forest produce, improved economic opportunities for the forest-dependent communities, including scheduled tribes and women of. The project will be implemented in selected landscapes of all 8 districts of Tripura based on the extent of forest/ land degradation, their potential to increase carbon sequestration, potential of the area for value-chain development and willingness of the local communities to participate in the operation. The target beneficiaries of the project include the forest fringe communities within the identified landscapes, Jhumia or the shifting cultivators, people engaged in Non-Timber Forest products (NTFP)/High Value Forest products (HVFP) collection and processing, farmers, women and youth aspiring to develop

enterprises around HYFPs and other commodities. In addition, strengthened capacities of state and local institutions will enable better management of E&S risks and provide overall opportunities for community participation and social inclusion.

134. With a negative list and a robust screening process (that avoid high-risk activities, promotion of monoculture and introduction of alien and invasive species etc.), systems for planning and coordination at all levels, rigorous capacity development portfolio, and facilitation of community-led integrated landscape management, the risks will be duly managed through the application of mitigation hierarchy.

Mitigation Measures

135. ESMF has included a section outlining existing E&S conditions and natural resources and wildlife baseline. ESMF outlines how the project contributes to improving environmental and social conditions while managing risk and impact at the sub-project level based on their different typologies and planned activities. The ESMF has developed procedures for undertaking E&S screening of sub-projects, an exclusion / negative list that prohibits project financing and support to high-risk activities and procedures for preparing site-specific Environmental and Social Management Plans (ESMPs).The ESMF also included the institutional capacity needs and gaps (including staffing and skills) required to implement environmental and social standards (ESSs).

136. In Tripura, the Joint Forest Management Committees have the mandate to manage forests under (i) government-owned forest lands and (ii) community-induced forest reserves where communities have customary and legal rights for managing their forests. All measures to ensure consistency with ESS5 requirements have been integrated into the ESMF.

137. Since STs comprise the overwhelming majority of project beneficiaries in thestates, an Indigenous-People-Planning-Framework (IPPF) is not being prepared. The ESMF and Stakeholder Engagement Plan (SEP) integrate all the requirements related to ESS7 by ensuring that all decisions related to project implementation in a given project area/village and the proposed interventions are documented in the form of village work-plans, landscape management plans and are a priori formally agreed to by representative village institutions as VGAs before actual implementation. This may also include seeking consent from local institutions on restricting or prohibiting customary activities that are deemed unsustainable or degrading the ecology. However, all such activities or their suspension will have to be understood, duly consented upon and formally agreed to, before being made part of the project intervention strategy in a given location.

138. State-level SEPprepared for Tripura identifies village communities, forest dependent people, community institutions, landowners and users, farmers and Members of SHGs, Producer Organisations, farmer Groups as the affected parties while the landless, women farmers, members of the backward tribes and PVTGsare identified as the disadvantaged groups. SEP has outlined the strategies to be followed to ensure awareness and participation of the affected and disadvantaged groups from planning to the implementation of the sub-projects. This includes(i) need to seek endorsement of stakeholders in all project villages before initiating implementation, (ii) using culturally appropriate means of communication, and (iii) undertaking a training needs assessment and delivering skills/capacities to ensure inclusion in the local language and using local dialects.

139. State specificLabour Management Procedures (LMP) will also beprepared and adopted before the engagement of any project workers (direct, contracted or community workers). LMP will provide guidance on the working conditions and terms of employment of the direct and contracted workers engaged at the PMUs and DISTRICT-MUs as well as those deployed at select construction sites in the project. The LMPs will also provide guidance on how community workers will be engaged, including the terms of their engagement.

140. The state-level Environment and Social Commitment Plan (ESCP)lists responsibilities for reporting on progress in implementation of the ESF requirements, implementation of E&S staffing, E&S Screening, ESMP, including any ESS related plans required, if needed, establishment and operationalization of agreed GRM mechanisms, processes and timelines for obtaining of requisite statutory clearances.

5.1.5. Labour and Working Conditions (ESS2)

141. The ELEMENT project encompasses the development of essential infrastructure, including the construction of vital establishments such as the Tripura Sustainable Forest Research and Institution campus, FDA Building, Range Office, Beat Office, hostels, and amenities at ecotourism sites, such as accommodations, canteens, and sanitation facilities. Intriguingly, the ELEMENT project anticipates that the majority of labor requirements will be fulfilled by engaging unskilled laborers from the Joint Forest Management Committees (JFMCs) villages and Eco-Development Committees (EDCs). Consequently, the need for establishing labor camps is obviated, promoting a more localized and community-centric approach to labor mobilization.

142. Furthermore, it is worth noting that large-scale labor influx is not foreseen, thereby signifying the project's conscious effort to prioritize local employment and reduce potential disruptions to the existing labor dynamics.

143. While risks such as low awareness of health and safety practices, inadequate facilities at worksites, delayed payment of fair wages, and safety and security challenges faced by women workers are commonly encountered in various projects, the ELEMENT project anticipates a low occurrence of such risks. Furthermore, risks associated with migrant labor impacting vulnerable communities and potential Gender-Based Violence/Sexual Exploitation and Abuse-Sexual Harassment (GBV/SEA-SH) from construction activities are also expected to be minimal due to the thoughtful and localized labor mobilization approach adopted by the project.

144. In The sector wise compliance of labour conditions and elated risk has been presented below:

- **In civil construction activities:**

145. These risks include occupational health and safety hazards, inadequate access to PPE, and exposure to air and noise pollution during construction activities. Additionally, concerns such as discrimination, sexual harassment, and communicable diseases must be vigilantly addressed.

146. To mitigate these risks, the project employs a comprehensive approach, emphasizing robust supervision, adherence to safety protocols, and the provision of necessary safety equipment. The project also fosters a respectful and inclusive work environment, offering clear terms of employment, fair wages, behaviour standards and code of conducts on prohibition of misconduct and zero tolerance related to SEA/SH, and a grievance mechanism for prompt issue resolution. By prioritizing local labor mobilization and ensuring equitable opportunities, the ELEMENT project aims to safeguard the well-being of its workforce, fostering a safe, sustainable, and socially responsible undertaking.

- **In Eco restoration, plantations activities:**

147. In Eco restoration, AR& ANR plantation activities, promotion of Agar and bamboo wood plantation, high-tech nursery, fire protection work, biodiversity management work will be carried out through volunteers/ locals from JFMCs/ EDMCs and SHGs. No major environmental and social risk has been anticipated because these are basically programs for sustainable development of forest and wild life management integrated with community upliftment. However, a few issues related to occupational health hazards during application of pesticide/agrochemicals in plantation, nursery, and weak grievance redress mechanism for redress of grievances/ issues in JFMCs/EDCs and cluster coordinator level, delayed or non-payment of fair and minimum wages; safety and security of women workers at worksites are potential risk in relation to ESS2.

Mitigation Measures

148. To ensure labor and working conditions are prioritized and potential risks are mitigated effectively, the ELEMENT project has devised comprehensive measures. Adhering strictly to national and state labor regulations, including those governing occupational health and safety, wage payment, migrant worker protection, and sexual harassment prevention, stands as a foundational element. A robust grievance redress system will be put in place to promptly address and prevent incidents and accidents, fostering a safe work environment. The project commits to fair terms and conditions of employment and will define contractor roles and responsibilities clearly in contract conditions and bid documents, reinforcing labor and Occupational Health and Safety (OHS) standards. Through active community engagement, local communities and the workforce will be well-informed about labor influx and the project's code of conduct, fostering a cooperative approach. Emergency response protocols and Occupational Health and Safety plans will be meticulously developed, ensuring swift responses to

unforeseen events. Contractors will be entrusted with providing adequate accommodation, water, sanitation, and medical services, prioritizing the well-being of laborers. Local farmer-led interventions will minimize labor-related conflicts during plantation and agroforestry activities. Embodying all health and safety measures, wage standards, workplace safety, amenities provision, child labor prevention, GBV/SEA/SH avoidance, and grievance mechanisms, the comprehensive Labor Management Procedure (LMP) proposed to be developed will ensure adherence to relevant regulations and upholds the project's commitment to ethical labor practices, community welfare, and sustainable development.

5.1.6. Resource Efficiency & Pollution Prevention and Management (ESS3)

149. In ELEMENT Project, Civil construction work of building and Eco tourism activities are likely to generate air,water,noise and waste related pollutions. Apart from this, demand on natural resources such as sand, wood, concrete, bricks, earth, water, electricity, etc. would be there. Poor design of building and inefficient construction processes as well as unauthorised tree/vegetation cutting may lead to loss of natural resources.

150. The other project activities relevant for ESS3 are (i) Afforestation, agroforestry, and nursery modernization and strengthening which has a potential risk for enhanced use and improper disposal of pesticides, use of poly bags etc; (ii) NTFP promotion such as Agarwood processing may lead to increase in fumes due to burning of wood, etc; and(iii) minor civil works- small structures proposed for soil and water conservation.

Mitigation Measures

151. The project is committed to resource efficiency, aiming to identify and implement measures that optimize water usage, utilize local or alternate materials, adopt innovative technologies, and enhance energy efficiency through solar and other alternative sources, all aimed at minimizing the project's impact on finite natural resources. Pollution prevention and management will be prioritized by excluding banned pesticides and fertilizers, managing hazardous waste appropriately, and potentially implementing Integrated Pest Management (IPM) and Integrated Nutrition Management (INM) practices. Carbon emissions will be addressed through estimating GHG reductions from additional carbon sinks, identifying climate-resilient measures tailored to local needs, and exploring alternative technologies. Adherence to the World Bank Group's Environmental, Health, and Safety Guidelines, including specific forestry and construction guidelines, will be a priority. Environmental and Social Management Plans (ESMPs) will be integrated into bids and contracts, with budgeted mitigation costs. Implementation of these measures will be closely monitored, documented, and reported to ensure environmental and social commitments are upheld, and regular training will be provided to contractors and project staff. The project's dedication to environmental and social responsibilities is evident through the integration of ESMP in civil construction bid documents as part of the Environmental and Social Commitment Plan of ELEMENT.

5.1.7. Community Health and Safety (ESS 4)

152. The fragility of the sub project locations requires adequate community safety measures such as identification of areas prone to landslides and other natural disasters. Increased access to biodiversity rich areas for activities related to afforestation, NTFP collection increases the risk of the communities to human-wildlife conflict.

153. In civil works related to eco-tourism activity, not much adverse issues are anticipated since such sites will be in sparsely populated rural/ forest areas. Such projects will utilise local labour from JFMC/EDC/or nearby town. Even though labour is expected largely to be sourced locally, the potential of health, safety and GBV/SEA/SH risks to local tribal communities from labour force as well as project workers/contractors do exist and will be addressed per the proposed mitigation measures outlined in the LMP and Grievance Redressal systems. Apart from this, during construction stage, construction work related health potential risk to the community are presented below

Civil construction of building components & minor works in Ecotourism sites

- Open access to Check dam construction site may lead to trespassing and slips
- Forest dwellers may face safety risk (accidental falls, drowning in water filled pits etc.) if abandoned, non-filling and levelling of borrow pits excavated for construction purpose.

- Unfenced site and exposed electrical wiring, unattended tools and machinery, etc., may pose safety risk, especially to children at renovation and new infrastructure building/staff areas.
- Inappropriate disposal of wastewater from construction camp can have negative impacts on soil, water and unhygienic contaminations.
- Improper disposal of sanitary wastes (sanitary napkins) can lead to environmental degradation and health implications within the community.
- Improper disposal of liquid waste (sewage, sullage) can lead to environmental impacts on the community and children; this is anticipated if proper sanitation arrangement is not given in buildings, and minor tourism enhancement area of ecotourism sites.
- Pertaining to ecotourism sites, if proper care not considered for disposal of waste emanated from tourist, water body pollution- dumping of solid wastes near water bodies may result in pollution of the water body

In Eco restoration, plantation, nursery:

- Use of pesticides, insecticides and other fertilizers in high-tech nursery and plantation areas
- Improper disposal of Polybag from nursery may develop nuisance in the vicinity, besides causing pollution at disposal sites.
- Man animal conflict during night hours and wild life movement period

Mitigation Measures

154. Anticipated risks and impacts related to community health and safety will be mitigated by well-designed ESMP and labour management procedures. Provisions will be made for managing risks activities related to forestry/agro forestry/NTFP value chains, such as avoidance of work during night and periods of wildlife movement, involvement of JFMCs Village Chief and awareness raising of communities and improved monitoring/reporting. In Afforestation and agro forestry related activities, the potential risks will be mitigated through promoting appropriate and optimal use of permissible agrochemicals to prevent adverse human health impacts from exposure during use, or accidental ingestion or misuse and if required, preparation of and following the Integrated Pest Management plans. Apart from contractors and the labour workforce, the JFMCs, SHGs, EDCs will be provided training on supervising and mitigating CHS as well as SEA/SH and GBV risks. Suitable signages will be used at potential risk places.

5.1.8. Land Acquisitions,Restriction on land use and involuntary resettlement: ESS 5

I. Scale of Land Requirements Under the Project

155. The small parcels of land required for agar and bamboo plantation will be taken up in private/community land or patta land. Physical and economic displacement of tribal households or any adverse impacts on customary tribal lands, and cultural properties is not anticipated. This ensures that the project is both sustainable and community-friendly, prioritizing the well-being and interests of the local population.

II. Potential Resettlement Impacts

156. The project does not anticipate any land acquisition in any of the project components. The project activities require land in small parcels for agar and bamboo plantation. For this purpose, the community people can provide their patta land or either it is being done in the forest land itself. Activities that would require land acquisition and potentially lead to displacement or negatively impact livelihoods are strictly excluded from the project's scope.

III. Customary land donation procedures in the State

157. As stated above, the land requirement under the project is expected to be met in the patta land or the forest land itself. In some cases, where public lands are not available, voluntary land donation may be sought in accordance with the VLD procedures established in the state for Prime Ministers Rural Roads Program (PMGSY) and also being followed by other Bank supported projects like Tripura Rural Economic Growth and Service Delivery Project (TRESP).

158. As per ESS5, if the land to be used by the project is voluntarily donated without payment of full compensation, then it may be acceptable to consider it as voluntary donation, if it is demonstrated that:

- Potential Land donors have been fully informed and consulted about the project, including their benefits and impacts;
- They have been sufficiently informed about choices available to them, including the genuine option to seek compensation at full replacement cost or even refuse transaction before it is formalized (assuring that eminent domain will not be used in case of failure of such consultation/ negotiation)[8];
- The owner has been provided with sufficient time to consider his or her choices, and has knowingly and willingly taken the decision to donate the land and not seek compensation for the same, without any coercion or pressure;
- They have confirmed their willingness to donate the land in question in writing, through a formal process signed by the landowner providing consent to land transfer, confirming ownership and no encumbrances on the donated piece of land;
- Proportion of land being donated is minor, such that its removal will not have an adverse impact on the donors existing quality of life or his/ her livelihood;
- The donation does not involve any relocation or physical displacement of the family;
- Donor is expected to directly benefit from the project;
- In case of donation of community land, there is consent of individual/s using or occupying such land.
- All documentation regarding the consultations conducted and the agreements has been done and maintained in a transparent manner.
- A grievance redressal mechanism is available to handle any grievances raised by land donors (and other persons affected by the donation).

159. It is important to note that land transactions are considered voluntary only when the seller has the right to refuse the transaction and retain her/ his land, and when the state would not exercise its authority under eminent domain if the negotiation does not lead to a mutually satisfying transaction.

IV. Gaps between ESS5 and Customary Land Donation Procedures

160. The Assessment of Gaps with respect to ESS5 requirements and Customary Land Donation and Recommended Mitigation Measures is presented in

161.

162. **Table 5-1.**

Table 5-1: Gaps with respect to ESS5 requirements on Voluntary Land Donation and Recommended Mitigation Measures

Provisions of ESS5	Provisions under PMGSY National and Tripura	Gaps or Inadequacy	Recommended Mitigation Measures
Potential Land donors fully informed and consulted about project, benefits and impacts	• Need for transparent process for land transfer facilitated through interactions with the community and likely PAPs shall be adopted; • Willingness of landowner for transfer of land shall be assessed during consultations; • During Transect walks PIU representatives to provide adequate responses to communities on queries, including on process of land donation	Provisions exist, but there is absence of clarity on the process to be adopted	Documented procedures for informing and consulting the PAPs and the community, with timelines, responsibilities and verifiable measures of fulfilment; Separate, dedicated consultations with tribal households
Sufficient	• Provides for public	Does not lay	Consultation/ Discussion

[8]

Provisions of ESS5	Provisions under PMGSY National and Tripura	Gaps or Inadequacy	Recommended Mitigation Measures
information about choices, including seeking full compensation, refuse transaction during negotiation; assurance that eminent domain will not apply	announcements on the need for additional land through voluntary donation; • Consultation meetings during resettlement planning for creating awareness and clarify processes of land donation;	down clear, accountable process by which potential donors are explained their choices including right to refuse	Checklist to include points on explaining available choices, withdrawal from negotiation (right to refuse) and assurance that state will not use eminent domain in case of negotiation failure
Sufficient time provided to owner to consider choices to knowingly & willingly take the decision, without coercion, pressure or threat of eminent domain	• After identification of alignment a transect walk is undertaken involving communities and local bodies to initiate transfer of land/ assets, identify PAPs, ensure acceptance of project, alignment and land donations; • If required, support of PRIs and community is to be taken to encourage landowners for their consent to donate the land or asset.	Not sufficient time provided. Discussion on land donation needs to be closed during transect walk/ alignment finalization	Procedures to lay down clear timelines ensuring sufficient time for potential donors to assess choices and take an informed decision. Ensure local bodies play the role of a fair intermediary
Confirmation of willingness to donate through a formal or legal process, providing consent, confirming ownership and declaring no encumbrances on parcel donated	• Voluntary donation by landowners through a written Gift Deed/ MoU/ Affidavit) between landowner/s & PIU or Govt; • PRIs made responsible to collect them from all landowners and submit them to PIU • To ensure that donor is in legal possession of the land, copy of the proof of ownership shall be obtained by the PIU. • In case of unclear titles or inability of donor to provide proof of ownership, help of PRIs, Patwari and local community shall be taken to verify ownership.	Partially addressed. Sample draft of MoU/ Gift Deed provided and need to assess ownership. No provisions by which to check if land is encumbrance free	Documented procedures to assess dependence of others on the land to be donated, including workers, tenant and leaseholders
Proportion of land donated will not adversely impact donors' quality of life or livelihood	• A person becomes eligible for assistance if loss of land (not clear whether through donation or acquisition) is more than 10 percent of their total landholding	No clear provisions to assess scale of impact on income or livelihood	Create scale based on which to measure severity of adverse impact and permissible scale of land donation
Donation does not involve relocation or physical	• Lists shifting of shops, houses, utilities and farming among the likely impacts of road construction	Not clear	Procedures to clearly lay down that land donation involving physical displacement is not

Provisions of ESS5	Provisions under PMGSY National and Tripura	Gaps or Inadequacy	Recommended Mitigation Measures
displacement			permitted under the project
Donor is directly benefit from the project	• State governments are advised to lay guidelines in a manner that the process of making land available should sub-serve common good and be just & equitable	No provisions to check if land donor is directly benefitting	Consultation checklist to assess direct and attributable benefits for potential land donors
For donation of community land, there is consent of individuals using or occupying such land	• No such provisions exist	Inadequate	Documented procedures to assess dependence of others on the land to be donated, including workers, tenant and leaseholders, identify them and seek their informed consent
All documentation related to consultations and agreements done and maintained transparently	• Voluntary donations should be documented through agreements, copy of which should be forwarded to local revenue officials for making necessary changes in ownership and possession record of the land.	Adequate	No action required
Mechanism available to handle any grievances raised by land donors (and other persons affected by donation)	• Land Management Committee to function as Village Level Grievance Committee till construction completion; unresolved and later grievances to be addressed through District Level GRC.	Partially addressed.	Project level Grievance Redress Mechanism (GRM) to also serve as first and second level grievance committee for land donors and PAPs, with clearly defined timelines for redressal

V. Mitigation of Impacts Related to Restrictions on Land Use

163. Self-restrictions imposed by the community on access to common property resources for conservation and protection or for restoration of Jhum lands. In addition to this, streamlining the dependence of community people on non-timber forest produce. Duration of these access restrictions will be collectively agreed to and spelt out by village-specific, community led landscape management plans. These plans will also include livelihood restoration measures to restore the livelihoods of those impacted, by targeting them for beneficiary-oriented livelihood support under the project. Detailed guidelines and procedures to help the project teams in ensuring VLD as per ESS5 have been provided in the annex.

5.1.9. Biodiversity Conservation and Natural Resources: Impact and Mitigation (ESS 6)

164. The ESS 6 is relevant as both in-situ and ex-situ biodiversity conservation is one of the key aspects of ELEMENT. Biodiversity conservation and management is one of the key aspects of ELEMENT, hence the project is anticipated to have positive impact on improving the living natural resources in the project areas through plantation, agro forestry and afforestation.

165. Due to community access to forests for plantation, afforestation, harvesting of NTFP/HVFP, implementation of soil and water conservation and erosion control structures in forest and non-forest areas may have an impact on biodiversity. The project activities related to civil construction and minor

infrastructures improvement at high tech nurserywould be planned on degraded land and no tree felling will be undertaken in ELEMENT.Promotion, including plantation, of agarwood, bamboo, and other NTFP-based value chains are among the species selection risks envisaged under the project. Private sector participation in NTFP based livelihoods may further accentuate the impacts by promotion of monoculture/alien species to achieve economy of scale.Owing to labour movement and unmanaged community access to forests for ELEMENT activities such as plantation, afforestation, harvesting of NTFP, check dams in vulnerable areas in forest and non-forest areas and eco-tourism sites may have some chancesof impacts on biodiversity, habitats and Man-Animal conflict. The project is likely to improve the living natural resources through plantation activities at mega level and also through the improved production and harvesting techniques under enhanced service delivery aspect of ELEMENT. This will allow continued long-term production of the resource from the same natural resource base. Appropriate site-specific measures for managing biodiversity impact and prevent Man-Animal conflict will be incorporated in the ESMP as part of this ESMF.

Mitigation measure:

166. To mitigate potential environmental and social impacts, the project will adopt several measures. Forest land diversion, including from wildlife sanctuaries, national parks, critical habitats, and eco-sensitive zones, will be strictly avoided, and an exclusion/negative list of prohibited activities will be integrated into the Environmental and Social Management Plans. Site-specific Environmental and Social Management Plans (ESMPs) will be tailored to effectively address site-specific challenges. The need for a Biodiversity Management Plan (BMP) will be determined through the screening process, and if required, the BMP will be prepared before implementation to protect biodiversity threat from sub project activities. The project will promote mixed indigenous plantations to enhance forest density while avoiding large-scale monoculture and invasive species. Activities in core areas of protected zones will be prohibited. Eco-restoration efforts, guided by Joint Forest Management Committees (JFMCs) and Eco-Development Committees (EDCs), will focus on degraded forest land, using indigenous mixed local species. No exotic weed species will be introduced, and responsible use of fertilizers and pesticides will be ensured. Tree felling will be avoided, **and permanent structures in protected areas for ecotourism will not be designed.** Labor will be sensitized to refrain from collecting forest produce, except for eligible forest dwellers. Construction materials will not be sourced from critical habitats, and measures will prevent aquatic life impacts due to wastewater and debris. Continuous capacity building and training will enhance biodiversity conservation efforts among stakeholders.

5.1.10. Scheduled Tribes (Indigenous Peoples) (ESS 7)

167. The project does not anticipate (i) significant adverse impacts on land and natural resources subject that are subject to traditional ownership or under customary use; (ii) relocation of Indigenous Peoples; and (iii) negative impacts on Indigenous Peoples cultural heritage. All sub-projects that may(i) have significant, adverse, irreversible impacts on customary tribal lands, natural or cultural resources, (ii) involve land acquisition or lead to involuntary resettlement or economic displacement of tribal households, and (iii) be opposed by local governance institutions (Village Committees/ Councils, Gram Sabhas) or by customary tribal leadership, and which could lead to social conflicts have been includedin the exclusion list.

168. STs represent the overwhelming majority in the targeted Project areas and landscapes. In Tripura more that 90 percent of the selected landscapes fall in Schedule VI areas. Consistent with ESS 7, because Indigenous and Tribal peoples constitute the overwhelming majority of beneficiaries of the Project, an IPPF is notprepared for the Project. Community Consultation was conducted with Chakma and Reangs people. They showed willingness to shift away from jhum cultivation if provided with stable livelihood opportunities. A positive step towards this goal has been taken through a JICA project focused on water sport activities, which has resulted in improved income for participants during the respective seasons. The selection of project activity sites, such as check-dams, and identification of beneficiaries for training and livelihood enhancement, are carried out by the Joint Forest Management Committee (JFMC). Responding to the community's aspirations, cooking training has been requested, possibly for employment in a cafeteria or similar setting. To further expand opportunities and protect forest

vegetation, the establishment of more Self-Help Groups (SHGs) and JFMCs is encouraged, promoting a community-based approach for sustainable job options and conservation efforts.

Mitigation Measures

169. All landscape restoration and livelihood improvement activities will be subject to prior consultation and agreement with the local institutions (village councils/committees) and would be aligned with their customary practices. All work and management plans will have to be duly vetted, endorsed and owned by the representative village institutions before any physical interventions are initiated in the project village. As an additional mitigation measure, a participatory process will be rolled out in all intervention villages and landscapes during the planning phase and will ensure representation of all stakeholders, including the vulnerable and disadvantaged as set out in the ESMFs and SEPs. These measures will be over and above the E&S risk screening that will be undertaken to filter out any activities that could adversely impact the ST households. In order to ensure the above, the PMUs shall engage one social development specialist with domain knowledge on tribal issues to manage all requirements in sixth scheduled areas related to site selection, consultations, autonomous council approvals, disclosures, etc.

170. All stakeholder engagement activities, including skilling and capacity building trainings, workshops, community consultations, information disclosure and awareness activities will ensure that the communication is culturally appropriate and uses the language and dialects with which the target audience is most familiar. Apart from the customary grievance and conflict resolution mechanisms available in the villages, the project will also provide tribal communities access to a project GRM.

5.1.11. Cultural Heritage (ESS 8)

171. ESS 8 set out general provisions on risks and impacts to cultural heritage from project activities. Project ELEMENT envisage a few infrastructures improvement activities pertaining to ecotourism at existing UnakotiEcopark located in Unakoti RF. The subproject site is located close to the Sculptures and rock –cut reliefs of the Unakoti (ASI site), but outside prohibited (100 m) and regulated (200) zone from the monuments. The enhancement work of existing tourism facility shall be complying with this act.

172. The possibility of project-related impacts on cultural heritage (in selected landscape for restoration activities) will be screened. Consultations with communities will also be undertaken to screen any sensitive issues related to tangible, intangible and undocumented cultural heritage and resources. The ESMF include guidance on screening of the potential for any direct or indirect impact of project activities on cultural assets and determine the presence of any other such resources that may not be listed with national or state governments (e.g., Archaeological Survey of India) but could be of local significance. Any such identified cultural heritage impacts and/or chance findings will be handled in line with national legal requirements and requirements set forth under ESS8.

Mitigation measure

The screening process under the ESMF excludes possibility of any activities in the 'prohibited or regulated area' around protected monuments. None of the project intervention will be planned within prohibited/regulated area of ASI monuments. A chance finds procedure will be included in the contract document. The procedure would cover discovery of artifacts in the soil or under water. Chance finds will be handled in line with national legal requirements and requirements set forth under ESS 8.PIU of ELEMENT will ensure through DPR, BID document that proposed ecotourism work shall not have any adverse impact on the preservation, safety, security of, or, access to, the monument or its immediate surroundings. The same shall be ensured in the project specific EMPs

5.1.12. Stakeholder Engagement (ESS 10)

173. Consultation with stakeholders is an integral part of the project planning and design. The consultations are carried out to develop community /stakeholder's ownership and support for the project and integrate and address their concerns through suitable measures in the project design and implementation. ELEMENT is one such project which is totally driven by community participation; hence ESS 10 is the most important aspect of this project's success. The project has a component on participatory landscape management which requires outreach, mobilization, and defined roles of communities in planning, implementation, and monitoring of project activities. ELEMENT has well ensured that all ESS 10 related risks are well covered through prior and participative consultations with multiple stakeholders such as members of Self-Help Groups, JFMCs, EDC, local community and tribal

people including women, disabled and elderly residing in and dependent upon the forest areas under ELEMENT influence zones.

174. Initial consultations during ESMF preparation provided inputs from the project stakeholders on various environmental & social issues of importance and socio-economic needs of the communities. This kind of stakeholder consultation will be a continuous process throughout ELEMENT subproject design and implementation and a Stakeholder Engagement Plan (SEP) has been prepared as part of this ESMF. The SEP includes (i) a detailed mapping of stakeholders (communities and institutions, vulnerable households) and their engagement needs with respect to the project, (ii) a communication strategy that includes use of culturally appropriate content, language, and mediums (Kokbrook and Bengali), (iii) tools of engagement to ensure regular information dissemination, dialogue and participation,while ensuring transparency, and accountability, (iv) capacity development of project teams and village institutions on participatory planning, implementation and monitoring, (v) provision for a dedicated grievance redressal mechanisms to handle project specific grievances, including those related to SEA/SH and revisiting the GRM periodically to test its effectiveness to respond to the stakeholders requirements, and (vi) periodic monitoring and reporting on the stakeholder engagement activities.

175. The project will also pay special attention to address any potential barriers to the most vulnerable groups to meaningfully participate in the project.

176. A detailed consultations conducted with multiple stakeholders like, (i) Past/Current Elected Representatives, village residents, (ii) Women's Village Organization, Self Help Groups, (iii) JFMC/EDC representative, (iv) Vulnerable Households, (vi) Past land donors, affected vendors; existing road user groups/population (FGD) and local representatives of etc. A total number of 140 participants were addressed during the community level consultations. These consultations were undertaken to inform the preparation of this SEP and the draft will be consulted upon followed by revision (based on the feedback).

177. The consultations focussed on willingness to transition from jhum cultivation if stable livelihood opportunities are provided. Trainings in water sports have led to increased income during the season. SHGs are engaged in successful handloom weaving and silk clothes selling. Requests for handloom machines and training demonstrate enthusiasm for skill development. Some SHG family members are open to shifting from rubber to environmentally friendly cultivation. The participatory approach involving SHGs and JFMCs promotes more job opportunities and forest conservation. However, challenges include water scarcity, limited grievance reporting mechanisms, and a need for better market linkages. Awareness of Forest Department initiatives is desired, and more job opportunities are sought based on provided trainings.

6 Environmental and Social Management Framework

6.1. ESMF ADOPTION FRAMEWORK

178. Environmental and Social Management Framework (ESMF) is a tool for use by a project proponent to identify and address the potential environmental and social impacts and risks of a project across all stages from planning stage to its implementation and post- implementation operations. Keeping this in view, the present ESMF has been developed for use by the PMU and implementing entities during various stage of ELEMENT. A step-by-step methodology has been provided that can be followed during implementation of various components under the ELEMENT. In development of the ESMF, a standard list of activities & E&S risks and impacts identified from the project screening templates of the subprojects have been developed which would be generally applicable to all the subprojects under the ELEMENT. Under the ESF of the World Bank, ESS1 is the overarching ESS, which is used to determine the relevance of each of the ESS 2 to 8 and ESS 10, based on the identified standard list of activities.

179. Sub-projects under ELEMENT at this stage are largely unidentified and being community driven subprojects, these will be finalised after community and stakeholder consultations. Therefore, this environment and social management framework (ESMF) has been prepared to ensure that sub projects will be assessed and implemented in conformity national, state regulations and with WB ESF standards, ESS 1 to 8 and ESS 10. Since financial intermediary is not involved in ELEMENT, ESS 9 is not applicable. The ESMF consists of the set of mitigation, monitoring and institutional measures and associated procedures to be undertaken during the planning, design, and implementation and functional stage.

Application of ESMF

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

Stage I: Undertaking Environmental and Social Screening of all subprojects on afforestation, agroforestry, nursery modernization, soil and water conservation structures, NTFP promotion, construction of buildings and eco-tourism projects using environmental and social screening checklists to identify environmental and social (E&S) risks and impacts.

Stage II:: Prepare site specific ESMPsfor different sub-projects as per the nature of subproject activities..

181. TFD will assess the sub-projects according to the same risk categories described in ESS1 and manage, supervise, and monitor the environmental risks and impacts of the subprojects through the project life cycle. Thus, Environmental and Social Management Plans (ESMPs) will be guided by the E&S Screening Criteria from the ESMF. All subprojects will be required to develop site-specific Environmental and Social Management Plans (ESMPs), taking into consideration the Bank's Environmental, Health, and Safety Guidelines (EHSGs[9]); ESSs, and national and state regulations to define specific mitigation and prevention measures to prevent and reduce risks and impacts.

Stage III: Implementation of site specific ESMPs for different sub-projects.

182. TFD will ensure that the contractor/JFMC/EDC would implement all the site specific ESMP measures applicable for the project right from the planning stage as per contract conditions. Project management consultants will monitor the implementation of ESMP measures during implementation and report to PMU who will be supported by district PMUs.

[9] https://www.ifc.org/content/dam/ifc/doc/2000/2007-general-ehs-guidelines-en.pdf

Broad Scope of ESMF

The ESMF is intended to ensure efficient environmental and social management during the proposed activities to be undertaken under ELEMENT. It contains:

- Exclusion List of Activities
- Screening and categorization of Sub-projects
- E&S assessment
- Preparation and implementation of Environmental and Social Management Plans (ESMPs) meeting the requirement of World Bank's ESSs and other specific plans.
- Institutional Arrangements
- Capacity Building
- Monitoring and Reporting

6.2. STAGE I: STUDY OF SUB PROJECT DETAILS

183. The project/design report and other relevant documents will be studied thoroughly. This will help to understand the various components of proposed sub project, requirement of land acquisition, requirement of raw material and utilities, potentially applicable environmental legislations/policies, negative impacts on STs, etc. The details of the project would give anunderstanding of the following details:

- Geographic coordinates and location information
- Important E&S Features within the vicinity of influence
- Details on type of technology, material sources, work methodology/sequencing, key equipment/machinery and manpower proposed to be used and other such technical details
- Various activity and operational parameters/issues
- Construction methodology and strategies proposed for the execution of works
- Impact on existing utilities and infrastructures
- Probable impact on natural and social resources
- Waste generation potentiality etc.

184. Those sub projects will be excludedwhicharetobeavoidedas per the exclusion criteria developed as part of this ESMF. The sub-projectswhichareeligibletobeconsideredafterconsideringtheexclusioncriteriaaretaken ahead for screening and categorization.

Table 6-1: Exclusion List	
Sl.no.	**Activities not to be taken up under ELEMENT**
1.	Any subproject within protected areas (including National Parks, Wildlife Sanctuaries, etc), MoEFCC /State Govt Notified Eco- Sensitive Zones around National Parks and Wildlife Sanctuaries and located/passing through Elephant Corridor or in Critical Habitats without the ESA and ESMP having been prepared and approved.
2.	Any activity that leads to conversion of natural habitats or trigger critical habitats or inside legally protected and internationally recognized areas of high biodiversity.
3.	Any subproject in Ramsar site or Notified Wetlands
4.	Subproject activities not permissible as per the existing Forest Management Plan
5.	Any activity that violates the provisions of applicable National and State laws and of International Treaties and Conventions where India is a signatory
6.	Any subproject activity involving prohibited zone of Archaeological monuments of the State/ Regulated zone of the monuments without NOC from competent authority
7.	Subproject/activities that support forest harvesting on a large/industrial scale
8.	Subprojects/activities will support large- scale clearing of land, dredging of water bodies, undercutting of slopes, replacement of natural vegetation that may cause permanent, irreversible impacts.
9.	Any activity that has a significant potential of causing forest fires
10.	Subprojects/activities that promote or require pesticides that falls in WHO classes IA, IB, or II and/or procurement of large amount of pesticides or toxic agro-chemicals or management of hazardous waste
11.	Any project activity that leads to large-scale soil erosion and siltation of water bodies
12.	Activity that involves construction of check dam >3m in height
13.	Construction/works involving use/installation of 'Asbestos Containing Materials (ACM)
14.	Ecotourism activities triggering violation of FC Act 1980 or Wildlife conservation Act 1972
15.	Activities involving tree felling from forest area other than forest and biodiversity protection and management purpose (as per FC Act 1980)
16.	Encroachment under natural protected area without permission and in violation of Wildlife protection act
17.	Poaching of Species prescribed under Wildlife Protection act Schedule.
18.	Any activity that promotes or involves incidence of child or forced/ bonded labour
19.	Sub project/Activities that seek to impose permanent restrictions or complete loss of access to natural resources, including medicinal plants or those of high economic value for local livelihoods.
20.	Sub project/Activities that would adversely affect cultural sites, places of significance importance and protected historical assets (both living and built)
21.	Sub projects/Activities involving use of alien invasive or exotic species for planting or their large-scale promotion for development of value chains in environmentally sensitive zones
22.	Sub-project activities that involve private land acquisition or lead to involuntary resettlement of tribal households and/or create significant economic displacement or loss of livelihoods for the tribal communities
23.	Sub projects/Activities that do not follow the process and spirit of voluntary land donation (individual or community) as outlined in ESS5 of World Bank's ESF
24.	Sub projects/Activities that may have significant, adverse, irreversible impacts on customary tribal lands, natural or cultural resources
25.	Sub projects/Activities that may be opposed by local governance institutions (Village Committees/ Councils, Gram Sabhas) or by customary tribal leadership, and which could lead to social conflicts

6.3. STAGE I: SCREENING &CATEGORIZATION OF THE SUB-PROJECTS

185. The screening and categorization of project activities are important to determine the nature and level of the environmental and social review, type of information disclosure and stakeholder engagement require for the Project. The categorization takes into consideration the nature, location, sensitivity and scale of the project and is proportional to the significance of its potential environmental and social risks and impacts.

6.3.1. Sub- project Screening

186. Prior to selection of the sub project activities for financing, initial screening of each sub project/activity will be made against the negative list (exclusion list as summarised in table 6.1 above). The responsibility for checking and ensuring that the none of the activities listed in the 'Exclusion List of Activities' is supported under the ELEMENT lies with ELEMENT (PMU /PMC/PIUs).

187. For inclusion screening purposes, the sub-projects shall be classified into the Low,Moderate and Substantial categories as defined in Chapter 5 earlier.

6.3.1.1Environmental Screening

188. This step would involve review of the available environmental information about the sub-project and proximity and involvement of forests, environmentally sensitive areas, bio-reserves, national parks, wildlife statues, wetlands, ASI monuments etc. Environmental Screening would help to identify key environmental concerns during site visits and also provide a preliminary idea regarding the nature, extent, and phasing of environmental issues that would need to be handled during the subsequent stages of project cycle. It will also help to identify opportunities for avoidance and/or minimization at early stage of the project cycle so that the change in design process is possible. The following describes the steps to be followed during the screening:

- Confirm the presence of environmentally, ecologically and wildlifesensitive areas from secondary sources and site observations
- Verify the extent of applicability of legislation of GoI and GoT and ESSs in sub-project activities
- Identify potential negative or positive, direct or indirect impacts and provide clarity on issue, which needs to be investigated more comprehensively during process of ESMP preparation
- Categorize the project in order to determine whether it requires EIA clearance as per EIA notification 2006 and various amendments ofMoEF&CC
- This will help with sequencing of sub-projects and factoring in timelines like those associated withregulatory clearance processes (if any).

The results of the screening will help:

- To determine applicability of regulatory and policy and requirement of clearances/permissions
- Identification of key environmental concerns
- Preparation of site specific ESMP

189. A checklist for undertaking Environmental Screening for sub-projects is provided in Appendix 3

6.3.1.2 Social Screening

190. The purpose of conducting Social Screening at Sub-Project Level is to get an overview of the nature, scale and magnitude of the social issues in order to determine the need for conducting social impact assessment and preparing RPs/Abbreviated Resettlement Plan (ARPs) , IPPs (if applicable). After identifying issues, the applicability of the Bank's ESS2 and ESS3 would be established along with GoI and GoT regulatory requirements.

191. The Social Screening would be carried out in close consultation with various stakeholders like project beneficiaries, Potential PAPs, Women Group, Indigenous community, Economically Backward Communities,other local key informants, Vulnerable Groups, institutional stakeholders like various Govt. Departments,Non-Government Organizations (NGOs) etc. as applicable.

192. Social screening provides first stage information about the subproject on: (i) Potential PAP population; (ii)Extent of land required and potential impact on other assets; (iii) Impacts on poor and vulnerable groups (iv)Potential needs for permanent/temporary livelihood restoration; and (v) Any other possible social impacts.

193. A checklist for undertaking Social Screening for sub-projects is provided in Annexure1, 2 and 3

194. The outcome of the Social Screening process will also help to prioritize the sub project and where required, start the social mitigation process in a timely manner. This will also assist in sequencing /phasing of Sub-Projects in overall project implementation.

6.3.2. Sub project categorization

195. The World Bank determines the Project's category by the category of the Project's component presenting the highest environmental or social risk, including direct, indirect, cumulative and induced impacts, as relevant, in the Project area of influence. The Bank assigns each proposed Project to one out of the 4 designated Categories I.e., Category Low, Category Moderate, Category Substantial and Category High.

196. Based on the project components and their associated activities the impacts from sub projects have been assessed to range from Low to Substantial. Table below summarises project activities and type of impact categories from ELEMENT.

Type of Impact	Reversibility	Duration	Magnitude of impact	Activities creating corresponding magnitude from ELEMENT PROJECT
Direct	Reversible	Short term (Construction specific)	**Low Impact** if the risk is minimal or negligible on E&S receptors	AR, ANR and Enrichment plantation activities, Agar and Bamboo plantation, Nursery and ancillary work
Direct/ Indirect	Reversible/ irreversible	Short Term construction specific, few impact may be during operational phases	**Moderate Impact** –if the E&S risk is moderate, site specific, largely reversible, and not for long duration - can be mitigated through conventional mitigation measures	Building construction, soil and water conservation structures (check Dams) and eco-tourism sites activities in forest area outside protected area.
		Long Term (operation term longer to years)	**Substantial Impact**–if the E&S risk is long term, somewhat irreversible (loss of natural habitat, conversion of land use), Impossible to avoid due to the nature of project, Impact on large geographical area or population, - can be mitigated through effective monitoring &mitigation measures	Project activities such as Check Dams and eco-tourism activities in eco sensitive/buffer zones and in protected area
		Long Term (operation term longer to years)	**High Impact** – If potential risk is direct, irreversible and for long duration, large socio-economic relocation requiring detailed analysis and its specific mitigation measures	ELEMENT project does not envisage taking up any high impact project activities

197. Environmental and Social screening will be carried out for all subprojects by Micro Plan/Project Management Consultancy(PMC)/DPR consultants and reviewed by Environmental and Social Experts of PMU.

6.4. STAGE II: SUB-PROJECT PREPARATION FOR ENVIRONMENT AND SOCIAL IMPACT MITIGATION

198. Post screening and categorisation of sub project on environment and social risk basis,type of E&S safeguard instruments to be prepared will be finalised by the PMC officers in consultation with

environment and social experts of PMU. This will be finally reviewed and approved by the environmental and social experts at PMU.

6.4.1. Preparation of ESMP

199. All sub-projects types will be required to develop standard site-specific, as the case may be, Environmental and Social Management Plans (ESMPs), taking into consideration the Bank's Environmental, Health, and Safety Guidelines[10] (EHSGs); ESSs, and national and state regulations to define specific mitigation and prevention measures to prevent and reduce risks and impacts.

200. Standard site specific ESMP will be prepared for all Sub projects, site specific ESMP will be further part of bid documents and micro plan respectively, as the sub project case may be.

201. Sample/indicative ESMPs for various sub-projects/activities expected under ELEMENT are enclosed in the ESMF (Annexure 4-6). The ESMP Cost will be integrated into the Detailed Project Report (DPR) and sub-project bid documents. This will include the cost for all mitigation measures and monitoring required during various stages of the project.

202. The site specific ESMP will provide details on

- Each planned activity,
- Pre-construction, construction and operation stage activity wise potential environmental and social Impacts
- Mitigation measures integrated with each impact
- Details of responsible agency for implementation and supervision of the project impact
- C-ESMP should be having the mitigation measure which will be implemented by contractor under supervision of PMC/PMU.

6.4.2. Preparation of Stakeholder engagement plan (ESS 10)

203. The SEP prepared for ELEMENT complies with the Environmental and Social Standards 10 (ESS10), of the World Bank's Environment and Social Framework (ESF). ESS10, provides for engaging with stakeholders throughout the project life cycle, commencing such engagement as early as possible in the project development process and in a timeframe that enables meaningful consultations with stakeholders on project design. SEP is aligned with the requirements of Government of India (GoI) as well as Government of Tripura (GoT) and appropriate legal instruments and rights-based legislations that call for engaging with citizens to ensure their voice during planning of schemes and other development interventions and ensure accountability.

6.4.3. Preparation of Labor Management Procedure (ESS2& ESS4)

204. In order to mitigate worker related occupational health and safety risks, a Labour Management Procedure (LMP) has been prepared as a separate document but part of this ESMF, with specific provisions for healthy working conditions, occupational health and safety, prohibit child and forced labour, gender-based violence/SEA/SH, migrant and seasonal labour, protection of vulnerable workers, possible accidents or emergencies as well as labour focused grievance redress mechanism. LMP sets out the approach, meeting requirements of State and National labour law/regulations, Environmental, Health and Safety Guidelines (EHSGs).

6.4.4. Livelihood Restoration Plan/Micro Plan

205. The project design encompasses measures to address potential livelihood impacts from unsustainable activities through Livelihoods restoration measures, which are integrated into the project from the outset. To minimize adverse effects, the project will refrain from proposing major construction activities and instead relies on small-scale land sourced from public or community-owned areas, following specific site selection criteria. Activities requiring land acquisition, leading to displacement or adverse livelihood impacts, are strictly excluded to ensure a sustainable and community-friendly approach. Additionally, the project will collaborate with the community to develop village-specific, community-led landscape management plans that collectively determine the duration of access restrictions to common property resources for conservation and restoration of Jhum lands. These plans also outline measures for livelihood restoration, targeting affected individuals as beneficiaries to restore

[10] https://www.ifc.org/en/insights-reports/2000/general-environmental-health-and-safety-guidelines

their livelihoods and income during project implementation. The overarching goal is to strike a balance between conservation efforts and supporting the well-being of the impacted community members..

6.4.5. Integrated Pest Management (IPM) and Integrated Nutrient Management (INM)Plans(ESS 1& ESS 3)

206. The project activities on high tech nurseries, development of high-quality seeds, eradication of invasive species and some extent at plantation will involve the use of pesticides and fertilizers. The pesticides are water soluble and will have negative environmental impacts on aquatic life, if not managed. Integrated Pest Management (IPM) and Integrated Nutrient Management (INM) Plan will focus on promoting safe, effective and environmentally sound pest and nutrient management in plantation interventions; to promote the use of biological control methods and reduce synthetic chemical pesticides and fertilizers; to provide guidelines on the proper storage, handling and disposal of pesticides to minimize risks to humans, livestock and the environment and capacity building to address all. The mitigation measure will be focused on site specific ESMPs of the relevant subproject component. No banned pesticide will be used in ELEMENT project. Provision and timeframe for preparing IPM and INM are mentioned in the Environmental and Social commitment Plan (ESCP).

6.4.6. Biodiversity Management Plan(ESS 6)

207. The ELEMENT has been prepared with key strategies for biodiversity conservation and Eco restorations (plantation on degraded forest land), soil moisture control of forest areas to control the vulnerability of flood, training and capacity building in biodiversity monitoring and conservation, integration of community in order to protect forest and upliftment of community livelihood, infrastructure facility to the administrative department. All the project subcomponents would be complied with Regulatory provisions as mentioned in C-2 legal Policy framework. Project preparatory phase include site screening for avoiding critical natural habitats; promotion of indigenous species in plantations, nurseries and avoidance of exotic, invasive species and monoculture in farming; Promoting rearing of native local species in livestock interventions etc.

208. The ESMF includes screening and eligibility checklists to ensure exclusion of activities that would adversely affect biodiversity such as `non-forest activity, causing irreversible impacts to critical and natural habitats, felling of trees without a permit etc. No direct negative impact on biodiversity is anticipated. Appropriate measures in the ESMPs will also include precautionary measures to prevent any possible impact on aquatic life (due to discharges from worksites and/or dumping of debris in water bodies) and other regulatory compliances.

209. Project will implement biodiversity protection measures through ESMPs for subprojects.The screening process included in the ESMFs will assist in determine the need for Biodiversity Management Plan (BMP), and if required, the BMP will be prepared prior to implementation in consultation with Biodiversity Management Committee.

6.5. STAGE III:: SUB PROJECT IMPLEMENTATION

210. Sub-Projects categories as “Low Impact and moderate impact” shall be verified by PMC and approved by the FMU at district level(FDA Chairman), along with standard ESMP to be incorporated in the project report and the contract document. Sub-Projects categories as Substantial Impact shall be forwarded by PMC to PMU. Safeguard specialists at PMU will carry out verification and then submit to CEO of PMU for approval and inclusion, along with site specific ESMP, in the DPR and bid document.ELEMENTproject, as a principle, will not entertain the projects of high category. However, if there is a case of an important project with far reaching benefits for local community adjudged as having “High” impacts while screening, Environment and social experts at PMC shall inform concerned district PMU who in turn will inform PMU state level to consider pushing the sub project in exclusion list or consider for further progress by taking steering committee/WB approval.

6.5.1. Linkage with ESCP:

211. 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 part of legal agreement and will be signed by Implementing Agency (IA) 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. Based on the ESMF and the results of consultation with stakeholders, the ESCP has been created. It specifies in detail the preparations that must be madewith

timeframe and responsibility. Adherence to the aforementioned ESMF processes and provisions will therefore be ensured through the ESCP between The World Bank and TFD.

6.5.2. Incorporating ESMP into Contract Documents

212. 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 contractor/Green Mitras will implement those provisions and ensure adequate safeguard compliance, which will also be monitored and evaluated from time to time by different agencies.

6.5.3. Updating of ESMF

213. This ESMF will be an "up-to-date" or "live document" that 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 or 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 finalised version will be sent to the WB for evaluation and approval.

6.5.4. Onsite implementation of ESMP

214. The contractor/JFMC/EDC would implement all the site specific ESMP measures applicable for the project right from the planning stage and ESMP implementation is part of their responsibility as per contract conditions. Project management consultants will monitor the implementation of ESMP measures during implementation and report to PMU who will be supported by FMUs at district level. Whereas for low and moderate impact sub project a standard ESMP will be implemented by JFMC/Beat Officer and monitored on day-to-day basis; in case of substantial impact projects where site specific ESMP is implemented, the contractors is obligated to appoint environmental, health and safety specialists for onsite implementation of ESMP.

215. Sub-project Cycle and responsibility has been presented in figure below:

6.6. INSTITUTIONAL AND IMPLEMENTATION ARRANGEMENTS

216. ELEMENT will be implemented by the society named Tripura State Forest Development Agency (SDFA). The GoT has established a Project Steering Committee (PSC) for oversight, guidance, and authorization for the effective and efficient implementation of ELEMENT. The PSC is chaired by the Chief Secretary and includes the Principal Secretaries of all participating line departments.

217. The State Forest Development Agency(SFDA)has direct experience on E&S management through JICA-funded projects which has built capacities to manage E&S risks.District and village level IAs have the experience of working closely with Scheduled Tribes (STs) and with their multiple (customary) governing institutions under several government programs.

218. The State Forest Development Agency (PMU) has Forest Development Agencies (FDAs) at district levels and Joint Forest Management Committees (JFMCs), Eco-Development Committees (EDCs), Biodiversity Management Committees (BDMC) as well asSelf-Help Groups (SHGs) at village level.

Project Implementation Arrangement

219. A Project Management Unit (PMU) headed by a Project Director (PD) will be constituted at the State Forest Development Agency(SFDA),SFDA will be assisted by a PMU which will be known as PMU and staffed through internal staff from the Forest Department as well as external recruits for management of financial, procurement and environmental and social matters. The subdivision level FDAs will be assisted by PMU which will be called as DISTRICT-MU, i.e. District- Management Units (8 districts), and coordinate with respective Joint Forest Management Committees (JFMCs)/ Eco-Development Committees (EDCs), Biodiversity Management Committees (BMCs) and other institutions designated/ constituted as Village Landscape & Ecosystem Management Committees (VLEMCs). In ELEMENT it has been envisaged that total 20 FDAs will be set-up with District Forest Officer (DFO) as the chairman of all the FDAs in the district.PMU will be assisted technically by a project management Consultancy(PMC).The entire Governance Structure is depicted in Figure 6-1.

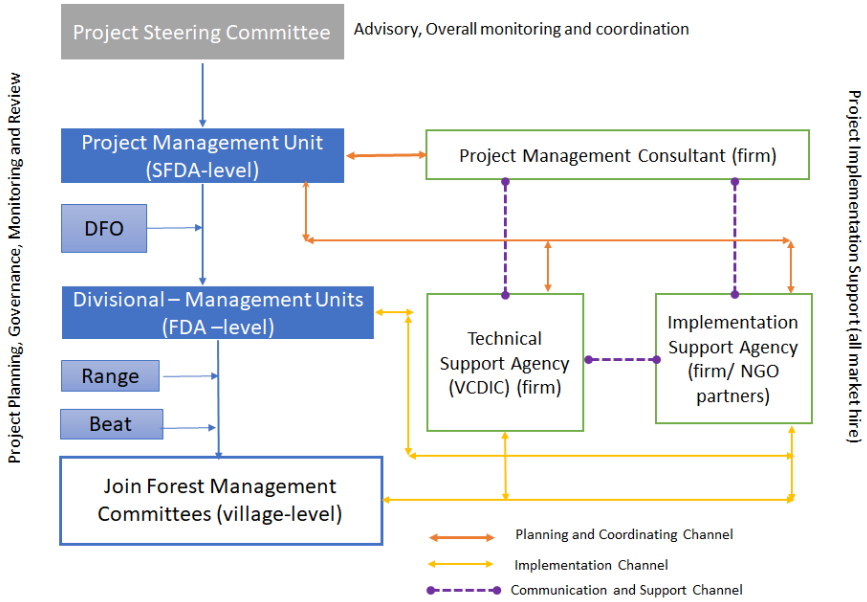


Figure 6-1: Organization Chart

220. Environment and social specialists will be hired at PMU level. Social specialist will also have with domain knowledge on tribal affairs.

221. Additionally, PMU will recruit environmental and social experts with PMC for day-to-day E&S activities and monitoring as per provision of this ESMF.

222. **JFMC/EDC Level:**At JFMC/EDC level, the Member Secretary of the committees will be assisted in the field by a Green Mitra-one for each JFMC/EDC. The Green Mitras will facilitate in community mobilization, conducting consultative meeting, micro-planning, dissemination of information, training and capacity building, documentation and record keeping.

6.7. CAPACITY BUILDING

223. Through ELEMENT, capacities at sub-state level, particularly of block level officials will be strengthened on mapping and managing environmental and social risks, facilitating stakeholder engagement and participatory processes.

224. Key measures will be taken for training and implementation support on ESMF/ESMP implementation by Bank's E&S Team.

225. The project envisages sensitizing and enhancing capacities of Joint Forest Management Committees (JFMCs), Village Committees /Councils, working with them for forest and biodiversity protection in the identified landscapes. Stakeholder consultations have highlighted strong community demand for landscape management, water, and soil conservation and NTFP based remunerative markets, stronger community desire to participate in village level landscape planning. This feedback has been incorporated in project planning, community engagement, village, and beneficiary selection processes, as well as in ESMF, SEP, and LMP.

226. The project will undertake in-depth and hands-on trainings for various stakeholders (at state, district, block, and village level) on E&S risk screening, management and mitigation related to various activities proposed; approaches and methods for community mobilization; vulnerability mapping, participatory planning, and social inclusion. The following trainings and capacity building activities will be undertaken for the project staff, environmental and social experts, PMU nodal persons, consultants, contractors, field facilitator and community organizations on the following themes:

- Orientation on ESMF
- Implementation of ESMPs for infrastructure building under training and administrative division, Eco restoration & plantation, Nursery, Ecotourism
- Occupational health and safety,
- Community health and safety,
- Labour Management, including managing risks of labour influx,
- Biodiversity Management,

- Green building
- Ecotourism
- Integrated Pest Management (IPM) Plan and Integrated Nutrient Management (INM) Plan for High Tech Nursery
- Emergency Preparedness and Response,
- Construction Supervision and Audit,
- GBV and SEA-SH risk mitigation measures,
- Stakeholder Engagement,
- Procedures for land-take and preparation of Abbreviated Resettlement Action Plans (ARAPs), and
- Grievances redress measures.

227. The training to carry out environmental and social screening, implementation of ESMF and environmental and social management plans for civil construction work for Infrastructure provision, ecotourism, Eco restoration and plantation, soil and moisture control under ELEMENT will be imparted to the key functionaries at the various levels of the project. State level institutions such as SIPARD or any other may be considered for such training Details of training proposed under ELEMENT is given in below table.

S. No.	Topic	Frequency &Duration	Participant Level	Training Subject	Number of trainings
1.	T1-Overview of ESMF provisions and its requirements	1-day orientation at planning stage. Every year	PMU, Officials of PMCs, DISTRICT-MUs, /Green Mitras	• Regulatory requirements and WB ESF standards • World Bank Group's Environmental, Social, Health and Safety Guidelines. • ESMF • Implementation, Supervision, Monitoring, reporting Mechanisms under ESMF.	One time in a year till the project period; 5 nos.(5 years project duration)
2.	T-2 Implementation of ESMPs and OHS	1-days training during planning and implementation stage. Every six months in first two years and then yearly for next two years	Officials of PMCs and DISTRICT-MUs, Green Mitras, Contractors	• Requirement of ESMPs and LMP, • EHS issues, • SEP • GBV/SEA/SH • Implementation of mitigation measures in ESMP, • Monitoring and reporting mechanism.	At District 8 level & State level; 52nos.
4.	T-3ESS documents(LMP, BMP, EHS, forestry)	One day training Every six months in first two years and then yearly for next two	Officials of PMC/PIUs and DISTRICT-MUs, Beat Officer, range Officer, Green Mitras, Contractors	• Provision of ESS 3 relevant to the project, • Anticipated Impacts and its mitigation, • Process of preparation of RAPs.	At all 8 District level; 48nos.

S. No.	Topic	Frequency &Duration	Participant level	Training Subject	Number of trainings
		years			
5.	SEP including GRM, community role	One day training Every six months in first two years and then yearly for next two years	Officials of PMC/PIUs and DISTRICT-MUs, Beat Officer, Green Mitras, Contractors	• Identification of stakeholders, • Consultation process and recording suggestions, • Mechanism for GRM	At all 8 District level; 48nos.
6	At JFMC/EDC/BMC **level**	• Included as the part of subproject component			

228. Thetotalestimatedcostoftrainingonenvironmentalandsocialmanagementispresentedinthetablebelow:

Table 6-2: TrainingBudget

S. No.	Training	No. of Programs	Estimated Unit Cost L.S.in Rs.	Total Cost in Rs.
1	T1 (Overview of ESMF provisions)	5	100,000	500000
2	T-2 (Implementation of ESMPs, OHS)	52	50000	2600000
3	T-3 ESS documents (LMP, BMP, EHS, forestry) -6 monthly at FPMU & Field Facilitator	48	50000	2400000
4	T-4 Requirement of SEP including GRM, community involvement&Field facilitator	48	50000	2400000
5	**Total**			**79,00000**

Note: tentative budget of ESMF implementation capacity building

6.8. SUPERVISION, MONITORING AND REPORTING

229. To ascertain the implementation of the project activities in an environmentally and socially acceptable manner and in line with the acts/policies of Government, ESMF, ESMPs and World Bank ESF, periodic supervision and monitoring will be conducted by DISTRICT-MU district MU/PIUs/PMC/PMUs. It will help to assess the progress made in implementation of environmental and social safeguards and measures required for its improvement. It will provide necessary feedback for the project management for timely decision making and achieving the objectives.

6.8.1. Monitoring of Statutory Compliances

230. For each sub project component, regulatory compliance as listed in C-3 shall be monitored at planning and implementation stage of the project by contractor/ Field Facilitator of PMC/Beat officer and report to PMC and PMU at state level

231. The environmental and social components, which are significant impact areas at work locations, have been suggested for periodic monitoring. The following specific environmental and social parameters should be measured, in qualitative and quantitative terms. The monitoring and reporting arrangements are suggested as per Table 6-3. In cases Environmental and Social specialist of PMU and PMCs advise on required actions, the contractors will have to implement recommended actions in time bound manner.

Table 6-3: Environmental Monitoring Indicators

Monitoring Parameters	Responsibility& Frequency	Target
• OHS and Pollution and prevention measures as per ESMP for sub projects • Survival of plantations at the afforestation sites • No of beneficiaries added in Agroforestry(Tree outside Forest) • Plantation area improvement from open forest to moderate/dense forest • Number of communities taking up conservation and source sustainability activities /benefits from check dams • Instance of disease and pest attack in nurseries • No of JFMC/EDMC benefitted under Forest based livelihood. • Reduction of Jhum cultivation • Numbers of volunteers increased in biodiversity protection area, fire protection • Number/area improvement in watershed/spring shed and increase in availability of water in check dams	• Contractor/Green Mitras report to E&S unit PMC Monthly • Reporting from PMC to PMU Quarterly • Reporting to PMU to WB as per ESCP	All the sub project sites

6.8.2. Reporting System

232. The reporting system will be bottom-up and feedback mechanism will be in a top-down approach in the implementation frame. During the construction phase, contractors will undertake monitoring and reporting on the environmental parameters.

233. To enable coordination and reporting in a streamlined manner on ESMF implementation and environment management at subprojects level, the following two periodic reports are mandated under this ESMF:

- **Monthly Environment Progress Report (MEPR**): Monthly progress report will be submitted by the various Contractor / Green Mitras to DISTRICT-MU/PMC who will review and submit the same to PMU, showing status implementation of Environmental and social management with photographs having digital dates and flagging important environment and social management related issues emerging in the reporting quarter.
- **Quarterly Progress Report (QPR):** This is a consolidated report submitted on a Quarterly basis by the PMC to PMU highlighting and flagging important Environment and social related matters/issues that may have emerged in the reporting period and seeking guidance on those that require hand-holding advice.
- **Reporting to World Bank as per ESCP –**PMU ELEMENT will report World Bank as per reporting requirement of ESCP.
- **Reporting any incidents or accident** (report, root cause analysis and corrective action plan) as per Annexure 8

6.8.3. Third Party Audit (Environment and Social Monitoring and Review)

234. Third Party Audit will be undertaken by an independent entity (Third Party) engaged by PMU ELEMENT for capturing the status of environmental and social compliances under the project as per the ESF instruments and ESCP agreements. An yearly frequency is suggested for the four years starting end of first year followed by an End of the Term review at the end of the project. The review methodology to factor in participatory tools to ensure voice and representation of the communities to improve the processes of participation and inclusion on the ground.

6.8.4. Typical Budget for ESMF/ESMP Implementation

Budget for ESMF activities

235. The total administrative budget for environmental and social management monitoring, capacity building and training activities enumerated in this ESMF has been worked out approximately to be INR 58 million. This excludes budget under the salary heads for environmental and social safeguard employees at state and district level. This salary will depend upon the qualification and experience required for such positions which should be arrived at once the final ESMF is ready for implementation. The cost of implementing the proposed mitigation measures in ESMF is not included in this costing. The cost of mitigating environmental and social impacts will be included in the respective sub-projects' budgets while preparing DPR/ Project Report. A 10% increase in the budget can be considered after 2 years anticipating escalation in the price rates. The detailed breakup of the administrative budget is presented in the table below.

Table 6-4: Tentative budget for implementing ESMF

Items	Amount (INR)
IEC Materials(SEP)	
Pamphlets, Booklets, etc.	5,520,000
Short films/Videos	500,000
Signages and display writings	575,000
Workshops, Trainings, Meetings related to SEP	1,20,00,000
Training and Workshop on ESMF orientation capacity building (Table 6.2)	79,00,000
Environmental Social Monitoring and Review by an Independent Consultant; (4 audits @ Rs. 60 Lakhs per year)	2,40,00,000
End of the term environmental and social audit by independent consultant @ Rs. 70 lakhs (one time)	7,000,000
TOTAL	5,74,95000

6.8.5. Stakeholder Engagement

236. The World Bank's Environment and Social Framework (ESF) strengthens the criteria for stakeholder involvement and transparency. Stakeholder Engagement Plan (SEP) has been created in accordance with ESS10 requirements. It is a component of the environmental and social management framework and outlines general guidelines and a collaborative strategy to identify stakeholders for all project components, determine their needs for engagement, determine appropriate participatory engagement methods, and direct the operationalization of this engagement strategy and meaningful consultation throughout the project.

237. In accordance with the ESS10 recommendations, SEP will serve as a framework and a tool for managing outreach, communications, and engagement between implementing agencies and stakeholders, including the project's beneficiaries and local JFMCs/EDCs/BMCs communities, particularly the vulnerable and marginalised groups.

238. In the context of adaptive management, this SEP will continue to be an active document, and new measures and engagement strategies will be added throughout the project cycle based on the knowledge gained from the application of various engagement strategies as well as any adjustments made to the project's design or intervention tactics. The SEP was made public on the TFD website and put into practise while the project was being carried out.

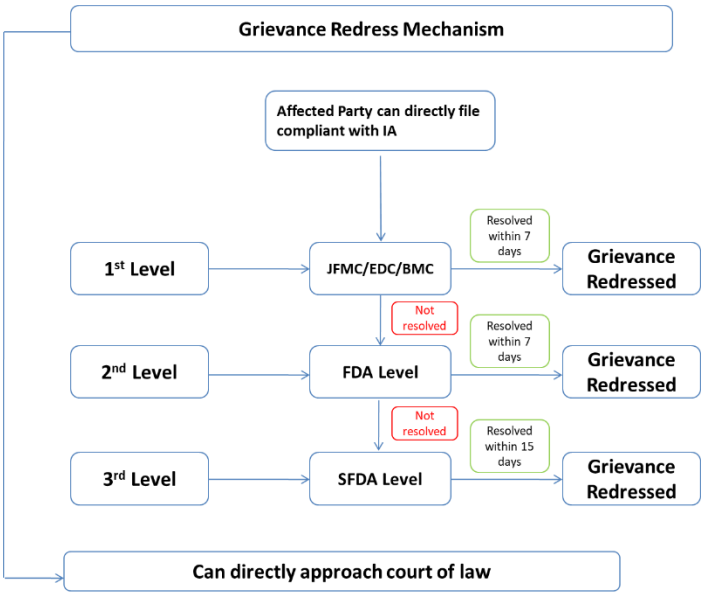
6.8.6. Grievance Redress Mechanism (GRM)

239. For ELEMENT, 3 tier grievance redress mechanism is proposed. At the State/ PMU Level the grievance system will be headed by the Project Director and will be responsible for the overall functionality of the Project GRM, whereas Principal Chief Conservator of Forest shall be the appellate authority . The GRM's at the FDA level will have District Forest Officer (DFO)ELEMENT as the appellate authority and the Sub divisional Forest officer as the Grievance Redress Officer. The lowest level of GRM will be located at JFMC/EDC level and Beat officer/ chairperson of JFMC/EDCwill be the GRO while Range officer will be the appellate authority. The concerned Grievance Redress Officer will be responding to grievance/query through phone calls, complaint boxes, meetings and letters,in order to resolve issues. If needed, site visits will be undertaken to appraise the exact nature of stakeholder concerns. The Complainant will be made part of the grievance resolution process and kept updated of the resolution process through phone calls and formal letters. Information material on GRM will also inform the stakeholders about grievance escalation hierarchy that would help the complainant to escalate any unresolved issues to higher level officers, as well as the existing state level GRM channels of government portal and grievance committee chaired by the district collectors. The grievance redress process will be a continuous, transparent and participatory process that would be an integral part of the project's accountability and governance agenda. The GRM mechanism will be notified within three months of project effectiveness or prior to commencement of project activities whichever is earlier. The project website will be posting the status of the GRM status periodically.

240. To address complaints related to SEA/AH, provisioning of Internal Complaint Committee (ICC) in the IAs and special provisions within the projects' Grievance Redress Mechanisms (GRM) to handle SEA/SH related grievances and ensuring anonymity of the complainants will be undertaken and monitored. The grievance focal points (Field Level- Grievance Redressal Officers and State Level-Grievance Redressal Officers) will be provide additional sensitization trainings to handle and refer such complaints.

241. The project level GRM will be headed by the Project Director (PMU) and will be assisted by a project level Grievance Redress Committees (GRC) composed of line agencies, select PIU and PMU staff with Social Development Specialist at the PMU as its convenor. State level Social Development Specialist at PMU shall assist the PD to monitor the overall Project GRM and co-ordinate with all the implementing units PIUs/DISTRICT-MUs) in the state. The project website will also have a link where grievances can be filed by the citizens. JFMC/EDC level GRO's will directly address all grievances. Element GRM process flow is depicted in picture below.

242. A telephonic helpline number is planned and the workflow and modalities to be developed prior to effectiveness so it can be piloted once the project is effective and rolled out thereafter.



6.8.7. Labor Management Procedures

Project interventions involves engagement of direct, contracted and community workers to carry out the project activities. The planned scale of civil works under the project is limited and may not require prolonged deployment of large-scale contracted workers at a given site. In the project areas, most of the construction will be small scale and involve creation of post-harvest storage and processing infrastructure. The labour is expected to be a mix of local and migrant workers but given the scale, labour influx and its related risks are not anticipated. Direct workers will be engaged at the SPMU/PMU (State), ZMU (zonal) and FMU (District level) and will mostly be subject matter specialists and consultants hired from the market. Community Workers will also be engaged under the project for watershed/ springshed development, implementation of the community led landscape development plans. The project LMP currently under preparation includes: (i) review and assessment of the existing labor laws and practices with respect to workers service conditions, remuneration, Occupational Health and Safety, codes of conduct (including specifics on zero tolerance of SEA/SH), and grievance redressal mechanisms; (ii) highlights the labour risks and mitigation measures related to different categories of workers; (iii) recommends the terms and conditions related to workers, especially community workers; (iv) key contractual obligations related to labour management (like prevention of child and forced labor) and Workers Code of Conduct that need to be included in bid documents; (v) details of GRM available to project workers to raise workplace concerns, and; (vi) assigns responsibilities for supervision of sites, labor related reporting and undertaking capacity building on labor management. LMP will ensure that working conditions of community workers are aligned to the ESS2 requirements, are voluntary and directly benefit the workers. The project Community Operations Manual will also spell out the terms of engagement of community workers to implement village level activities supported through community grants.

Annexure 1: Environmental & Social Survey- Screening Checklist: For Infrastructure Projects

Note: Objective and Guidance for Conducting the Screening Checklist

- Objective is to:
  - Whether the project qualifies for ELEMENT financing.
  - Assess the need for preparation of standard generic or 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 Micro Planning/DPR consultant/PMC
- Screening checklist to be reviewed and endorsed by the PMU

General Information about the Project	
Name of the Sub-Project:	
Sub-Project Type:	
Sub Project ID:	
Area of project:	
Location/Beat : **GPS Coordinates:**	
Village/JFMC/EDC:	
Block:	
District:	
Land use/Land cover of adjoining Properties (Industrial, commercial, residential, agricultural, barren)	

Sl. no	Screening questions	Yes	No	Specify/ Remarks
A.	Project Sitting			
1	a) Is the project adjacent or within to any of the following - provide distance to these features in meters/kilometres)			If yes please specify details
	b) Forests area with trees c) (Protected / Reserve/unclassified forest) d) Degraded forest area			If yes please specify details
	e) Buffer zone of Protected area			If yes please specify details
	f) Protected area (NP, WLS, ECZ, Natural heritage sites etc.)			If yes please specify details
	g) Special area for protecting biodiversity, ESZ			If yes please specify details
	h) Cultural heritage site notified under ASI Act 2010 (within 100 m of prohibited zone or 200 m regulatory zone[11])			If yes please specify details
	i) Animal passage corridor/Notified Elephant corridor			If yes please specify details
2	j) Any other critical habitat			If yes please specify details
	B. Legal Requirement			
3.	Will the project attract diversion of WLPA 1972			If yes please specify details
4.	Will the project attract diversion of Forest Conservation Act 1980			If yes please specify details
5.	Will need NOC from ASI Act 2010			If yes please specify details
6.	Will need any NOC under Biodiversity			If yes please specify details

[11] From boundary of prohibitory zone

Sl. no	Screening questions	Yes	No	Specify/ Remarks
	conservation Act			
7.	Requires Consent for Establishment and Consent for Operation from the State Pollution Control Board.			If yes please specify details
8.	Requires permit for tree felling from the Forest Department in case any activity involves felling of trees.			If yes please specify details
9.	Requires permit for ground water extraction from the Ground Water Authority in case any activity requires groundwater extraction (if required)			If yes please specify details
10.	Will project attract RFCTLR 2013			If yes please specify details
11.	Will the project involve any activities of Exclusion list as per ESMF?			If yes please specify details
C. Environmental Impacts due to Project Sitting				
Will the Project-				
12.	Affect the local indigenous biodiversity - flora and fauna directly?			If yes please specify details
13.	Cause any loss or degradation of any natural habitats, either directly (through project works) or indirectly?			If yes please specify details
14.	Cause disfiguration and affect the aesthetic quality of the landscape?			If yes please specify details
15.	Cause soil erosion or degradation near water bodies?			If yes please specify details
16.	Cause felling of government /private Trees/ Deforestation (If so , how many nos. of trees)			If yes please specify details
17.	Divert or dislocate any natural water body			If yes please specify details
18.	Affect natural drainage of the area causing water logging?			If yes please specify details
19.	Result in Human wildlife conflict due to proximity to areas often used by animals?			If yes please specify details
D. Environmental & Social Impacts due to Construction Activities				
Will the Project-				
20.	Affect essential services (such as electricity, supply of drinking water) within the locality due to construction activities?			If yes please specify details
21.	Expose local people, staff, workers or adjoining land dwellers to hazardous building materials such as PCBs, asbestos, mould, lead paint, pest issues, etc.			If yes please specify details
22.	Result in any unsafe physical working conditions such as poor sanitation, excavation, working for height, and working with heavy equipment, etc.?			If yes please specify details
23.	Affect adjoining properties by establishing temporary workers' camps or hindering access to their respective properties leading to conflict with neighbouring property owners?			If yes please specify details

Sl. no	Screening questions	Yes	No	Specify/ Remarks
24.	Lead to deterioration of surface water quality due to silt runoff, improper drainage and sanitary wastes from construction activities			If yes please specify details
25.	Affect local people due to noise, dust (air), or other disturbances from ongoing construction activities			If yes please specify details
26.	Increase Local Noise pollution due to involvement of various machineries and activities?			If yes please specify details
27.	Have a plan to recycle, reuse the waste generated through construction?			If yes please specify details
28.	Cause health risks arising from poor sanitation and solid waste disposal from construction camps and work sites?			If yes please specify details
29.	Cause Health risks due to possible transmission of communicable diseases?			If yes please specify details
30.	Labour requirement be met with local labour?			If no, please specify details from where the labour will be brought.
31.	Activities require labour from outside the area? Mention the no or proportion to total labour			If yes please specify details
	E. Climate Change, Disaster Risk			
32.	Is the project affect future disaster vulnerability of the area? (e.g., by exposing people to flooding by affecting drainage or water logging)			If yes please specify details
33.	Is the Project area vulnerable to earthquakes, floods, landslides, tropical cyclone winds, storm surges, tsunami or volcanic eruptions and climate changes			If yes please specify details
34.	Could changes in temperature, precipitation, or extreme events patterns over the Project lifespan affect technical or financial sustainability (e.g., torrential rainfall can affect lifespan due to flash floods)			If yes please specify details
F. Social,				
35.	Is the area vulnerable to active or passive conflicts due to certain demographic or socio-economic aspects (rural-urban, migrants, illegal settlements ethnic minorities etc.)			If yes please specify details
36.	Site or area in a schedule VI area.			If yes please specify details
37.	Affect any Vulnerable & Disadvantage groups			If yes please specify details
38.	Will project involve acquisition of Private land, patta land, government land?			If yes please specify details
39.	Is relocation requiring,			If yes please specify details
40.	Is project causes loss of livelihood, temporary housing, structure (if so mention the no)			If yes please specify details
41.	Requires any private land?			If yes please specify details
Screening checklists filled by:		**Screening checklists verified by(PMU):**		

Sl. no	Screening questions	Yes	No	Specify/ Remarks
	Name & Designation of environmental expert (Landscape Planning/DPR Consultant/PMC): _____ Date: _____ Name & Designation of Social expert (Landscape Planning/DPR consultant/PMC): _____ Date: _____			Name: _____ Designation: _____ Date: _____

Supportive maps and photographs as below:

- Google map of the road
- Any other Significant Indicators from the project activity

Annexure 2: Environmental & Social Screening Checklist: Ecotourism Development

Note: Objective and Guidance for Conducting the Screening Checklist

- Objective is to:
  - Whether the project qualifies for ELEMENT financing.
  - assess the preparation of site specific Environmental and Social Management Plans to be prepared or not
- Secondary data may be used along with site specific information by primary survey
- The screening checklist will be prepared by the Micro Planning/DPR consultant/PMC Screening checklist to be reviewed and endorsed by the PMU

General Information about the Project		
1.	**Name of the Sub Project:**	
2.	**Sub Project Type:**	
3.	**Sub Project ID:**	
4.	**Area of Sub Project**	
5.	**Location:** **Geo Coordinates:** **Range/beat:**	
6.	**Village (JFMCs, EDCs):**	
7.	**District:**	
8.	**Land use/Land cover of adjoining Area:** (Industrial, residential, commercial, agricultural, barren)	

Sl. no	Screening questions	Yes	No	Specify/ Remarks
A.	Project Sitting			
9.	Is the project adjacent or within to any of the following - provide distance to these features in meters/kilometres)			If yes please specify details
	a) Forests area with trees b) (Protected / Reserve/unclassified forest) c) Degraded forest area			If yes please specify details
	d) Buffer zone of Protected area			If yes please specify details

Sl. no	Screening questions	Yes	No	Specify/ Remarks
	e) Protected area (NP, WLS, ECZ, Natural heritage sites etc.)			If yes please specify details
	f) Wetlands as notified under Wetlands (Conservation and Management) Rules, 2017			If yes please specify details
	g) Breeding ground /fish spawning area			If yes please specify details
	h) Special area for protecting biodiversity, ESZ			If yes please specify details
	i) Cultural heritage site notified under ASI Act 2010 (within 100 m of prohibited zone or 200 m regulatory zone[12])			If yes please specify details
	j) Animal passage corridor/Notified Elephant corridor			If yes please specify details
	k) Any other critical habitat			If yes please specify details
	B. Legal Requirement			
10.	Will the project attract diversion of WLPA 1972			If yes please specify details
11.	Will the project attract diversion of Forest Conservation Act 1980			If yes please specify details
12.	Will need NOC from ASI Act 2010			If yes please specify details
13.	Will need any NOC under Biodiversity conservation Act			If yes please specify details
14.	Requires Consent for Establishment and Consent for Operation from the State Pollution Control Board.			If yes please specify details
15.	Requires permit for tree felling from the Forest Department in case any activity involves felling of trees.			If yes please specify details
16.	Requires permit for ground water extraction from the Ground Water Authority in case any activity requires groundwater extraction (if required)			If yes please specify details
17.	Will project attract RFCTLR 2013			If yes please specify details
18.	Will the project involve any activities of Exclusion list as per ESMF?			If yes please specify details
C. Environmental Impacts due to Project Sitting				
Will the Project-				
19.	Has any permanent structure planned in forest area or Wild life sanctuary area/national Park?			If yes please specify details
20.	If yes, then what kind of use other than sanitation, toilet blocks, fire fighting's etc.			If yes please specify details
21.	Ecotourism site be planned under working plan of the forest department ?			If yes please specify details
22.	Affect the local indigenous biodiversity - flora and fauna directly?			If yes please specify details
23.	causes any loss or degradation of any natural habitats, either directly (through project works) or indirectly?			If yes please specify details
24.	Cause disfiguration and affect the aesthetic			If yes please specify details

[12] From boundary of prohibitory zone

Sl. no	Screening questions	Yes	No	Specify/ Remarks
	quality of the landscape?			
25.	Cause soil erosion or degradation near water bodies?			If yes please specify details
26.	Cause felling of government /private Trees/ Deforestation (If so , how many nos. of trees)			If yes please specify details
27.	Divert or dislocate any natural water body			If yes please specify details
28.	Affect natural drainage of the area causing water logging?			If yes please specify details
29.	Result in Human wildlife conflict due to proximity to areas often used by animals?			If yes please specify details
D. Environmental & Social Impacts due to Construction Activities				
Will the Project-				
30.	support significant biodiversity or ecosystems that need to be protected?			If yes please specify details
31.	Have potential endangered or threatened species present in the project area, and are measures in place to minimize disturbances to their habitats?			If yes please specify details
32.	have a plan for habitat restoration or reforestation, if needed?			If yes please specify details
33.	use renewable energy sources, such as solar or other renewable energy source?			If yes please specify details
34.	support water conservation measures, such as rainwater harvesting?			If yes please specify details
35.	minimize noise, air, and light pollution, especially in sensitive areas or during critical wildlife periods?			If yes please specify details
36.	follow environmentally friendly practices for transportation, including minimizing emissions and promoting low-impact modes of transport?			If yes please specify details
37.	Have design and construction involves environmentally friendly materials and techniques?			If yes please specify details
38.	have visitors encouraged to follow sustainable practices, such as staying on designated trails, not disturbing wildlife, and practicing waste reduction?			If yes please specify details
39.	Affect essential services (such as electricity, supply of drinking water) within the locality due to construction activities?			If yes please specify details
40.	Expose local people, staff, workers or adjoining land dwellers to hazardous building materials such as PCBs, asbestos, lead paint, pest issues, etc.			If yes please specify details
41.	Result in any unsafe physical working conditions such as poor sanitation, excavation, working for height, and working with heavy equipment, etc.?			If yes please specify details
42.	Affect adjoining properties by establishing			If yes please specify details

Sl. no	Screening questions	Yes	No	Specify/ Remarks
	temporary workers' camps or hindering access to their respective properties leading to conflict with neighbouring property owners?			
43.	Lead to deterioration of surface water quality due to silt runoff, improper drainage and sanitary wastes from construction activities			If yes please specify details
44.	Affect local people due to noise, dust (air), or other disturbances from ongoing construction activities			If yes please specify details
45.	Have a plan to recycle, reuse the waste generated through construction?			If yes please specify details
46.	Cause health risks arising from poor sanitation and solid waste disposal from construction camps and work sites?			If yes please specify details
47.	Labour requirement be met with local labour?			If no, please specify details from where the labour will be brought.
48.	activities require labour from outside the area? Mention the no or proportion to total labour			If yes please specify details
49.	have facilities and services available to promote visitor well-being, such as first aid, clean water, and sanitary facilities?			If yes please specify details
50.	have a population influx due to project activities affect local social infrastructure?			If yes please specify details
51.	have plans to address potential demand on local infrastructure and services, such as transportation, healthcare, waste management, and water supply?			If yes please specify details
	E. Climate Change, Disaster Risk			If yes please specify details
52.	Is the project affect future disaster vulnerability of the area? (e.g., by exposing people to flooding by affecting drainage or water logging)			If yes please specify details
53.	Is the Project area vulnerable to earthquakes, floods, landslides, tropical cyclone winds, storm surges, tsunami or volcanic eruptions and climate changes			If yes please specify details
54.	Could changes in temperature, precipitation, or extreme events patterns over the Project lifespan affect technical or financial sustainability (e.g., torrential rainfall can affect lifespan due to flash floods)			If yes please specify details
F. Social,				
55.	Is the area vulnerable to active or passive conflicts due to certain demographic or socio-economic aspects (rural-urban, migrants, illegal settlements ethnic minorities etc.)			If yes please specify details
56.	Have local communities actively engaged in the planning, decision-making, and management of the project?			If yes please specify details
57.	Does the project provide economic			If yes please specify details

Sl. no	Screening questions	Yes	No	Specify/ Remarks
	opportunities, employment, and fair wages for local community members?			
58.	Will the project respect local culture, traditions, and heritage?			If yes please specify details
59.	Will efforts made to preserve and protect indigenous knowledge and practices?			If yes please specify details
60.	Site or area in a schedule VI area.			If yes please specify details
61.	Affect any Vulnerable & Disadvantage groups			If yes please specify details
62.	Will project involve acquisition of Private land, patta land, and government land?			If yes please specify details
63.	Is relocation required?			If yes please specify details
64.	will project cause loss of livelihood, temporary housing, structure (if so mention the no)			If yes please specify details
65.	Will the project require any private land?			If yes please specify details

Screening checklists filled by:	**Screening checklists verified by(PMU):**
Name& Designation of environmental expert(Micro Planning/DPR Consultant/PMC: _____ Date: _____ Name & Designation of Social expert(Micro Planning/DPR Consultant/PMC): _____ Date: _____	Name: _____ Designation: _____ Date: _____

Supportive maps and photographs as below:

- Google map of the site
- Any other Significant Indicators from the project activity

Annexure 3: Environmental & Social Screening Checklist: Plantation and nursery

Note: Objective and Guidance for Conducting the Screening Checklist

- Objective is to:
  - Whether the project qualifies for ELEMENT financing.
  - assess the preparation of site specific Environmental and Social Management Plans to be prepared or not
- Secondary data may be used along with site specific information by primary survey
- The screening checklist will be prepared by the Micro Planning//DPR Consultant/PMC. Screening checklist to be reviewed and endorsed by the PMU

	A. General Information about the Project	
1.	**Name of the Sub Project:**	
2.	**Type of the Sub Project:**	
3.	**Sub project ID:**	
4.	**Area of Subproject:**	
5.	**Location:** **Geo coordinates:** **Range/Beat:**	
6.	**Village (JFMC/EDCs/ BMC):**	
7.	**District:**	
8.	**Land use/Land cover of adjoining Area:** (Industrial, residential, commercial, agricultural, barren)	

Sl.no	Screening questions	Specify/ Remarks
Environmental Screening		
9.	Area Selected for plantation Government Land Private Land Forest Land Title Holder Non-titleholders (Encroacher) Non-titleholders (Squatter)	please specify details
10.	Land Area (in ha.)	please specify details
11.	Status of forest (Degraded, Very Dense Forest, Moderately Dense Forest, Open Forest)	please specify details
12.	What kind of major species promoted for plantation?	If yes, please specify details
13.	Is species showing diversity close to the prevailing biodiversity habitat?	If yes, please specify details
14.	Is the plantation scheme approved by forest departments concerned PIU?	If yes, please specify details
15.	Is plantation being under forest working plan, CAMPA or any other scheme?	If yes, please specify details
16.	Current use of forest for any livelihood activity?	If yes, please specify details
17.	Area infested by exotic/noxious weeds	If yes, please specify details
18.	Forest Fire Vulnerability, Forest fire incidences?	If yes, please specify details
19.	Availability of NTFPs and minor forest produce of the area?	If yes, please specify details

Sl.no	Screening questions	Specify/ Remarks
20.	Presence of Forest nursery, or nearest nursery site, Annual production capacity? (Yes/No)	If yes, please specify details
21.	Are there any protected areas or critical habitats in the project vicinity?	If yes, please specify details
22.	Does the project involve clearing of natural vegetation or forests?	If yes, please specify details
23.	Are there any endangered or threatened species in the project area?	If yes, please specify details
24.	Are there any cultural or archaeological sites in the project area?	If yes, please specify details
25.	Could the project activities impact cultural heritage or sacred sites?	If yes, please specify details
26.	Have measures been taken to protect and preserve cultural heritage?	If yes, please specify details
27.	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?	If yes, please specify details
28.	Are there any water quality concerns or risks of contamination?	If yes, please specify details
29.	Is there a plan for soil conservation and fertility management?	If yes, please specify details
30.	What agrochemicals or pesticides will be used in the plantation/nursery?	please specify details
31.	Are there proper storage and handling procedures for chemicals?	please specify details
32.	What measures are taken to minimize pollution risks to air, water, and soil?	please specify details
	C. Social Screening	
33.	Land Requirement- Government Land Private Land (Donated) Forest Land Title Holder Non-titleholders (Encroacher) Non-titleholders (Squatter)	please specify details
34.	Will the local community be losing livelihoods/ access due to loss of Govt. Lands to Project? (Yes/No)	If yes, please specify details
35.	Have local communities been consulted and informed about the project?	please specify details
36.	Are there any concerns or grievances raised by the local communities?	please specify details
37.	What is the level of support or opposition from the community?	please specify details
38.	Is labour required for implementing the project?	please specify details

Sl.no	Screening questions	Specify/ Remarks
39.	Can the labour requirement be met with local labour?	please specify details
40.	Are workers provided with proper safety equipment and training?	please specify details
41.	Is there any child labour or forced labour concerns?	please specify details
42.	Are there any health risks associated with the project activities?	please specify details
43.	Are proper occupational health and safety measures implemented?	please specify details
44.	Is there any land tenure or land rights issues?	please specify details
45.	Are there any conflicts with local communities over land or resources?	please specify details
46.	Are there mechanisms to address land and resource-related grievances?	please specify details
47.	Will the project affect any Vulnerable & Disadvantage groups?	please specify details
48.	Will the Vulnerable & Disadvantage groups be part of the beneficiaries under the project?	please specify details

Screening checklists filled by:	**Screening checklists verified by(PMU):**
Name& Designation of environmental expert(micro planning/DPR Consultant/PMC): _____ Date: _____ Name & Designation of Social expert(Micro Planning/DPR Consultant/PMC): _____ Date: _____	Name: _____ Designation: _____ Date: _____

Supportive maps and photographs as below:

- Google map of the road
- Any other Significant Indicators from the project activity
-

Generic Indicative Environmental and Social Management Plan (ESMP) for Infrastructure Development under ELEMENT

Sr. No.	Environmental and Social concerns	Environmental and Social Mitigation Measures	Applicability of ESS of WB	Responsibilities	
				Planning and Execution	Supervision/ Monitoring
I.	**Design Stage**				
1	Sufficient lighting and firefighting arrangement	• Appropriate technologies and materials to be used to encourage reduction in carbon foot print. • Energy Conservation Building Code to be followed in the design • Lighting should solar/LED in the buildings and outside areas. • As far as possible, fly ash and fly ash bricks should be used as building materials (if available) as per the provision of Fly Ash Notification 2009. • Recycled materials having low embodied energy are used up to possible extant. • Use of light coloured, reflective roofs having Solar Reflective Index (SRI) of 50% or more should be promoted. • Appropriate firefighting arrangement to be provisioned as per National Building code 2016 in the design.	ESS 1, ESS 3	DPR Consultant /Project preparatory team	PMU/PMC, SFD, Tripura Housing Board

1.	Infrastructure Development Orientation (Academic training, staff quarter, hostel etc.)	• Adopt the concept of passive solar design of buildings using architecture design approaches that minimise energy consumption in buildings by integrating conventional energy -efficient devices such as fans, lighting fixtures with the passive design elements such as building orientation. • landscaping efficient building envelope, appropriate fenestration, increased day lighting design and thermal mass. • The buildings should be oriented optimally based on Sun-Path and engineering analysis to curtail excessive solar radiations.	ESS 1, ESS 3	DPR Consultant /Project preparatory team	PMU/PMC, SFD, Tripura Housing Board
4.	Provision of Green Belt/Green Cover in STATE FOREST DEVELOPMENT AGENCY (PMU), FDA Range office, Beat office, Residential quarter, Hostel Premises.	• Provide minimum 1 tree for every 80 sqm of plot area. More trees should be planted if open space is available. • Native species of trees should be planted.	ESS 1, ESS 3, ESS 6	DPR Consultant /Project preparatory team	PMU/PMC, SFD, Tripura Housing Board
5.	Access for Differently Abled	• Accessibility for persons with disabilities should be provided through the ramps having proper slope in line with universal access. • Ensure accessibility tactile and usability of facilities in the State Forest Development Agency (PMU), FDA buildings by visitors with disabilities. • Ensure access to facilities and services by adopting appropriate site planning to eliminate barriers as per the recommended standards (NBC 2016).	ESS 1, ESS 4	DPR Consultant /Project preparatory team	PMU/PMC, SFD, Tripura Housing Board

6.	Storm Water Management	• Storm water channel will be designed based National Building Code of India 2016. • Stagnation of water and flooding within building premises will be avoided. • Storm water management should be ensured during design. • Natural flow of existing storm water channel should not be altered or diverted for construction of new buildings.	ESS 1, ESS 4	DPR Consultant /Project preparatory team	PMU/PMC, SFD, Tripura Housing Board
7.	Rain Water Harvesting	• Based on hydro geological investigations, rain water harvesting structures should be designed as per Central ground Water Authority (CGW) guidelines.	ESS 1, ESS 3	DPR Consultant /Project preparatory team	PMU/PMC, SFD, Tripura Housing Board
9.	Permission of ground water withdrawal	• Permission for ground water withdrawal from State/Central Ground Water Authority will be obtained as applicable regulations.	ESS 1, ESS 3	DPR Consultant /Project preparatory team	PMU/PMC, SFD, Tripura Housing Board
11.	Water Conservation	• Low flow fixtures /sensors to be used for water conservation.	ESS 1, ESS 3	DPR Consultant /Project preparatory team	PMU/PMC, SFD, Tripura Housing Board
13.	Disposal of Sewage	• Properly designed septic tanks and soak pits will be constructed for treatment and disposal of sewage.	ESS 1, ESS 3 and ESS4	DPR Consultant /Project preparatory team	PMU/PMC, SFD, Tripura Housing Board
14.	Provision of Solid Wastes Composting	Organic waste composter (OWC) or vermiculture pits shall be constructed at the building premises for biodegradable wastes treatment. The manure generated from composter will be used for landscaping.	ESS 1, ESS 3 and ESS4	DPR Consultant	PMU/PMC, SFD, Tripura Housing Board
II.	**Pre-Construction Stage**				
A.	**Pre-construction Activities by the Contractor**				

A.1	Consents, permits, clearances, no objection certificate(NOC),etc	• All approvals, permits and licenses shall be maintained and up dated before expiry, and complied with during the Construction period. • Should there be any changes to the project which would require additional permits or licenses, these shall be obtained • Contractors shall insure all workers covered under the group insurance or any other suitable insurance schemes against all forms of injuries sustained at the workplace.	ESS5 ESS1	Contractor	PMU/PMC, SFD, Tripura Housing Board
A.2	Display of project Information Board	• Project Information Board with important phone number will be displayed prominently at the site.	ESS 1, ESS 2	Contractor	PMU/PMC, SFD, Tripura Housing Board
A.3	Clearing of Trees	• As far as possible, all the infrastructure facilities proposed under the project should be planned on degraded land. • Large scale felling of trees is not envisaged. However, under unavoidable conditions if any of the trees are required to be cut/felled, then prior permission as per existing procedure from Forest Department, ensuring appropriate compensation including compensatory plantation as stipulated by the forest department shall be undertaken.	ESS1, ESS6	Contractor	PMU/ PIU, Tripura State PMU/PMC, SFD, Tripura Housing Board
A.4	Procurement of material, Ready mix concrete	• In the event of procuring, aggregate and sand from third party, the contractor shall ensure that the material is procured from authorised vendors. having valid clearances and licenses.	ESS 1, ESS 3	Contractor	PMU/PMC, SFD, Tripura Housing Board
A.5	Collection and Disposal of Demolition Wastes	• If demotion of the existing structure is required before construction, demolition wastes will be collected, reused and disposed as per Construction and Demolition Waste Management Rules, 2016.	ESS 1, ESS 3 and ESS4	Contractor	PMU/PMC, SFD, Tripura Housing Board

A.6	Collection and Disposal e-wastes from existing building.	• E-wastes generated from demolition of existing structures/buildings will be collected and disposed to TSPCB/ CPCB authorised e-waste recyclers as per E-waste management Rules, 2016.	ESS 1, ESS 3 and ESS4	Contractor	PMU/PMC, SFD, Tripura Housing Board
A.7	Labour facilities	• At labour camp, the contractor shall provide well ventilated accommodations, bath rooms, food cooking facilities, toilets, etc as per The Building and Other Construction Workers' (Regulation of Employment and Conditions of Service) Act, 1996	ESS 1, ESS 2	Contractor	PMU/PMC, SFD, Tripura Housing Board
A.8	Other Construction Vehicles, Equipment and Machineries	• All vehicles, equipment and machinery to be procured for construction work will conform to the relevant Bureau of Indian Standard (BIS) norms/CPCB standards. The discharge standards promulgated under the Environment Protection Act, 1986 and Motor Vehicles Act, 2019 will be strictly adhered to. • Acoustic enclosure fitted DG set will be used at the project site as per regulations. • The contractor shall maintain records of Pollution Under Control (PUC) certificates for all vehicles used during the contract period, which will be produced to PIU for verification whenever required.	ESS 1, ESS 3 and ESS4	Contractor	PMU/PMC, SFD, Tripura Housing Board
A.9	Labour Requirement	• The contractor preferably will use unskilled/ semiskilled/ skilled labour from local area to give the maximum benefit to the local community.	ESS 2	Contractor	PMU/PMC, SFD, Tripura Housing Board
A.10	Appointment of Environment & Safety Officer	• The contractor shall appoint qualified and experienced Environment & Safety Officer (ESO), who will dedicatedly work and ensure implementation of EMP including occupational health and safety issues at the camp, plant and construction work sites. • Overseeing signing of workers' Codes of Conduct and sensitization of the workers	ESS 1, ESS 3	Contractor	PMU/PMC, SFD, Tripura Housing Board

III.	**Construction Stage**				
B	**Construction Work**				
B.1	Site clearing/ DE vegetation	• Site clearance shall be carried out in such a way that the clearing and grubbing waste are disposed within 24 hours in the designated dumping site identified for the project.	ESS3, ESS6	Contractor	PMU/PMC, SFD, Tripura Housing Board
B.2	Top Soil from construction area	• Top soil (upper 30 cm soil from site clearance activity) will be preserved and to be later used for landscaping.	ESS 1, ESS 3	Contractor	PMU/PMC, SFD, Tripura Housing Board
B.3	Disposal of Surplus Earth	• Earth excavated at construction site will be used for filling at the site. Surplus earth will be collected and transported to pre identified disposal area.	ESS 1, ESS 3	Contractor	PMU/PMC, SFD, Tripura Housing Board
B.4	Barricading of construction zone	• The construction site will have hard barricades of 3m height with safety sign boards. • Barricading of minimum 3-meter height to be used at the construction site to prevent unauthorized entry	ESS 1, ESS2,	Contractor	PMU/PMC, SFD, Tripura Housing Board
B.5	Transportation of Construction Materials	• All vehicles delivering construction materials to the site shall be covered with tarpaulin to avoid spillage of materials and air pollution. • The unloading of construction materials at the construction sites will be limited to day time only to avoid accidents. • Screens of green net and such other barricading materials are to be erected around stock piling sites.	ESS 1, ESS 3	Contractor	PMU/PMC, SFD, Tripura Housing Board

B.6	Paint and White Washing	• Lead containing paints will not be used at the site. • Paint and solvents should be used with the lowest possible VOC content. • Oil based paints and paints containing metals should be avoided. • Keep all paint and solvent containers closed when not in use to minimize evaporation and prevent spills. • Limit use of thinner to the maximum extent possible. • Use cleaning solvent the maximum numbers of times before disposal.	ESS 1, ESS 3, ESS4	Contractor	PMU/PMC, SFD, Tripura Housing Board

B.7	Safety of Workers (OHS)	• The contractor will make sure that during the construction works all relevant provisions of the Building and Other construction workers (regulation of employment and conditions of services) Act 1996 and Labour Management Procedures are adhered to. • The contractor will comply with all the precautions as required for ensuring the safety of the workers as per the country' labour regulations and International Labour Organisation (ILO) Convention No-62 as far as those are applicable to this contract. • Ensure LMP provisions are being followed at sites per EMP Compliance • The safety procedures for specific jobs will be prepared and implemented. • Required Personal Protective Equipment (PPE) will be provided by the contractor to the workers engaged in construction works. • Required warning signs, barricades, etc will be provided by the contractors. • Proper barricading will be provided along the construction site. • Provision of First Aid onsite.	ESS 2	Contractor	PMU/PMC, SFD, Tripura Housing Board

B.8	Risk From Electrical Equipment(s)	• The contractor shall take all required precautions to prevent danger from electrical cables, wires and equipment and ensure that: a) All electrical installations and wirings shall be barricaded in manner that ensures safety of workers, equipment. b) Necessary fencing, illumination and proper insulation of the electrical lines shall be ensured by the contractor for safety workers. c) All electrical equipment/cables/ wires to be used in the construction shall have to confirm to the relevant BIS specifications/ codes. d) The contractor will ensure that electrical equipment/ cables/ wires are free from manufacturer defect and maintained in good working order through regular supervision, monitoring and repair/replacement from time to time. e) Insulation mat and canopy will be provided to electrical panels in open area. f) Bone skull danger sign will be provided at all 440-volt electrical equipment and panels.	ESS 1, ESS 2, ESS 4	Contractor	PMU/PMC, SFD, Tripura Housing Board

B.10	Water Conservation During Concrete Curing and Construction	• Keeping in view the use of large quantities of water in curing, measures for reducing water demand during construction should be followed. • Curing water should be sprayed on concrete structures, free flow water should not be allowed for curing. After liberal curing on the first day, all concrete structures may be painted with curing chemical to save water. • Concrete structures should be covered with thick cloth /gunny bags and then water should be sprayed on them. This will avoid water rebound and will ensure sustained and complete curing. Ponds should be made using cement and sand mortar to avoid water flowing away from the flat surface while curing. • Use of potable water during construction should be minimized.	ESS 1, ESS 2	Contractor	PMU/PMC, SFD, Tripura Housing Board
C.	**Pollution Control**				
C.1	**Water Pollution**				
C.1.1	Water Pollution from Construction Wastes	• The contractor shall take all precautionary measures to collect and dispose-off construction wastes/debris generated from construction site. • All solid or hazardous wastes (if any) will be collected and disposed Hazardous Waste Management Rules prescribed by MoEF&CC • Sewage generated from the construction site should be disposed in septic tank followed by soak pit.	ESS 1, ESS 3	Contractor	PMU/PMC, SFD, Tripura Housing Board
C.1.2	Waste Water from Labour Camp	• Waste water generated from the sanitary facilities of labour camp and work sites will be treated in septic tank followed by soak pit. • Proper mobile or fixed toilets fitted with septic tank will be provided at camp and construction sites. The contractor will arrange for regular cleaning of mobile toilets.	ESS 1,ESS 2 ESS 3	Contractor	PMU/PMC, SFD, Tripura Housing Board

C.2	**Air Pollution**				
C.2.1	Dust and Gaseous Pollution	• Mitigation measures would principally include storing of materials/earth stockpiles at designated places, sprinkling of water into the materials stockpiles and limited period of storage at each construction zone. • Watering frequency during periods of high risk (*e.g.,* high winds and sunshine) shall be increased to at least twice a day. • The contractor will procure the construction plant and machinery, which will conform to the pollution control norms specified by the MoEFCC/CPCB/TSPCB. • Regular maintenance of machinery and equipment will be carried out and vehicular pollution check will be made mandatory. • LPG will be used as fuel for cooking of food at construction labour camp instead of used of fuel wood. • Vehicles transporting garbage & demolition wastes, earth, sand, aggregate, etc will be covered with tarpaulin sheets to control windblown dust from vehicles.	ESS 1,ESS 2 ESS 3	Contractor	PMU/PMC, SFD, Tripura Housing Board
C.2.2	Emissions from Construction Vehicles, Equipment and Machineries	• The contractor will ensure that all vehicles, equipment and machineries to be used for construction works are regularly maintained and confirm that pollution emissions levels comply with the relevant emissions requirements of CPCB and/Motor Vehicles Rules. The contractor will submit PUC certificates for all vehicles used for the sub project. • DG set will be provided a chimney with vertical opening having adequate height as per CPCB guidelines (Height of stack in meter = Height of the building + 0.2 √KVA).	ESS 1,ESS 2 ESS 3	Contractor	PMU/PMC, SFD, Tripura Housing Board

C.3	**Noise Pollution**				
C.3.1	Noise Levels from Vehicles, Plant and Equipment	The contractor will ensure the following: a) The plants and equipment used in construction (including those of sub-Contractors) shall strictly conform to the MoEF&CC /CPCB noise standards and shall have latest noise suppression mountings. b) All vehicles and equipment used in construction work will be fitted with muffler or silencers. c) Servicing of construction vehicles and machinery will be done regularly and during routine servicing operations, the effectiveness of exhaust silencers will be checked and if found defective, these shall be replaced. d) Only acoustic enclosures fitted DG set will be allowed at the construction site and camp site. e) Construction activities shall not be carried during night (10.00 P.M to 06.00 A.M). Preference to be given to work being done during daylight only.	ESS 1,ESS 2 ESS 3	Contractor	PMU/PMC, SFD, Tripura Housing Board
C.4	**Waste Generation & Disposal**				
C.4.1	Excavated Soil	Excavated soil shall be used for plantation or land scaping purposes. Lower layers of excavated soil shall be re-used within the site for filling purpose or other construction activities. If any extra soil is left, then it should be disposed of in environmentally sound manner.	ESS 1, ESS 3	Contractor	PMU/PMC, SFD, Tripura Housing Board

C.4.2	Demolition Waste	C&D waste emanated from the site will comprise of wastes from removal of existing structures and may be reused for constructional related filling purposes These wastes' disposal must comply with the Construction and Demolition Waste Management Rules 2016 requirement for its disposal.	ESS 1, ESS 3	Contractor	PMU/PMC, SFD, Tripura Housing Board
C.4.3	Construction Debris	Construction wastes will comprise of broken bricks, dry cement, discarded timber, metal pieces, empty cement bags, glass, paint/varnishes containers, electrical wastes, used oil, etc. These wastes should be segregated into recyclable and non-recyclable waste. Recyclable waste shall be stored in the covered area and shall be sold to authorized vendors regularly. Non-recyclable waste shall be disposed at approved debris site in covered vehicles or reuse for land filling purposes. These wastes' disposal must comply with the Construction and Demolition Waste Management Rules 2016 requirement for its disposal.	ESS 1, ESS 3	Contractor	PMU/PMC, SFD, Tripura Housing Board
C.4.4	Hazardous Wastes	Used oil generated from maintenance of construction machines and DG sets shall be disposed through use oil recyclers. Any hazardous wastes generated from the building construction site will be disposed as per Hazardous and Other Waste (Management and Trans boundary Movement) Rules, 2016.	ESS 1, ESS 3	Contractor	PMU/PMC, SFD, Tripura Housing Board
C.4.5	e-wastes	e- Wastes generated during construction works will be disposed through e-waste recyclers as per e-waste Management Rules, 2016.	ESS 1, ESS 3	Contractor	PMU/PMC, SFD, Tripura Housing Board

C.4.6	Solid Waste (Municipal and other Waste) Management	Municipal solid wastes will be generated from labour camp and construction site. These solid wastes will be disposed as per Solid Waste Management Rules 2016. Dustbins for recyclable and non-recyclable wastes shall be provided in labour camp areas. Recyclable wastes shall be sold to authorized vendors. Biodegradable wastes shall preferably be composted. Concept of reduce, re-use and recycle shall be followed at site. The non-recyclable, non-saleable and non-biodegradable wastes shall preferably be disposed at a marked landfill site.	ESS 1, ESS 3	Contractor	PMU/PMC, SFD, Tripura Housing Board
C.4.7	Asbestos Containing Wastes (If any)	During demolition of existing buildings, if Asbestos containing waste is found, it will be collected and disposed to nearest TSDF site through waste collection and disposal agency authorized by TSPCB.	ESS 1, ESS 3	Contractor	PMU/PMC, SFD, Tripura Housing Board
D.	**Personnel Safety**				

D.1	Personal Safety Measures for Labours and Staff	The contractor shall provide necessary personnel protective equipment and take suitable personal safety measures for labours and staff: a) Full body protection clothing, protective footwear, hand gloves and goggles to workers employed handling cement concrete, b) Construction workers will be provided high visibility vests, c) Ear plugs to workers exposed to high noise levels, d) Hard hat or helmets to workers, where there is danger of falling objects from height, e) Hand gloves, helmets, protective footwear/safety shoes, protective goggles, nose masks, high visibility vests etc (as required) will be provided to the workers employed in construction works, f) Safety belts will be used by workers while working at height,	ESS 1, ESS 2	Contractor	PMU/PMC, SFD, Tripura Housing Board
D.2	First Aid and Emergency Management	• Emergency numbers will be displayed at the camp and construction sites, • First Aid boxes will be available at the camp and construction sites, • Designated vehicles, which can be used as ambulance during emergency, will be available at construction sites as per requirement.	ESS 1, ESS 2	Contractor	PMU/PMC, SFD, Tripura Housing Board
E.	**Labour Camp Management**				

E.1	Facilities for Labourers	• The contractors will follow all relevant provisions of The Building and the other Construction Workers (Regulation of Employment and Conditions of Service) Act, 1996 for construction and labour camp.
		• The location, layout and basic facility provision of labour camp will be submitted to PIU prior to their construction.
		• The Contractor will maintain well ventilated living accommodation and sanitation facilities to workers in functional and hygienic manner.
		• Workers will be provided with beds/bunk beds with mosquito nets and no worker will be allowed to sleep on the ground.
		• Fans and proper ventilation (turbine type ventilators) will be provided in labour accommodation rooms.
		• Regular cleaning and sweeping will be ensured at the labour camp site.
		• Fuel wood will not be allowed for cooking at the labour camps. LPG cylinders with gas fire box will be provided at labour camp by the contractor.
		• Clean and cool drinking water will be made available for workers by the contractors.
		• If required, check water quality and undertake necessary measures as applicable to correct anomalies in water quality that may be indicated in the water quality tests. Drinking water quality should meet Drinking Water Standard IS: 10500-2012.
		• Ensure drainage arrangements are adequate and fully functional and no stagnation of water takes place.
		• Necessary medical facilities will be provided to workers by the contractors.
		• Separate toilets/bathrooms, wherever required, will be provided for male and female, marked in vernacular.
		  • workers GRM which will also respond to SEA/SH grievances.
		  • Signage on CoC and zero tolerance on SEA/SH in labor camps as well as orientation on GBV/ SEA/SH
			ESS 1, ESS 2	Contractor	PMU/PMC, SFD, Tripura Housing Board

E.2	HIV/AIDS Prevention Measures	• Necessary HIV/AIDS prevention awareness measures will be taken at the labour camp by the contractor. • Time to time HIV/AIDS awareness training/programme will be organized by the Environment & Safety Officers of the contractor.	ESS 1, ESS 2, ESS4	Contractor	PMU/PMC, SFD, Tripura Housing Board
E.3	Sanitation and Sewage System at Labour Camp	The Contractor will ensure that: • The sewage disposal arrangement for the camp will be designed, built and operated in such a fashion that no health hazard and pollution occur at the camp site or nearby areas, • Adequate water supply will be ensured in bath rooms, toilets and urinals, • Ensure adequate number of toilets/urinals are available and they are fully functional • Separate toilets should be available for men, women and physically challenged. • Night soil will be disposed of with the help of local municipal extractor. • Ensure adequate drainage and sewerage arrangements (including soak pits and septic tanks, if present) are available and fully functional • All taps and plumbing fittings in toilets should be functional and leakage-free • Water stagnation or water logging should not be allowed to take place.	ESS 1, ESS 2	Contractor	PMU/PMC, SFD, Tripura Housing Board

E.4	Wastes Collection and Disposal from labour camp	• The contractor will provide garbage bins in the camp and construction sites. It will be ensured that these are regularly emptied and disposed of in a hygienic manner as the Solid Waste Management Rule 2016. • Burning of any kind of wastes will not be allowed at the camp and construction sites. • Solid (paper, plastic, polyethylene, etc) wastes generated at the construction site, plant & camp sites, will be collected in covered waste bins and segregated as biodegradable (food waste, paper, etc) and non-biodegradable (plastic, polyethylene bag, etc) wastes. Polyethylene/plastic wastes will be stored in empty cement bags and to be sent for recycling through scrap dealer. Biodegradable (food waste, paper, etc) solid waste will be disposed in compost pit. • Vermicompost pit will be provided for disposal for biodegradable wastes.	ESS 1, ESS 3	Contractor	PMU/PMC, SFD, Tripura Housing Board
F.	Fire Safety and Emergency Response Measures	• At the construction site, necessary fire extinguishers will be provided at especially for electrical fire and general fire. • Emergency phone numbers will be displayed prominently at the construction site. • Cardiopulmonary resuscitation (CPR) chart will be displayed and training will be provided for the same. • For emergency, vehicle will be available at the site, which can be used as ambulance to carry injured person to hospital.	ESS 1, ESS 2, ESS 4	Contractor	PMU/PMC, SFD, Tripura Housing Board

G.	COVID Protection	• Latest Government COVID guidelines (Central, State as well as local) as are in force from time to time should be adhered to. • Sanitizer and masks will be provided to workers. • Body temperature will be monitored at the site. • Arrangement to check body temperatures of all participants • Masks should be used if mandatory • Social distancing practiced, if mandatory • Collection and compilation of vaccination status of all participants (Workers & staffs). • Details of nearest COVID isolation facilities and COVID medical facilities should be available at the site.	ESS 1, ESS 2, ESS 4	Contractor	PMU/PMC, SFD, Tripura Housing Board
H.	**Contractor's Demobilization**				
H.1	Clean-up Operations, Restoration and Rehabilitation	• On completion of construction works, the contractors will prepare site restoration and demobilization plan. The clean-up and restoration operation will be implemented by the contractors prior to demobilization. The Contractors will clear all temporary structures; dispose all garbage, night soils and POL (Petroleum, Oil and Lubricants) wastes in environmental sound manner. • All construction area including camp, and any other area used or affected due to the construction work will be left clean and tidy at the contractor's expense to the entire satisfaction to the PIU.	ESS 1, ESS 3, ESS 4	Contractor	PMU/PMC, SFD, Tripura Housing Board

Annexure 5: Environmental & Social Management Plan: Ecotourism Projects

Generic Indicative Environmental and Social Management Plan (ESMP) for Eco-Tourism Development under ELEMENT

Sr. No.	Environmental and Social Issues	Environmental and Social Mitigation Measures	Applicability of ESS of WB	Responsibilities	
				Planning and Execution	Supervision/ Monitoring
I.	**Design Stage**				
1	Eco-tourism planning	• Ecotourism development strategy 2021-22 shall be followed. Sites will be selected through a collaborative process that includes all parties, including the local populations,Eco Development Committee(EDC) and Joint Forest Management Committee(JMC). • Ecotourism plan will be part of Working Plan. Management Plan or Conservation Plan will be prepared in case area falling in forest or wildlife and shall include the carrying-capacity analysis-based description of the eco-tourism site, and any support infrastructure needed. • Safety measures, especially for managing fire, flood, landslide, needs to be inbuilt into the ecotourism site development plan and adequate system needs to be in place for efficiently managing such disasters. • Solar lighting will be encouraged.	ESS1, ESS 3	Project team (DISTRICT-MU)	PMU/PMC, Tripura State Forest Development Agency, Tripura Housing Board

2	Ecotourism site Planning and community involvement approach	• To Ensure [13]Adoption of low-impact wildlife tourism that protects the ecological integrity of forest and wildlife areas, secures the wildlife values of the destination and its surrounding, the critical area of Wild Life Sanctuary(WLS), National Parks(NP) to be avoided. • Highlight & Aware the biodiversity richness, their values and their ecological services to people • Aware & highlight the heritage value of area's wilderness and protected areas • Provide livelihood opportunities to local communities by integrating EDCs/JFMCs/BMCs in ecotourism site development and operation related activities based on skill • Ensure to use of indigenous, locally produced and ecologically Sustainable materials for tourism activities-bamboo shed, tree cottage, wooden platform others • Community-based tourism will be promoted as a preferred form of eco-tourism.			

[13] ECD strategy 2022

2	Eco-tourism zonation	• The zone of ecotourism shall be appropriately demarcated as Core zone, buffer zone, transition zone, tourism zone as per approved plan of ecotourism sites from Chief Wild life warden and particular eco sensitive zones notification. • The ecotourism zonation will ensure that the ecological integrity of the area, including breeding areas of wildlife and tribal habitations particularly vulnerable tribal groups(PVTGs) remains protected. • The zonation shall also ensure that safeguards provided in the Forest Rights Act, 2006.	ESS1	Project team (DISTRICT-MUDistrict MU)	PMU/ PMC, Tripura State Forest Development Agency, Tripura Housing Board
4	Site development	• The Eco-tourism site shall be developed only in ecotourism zone and in eco-friendly manner. While developing support infrastructure for ecotourism it shall be ensured that the natural profile and ecological integrity of the ecotourism site including its biodiversity value is maintained. • No negative impact on rare & endangered species should be done, biodiversity survey of ecotourism sites should be done to monitor the ecological indicator. • Temporary structure such as shed/tent, wooden interpretation centre, nature trail, landscape development shall be done with native indigenous species. • No Exotic ornamental species in landscaping should be intervened.	ESS1	ESS1, ESS 3	Project team (DISTRICT-MU)

5	Clearance and approval for construction work	• If any project location falls in the regulated zone of the ASI. Clearance needs to be taken from concerned department. • No project activity will be planned in prohibited zone and regulatory zone(200m) from the ASI monument. • Any ecotourism facility or permanent structure on forest lands which is not as per Para 11.10 of the Handbook of Forest (Conservation) Act, 1980, shall be subject to the provisions of the Forest (Conservation) Act 1980 and need prior approval. • As far as possible no permanent structure shall be made /constructed to create ecotourism facility/structure, but temporary structures/facility made predominantly of natural material of local origin may be allowed in Protected Area or on forest land. • Commercial establishment construction taken up inside the Eco-sensitive Zone shall be as per the ESZ notification of the National Park/Sanctuary.	ESS1, ESS 6		PMU/ PMC, Tripura State Forest Development Agency, Tripura Housing Board, Joint Forest Management Committees(JFMCs) and Eco Development Committees

6	Strategies and monitoring	• Each eco-tourism plan will invariably include a dynamic monitoring mechanism, covering multiple biological parameters to monitor stress on wildlife vis-a-vis number and patterns of tourist visitation and their level of satisfaction, involvement of local people, scope for improvement in flow of eco-system services, etc. • The monitoring will also include mechanisms to ensure that rigorous practices are in place to prevent biological invasion, disease transmission, and air, water, noise or light pollution. The States Governments/UT Administrations shall endeavour to maintain service level quality standards through appropriate certification/rating protocols	ESS1, ESS3		
7	Infrastructure development & Habitat Destruction	• Conduct thorough environmental assessments before project implementation to identify sensitive habitats and avoid development in those areas. • Design infrastructure to minimize the footprint on natural habitats and opt for low-impact construction techniques. • Implement land restoration and reforestation programs to compensate for any habitat loss.	ESS 1, ESS 2	Project preparatory team / beat office in collaboration with JFMCs/EDCs	PMU/ PMC, /FDA Tripura State Forest Development Agency
8	Climate Change Impacts	• Adopt green building practices and design sustainable infrastructure that minimizes energy consumption and incorporates renewable energy sources. • Develop carbon offset programs to compensate for the project's emissions, invest in renewable energy projects, or support local conservation initiatives.	ESS3	Project preparatory team / beat office in collaboration with JFMCs/EDCs	PMU/ PMC, /FDA Tripura State Forest Development Agency
II.	**Pre-Construction Stage**				
A.	**Pre-construction Activities by the Contractor**				

A.1	Display of project Information Board	• Project Information Board, duration of project with important phone number will be displayed prominently at the site.	ESS 1, ESS 2	Project preparatory team / beat office in collaboration with JFMCs/EDCs	PMU/ PMC, Tripura State Forest Development Agency,
A.2	Collection and Disposal of Demolition Wastes	• If demotion of the existing structure is required before construction, demolition wastes will be collected, reused and disposed as per Construction and Demolition Waste Management Rules, 2016.	ESS 1, ESS 3 and ESS4	Project preparatory team / beat office in collaboration with JFMCs/EDCs	PMU/ PMC, Tripura State Forest Development Agency, Tripura Housing Board
A.3	Collection and Disposal e-wastes from existing building.	• E-wastes generated from demolition of existing structures/buildings will be collected and disposed to TSPCB/ CPCB authorised e-waste recyclers as per E-waste management Rules, 2016.	ESS 1, ESS 3 and ESS4	Project preparatory team / beat office in collaboration with JFMCs/EDCs	PMU/ PMC, Tripura State Forest Development Agency, Tripura Housing Board
A.4	Labour facilities	• At labour camp, the contractor shall provide well ventilated accommodations, bath rooms, food cooking facilities, toilets, etc as per The Construction Workers' (Regulation of Employment and Conditions of Service) Act, 1996	ESS 1, ESS 2	Project preparatory team / beat office in collaboration with JFMCs/EDCs	PMU/ PMC, Tripura State Forest Development Agency ,Tripura Housing Board
A.5	Other Construction Vehicles, Equipment and Machineries	• All vehicles, equipment and machinery to be procured for construction work will conform to the relevant Bureau of Indian Standard (BIS) norms/ CPCB standards. The discharge standards promulgated under the Environment Protection Act, 1986 and Motor Vehicles Act, 2019 will be strictly adhered to. • Acoustic enclosure fitted low noise DG set will be used at the project site as per regulations. • The contractor shall maintain records of Pollution under Control (PUC) certificates for all vehicles used during the contract period, which will be produced to PMC for verification whenever required.	ESS 1, ESS 3 and ESS4	Project preparatory team / beat office in collaboration with JFMCs/EDCs	PMU/ PMC, Tripura State Forest Development Agency, Tripura Housing Board

A.6	Labour Requirement	• The contractor preferably will use unskilled/ semiskilled/ skilled labour from local area to give the maximum benefit to the local community.	ESS 2	Project preparatory team / beat office in collaboration with JFMCs/EDCs	PMU/ PMC, Tripura State Forest Development Agency, Tripura Housing Board
A.7	Appointment of Environment & Safety Officer	• The contractor shall appoint qualified and experienced Environment & Safety Officer (ESO), who will dedicatedly work and ensure implementation of EMP including occupational health and safety issues at the camp, plant and construction work sites.	ESS 1, ESS 3	Project preparatory team / beat office in collaboration with JFMCs/EDCs	PMU/ PMC, Tripura State Forest Development Agency, Tripura Housing Board
III.	**Construction Stage**				
B	**Construction Work**				
B.1	Site clearance	• As far as possible, the ecotourism facilities will be planned on degraded land. • Nature based solution and green infrastructure will be promoted under the project, like tents, wood/bamboo huts etc. • Minimum clearance and grubbing activity will be done for the site development. • Big tree cutting will be avoided wherever possible, and creative eco-friendly beatification and landscaping techniques will be encouraged whenever possible.	ESS 1, ESS 6	Project preparatory team / beat office in collaboration with JFMCs/EDCs	PMU/ PMC, Tripura State Forest Development Agency,
B.2	Top Soil from construction area	• Top soil (upper 30cm earth layer) from construction area will be preserved and to be later used for landscaping.	ESS 1, ESS 3	Project preparatory team / beat office in collaboration with JFMCs/EDCs	PMU/ PMC, Tripura State Forest Development Agency

B.3	Disposal of Surplus Earth & waste from site	• Earth excavated at construction site will be used for filling at the site. Surplus earth will be collected and transported to pre identified disposal area. • Disposal of food waste from camp/labour area should be decomposed in OWC or vermicomposting method. • The construction site should not be cluttered with materials such as wooden blocks, plastic, food waste, or neglected leftovers; these items should be removed regularly.	ESS 1, ESS 3	Project preparatory team / beat office in collaboration with JFMCs/EDCs	PMU/ PMC, Tripura State Forest Development Agency
B.4	Barricading of construction zone	• The construction site will have hardbarricadeswith safety sign boards.	ESS 1, ESS3,	Project preparatory team / beat office in collaboration with JFMCs/EDCs	PMU/ PMC, Tripura State Forest Development Agency
B.5	Transportation of Construction Materials	• All vehicles delivering construction materials to the site shall be covered to avoid spillage of materials and air pollution. • The unloading of construction materials at the construction sites will be limited to day time only to avoid accidents. • Screens of hessian cloth, agro-net and such other barricading materials are to be erected around stock piling sites, so that generation of the dust in the vicinity of construction site can be minimised to a great extent.	ESS 1, ESS 3	Project preparatory team / beat office in collaboration with JFMCs/EDCs	PMU/ PMC, Tripura State Forest Development Agency

B.6	Water Pollution from Construction Wastes / camp	• The contractor/ Project preparatory team shall take all precautionary measures to collect and dispose-off construction wastes/debris generated from construction site. • All solid or hazardous wastes (if any) will be collected and disposed in environmental sound manner. • Proper mobile or fixed toilets fitted with septic tank will be provided at camp and construction sites. • No storage of construction Material within 100 m of water body, pond will be done to avoid the water pollution and subsequently impact the aquatic life.	ESS 1, ESS 3	Project preparatory team / beat office in collaboration with JFMCs/EDCs	PMU/ PMC, Tripura State Forest Development Agency
B.7	Dust and Gaseous Pollution	• Mitigation measures would principally include storing of materials/earth stockpiles at designated places, sprinkling of water into the materials stockpiles and limited period of storage at each construction zone. • Watering frequency during periods of high risk (*e.g.,* high winds and sunny days) shall be increased to twice a day. • LPG will be used as fuel for cooking of food at construction labour camp instead of used of fuel wood. • Vehicles transporting garbage & demolition wastes, earth, sand, aggregate, etc. will be covered with tarpaulin sheets to control windblown dust from vehicles.	ESS 1,ESS 2 ESS 3	Project preparatory team / beat office in collaboration with JFMCs/EDCs	PMU/ PMC, Tripura State Forest Development Agency

B.8	Emissions from Construction Vehicles, Equipment and Machineries	• The contractor will ensure that all vehicles, equipment and machineries to be used for construction works are regularly maintained and confirm that pollution emissions levels comply with the relevant emissions requirements of CPCB and/Motor Vehicles Rules. The contractor will submit PUC certificates for all vehicles used for the sub project. • DG set will be provided a chimney with vertical opening having adequate height as per CPCB guidelines (Height of stack in meter = Height of the building + 0.2 √KVA).	ESS 1,ESS 2 ESS 3	Project preparatory team / beat office in collaboration with JFMCs/EDCs	PMU/ PMC, Tripura State Forest Development Agency
B.9	Noise Levels from Vehicles, Plant and Equipment	• The contractor will ensure the following: • All construction activities shall be restricted to day time hours only. • The plants and equipment used in construction (including those of sub-Contractors) shall strictly conform to the MoEF&CC /CPCB noise standards and shall have latest noise suppression mountings. • All vehicles and equipment used in construction work will be fitted with muffler or silencers. • Only acoustic enclosures fitted DG set will be allowed at the construction site and camp site.	ESS 1,ESS 2 ESS 3	Project preparatory team / beat office in collaboration with JFMCs/EDCs	PMU/ PMC, Tripura State Forest Development Agency

B.10	Safety of Workers	• The contractor will make sure that during the construction works all relevant provisions of the Building and Other construction workers (regulation of employment and conditions of services) Act 1996 and Labour Management Procedures are adhered to. • The contractor will comply with all the precautions as required for ensuring the safety of the workers as per the country' labour regulations and International Labour Organisation (ILO) Convention No-62 as far as those are applicable to this contract.	ESS 2	Project preparatory team / beat office in collaboration with JFMCs/EDCs	PMU/ PMC, Tripura State Forest Development Agency
B.11	Occupational Health and Safety at the Work Sites.	• The safety procedures for specific jobs will be prepared and implemented. • Required Personal Protective Equipment (PPE) will be provided by the contractor to the workers engaged in construction works. • Required warning signs, barricades, etc. will be provided by the contractors. • Proper barricading will be provided along the construction site.	ESS 1, ESS 2	Project preparatory team / beat office in collaboration with JFMCs/EDCs	PMU/ PMC, Tripura State Forest Development Agency

B.12	Impact on Fauna	• Animal rescue team should be available at the construction site. • No poaching of animal of the area and also rare and vulnerable species should be done • The Forest Beat Office will keep watch on the entire region and the same JFMCs. Members of EDMCs should exercise caution. • Daily records should be kept of animal movement monitoring, safe construction activities, incident reporting, fire accidents, poaching, etc.	ESS 1, ESS 6	Project preparatory team / beat office in collaboration with JFMCs/EDCs	PMU/ PMC, Tripura State Forest Development Agency
C.	**Operation Phase**				
C.1	Overcrowding and Visitor Pressure	• Prepare and implement a carrying capacity plan that limits the number of visitors to a sustainable level, ensuring that it does not exceed the ecosystem's capacity to handle human activity. • Develop and enforce visitor management strategies, including trail systems, designated areas, and timed entry permits, to distribute the visitor flow and minimize impacts on sensitive areas. • Educate visitors about responsible behaviour, including proper waste disposal, staying on designated paths, and respecting wildlife.	ESS 1	Project preparatory team / beat office in collaboration with JFMCs/EDCs	PMU/ PMC, /FDA Tripura State Forest Development Agency

C.2	Local resource Depletion	• Promote sustainable resource management practices, such as water conservation measures, energy-efficient infrastructure, and renewable energy sources. • Encourage the use of local and seasonal produce to reduce the environmental footprint associated with food transportation. • Engage with local communities to establish sustainable fishing or farming practices that support the needs of both ecotourism and local livelihoods.	ESS3	Project preparatory team / beat office in collaboration with JFMCs/EDCs	PMU/ PMC, /FDA Tripura State Forest Development Agency
C.3	Pollution and Waste Generation	• Implement effective waste management systems, including recycling, composting, and proper disposal facilities, to minimize pollution from solid waste from ecotourism sites, pantry, log huts etc. • Plastic waste will be avoided by using alternate material in place of plastic ones wherever required • Encourage the use of eco-friendly products and packaging within the ecotourism project and promote responsible consumption practices among visitors. • Promote environmentally friendly transportation options, such as electric vehicles or shared transportation, to reduce emissions.	ESS3	Project preparatory team / beat office in collaboration with JFMCs/EDCs	PMU/ PMC, /FDA Tripura State Forest Development Agency
C.4	Climate change	• Raise awareness among visitors about climate change and encourage them to minimize their carbon footprint during their stay and when traveling. • implement carbon offset programs to compensate for the project's emissions, invest in renewable energy projects, or support local conservation initiatives.	ESS3	Project preparatory team / beat office in collaboration with JFMCs/EDCs	PMU/ PMC, /FDA Tripura State Forest Development Agency

C.5	Disturbance to Wildlife	• Establish guidelines and regulations for wildlife interaction, ensuring that visitors maintain a safe distance and do not disturb or feed animals. • Educate visitors about wildlife conservation and the importance of respecting wildlife habitats and behaviours. • Implement wildlife monitoring programs to track the impacts of tourism activities and adjust management strategies accordingly.	ESS 6	Project preparatory team / beat office in collaboration with JFMCs/EDCs	PMU/ PMC, /FDA Tripura State Forest Development Agency
C.6	Displacement of Local Communities	• Involve local communities in the planning, decision-making, and management of ecotourism projects. Empower them to actively participate, benefit, and contribute to the development process. • Train local community as nature guide, tourist guide, management committee in maintaining the ecotourism area and its aesthetics.	ESS 4	Project preparatory team / beat office in collaboration with JFMCs/EDCs	PMU/ PMC, /FDA Tripura State Forest Development Agency
C.7	Cultural Exploitation	• Promote cultural sensitivity and respect for local traditions, customs, and practices. Ensure that cultural experiences are authentic, respectful, and mutually beneficial for both tourists and local communities.	ESS8	Project preparatory team / beat office in collaboration with JFMCs/EDCs	PMU/ PMC, /FDA Tripura State Forest Development Agency
C.8	Unequal Distribution of Economic Benefits	• Foster inclusive business models that provide fair economic benefits to local communities. Encourage community-based enterprises, training programs, and local employment opportunities to ensure that the economic benefits are shared more equitably.	ESS 1	Project preparatory team / beat office in collaboration with JFMCs/EDCs	PMU/ PMC, /FDA Tripura State Forest Development Agency

C.9	Loss of Traditional Knowledge and Practices:	• Recognize and value traditional knowledge and practices. • Encourage the transmission of cultural heritage from older generations to younger ones, while simultaneously promoting cultural exchange and learning between tourists and locals. • Train community people member JFMC/EDC/BMCs to maintain the knowledge sharing	ESS 1	Project preparatory team / beat office in collaboration with JFMCs/EDCs	PMU/ PMC, /FDA Tripura State Forest Development Agency
C.10	Changes in Social Dynamics	• Conduct thorough Social due diligence prior to project implementation to identify potential issues and develop appropriate mitigation strategies. • Regular monitoring and evaluation can help address emerging social concerns and adapt project activities accordingly.	ESS 5	Project preparatory team / beat office in collaboration with JFMCs/EDCs	PMU/ PMC, /FDA Tripura State Forest Development Agency

Generic Indicative Environmental and Social Management Plan (ESMP) for Nursery &Plantation, Soil and moisture control activities under ELEMENT

Sr. No.	Environmental Impacts and Issues	Mitigation Measures and/or Safeguards	Applicability of ESS of WB	Responsibilities	
				Planning and Execution	Supervision/ Monitoring
A.	Pre-Construction Stage				
A.1	Site Selection: Inappropriate site selection may lead to lesser yield and loss. Growing areas must not be affected by shade from surrounding trees or buildings. During the site evaluation process, nursery developers should calculate the total amount of irrigation water that will be required per season or year.	Suitable land selection should be done as per the plant species requirements. Tree planting should be done along the contours in either continuous or discontinuous trenches depending on local vegetation, terrain, soil type, land tenure and local requirements. The productivity of government, village common /private land, forest land and waste lands should be increased through afforestation / reforestation.	ESS3, ESS6	Beat Officer/ Green Mitras-JFMCs/EDCs	PMU/PMC, Tripura State Forest Development Agency, Tripura Forest Department
B.	Operation Stage				
B.1	Land Preparation: Disruption of hydrological cycle. Large-scale soil disturbance during nursery operations, such as land preparation or digging, can lead to soil erosion if proper erosion control measures are not implemented. Additionally, continuous cultivation of plants in the same area can deplete soil nutrients and reduce soil fertility over time.	Preserve surface water hydrology, surface water quality or water resource within or adjacent to project. Abide to the existing rules and regulations Implement erosion control measures, such as mulching or cover cropping, to minimize soil erosion during nursery operations. Rotate plant cultivation to prevent soil nutrient depletion and improve soil health. Grass planting should be carried out in shallow trenches and ridges	ESS3, ESS6	Beat Officer/ Green Mitras-JFMCs/EDCs	PMU/PMC, Tripura State Forest Development Agency, Tripura Forest Department
B.2	Storage and Handling of Pesticide & fertilizer.	All pesticides & fertilizer should be stored in a locked, bonded container or store		Beat Officer/ Green Mitras-	PMU/PMC, Tripura State Forest

Sr. No.	Environmental Impacts and Issues	Mitigation Measures and/or Safeguards	Applicability of ESS of WB	Responsibilities	
				Planning and Execution	Supervision/ Monitoring
		with enough space to catch any spillage without contaminating the surroundings. Stores should be located distant from water sources, residential and built-up areas, livestock and food storage sites, and so on. All pesticides & fertilizer should be kept in their original, labelled containers, and storage instructions should always be followed. Keep a record of any pesticides & fertilizer purchased, recording when they were obtained, the quantity that was used, how much was left in the store, and where they were stored. Keep Safety Data Sheet (SDS) at appropriate locations in storage facilities. Warehouses must be well ventilated, have secondary containment, and have emergency showers and kits.		JFMCs/EDCs	Development Agency, Tripura Forest Department
B.3	Use of chemical Fertilizer and pesticides.	• Banned pesticide as under Government of India and WHO shall be strictly prohibited. • Use of suitable fertilizer with a prescribed dose limit (guidance shall be obtained from Agriculture Department). • A combination of organic and inorganic fertilizer should be promoted. • Promoting the use of bio-	ESS3, ESS4, ESS6	Beat Officer/ Green Mitras- JFMCs/EDCs	PMU/PMC, Tripura State Forest Development Agency, Tripura Forest Department

Sr. No.	Environmental Impacts and Issues	Mitigation Measures and/or Safeguards	Applicability of ESS of WB	Responsibilities	
				Planning and Execution	Supervision/ Monitoring
		fertilizer and vermicompost. • Training on IPM should be facilitated to farmer to make them aware of the hazards of fertilizer and other alternative climate resilient methods. • Integrated pest management plan should be prepared and referred if required with respect to the proposed Project Interventions and accordingly the suggested mitigation/ management measures should be adopted. • Use of protective equipment (PPE) for pesticide & fertilizer applicator.			
B.4	Selection of plant species	• Selection of high productive native species should be promoted. Large scale introduction of alien species must be avoided. • Selection of suitable plant species with respect to area/ zone should be adopted. • Species should be encouraging which gives biodiversity richness to the region based on prevailing climatic condition. • Such species should be selected /recommended from concerned	ESS3, ESS6	Beat Officer/ Green Mitras-JFMCs/EDCs	

Sr. No.	Environmental Impacts and Issues	Mitigation Measures and/or Safeguards	Applicability of ESS of WB	Responsibilities	
				Planning and Execution	Supervision/ Monitoring
		PIUs.			
B.5	Water consumption	• Implement water-efficient irrigation systems, such as drip and sprinkler irrigation to minimize water consumption. Proper scheduling and monitoring of irrigation practices can also help optimize water use. Rainwater harvesting techniques should be promoted,	ESS3	Beat Officer/ Green Mitras-JFMCs/EDCs	PMU/PMC, Tripura State Forest Development Agency, Tripura Forest Department
B.6	Energy consumption	• Adopt energy-efficient practices and technologies, such as energy-efficient lighting systems, water pump, insulation, and renewable energy sources, to reduce energy consumption and associated greenhouse gas emissions.	ESS3	Beat Officer/ Green Mitras-JFMCs/EDCs	PMU/PMC, Tripura State Forest Development Agency, Tripura Forest Department
B.7	Waste generation	• Promote recycling and reuse of nursery materials, such as pots and packaging, to minimize waste generation. Proper disposal methods for plant debris and hazardous materials should be followed, adhering to regulations. • Plant residues should be promoted for other beneficial purposes such as animal feed, bedding, thatching etc.	ESS3	Beat Officer/ Green Mitras-JFMCs/EDCs	PMU/PMC, Tripura State Forest Development Agency, Tripura Forest Department
B.8	Health and hygiene	Proper sanitation facility/blocks should be provided at nurseries Health and safety of workers in terms of shed, potable water, sanitation, first Aid,	ESS 2	Beat Officer/ Green Mitras-JFMCs/EDCs	

Sr. No.	Environmental Impacts and Issues	Mitigation Measures and/or Safeguards	Applicability of ESS of WB	Responsibilities	
				Planning and Execution	Supervision/ Monitoring
		mosquito net, bedding etc. basic facilities as per BOCW Act 2006 to be provided.			

1. **Appropriateness of Land Donation:** Land donation is, generally, only suitable for community driven projects where the community (and each member owning or using the land) wishes to provide small amounts of land to support initiatives that will benefit the community. This is an important point to bear in mind in assessing whether voluntary donation is appropriate. The donation of land for medium to large scale infrastructure, particularly in cases where a government agency or entity that has a statutory obligation to provide the infrastructure and/or services for which the land is required, is not appropriate. Voluntary donation should be used only to support small scale community infrastructure where impacts are minor, and the community is expected to directly benefit from the assets created on these lands.

2. **Negative impact:**
    - limit any potential harm associated with a proposed voluntary donation. These include that: (a) the proportion of land donated by any individual cannot exceed 10 percent of the potential donor's land holding; and (b) the donation of land will not cause any physical relocation, c) owners have willingly and voluntarily consented to provide the land.
    - in some cases of VLD, the donor of the land may request compensation or other benefits to be paid as a condition of the land transfer not in connection to the transfer of the land itself, but in relation to structures or other fixed assets on the land. This can lead to conflict with other individuals also donating land, and has the potential to undermine the VLD process. A donor may also agree to transfer only part of the land required. Such requests need to be carefully evaluated at the outset and, if agreed, documented appropriately.
    - Due diligence and consultation is important. It is often not possible to implement the VLD unless adequate information is gathered regarding owners, users/ tenants/ those dependent on those land, legal requirements and community practices, and is available at the outset. Such information is important to ensure that the voluntary land donation is sustainable and occurs without causing conflict in the community. In some circumstances, disputes can arise between the owner of the land, who wishes to donate, and the user(s), who do not; such issues need to be resolved in a transparent and equitable manner.

3. **Assessment that land is voluntarily donated:** It is necessary to focus on whether the owner(s) or user(s) of the land fully understand:

- What the land is going to be used for, by whom and for how long;
- That they will be deprived of the ownership or right to use the land, and what this really means;
- That they have a right to refuse to donate the land;
- Whether there are proposals which would allow other land to be used;
- What they will need to do to donate the land, and what costs are involved;
- The effect of the donation on their family, what they can do if they (or their family or heirs) want the land back.

4. **<u>Principles of VLD:</u>**

A. Determine and document that VLD is appropriate in the circumstances of the project.

The team should record the reasons why it thinks that the donation of land is appropriate for the project. In certain cases, only some of the land the project requires will be donated or alternatives to land donation exist. The project team should identify (in as much detail as possible):

- What the land will be used for;
- How much land the project will require on both a permanent and temporary basis;
- How much of the land will be donated;

- What alternatives to donation exist (e.g., right of use, right of way);
- The terms of the donation;
- The identities of the parties who intend to donate and their extent of awareness about the VLD procedure;
- The beneficiary of the donation; and
- Any details that are relevant to why donation may be appropriate.

B. Verify the requirements to transfer, and formalise the transfer of, the land

It is important to understand the process that should be followed to transfer the land, and appropriate ways to formalize the transfer to achieve certainty for both the transferee of the land and the project. This will require consideration of the legal and administrative requirements but also, particularly in the case of customary land, local and community processes. In some cases, these will constitute two different, but parallel (and overlapping) systems and a process will have to be established to ensure that the requirements of each system are satisfied. An important consideration will be how transparent the process and the decision-making process is, and what can be done to enhance the process.

C. Conduct due diligence on who owns and uses the land

Given the specific issues surrounding land ownership and use, it is important that the project team carries out careful due diligence to understand the type of land rights that exist in the project area, and to identify any issues relating to land ownership and use. Thereafter, a more specific due diligence must be conducted on each parcel of land proposed for donation to identify:

- The owner or owners of the land;
- The users of the land, or any parties that occupy the land (either physically or through ownership of an asset or conduct of livelihood or business activities on the land);
- Any competing claims of ownership or use;
- Structures and assets on the land;
- Any encumbrances on the land.

It is important to: (a) identify the right that is being transferred (an ownership right, a use right, a right of way, etc.); and (ii) check whether the transferee has the right s/he claims to have. In many circumstances where careful due diligence has not been carried out, significant conflict has arisen at a later stage when another party claims that they have the same or a competing right. In some circumstances – but not all – the transferee will have documentary evidence of such right. Where no such evidence exists, the due diligence can establish customary rights by speaking with local community leaders and neighbours.

D. Disclosure and Consultation

The decision to donate must be taken based on a full understanding of the project and the consequences of agreeing to donate the land. Accordingly, the parties that will be affected by the donation (the owners and users of the land) must be provided with accurate and accessible information regarding what the land will be used for, for how long, and the impact the donation will have on them and their families. It is important that prior written notification indicating the location and amount of land that is sought be provided and that its intended use for the project is disclosed and sufficient time is provided to the owners to arrive at a decision.

Where the intention is to deprive the parties affected by the donation of the land permanently, or for a significant length of time, this must be made clear. It should be noted that in many communities the concept of alienation of land is uncommon and difficult to understand, and care needs to be taken to ensure that the implications of this are fully understood. It is also important to decide who else should be consulted about the proposed donation; for example, spouses and older children.

There should be a clear agreement as to which party will pay the costs associated with the donated land. This could include measurement costs, documentation and notarial fees, transfer taxes, registration fees. It should also include the costs of re-measuring/re-titling the transferee's remaining land and any new documentation relating to it.

E. Establishing Informed Consent

It is crucial that the project team is confident that the decision to donate was taken in circumstances of informed consent or power of choice. The right to refuse must be a legitimate right, unconditional, and the potential transferee must be capable of exercising it in the local community and political context. For this reason, it is important to be sure that the decision to donate is undertaken without coercion, manipulation, or any form of pressure on the part of public or traditional authorities. For collective or communal land, donation must be based upon the informed consent of all individuals using or occupying the land.

F. Documentation

It is necessary to distinguish between: (a) the agreement to donate the land; and (b) the document that carries out and evidences the legal transfer of the land. While it is important to have evidence of an intention and agreement to donate the land, it is equally important to ensure, where required and appropriate, that the land is legally transferred. While the process relating to the legal transfer of the land is frequently complicated and time consuming, it must be addressed. [In specific circumstances, for example where the land is being transferred to the community, it may not be necessary to legally transfer the land. However, experience indicates that lack of formal transfer can create significant uncertainty in the future, which impacts on the sustainability of the infrastructure and services and can have a negative effect on community relations.]

The project team should:

- Identify the appropriate documentation, including the agreement to make the transfer and any legal documentation that may be required;
- Ensure that the agreement:
  - Refers to the consultation has taken place;
  - Sets out the terms of the transfer;
  - Confirms that the decision to transfer was freely made, and was not subject to coercion, manipulation, or any form of pressure;
  - Attaches an accurate map of the land being transferred (boundaries, coordinates);
  - Sets out who will bear the costs of the transfer (e.g., notarial fees, taxes, title issues) and documenting the residual land rights;
- Ensure that all necessary parties sign the documents, including obtaining consent from spouses and children over a certain age;
- Ensure that the transfer and title (gift deed) is registered or recorded; and
- Ensure that the land remaining after the donated land is excised is properly titled, registered or recorded.

It is also important to maintain a record of the process that has been followed, which includes records of consultations that were held, copy of the due diligence that was conducted, formal statements of donation, establishing informed consent and documents, registrations or records evidencing the legal transfer.

G. Grievance Arrangements

The project specifies means by which donors (and, potentially, persons whose use or occupancy was not recognized in the transfer of land) may raise grievances, and measures to ensure consideration of, and timely response to, grievances raised. The grievance process includes

participation of reviewers not directly affiliated with the project implementing agency. Grievances may be referred to customary conflict mediation arrangements where they are not directly affiliated with traditional leaders who are a party to the donation process. Alternatively, grievances may be referred to grievance mechanisms established for project purposes. The grievance process imposes no cost upon those raising grievances, and participation in the grievance process does not preclude pursuit of legal remedies under the laws of the country.

5. VLD Protocol Checklist

- The checklist should be used by TT to check the completeness of the VLD Protocol.
- A complete VLD Protocol will have the following minimum contents:

Contents of the VLD Protocol	**Yes**	**No**	**Remarks**
✓ Clear justification provided on the appropriateness of VLD in the project context			
✓ Explanation of the requirements of the donation and the formalization of the donation			
✓ Clear and detailed due diligence on the owners and users of land donated			
✓ Clear and detailed consultation and disclosure arrangements			
✓ Steps taken to establish informed consent of the person donating the land explained in detail			
✓ Details on documentation of the legal transfer of land donated provided			
✓ Detailed and appropriate grievance redress mechanism established			

Annexure 8: Form B as per World Bank ESIRT Guidelines 2023

To be completed by Borrower within 24 hours

B1: Incident Details			
Date of Incident:	**Time:**	**Date Reported to PIU:**	**Date Reported to WB:**
Reported to PIU by:	**Reported to WB by**:	**Notification Type**: Email/'phone call/media notice/other	
Full Name of Main Contractor:		**Full Name of Subcontractor**:	

B2: Type of incident (please check all that apply)[1]

Fatality ☐ Lost Time Injury ☐ Displacement Without Due Process ☐ Child Labor ☐ Acts of Violence/Protest ☐ Disease Outbreaks ☐ Forced Labor ☐ Unexpected Impacts on heritage resources ☐ Unexpected impacts on biodiversity resources ☐ Environmental pollution incident ☐ Dam failure ☐ Other ☐

[1]See Annex 1 for definitions

B3: Description/Narrative of Incident

Please replace text in italics with brief description, noting for example:

I. *What is the incident?*
II. *What were the conditions or circumstances under which the incident occurred (if known)?*
III. *Are the basic facts of the incident clear and uncontested, or are there conflicting versions? What are those versions?*
IV. *Is the incident still ongoing or is it contained?*
V. *Have any relevant authorities been informed?*

B4: Actions taken to contain the incident

Short Description of Action	Responsible Party	Expected Date	Status

For incidents involving a contractor:

Have the works been suspended (for example, under GCC8.9 of Works Contract)? Yes ☐; No ☐;

Trading name of Contractor (if different from B1):

Please attach a copy of the instruction suspending the works.

B5: What support has been provided to affected people

Incident Types

The following are incident types to be reported using the environmental and social incident response process:

Fatality: Death of a person(s) that occurs within one year of an accident/incident, including from occupational disease/illness (e.g., from exposure to chemicals/toxins).

Lost Time Injury: Injury or occupational disease/illness (e.g., from exposure to chemicals/toxins) that results in a worker requiring 3 or more days off work, or an injury or release of substance (e.g., chemicals/toxins) that results in a member of the community needing medical treatment.

Acts of Violence/Protest: Any intentional use of physical force, threatened or actual, against oneself, another person, or against a group or community, that either results in or has a high likelihood of resulting in injury, death, psychological harm, deprivation to workers or project beneficiaries, or negatively affects the safe operation of a project worksite.

Disease Outbreaks: The occurrence of a disease in excess of normal expectancy of number of cases. Disease may be communicable or may be the result of unknown etiology.

Displacement Without Due Process: The permanent or temporary displacement against the will of individuals, families, and/or communities from the homes and/or land which they occupy without the provision of, and access to, appropriate forms of legal and other protection and/or in a manner that does not comply with an approved resettlement action plan.

Child Labor: An incident of child labor occurs: (i) when a child under the age of 14 (or a higher age for employment specified by national law) is employed or engaged in connection with a project, and/or (ii) when a child over the minimum age specified in (i) and under the age of 18 is employed or engaged in connection with a project in a manner that is likely to be hazardous or interfere with the child's education or be harmful to the child's health or physical, mental, spiritual, moral or social development.

Forced Labor: An incident of forced labor occurs when any work or service not voluntarily performed is exacted from an individual under threat of force or penalty in connection with a project, including any kind of involuntary or compulsory labor, such as indentured labor, bonded labor, or similar labor-contracting arrangements. This also includes incidents when trafficked persons are employed in connection with a project.

Unexpected Impacts on heritage resources: An impact that occurs to a legally protected and/or internationally recognized area of cultural heritage or archaeological value, including world heritage sites or nationally protected areas not foreseen or predicted as part of project design or the environmental or social assessment.

Unexpected impacts on biodiversity resources: An impact that occurs to a legally protected and/or internationally recognized area of high biodiversity value, to a Critical Habitat, or to a Critically Endangered or Endangered species (as listed in IUCN Red List of threatened species or equivalent national approaches) that was not foreseen or predicted as part of the project design or the environmental and social assessment. This includes poaching or trafficking of Critically Endangered or Endangered species.

Environmental pollution incident: Exceedances of emission standards to land, water, or air (e.g., from chemicals/toxins) that have persisted for more than 24 hrs or have resulted in harm to the environment.

Dam failure: A sudden, rapid, and uncontrolled release of impounded water or material through overtopping or breakthrough of dam structures.

Other: Any other incident or accident that may have a significant adverse effect on the environment, the affected communities, the public, or the workers, irrespective of whether harm had occurred on that occasion. Any repeated non-compliance or recurrent minor incidents which suggest systematic failures that the task team deems needing the attention of Bank management.