Minutes of Discussions for

The Project for Forest and Biodiversity Conservation for Climate Change Response in West Bengal between

Japan International Cooperation Agency and Department of Forests, Government of West Bengal (WBFD)





Funded by Japanese ODA Loan as a
Token of Friendship and Cooperation
between
Japan and India
(Completion Year: 2031)







(Volume-II)

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Attachment 4

Terms of Reference for the Consulting Service

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Draft ToR for Project Management Consultant for WB-FBCCCR

Terms of Reference for Project Management Consultant for the Project for Forest and Biodiversity Conservation for Climate Change Response in West Bengal

DRAFT

Chapter 1. Background

- The Government of West Bengal has received a loan from the Japan International Cooperation Agency (hereinafter referred to as "JICA") to finance the Project for Forest and Biodiversity Conservation for Climate Change Response in West Bengal (hereinafter referred to as "the Project") which is to enhance sustainable management of ecosystems in the diverse landscapes in the state.
- The outline of the Project is as follows:
- Executing Agency: Project Management Unit (PMU) for the Project, Project for Forest and Biodiversity Conservation for Climate Resilience Enhancement in West Bengal.
- Location of the Project:

Territorial Divisions: Jalpaiguri, Baikunthapur, Kurseong, Darjeeling, Kalimpong, Cooch Behar, Raiganj, Nadia-Murshidabad, Birbhum, Purulia, Kangsabati (North), Kangsabati (South), Jhargram, Medinipur, Rupnarayan, Bankura (South), Bankura (North), Panchet, Burdwan, Durgapur, Kharagpur, North and South 24 Parganas

Wildlife Divisions: Darjeeling WL, Gorumara WL, Jaldapara WL, Buxa Tiger Reserve (East), Buxa Tiger Reserve (West), Sundarban Tiger Reserve

Other Divisions: Purulia Extension Forestry and two Silviculture divisions viz. Silviculture (North) & Silviculture (Hills) and 2 Monitoring Divisions viz. Monitoring North and Monitoring South are included.

- The Project is expected to be completed by March 2031.
- At this moment, the Project is expected to comprise of the following components:

Components	Main Activities to be Implemented ¹
Component 1:	1) Upgrading of central nursery
Ecosystem-based	2) Production of quality planting materials
Cliamte Change	3) Creation of new seed production area and maintenance 4) Preparation of Range Forest Project Implementation Plan
Measures	(RFIP)
	5) Assisted Natural Regeneration (ANR) of degraded Sal forests
	(coppicing) 6) Plantation in Degraded Forest Areas
	7) Tree Plantation Outside of Forest Areas (TPOFA)
	8) Eco-DRR activities to strengthen forestry operation ²

¹ Activities have been planned in three landscapes of Hills and North Bengal, Dry Lateritic & Alluvial and Deltaic. Combinations of activities to be implemented in each landscape will vary to address the issues that are specific to each landscape.

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² Dry Lateritic & Alluvial and Deltaic landscapes only

Species Conservation Programme Studies on Wild animals and their behaviour Species Conservation Programme Studies on Wild animals and their behaviour Biodiversity conservation through people's participation in protected area Species Conservation through people's participation in protected area Species Conservation through people's participation for smaller mammals Preparatory activities with JFMCs Community mobilisation Reorganisation/ reconstitution of JFMCs and confirmation and demarcation of JFMC forest boundaries Familiarisation of Project to JFMC Micro planning EPA/CDA Support for income generation Support for community well-being (promotion of traditional healers) Strengthening Strengthening Project Management Capacity Development Strengthening Strengthening Evaluation including improvement of MIS & GIS utilisations and use of UAV based monitoring Publicity and Publications Publications Strengthening Publications Publications			
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4) Research			
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5) Publicity and Publications			
		5) Publicity and Publications	

- The Government of West Bengal intends to use a part of the proceeds of the loan for eligible payments for consulting services for which this ToR is issued.
- Technical information: available relevant basic data and studies, technical standard or specifications to be used, etc.
- Related projects: None.

Chapter 2. Objectives of Consulting Services

The consulting services shall be provided by an international consulting firm (hereinafter referred to as "the Consultant") in compliance with Guidelines for the Employment of Consultant under Japanese ODA Loans, April 2012. The objective of the consulting services is to assist the Project Management Unit of the Project (hereinafter referred to as PMU) established at the Project in implementation of the project activities by providing the following services:

- (1) Assistance in the management of the project
- (2) Technical assistance in the implementation of the project components/activities in an efficient and effective manner
- (3) Facilitation of implementation of Environmental and Social Assessment Framework (ESAF) and Vulnerable People's Planning Framework (VPPF)
- (4) Technology Transfer

Chapter 3. Scope of Consulting Services

(1) Assistance in the management of the project

The Consultant shall:

- (a) Assist PMU in managing the project in an effective and efficient manner
- (b) Assist PMU in periodical monitoring of the project activities with the monitoring formats and improving the project design, framework, and systems based on the monitoring data stored in the GIS-based monitoring system
- (c) Assist PMU in preparing annual work and budget plans based on the appropriate estimation of work quantity as well as unit costs of the respective inputs
- (d) Assist PMU in enhancing the capacity of stakeholders in forest and biodiversity conservation for enhancing climate change resilience
- (e) Assist PMU in procuring the necessary goods and services necessary for the project implementation
- (f) Assist PMU in the proper fund management and smooth communication/coordination with JICA
- (g) Assist PMU in providing guidance and orientation to PMUs, DMUs, FMUs and other specialized agencies for implementation of the projects
- (h) Assist PMU in preparing TORs for the project activities to be outsourced to the contractors
- (i) Assist PMU in monitoring and supervising the works undertaken specialized agencies to secure the expected outputs
- (j) Assist PMU in designing and developing information dissemination project materials
- (k) Assist PMU in monitoring the progress of the project, assessing the results and effects of the project activities, solving any issues and problems that might hinder the effective and efficient operations of the project, and draw lessons learned from the implementation of the project over the course of the project
- (l) Assist PMU in reporting and submitting plans to JICA for approval
- (2) <u>Technical assistance in the implementation of the project components/ activities in an efficient</u> and effective manner

The Consultant Shall:

- (a) Assist PMU in developing guidelines and manuals relevant to implementation of the project
- (b) Assist PMU in planning and implementation of Eco-DRR measures
- (c) Assist PMU in planning and implementation of biodiversity conservation measures
- (d) Assist PMU in preparation of manuals required JFMCs to execute Entry Point Activity/ Community Development Activities

- (e) Assist PMU in developing a sustainable financial management and business support system for SHGs
- (f) Assist PMU in establishing an integrated MIS/ web-GIS system, which should be designed in consistent with the WBFD system architecture and can be deployed to the WBFD activity area beyond the project target
- (g) Assist PMU in developing a "WBFD Digital Transformation Strategy" that encompasses a comprehensive concept and approaches on how to transform the WBFD's operations through the use of data and digital technologies and a co-creation mechanism with innovative digital solution providers
- (h) Assist PMU in executing "Proof of Concept" (PoC) activities that include, but not limited to, identifying appropriate use cases, developing a PoC plan, selecting an external partner(s) if necessary, implementing the PoC, reviewing a result, and reflecting lessons learnt to the DX strategy and approaches.
- (i) Assist PMU/DMUs/FMUs to strengthen their technical, managerial, and administrative capacities for implementation of project
- (j) Assist PMU in providing orientation, technical guidance, and advice to specialized agencies for the effective implementation of the project activities.
- (k) Assist PMU in monitoring the planning process of JFMCs
- (l) Assist PMU in preparing the phase-out strategies
- (m) Assist PMU in promoting collaboration with private sectors for maximizing impact of the Project

(3) <u>Facilitation of implementation of Environmental and Social Assessment Framework (ESAF) and Vulnerable People's Planning Framework (VPPF)</u>

The Consultant Shall:

- (a) Assist PMU in reviewing and updating the ESAF and VPPF.
- (b) Assist PMU in reviewing and supervising contractors' environmental protection/management plans to be prepared by contractors in accordance with the ESAF and make recommendations to PMU if any necessary amendments are essential for its approval.
- (c) Assist PMU in ensuring that the measures identified in the ESAF and VPPF are implemented.
- (d) Assist PMU in monitoring the effectiveness of ESAF and negative impacts on environment caused by the project activities and figuring out feasible solutions and measures so that PMU can improve situation when necessary.
- (e) Assist PMU in enhancing the capacity of DMU/ FMU staff on environmental management through hands-on training on environmental assessment techniques, mitigation measure planning, supervision and monitoring, and reporting.

(4) <u>Technology transfer</u>

The Consultant shall carry out the technology transfer as an important aspect in design and supervision works. The Consultant shall provide the opportunity to PMU officers and staffs to be involved in the working team of the Consultant during the implementation of the project activities. If requested by PMU, the Consultant shall demonstrate the necessary technical procedures. The consultant shall assist PMU and its staff to build their capacity as a part of on the job training under the Project.

Chapter 4. Expected Time Schedule

The total duration of consulting services will be 76 months. The implementation schedule expected is as shown in Table: 4-1.

Table: 4-1 Implementation Schedule Expected

Key Activities	Date	Duration in Months
Commencement of Consulting	1 st December 2023	-
Services		
Assistance in preparation of		
implementation plans and monitoring	1 st December 2023 – end of	
and procurement of necessary goods	April 2024	
and services		
Assistance in preparation of guidelines	1 st December 2023 – end of	
and manuals required for the project	April 2024	
activities		
Assistance in developing IGA fund	1 st November 2024 – 31 st	76
monitoring and business development	January 2030	
system		
Assistance in procurement of and		
technical guidance to the specialized		
agency for operationalizing the system		
Project Management related support	1st December 2023 – 31st	
Project Management related support	March 2030	
Termination of Consulting Services	31st March 2030	-

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Particulars	Q1	FY:			ı a		_	024 Q3	Q4	Q1		2025 Q3		Q		2 0		Q4		FY 2		 Q1	_	202		Q1		202	_	ı Q		20		24	Q1		2031 Q3		Q1		2032 Q3	2 3 Q4
Lan Agreement 04/2023 - 03/2033 (10 Years)															ļ									Ļ	L																ļ	Ļ
Project Period 04/2023 - 03 2031 (8 Years)				H	<u> </u>										İ		1							<u> </u>						+	ļ		+	+				-		l	T	
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Preparatory Phase 04/2023 - 03/ 2024 (12 months)																																										
Implementation Phase 04/2024 - 09/2029 (66 months)																																										
Phase-Out Phase 10/2029 - 3/2031 (18 months)																																										
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Component 4					-	-		-																	-		-	-	-	-		-		\blacksquare				-		Т	Т	

^{*}Component 1, 2, 3 will be implemented in batches.

Figure 4-1: Indicative Schedule

^{**} Component 4 will be implemented throughout the project period.

Chapter 5. Staffing

Two positions of Professional (A) consultants and eight positions of Professional (B) consultants will be engaged over 76 months' duration of consulting services for a total of 18 person-months for Professional (A) and 107 person-months for Professional (B) consultants.

(1) Qualification of key Team Members

The qualification of key Team Members is shown in Table: 5-1.

Table: 5-1 Qualification of key Team Members

	Table: 5-1 Qualification of key Team Members
Designation	Qualification
Community Resilience against Climate Change (Professional A)	 Education: Post Graduate in forestry, climate change, biodiversity conservation, or other related fields Experience: 8-10 years or more experiences in the field of sustainable forest management, ecosystem restoration, climate change resilience, Eco-DRR and any other projects of similar objectives in India and rest of the world Experiences of consulting services for more than 1 ecosystem restoration and management projects in India and other countries More than one experience in leading the donor funded projects/studies Language: Proficiency in English in writing and speaking is essential. Proficiency in Bengali and/ or Hindi (writing and speaking) would be an added advantage. Regional Experience: Familiarity and experience in countries similar to the landscapes of West Bengal would be an added advantage.
GIS/ MIS / DX (Professional A)	 Education: Master's Degree or higher in engineering, computer science, GIS/RS or equivalent Experience: General Strong analytical, problem-solving, and conceptual abilities System Architecture and Strategy Experience in developing strategic system architecture plans Experience with computer servers, network switches, load balancers, network analyzers, and network channel or data service units, with solid understanding of network and system development and deployment Experience with data processing fundamentals and utilization

Designation	Qualification
	■ MIS and GIS / Remote Sensing / UAV
	- Minimum 10 years of working experience in the field of MIS and RS/GIS
	- Work experience in designing and/operation of web based MIS for project
	management
	- Work experience in operation of web-GIS
	- Experience in using various RS and GIS software such as ESRI ArcGIS,
	ERDAS Imagine, eCognition, ENVI, and QGIS for forest/ecosystem
	management
	- Experience in UAV operation, data acquisition & processing for forest
	monitoring.
	- Work experience with field data collection (ground truthing) using GPS and/or
	mobile App - Detailed knowledge about MIS, GIS/RS technology, UAV in forestry
	sector
	■ Use case with PoC
	- Experience in identifying use cases to verify a given business model
	- Experience in planning, managing, and monitoring the PoC type of
	activities in forestry management, or with advanced technologies
	- Experience in collaboration with public and private sector
	stakeholders
	Language:
	- Proficiency in English in writing and speaking is essential.
	- Proficiency in Bengali and/ or Hindi (writing and speaking) would be
	an added advantage.
	Education:
	- Master's Degree or higher in engineering, computer science, GIS/RS or
	equivalent
	Experience:
	■ General
	- Strong analytical, problem-solving, and conceptual abilities
	System Architecture and Strategy
GIS/ MIS / DX	- Experience in developing strategic system architecture plans
(Professional B)	- Experience with computer servers, network switches, load balancers,
(network analyzers, and network channel or data service units, with
	solid understanding of network and system development and
	deployment
	- Experience with data processing fundamentals and utilization
	■ MIS and GIS / Remote Sensing / UAV
	- Minimum 10 years of working experience in the field of MIS and RS/GIS
	- Work experience in designing and/operation of web based MIS for project
	management

Designation	Qualification
	- Work experience in operation of web-GIS
	- Experience in using various RS and GIS software such as ESRI ArcGIS,
	ERDAS Imagine, eCognition, ENVI, and QGIS for forest/ecosystem
	management
	- Experience in UAV operation, data acquisition & processing for forest
	monitoring.
	- Work experience with field data collection (ground truthing) using GPS and/or
	mobile App
	- Detailed knowledge about MIS, GIS/RS technology, UAV in forestry
	sector
	■Use case with PoC
	- Experience in identifying use cases to verify a given business model
	- Experience in planning, managing, and monitoring the PoC type of
	activities in forestry management, or with advanced technologies
	- Experience in collaboration with public and private sector
	stakeholders
	Language:
	Proficiency in English and Bengali and/ or Hindi (writing and speaking).
	Education:
	- Post Graduate in forestry, biodiversity conservation, or other related fields
	Experience:
	- 15 years or more experiences in the field of sustainable forest management,
	ecosystem restoration, climate change resilience, Eco-DRR and any other
	projects of similar objectives in India and rest of the world
Team Leader/	- Experiences of consulting services for more than four ecosystem restoration and
Sustainable Forest	management projects in India and other countries
Management (Professional P)	- At least three experiences of leading a consultants' team as the Team Leader or
(Professional B)	the Co-Team Leader including one experience in a country other than India
	- More than one experience in leading the donor funded projects
	Language:
	- Proficiency in English in writing and speaking is essential.
	- Proficiency in English and Bengali and/ or Hindi (writing and speaking)
	Regional Experience:
	- Familiarity and experience in countries similar to the landscapes of West Bengal
	Education:
	- Post Graduate in Botany, Zoology, Biodiversity, Natural Resource Management
Biodiversity	or any other related field
Conservation	Experience:
(Professional B)	- 10 years or more experiences in biodiversity conservation (i.e. species
(Troicostollar D)	conservation and habitat improvement), human wildlife conflict, protected area
	management, ecosystem restoration and management projects or similar
	projects

Designation	Qualification
	- Experiences in working in the landscapes similar to West Bengal
	- Having wholistic working experience and expertise in coastal and inland
	landscapes and human wildlife conflict
	- Experiences in designing and implementing nature conservation activities
	- Experiences of consulting services for at least three biodiversity conservation
	projects
	Language:
	- Proficiency in English in both writing and speaking is essential.
	- Proficiency in English and Bengali and/ or Hindi (writing and speaking)
	Regional Experience:
	- Familiarity and Experience in South Asia would be an advantage.
	Education:
	- Post graduate degree in agricultural engineering, environmental engineering,
	civil engineering or any other relevant field
	Experience:
	- Experiences in procurement/ tender assistance for the client
	- Experiences in designing and working in projects of soil and water conservation
	structures, water harvesting, and any other infrastructures required for
	ecosystem restoration and biodiversity conservation
Soil/Water	- Experiences in O&M system for the infrastructures created
Conservation	- Experiences in training the asset owners in O&M
(Professional B)	- Experiences in working in more than 3 projects on forest management,
(Fiolessional B)	biodiversity conservation, community-based disaster reduction and prevention
	or any other projects of similar nature in India
	- Experiences in working in more than 1 donor supported project in India will be
	an added advantage
	Language:
	- Proficiency in English in writing and speaking is essential.
	- Proficiency in English and Bengali and/ or Hindi (writing and speaking)
	Regional Experience:
	- Familiarity and experience in South Asia, particularly in India.
	Education:
	- Post graduate degree in education, social science, human resource management,
	or any other relevant field
G ita	Experience:
Capacity	- Experiences in procurement/ tender assistance for the client
Development (Professional P)	- Experiences in designing and conducting training needs assessment
(Professional B)	- Experiences in learning outcome evaluation
	- Experiences in planning a short and mid and long term training plan
	- Experiences in conducting and organizing training programmes
	- Experiences in planning and organizing study tour within India and Overseas

Designation	Qualification
	- Experiences in working in at least 1 donor supported forestry project in India
	Language:
	- Proficiency in English in writing and speaking is essential.
	- Proficiency in English and Bengali and/ or Hindi (writing and speaking).
	Regional Experience:
	- Familiarity and experience in forest and biodiversity conservation, climate
	change action, natural resource management or any other projects of similar
	nature in South Asia will be advantage.
	Education:
	- MBA or Post Graduate in financial management, rural development/ marketing,
	entrepreneurship development, or any other related field
	Experience:
	- 20 years or more professional experiences in micro finance sector
	- Experiences in planning management system for a micro lending system
Micro Finance/	- Experiences in business planning and management
Business	- Experiences in promoting entrepreneurship
Development Support	- Experiences in contract management
(Professional B)	- Experiences in designing and conducting training for community
(Troressronar B)	Language:
	- Proficient in English in writing and speaking is essential.
	- Proficiency in English and Bengali and/ or Hindi (writing and speaking)
	Regional Experience:
	- Familiarity and Experience in South Asia, particularly in India is an added
	advantage.
	Education:
	- Master's Degree or higher in statistics, data science, GIS/RS or or geospatial
	information technology, MIS or any other related field
	Experience:
	- Minimum of 10 years of working experience in development work, using
	satellite imagery data and geospatial information technology
M&E (Professional	- Experiences in developing and operationalising enterprise/ web GIS system
B)	- Experiences in developing and operationalising enterprise, web GIS system - Experiences in database management and system architecture design
<i>D)</i>	
	- Experiences in managing data system related to forest and biodiversity conservation, socio economy, and etc.
	- Work experiences in more than 2 donor assisted projects
	Language:
	- Proficiency in English in writing and speaking
	- Proficiency in English and Bengali and/ or Hindi (writing and speaking).
Social and	Education:
Environmental	- Post Graduate in Environmental Management or any other related field
Consideration	Experience:

Designation	Qualification
(Professional B)	- Experience of more than 15 years in environmental and social consideration
	- Experience of working in the state of West Bengal
	- Experience of consulting services for environmental and social consideration of
	similar projects (forestry/ community development projects) funded by
	international cooperation agencies.
	- Proven experience in designing environmental and social management
	framework and implementing monitoring for environmental and social
	consideration
	- Proven experience in designing framework for tribal development
	- Experience in capacity building and training different stakeholders in various
	aspects of environmental management/ ESC
	- Experience in preparing periodical environmental and social consideration
	monitoring reports
	<u>Language:</u>
	- Proficient in English in both writing and speaking
	- Proficient in Bengali and/or Hindi

Consultant may propose other experts and supporting staffs required to accomplish the tasks outlined in the ToR.

(2) Scope of works for the respective personnel

Detailed information on the major tasks and duties each member of Consultant shall perform is provided as follows:

No	Position	I or L	Major Tasks and Duties
A-1		I (Pro-A)	 The Community Resilience against Climate Change Specialist will assist PMU in the following aspects: a) Assessing the vulnerability of the communities against climate change and suggesting remedial measures b) Assessing the progress of the indicators related to climate change measures landscape-wise during implementation of the project c) Assist PMU in exploring possibility of collaboration with private sectors for maximizing impact of the Project
	Community Resilience against Climate Change		 The Community Resilience against Climate Change Specialist will: d) Preparation of conceptual framework and guidelines regarding ecosystem- based disaster risk prevention and community resilience including the connection between ecosystem services and beneficial community. e) Preparation and review guidelines and manuals relating to project activities including the manuals on Entry Point Activities/ Community Development Activities; f) Undertaking technical guidance in planning and implementation of the Component 1 and 3 activities g) Seeking the possibility to apply in the project activities with recent world trend of the resilience against climate change through carbon credit trading etc.

No	Position	I or L	Major Tasks and Duties
			h) Carry out any other tasks requested by the Team Leader
A-2	GIS/ MIS / DX	I (Pro-A)	 <gis development="" mis="" system=""> The MIS/ GIS specialist will assist PMU in</gis>
			 a) Coordinating with GIS/MIS cell and other relevant units/cells in WBFD in charge of development and maintenance of existing systems relating to forest and biodiversity conservation. b) Forming and leading a technical working group with members from the relevant unit/cell in WBFD, which gives guidance and reviews on the work of the WBFD DX Strategy. c) Analyzing WBFD policy documents with relation to digitalization, existing system architecture, and current plan of system development in each system. d) Drafting a draft strategy encompassing a long-term vision, a

No	Position	I or L	Major Tasks and Duties
			comprehensive concept, and approaches on how to transform the WBFD's operations through the use of data and digital technologies and a co-creation mechanism with innovative digital solution providers. e) Obtaining institutional endorsement for the strategy within WBFD in due course.
			<conduct "proof="" (poc)="" activities="" concept"="" of=""> The MIS/ GIS specialist will assist PMU in</conduct>
			a) Identifying an appropriate use case(s) that would help WBFD/PMU accelerate digital transformation in line with the concept and concrete approaches to be defined in the WBFD DX strategy b) Developing a PoC plan c) Selecting a digital partner(s) if necessary d) Implementing, managing and monitoring the PoC e) Reviewing the result and reflecting lessons learnt from it to the DX strategy and approaches f) Preparing a work plan to introduce the prioritized advanced technology
B-1	Team Leader/ Sustainable Forest Management	L (Pro-B)	The Team Leader will assist PMU in the following aspects of project management: a) Preparation of the overall work plan of PMC; b) Maintaining close coordination with PMU and offices concerned and assist PMU in coordinating with JICA; c) Guiding and supervising the activities of all PMC specialists, both International and National consultants; d) Supervising the activities of all office staff of PMC; e) Undertaking the managerial responsibilities of PMC, including seeking approvals from PMU on mobilisations/ demobilisations and field visits by PMC specialists; f) Participating in various meetings and events, and with specialists as per requirement and request from PMU; g) Preparing/ reviewing guidelines and manuals relating to project management, accounting procedures and procurement; h) Compiling all periodical reports of consulting services and responsible for outputs of reports (inception reports, monthly, quarterly, annual reports and completion reports, i) Undertaking field visits to project sites and prepare Back-to-Office report for PMU; j) Preparing monthly accomplishment reports of PMC; k) Ensuring that all the scope of consultancy is accomplished; The Team Leader/ Sustainable Forest Management will: a) Monitoring the physical and financial work progress of the project implementation; b) Reporting to JICA; c) Any other assistances requested by PMU within the scope of
B-2	Biodiversity Conservation	L (Pro-B)	work of the consulting services. The Biodiversity Conservation Specialist will assist PMU to: a) Undertake procurement of goods and services necessary for Component 2 (biodiversity conservation and restoration) b) Prepare the overall work plan pertaining to Component 2 (biodiversity conservation and restoration)

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No	Position	I or L	Major Tasks and Duties
B-6		L	 d) Monitoring of the recovery rate e) Prepare guideline for business development support f) Assist PMU in exploring possibility of collaboration with private sectors for maximizing impact of the Project The Micro Finance/ Business Development Support Specialist will: g) Provide technical guidance to technical agency for IGA fund management for business development support h) Undertaking field visits to project sites i) Prepare brief travel reports and monthly accomplishment reports pertaining to his/ her specialty and submit them to the Team Leader j) Undertake any other tasks requested by Team Leader The M&E Specialist will assist PMU in:
B-6	M&E	(Pro-B)	 a) Establishing effective and efficient monitoring system; b) Procurement of the contractors for baseline survey, periodical assessments, and other related activities etc.; c) Supervising the work of the above contractors and ensuring qualities of their outputs; d) Reviewing baseline and mid-term surveys reports, and other M&E reports/ documents e) Preparation of the guidelines and manuals required for M&E and MIS; f) Operationalising MIS and project accounting system, and g) Monitoring and evaluation of the progress and outputs of Project activities h) Conducting field validation, preparation of the physical and financial progress report; i) Prepare social audit guideline and operationalise j) Providing progress data and information required to be used by the High-Power Committee (HPC), Governing Body (GB) and JICA for review and appropriate decision making; k) Designing, reviewing and revising project performance indicators, and developing methodologies for verification with respect to such indicators; l) Compiling periodical M & E reports; and m) Organising annual review meetings at State Level. The M&E Specialist will: a) Work in collaboration with GIS/ MIS Specialist for effective monitoring; b) Assist FMUs/DMUs in the field validation; c) Train PMU and other project related staffs in MIS and project accounting system; d) Accomplish the tasks related to the Project as directed by the Team Leader; e) Undertake field visits to project sites and prepare Back-to-Office report for PMU; and f) Prepare brief travel reports and monthly accomplishment reports pertaining to his/ her specialty and submit them to the Team Leader. g) Undertake any other tasks requested by Team Leader
B-7	Social and Environmental Consideration	L (Pro-B)	The Social and Environmental Conservation Specialist will assist: a) PMU PD (Finance), the officer in charge, to supervise the environmental and social safeguard-relevant activities, including the screening and selection of subprojects and

No	Position	I or L	Major Tasks and Duties
,5			determination of the required procedures for specific
			subprojects following the national and state law/regulations and
			MOD with JICA.
			b) PMU in finalizing ESAF and Vulnerable People's Planning
			Framework with the stakeholders, which are drafted under the
			preparatory survey, and in implementing the project in
			accordance with the frameworks. c) PMU in supervising the community level infrastructure
			c) PMU in supervising the community level infrastructure development executed by the contractors in terms of compliance
			with the safeguard relevant law/regulations.
			d) PMU in preparation of periodical monitoring reports with
			regard to environmental and social safeguard/ ESMF following
			the requirement of the national and state law/regulations and
			MOD with JICA.
			The Social and Environmental Conservation Specialist will:
			a) conduct training for PMU/DMU/FMU and subcontractors to
			enable them to comply with national and state law/regulations
			and MOD with JICA.
			b) facilitate participation of PMU and stakeholders in the training
			activities on the environmental and social safeguard organised by JICA if required.
B-8		L	<pre><gis development="" mis="" system=""></gis></pre>
D-0		(Pro-B)	The MIS/ GIS specialist will assist PMU in
			a) Finalizing the scope of work for development of 1)Web-GIS for
			WBFD, 2)Applications integrating e-plantation journal and
			e-monitoring, 3)web-MIS linked to the Web-GIS system in
			coordination with the section of Working plan/GIS, Monitoring
			wing and other relevant sections of WBFD, and PMU
			b) Preparing WBFD GIS data for upload to the system being
			developed
			The MIS/ GIS specialist will
			a) Conduct needs survey for the web GIS and MIS for preparation
			of scope of work
			b) Prepare a scope of work for development of 1)Web-GIS for WBFD, 2)Applications integrating e-plantation journal and
			e-monitoring, 3)web-MIS linked to the Web-GIS system in
	GIS/ MIS / DX		coordination with the section of Working plan/GIS, Monitoring
			wing and other relevant sections of WBFD, and PMU based on
			the needs survey result (MIS/GIS based data should be arranged
			in a relational database such as Oracle, MySQL, MSSQL,
			PostgreSQL etc. It should be also considered to use Google
			Earth platform, which will be shared by the GIS lab of WBFD,
			for precise identification of new afforestation area and their subsequent monitoring.)
			c) Prepare a short list of the potential vendors for each system
			development
			d) Obtain quotations for the finalized scope of work for each
			system
			e) Supervise the outsourcing contract for development of each
			system f) Prepare material for trainings for the users of each system
			g) Prepare user guidelines for the developed Web based MIS,
			Mobile App, and webGIS in coordination with the vendors

No	Position	I or L	Major Tasks and Duties
			(system developers) h) Provide training to PMU, DMU, FMU on MIS/webGIS/associated mobile App i) Conduct survey for user feedback to improve the system in the 1st and 3rd year after installation of the system j) Plan and supervise minor modifications of the systems during the system warranty and maintenance period
			<demarcation (digitization="" and="" boundary="" jfmc="" of="" piling)=""> The MIS/ GIS specialist will assist PMU in</demarcation>
			 a) Finalize draft scope of work for the subcontract work of digitization and piling b) Procure subcontractor for digitization and piling
			 The MIS/ GIS specialist will a) Draft a scope of work for the subcontract work of digitization and piling b) Guide and supervise the subcontractor c) Evaluate the quality/status of boundary demarcation work and reporting to the DMU/PMU about any irregularities d) Coordinate with WP/GIS cell for their quality assessment and validation of the boundary data.
			<poc (pilot="" development="" for="" guidelines="" of="" project)="" technical="" uav="" use=""> The MIS/ GIS specialist will assist PMU in a) Procure UAV</poc>
			 b) Plan and implement the pilot project c) Finalize the technical guidelines for usage of UAV in forest plantation and monitoring work, such as inspection of plantation work, verification of JFMC boundary demarcation etc.
			 The MIS/ GIS specialist will a) Provide training to PMU on use of UAV in forestry sector b) Provide training to DMU, FMU on UAV operation and image analysis c) Develop a pilot project plan (site selection, definition of the scope of the guidelines to be developed in the pilot project) d) Develop technical guidelines for usage of UAV in forest plantation and monitoring work, such as inspection of plantation work, verification of JFMC boundary demarcation etc.
			<development "wbfd="" digital="" of="" strategy"="" transformation=""> The MIS/ GIS specialist will assist PMU in</development>
			 a) Coordinating with GIS/MIS cell and other relevant units/cells in WBFD in charge of development and maintenance of existing systems relating to forest and biodiversity conservation. b) Forming and leading a technical working group with members from the relevant unit/cell in WBFD, which gives guidance and reviews on the work of the WBFD DX Strategy. c) Analyzing WBFD policy documents with relation to
			digitalization, existing system architecture, and current plan of system development in each system. d) Drafting a draft strategy encompassing a long-term vision, a

No	Position	I or L	Major Tasks and Duties
			comprehensive concept, and approaches on how to transform the WBFD's operations through the use of data and digital technologies and a co-creation mechanism with innovative digital solution providers. e) Obtaining institutional endorsement for the strategy within WBFD in due course.
			<conduct "proof="" (poc)="" activities="" concept"="" of=""> The MIS/ GIS specialist will assist PMU in</conduct>
			a) Identifying an appropriate use case(s) that would help WBFD/PMU accelerate digital transformation in line with the concept and concrete approaches to be defined in the WBFD DX strategy b) Developing a PoC plan c) Selecting a digital partner(s) if necessary d) Implementing, managing and monitoring the PoC e) Reviewing the result and reflecting lessons learnt from it to the DX strategy and approaches f) Preparing a work plan to introduce the prioritized advanced technology

Chapter 6. Reporting

Within the scope of consulting services, the Consultant shall prepare and submit reports and documents to PMU as shown in Table: 6-1. The Consultant shall provide electronic copy of each of these reports. All reports shall be prepared in English.

Table: 6-1 Reports to be Submitted

Category	Type of Report	Timing	No. of Copies
Consultancy Services	Inception Report	Within 1 months after commencement of the services	5 copies each per time
	Monthly Progress Report	Every month except the month overlapping with the Quarterly Progress and Annual Progress Report.	5 copies each per time
	Quarterly Progress Report	Every quarter except the quarter overlapping with the Annual Progress Report	5 copies each per time
	Annual Progress Reports	10 th day of the first month of the next financial year	5 copies each per time
	Completion Report of the Consulting Services	One month before the closure of the contract	10 copies each per time
Other Report	Back to Office Report	Within 7 days on return of the field visit	1 set of copy per submission
	Technical Report	As required or upon request	As required

Contents to be included in each report are as follows:

- a) Inception Report (5 copies each of English): to be submitted within 1 month after the commencement of the services, presenting the methodologies, schedule, organization, etc.
- b) Monthly Progress Report (5 copies): to describes briefly and concisely all activities and progress for the previous month by the 10th day of each month. Problems encountered or anticipated will be clearly stated, together with actions to be taken or recommendations on remedial measures for correction. Also indicates the work to be performed during the coming month.
- c) Quarterly Progress Report (5 copies): to describe all activities and progress for the reporting period (quarter) by the 10th day of the month on a quarterly basis. Problems encountered or anticipated will be clearly stated, together with actions to be taken or recommendations on remedial measures for correction. Also indicates the work to be performed during the following quarter.
- d) Annual Progress Report (5 copies): to describe all activities and accomplishments made for

the year by the 10th day of the 1st month of the year. Problems encountered together with actions taken should be described. Lessons learned from the project activities done in the year should also be described in the report. The works and activities planned for the following years should be indicated.

- e) Completion Report of the Consulting Services (10 copies): to be submitted one month before the completion of the consulting services. The report should describe the approaches and methodologies taken, all the activities carried out and inputs made by the consultant, the results and accomplishments made by the consulting services, lessons learned for the project as well as consulting services, and recommendations for ensuring the sustainability of the project effect and future projects similar to the project.
- f) Back to Office Report (1 copy): to be submitted to report the findings from the very site visits conducted by the PMC specialists. The report shall be submitted within 7 days from the date of return to the office from the field. One copy of the report shall be submitted to PMU.
- g) Technical Report (as per required): to be submitted as required or upon request by PMU or by the initiation of PMC for technical topics relevant to project implementation.

Chapter 7. Obligations of the Executing Agency

A certain range of arrangements and services will be provided by the Executing Agency to the Consultant for smooth implementation of the Consulting Services. In this context, the Executing Agency will:

(1) Report and data

Make available to the Consultant existing reports and data related to the Project as requested by PMC;

(2) Office space

Provide an office space in the Headquarters of the Executing Agency with necessary equipment, furniture and utility. However, the Consultant's requirement for office space, including necessary equipment, furniture and utilities, should be clearly stated in the proposal with its rental cost for the case where WB-FBCCCR would be unable to provide such facilities;

(3) Cooperation and counterpart staff

Appoint counterpart officials, agent and representative as may be necessary for effective implementation of the Consulting Services;

(4) Assistance and exemption

Use its best efforts to ensure that the assistance and exemption, as described in the Standard Request for Proposal issued by JICA, will be provided to the Consultant, in relation to

- work permit and such other documents;
- entry and exit visas, residence permits, exchange permits and such other documents
- clearance through customs;
- instructions and information to officials, agent and representatives of the Borrower's Government;
- exemption from any requirement for registration to practice their profession;
- privilege pursuant to the applicable law in the Borrower's Country.

Attachment 5

Detailed Implementation Schedule

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Schedule	
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i) Preparatory works (site identification, survey & demarcation, etc.)	2		- - -		- - - -	- - -	- - - -		- - - - -							
ii) 1st year coppicing	2	 - +-			-	+-+- +-+- +-+- +-+-			†-†- 		(-1- -1- -1- -1- 1-1-	- - - - - - - - - -	- - - - - - - -			1-1- 1-1- 1-1- 1-1-
iii) 4th year multi shoot cutting	2	+ + + +	† - - - - - -	(- 1 · · · · · · · · · · · · · · · · · ·	- - - - - - - -	- - - - - - - -	+	+	+-	+ + +		+	†- - - - - - -	+		† - · · · · · · · · · · · · · · · · · ·
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1.2.2.3 Plantation in Degraded Forest Areas	0	†						† - † - † - † - † - † - † - † - † - † -	+							
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i) Survey, demarcation, advance soil works, & plantation	15		-+- 				-						- - - - - - - - - - -			
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i) Survey, demarcation, advance soil works, & plantation	15															
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iv) 3rd year maintenance	12																
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1.2.2.4 TPOFA Plantation	0																
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i) rieparatoly works (tuentinearton of site, beneficiary group, survey and demarcation)	Ξ	- -	- -	-		+ - + + - + + - + + - +		-	-	-		- 	- 	-	- 		-
ii) Advance Soil Work and Planting	5						-										
iii) Mulching	2																
iv) Cleaning	6																
v) Watch and ward	10		 														
vi) Fencing	8																
vii) Maintenance	0																
1st year maintenance	12								-	- - - - - -							
2nd year maintenance	12											- - -					
3rd year maintenance	11												- - - - -				
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 Preparatory Works (identification of site, beneficiary group, survey and demarcation) 	11																
ii) Advance Soil Work and Planting	5																
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v) Watch and ward	10																
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ii) Advance Soil Work and Planting	5																
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35 (A)	1.2.5.1 Preparation of G1S based CA1 Plans 1. Preparation of CAT Plans and site identification (including	Ω														
9 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0) reparation of CA1 reals and site menuication (including procurement of vendor)	35														
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00 00 00 00 00 00 00 00 00 00 00 00 00) klentification of strategic locations, target FMUs, JFMCs and nake name	12														
0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	i) Implementation of solar fencing of 40 km	99				-		-					-			
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3 3	2.1.1.2 Support communities for HW mitigation	0	+ - + - + - + -			+ - + - + - + - + - + - + - + - + - + -	- T - - - - - - - - -	+ - + - + - + - + - + - + - + - + - + -		+-+- +-+- +-+- +-+-	#=#- #=#- #=#-	+-+-				+-+- +-+- +-+-
nent of necessary equipment and materials 3) klentification of strategic locations, target FMUs, JFMCs and	3														
	nake plans i) Procurement of necessary equipment and materials	3					- - -									- - -
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iv) Creation of village level rapid response team	18																		-
v) Implementation of capacity building of villages to support rapid	24								-	-		-							
sponse team 1.1.3 Pilot (Eco sensitive Zone) plantation with non-palatable/			-						Ŧ		+			+	+	I	Ŧ		
repulsive species	0				- - -			- - -			- - - -								1 - -
 I) Identification of strategic locations, target FMUs, JFMCs and make plans 	9																		
ii) Creation and pilot planting	18									= -									
iii) Implementation of maintanance works	90			- - - - - - - - -	+- +- +-	= = -] <u>=</u>		=	=	=	=		=				- - - - - - - - - - - - - - -	-
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2.1.2 Species Conservation Programme	0																		
2.1.2.1 Species recovery programme for local RET (North)	0																		
) Selection of BET energies for energies reconsery morronnes	9							-+ -+ -+											
ammigat france records are records																			
ii) Establishment of protection plots	o		 				F‡	 						++ + +	 				
iii) Implementation of Species Recovery Plan	9																+		
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2.1.3 Studies on Wild Animals and Their Behaviour	0				- - -			- - -			- - -								
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2.1.3.1 Study on 5 spp. of Lesser Cats in North Bengal	30													1-1 1-1 1-1					
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2.2 Dry Lateritic & Alluvia Landscane	0			- - - - - - - -	- - - - - - - - - - - - - - - -	 - -	1-1 1-1 1-1	+- +- +-		1-1		‡- 		+ + + +				+- +- +-	+-
2.2.1 Biolivaseity Concernation through Parale's Participation in																			
Protected Areas	0																		
2.2.1.1 Bethuadahari Wildlife Sanctuary	0																		
i) Community mobilisation and planning	12										- - - -								╁┽
ii) Sanctuary Protection and Management	42] -
	ç													+	+-				Ţ
III) FOI IMPROVED VISITOT EXPERIENCE, and awareness	74																		
iv) For improved stake of local communities in WLS conservation	48																		+-
2.2.1.2 Ballavpur Wildlife Sanctuary	0																		+
i) Community mobilisation and planning	12	ĽΈ				-													
ii) Sanctuary Protection and Management	42											-							
The immensed violation are and arrangement																			-
III) FOI IIIIPI OVCU VISITOI CAPETICINCO AIRU AWARCHICSS	- -	- -	┝┼																- -
iv) For improved stake of local communities in WLS conservation	48	†												- - -	- - -		 		+-1
	0																		- -
2.2.2 Conservation of Smaller Mammals	0				 			 											
2.2.2.1 Habitat improvement	0																		- -
i) Identification of specific forest as the habitat of target animals,						-													
eparation of plan for target forests										-		-							
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iii) Burrow/ den protection	57				- - - - - - - -														
iv) Plantation of edible plant species	57				 				- - - -			- - - -			= - - - -				
v) Development of water body	57			 		-													- -
2.2.2.2 Conservation awareness generation	0			- - -	 			- - -						† - - - -					++
i) Developing outreach and awareness material	24								=						=				-
ii) Community layel meating	54								-	-		-			-				
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2.2.3 Human Wildlife Conflict Mitigation	0																		-
2.2.3.1 Rescue Centre for Elephants including study of their behaviour	0					1	1	+	7		+			+	+		-		+
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ii) Constructor of the enclosure 22.3.2 Stress induce conflict risk reduction by wild animals	Month 36	7707	4 4 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	7 8 9 11 12 1	7074	2025	3 4 5 6 7 8 9 10 11 12 1 2	202/	2028	3 4 5 6 7 8 9 10 11 12 1 2 3	2030	11 12 1
)) Construction of the enclosure 2.2.3.2 Stress induce conflict risk reduction by wild animals	36			1 1								
2.3.2 Stress induce conflict risk reduction by wild animals												-
	0											
i) procurement of equipment and materials	9											
	,,				-	- - - - - - - - - -	- - - - - - - - - - - - - - - - - - -					
 ii) Implementation of augmentation of mitigation activities 	90											
2.2.3.3 Tracking of elephant route through radio collaring	0											
i) Procurement of equipment and materials	9											
ii) Installation of collars	24											
2.2.3.4 Enhancement of tranquilizer equipment for wild animals	0											
i) Procurement of equipment and materials	12						7 - 1 7 - 1	+-+ + + + + + + + +	† - † - † - † - † - † - † - † - † - † -			
ii) Distribution at Airavat vans	12											
2.3.5 Installation of Early Warming System (EWS) for wild	! «			+								
elephants	0			+								
i) Procurement of EWSs equipment and materials	9											
ii) Installation of EWSs	18				-	-						
2.2.3.6 Development of software application for compensation for	0			+								
epredation by wild animals	٧											
i) Development of souware application	0											
ii) Installation of software application	24											
2.2.3.7 Installation of Elephant Proof Trench (EPT) in South- West Bengal	0	-	- - - - - -	- - - - - - - -	-	-+- -+- -+- -+- -+- -+- -+-	- + - - + -	-	-	-		=======================================
i) Planning, target area and communities	9											- - - - - -
ii) Installation of EPT	24											
	0								+			
2.2.4 Species Conservation Programme	0											
2.2.4.1 Dolphin Conservation Programme	0											
i) Planning, target area/ population selection etc.	9											
ii) Implementation of Conservation Action Plan	54						-					
2.2.4.2 Breeding and releasing of Indian Pangolin	0											
i) Planning, target area/ population selection etc.	36											
ii) Implementation of Conservation Action Plan	36											
2.2.4.3 Breeding and releasing of Fishing Cat	0											
i) Planning, target area/ population selection etc.	36											
	,,	-	-		- -							
u) Implementation of Conservation Action Plan	90											
2.2.4.4 Breeding and releasing of Indian Vulture	n											
i) Planning, target area/ population selection etc.	9											†-+
ii) Implementation of Conservation Action Plan	54											
	0											
2.2.4.5 Species recovery programme for local RET (South)	0											
i) Selection of RET species for species recovery programme	9											
ii) Establishment of protection plots	12											
iii) Implementation of species recovery plan	36											
2.3 Deltaic Landscape	0			- - - -								
2.3.1 Biodiversity Conservation through People's Participation in	0											
2.3.1.1 Chintamoni Kar Bird Sanctuary	0	+ - + - + - + - + - + - + - + - + - + -		+ - + - + - + - + - + - + - + - + - + -	+ - + - + - + - + - + - + - + - + - + -	+ - + - + - + - + - + - + - + - + - + -		+-+- +-+- +-+- +-+- +-+- +-+- +-+-				
i) Revision of Management Plan (if required), mobilisation of local	9											
ii) Implementation of infrastructure development	42					- - - - - - - - - - - - - - - - - - -	-					
(ii) Denotes and of forms and amount of the	Ş			-					-			

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2.3.1.2 Bibhutibhushan Wildlife Sanctuary	0										 					<u> </u>
i) Revision of Management Plan (if required), mobilisation of local	٧															
community	0															<u> </u>
ii) Implementation of infrastructure development	42															- -
iii) Development of forum and awareness activities	99		 	- - - - - - -		-		- - - - -			- - - - - - - - - - - - - - - - - - -		 	- - - - - - - - - - - - - - - - - - -		#
iv) Development of Orchidarium	42										 - - - - - -					
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2.3.2 Human Wildlife Conflict Mitigation	0			-							- - - -					-[-
2.3.2.1 Stress induced conflict risk reduction by wild animals	0															
i) Procurement of steel-reinforced nylon nets and distribution	12					-										
ii) Net replacement	54	- -														<u> </u>
2.3.2 Votentineur feedlike in Cunderham	c															 -
2.5.2.2 Vetermary factility in Sundariants Discurement of equipment for multi-specialty veterinary hospital	> 5															
and staff placement	12										+ · ·		+			‡‡
 Construction of infrastructure (hospital waste disposal unit and etc.) 	36															
iii) Enhancement of height of embankment	24						-									<u>-</u>
iv) Operationalisation of hospital	24			- - -	- - - -										- - - -	<u> - -</u>
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2.3.3 Studies on Wild Animals and their Behavior	0															1-+
2.3.3.1 Assessment of aquatic biodiversity in Sundarbans and	0										- - - - - - - -					
territorial waters i) Kentification of specialised agency	3		- - - -	- - - - - - - -	- -	- - - - - - - -					- - - -		- - - -		- - - -	
ii) Invalancementation of measured, activities	24							-								
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2.5.2.2 Studies suggested by Central Asian Fiyway	0															
 Identificatoin of specialised agency 	9	++- ++- ++- ++- ++- ++-					+ - + - + - + - + - + - + - + - + - + -						++- ++- ++- ++-			<u> </u>
ii) Implementation of research activities	24										+					<u> </u>
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Component 3: Livelihood Improvement	0															-
0.1 Preparatory Works (All landscapes)	0															
i) Preparation of Manuals and Guidelines	9															
ii) Deployment of Technical Agency for IGA Support Fund Management	36				 											-
Finalisation of Selection Criteria of JFMCs & Selection of	9	+ - + - + - + - + - + - + - + - + - + -					† - † - † - † - † - † - † - † - † - † -		+-+- +-+- +-+- +-+- +-+-			+-+- +-+- +-+- +-+- +-+-	+-+- +-+- +-+-	- - - - - - - - - -		†-†-
MLS	0															
3.1 Hill & North Bengal Landscape	0															
3.1.1 Prenaratory Activities with JFMCs (3 hatches)	0															##
3.1.1 Community mobilisation	6			-		-		- - -								
.1.2 Recreanisation/reconstitution of JFMCs and				-				-								-
confirmation of demarcation of JFMC boundaries	'n										++- 		++- ++- ++-			- -
3.1.1.3 Familialisation of project to JFMC	6			-+							- - - - - 		-++	- + +		+-+
3.1.1.4 Micro Planning	0															-
a) Micro plan preparation	6															
b) Revisiting of Micro Plan (After 4 years)	6				 											<u>-</u> -
3.1.1.5 EPA/ CDA	0										 					
i) Batch 1	12										- - - -					
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3.2 Dry Lateritic & Alluvial Landscape	0																					[-]
3.2.1 Preparatory Activities with JFMCs	0	 		- -	 		- - - - - -									- -						- -
3.2.1.1 Community mobilisation	6		- - -		- - -					 		- - -			 		- - -					- - - - - -
3.2.1.2 Reorganisation/ reconstitution of JFMCs and	6	-	+-		+- - - - -					- - - - - - - - - - -	=	-	- - - - - - 		-		- - - - - - 	- - -	+			- - - - - -
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3.2.1.4 Micro Planning	0				- - - - - -				†- - -						+ - - - - - - - - - - -							
a) Micro plan preparation	6	+-+ +-+ +-+			† † † † † † † † † † † † † † † † † † †	+-+ +-+ +-+ +-+ +-+		†-†- †-†- †-†-	 						+-+- + + +	†	+-+ +-+ +-+ +-+			†-†- 		<u></u> ‡:} ‡:‡
b) Revisiting of Micro Plan (After 4 years)	6														-++							
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3.3.1.1 Community mobilisation	6				-	-		-								
3.1.2 Reorganisation/ reconstitution of JFMCs and	c								+++++						+	
confirmation of demarcation of JFMC boundaries	6										 					
3.3.1.3 Familialisation of project to JFMC	6															
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And of Familian	>															
a) Micro plan preparation	6								- - - - 							
b) Revisiting of Micro Plan (After 4 years)	6															
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Component 4: Institutional Strengthening	0															
4.1 Strengthening Project Management	0															
4.1.1 Capacity Development on MIS/DX	0															
1.1.1. Digitisation of JFMC boundary within the project target	0															
area, except the areas whose boundary GD data was arready i) Procurement of mouza sheet	3			: <mark>=</mark>			-									
ii) Procurement of GPS	1	+ - + - + - + - + - + - + - + - + - + -		† - † † - † † - † † - † † - †	+ - + - + - + - + - + - + - + - + - + -	+-+ +-+ +-+ +-+ +-+		† † † † † † † † † † † † † † † † † † †	+-+ +-+ +-+ +-+ +-+		+ - + - + - + - + - + - + - + -	† - † - † - † - † - † - † - † - † - † -	+-+ +-+ +-+ +-+ +-+ +-+		† - † † - † † - † † - †	
iii) Outsourced digitisation (JFMC selection)	6															
4.1.1.2 Development of web-GIS platform of WBFD	7				-				+							
4.1.1.3 Upgrade of mobile application (e-monitoring) to add function of e-plantation ionmal including training	9										 					
4.1.1.4 Development of project MIS platform linked to web-GIS	9			=	-											
1.1.5 Training of field officers (range/ beat officers) in the target	. 0															
area on the operation of GPS and mobile application	-		- - - - - - - -	- - - - - - - -		 				-#- -#- -#-		-#- -#- -#- -#-	 		- - -	#
1) Training of PMU on the operation of Web GIS	- 6			++	-											
ii) Training of FMU on the operation of Web GIS	7	# 	#! #! #!	+ + + +	#! 	+	+ + + + +	#	# + + + + +	# # #	# # #	## ## ## ## ##	# # # # #	## ## ## ##	#! #! #!	‡
4.1.1.6 Training of DMUs/FMUs on the operation of MIS and	6			 	-							+				
mobile application 1. Trening of PMII on the operation of Web CIS	-		-1-		-											
ii) Training of DMU on the operation of Web GIS	3				-											
Training of FMU on the operation of Web GIS	7				-			-								
4.1.1.7 Site verification-Digital and Ground Truthing followed by	0								† † † † † †		- - - -					
i) On-site verification of JFMC boundary digitisation	6															
ii) Inspection of plantation work	7						-					-			_	
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11) Boundary pillar setting	'n		# - # - # - # - # - # - # - # -	† - † - † - † - † - † - † - † -		+ - + - + - + - + - + - + - + -	+ - + - + - + - + - + - + - + - + - + -		- - - - - - - - - - - -		∳- ∳- ∳- ∳- ∳- ∳- ∳- ∳-		+ - + - + - + - + - + - + - + - + - + -		+-+- +-+- +-+- +-+-	- - - -
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ii) Procurement of UAV	-															H
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iv) UAV image process analysis including training of DMUs	1									
v) Preparation of technical guideline	7			- - - - - - - -	-					
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4.1.2 Mobility	96	- - -	- - - - - - - - - - - - - - - - - - -	- - - - - - - - - - - -			- - - - - - - - -	- - - - - - - - - - - - - - - - - - -	- - - - - - - - - - - - - - - - - - -	- - - - - - - - - - - - - - - - - - -
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4.1.3 Buildings	39						# - # - # - # - # - # - # - # - # - # -		# #	+-+- +-+- +-+- +-+- +-+-
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4.1.4 Project Contractual Staff	0									++
i) PMU	96		- - - - - - - - - - - -	-	- - - - - - - - - - - - - - - - - - -		-	-		-
ii) DMU	96									
iii) FMU	96									
	0									
4.1.5 Digital Strengthening	96									
	0									
4.2 Capacity Development	0									
4.2.1 Training Plan	0									
i) Training Needs Assessment	9									
ii) Preparation of Training Plan & Annual Training Calendar	16			-	-		-	-		
	0									
4.2.2 Training of Forest Officers (DCF & above Ranks)	0									
i) Specialised trainings (20 batches)	15						-			
ii) Exposure Trips (10 batches)	6									
iii) Overseas training (3 batches)	6									
	0									
4.2.3 Trainings of Forest Officers /Frontline staff (Ranger & below ranks)	0									
i) Specialised trainings (30 batches)	15			-			-			
ii) Exposure Trips (10 batches)	6									
iii) Overseas training (regional) (5 batches)	6				-					
	0									
4.2.4 National Workshop (3 days)	2									
	0									
4.2.5 Trainings for JFMC/ SHG members	0									
i) JFMC members (120 batches)	22			-						
ii) SHG members (90 batches)	6			-	-					
	0									
4.3 Monitoring & Evaluation	0									
4.3.1 Progress Monitoring	0	 								
4.3.1.1 Biodiversity Monitoring	12				-					-
4.3.1.2 Concurrent Monitoring & Periodic Review	21		-				_	-	-	
4.3.1.3 Community Self Manitoring	21		-				_	-		
 4.3.1.4 Computerized MIS & GIS/ applications/ UAV for monitoring (including procurement required for 4.1.1) 	9									
4.3.1.5 Computerized accounting system		-								
4.3.1.6 Annual strategy Planning & Review Workshops	23		-	-	-		-	-	-	-
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4.3.2 Impact Evaluation	0									
4.3.2.1 Annual Outcome Assessment (DMU level)	14									
4.3.2.2 Baseline and Impact Surveys	0									
i) Socio Economic/ Gender Surveys	0									
a) baseline	9									
b) Impact (mid and end-term)	12									
ii) Physical Surveys	0									
a) baseline	9									
b) Impact (mid and end-term)	12					- - - -				-
4.3.2.3 Thematic and Short Studies	15			-				-		
4.3.2.4 Environmental Impact Assessment	21		-	-		-	-			
	0									
4.3.3 Audits	0									
a) Statutory Financial Audits	16									
b) Internal Audits (Concurrent Audits)	31		-	-		-				-
c) Social Audits	14									
	0									
4.4 Strengthening Forest Research	0									
a) Creation of carbon estimation lab	72									
b) Research studies based on the research plan	72					- - - - - - - - - - - - - -				
	0									
4.5 Publicity and Publication	0									
4.5.1 Website maintenance	66									
4.5.2 Guidelines, manuals and annual reports	33						-	-	-	
4.5.3 Short Films/ Digital Documentation	42									
4.5.4 Knowledge material/ course material	15									
4.5.5 "Proof of Concept" (PoC) activities for several digital technology/ innovation	0									
	0 0									
Land Acquisition	0	0	0	0	0	0	0	0	0	0
CI Ecosystem based Climate change measures	94	0	11 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	12	12	12	12	12	12	11
C2 Biodiversity Conservation and Restoration	78	0	12	12	12	12	12	12	9 1 1	0
C3 Livelihood Improvement	81	0	6 1 1	12	12	12	12	12	12	0
C4 Institutional Strengthening	96	0	21	71	12	111111111111111111111111111111111111111	12	71		7I

Attachment 6

Annual Fund Requirement

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Attachment 6					 	
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FC,Total: million JPY LC : million INR 147

Annual Fund Requirement

Base Year/Month for Cost Estimation: Nov, 2022
Exchange Rate: USD = JPY
USD = INR

82.3 1.79 LC: 4.50% Price Escalation: FC: 2.06%
Physical Contingency: 5.0%

Item		Total		2022			2023			2024	<u></u>		2025			2026		<u> </u>	2027	<u></u>		2028			2029	<u>J</u>		2030			2031	
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C2 Biodiversity Conservation and Restoration	0	1,045	1,870	0	0 0	0	161	1 288	0	161	288	0	161	288	0	161	288	0	161	288	0	161	288	0	80	144	0	0	0	0	0	0
C3 Livelihood Improvement	0	757	1,355	0	0 0	0	84	1 151	0	112	201	0	112	201	0	112	201	0	112	201	0	112	201	0	112	201	0	0	0	0	0	0
C4 Institutional Strengthening	0	1,075	1,924	0	0 0	0	134	1 240	0	134	240	0	134	240	0	134	240	0	134	240	0	134	240	0	134	240	0	134	240	0	C	0
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AT	0	520	931 (0	0 0	.	57	7 101	0	66	118	0	69		0	71	127	0	74	132	0	77	138	0	69	123	0	38	69	0	0	7
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a+b+c+d)	0	947		0	0 0	0	103		0	120	(0	125		0	130		0	134		0	140			125	фф	0	70	125	0	0	Ŋ
L (A+B)	96	6,094	11,003	0	0 0	9	664	1,198	20	766	1,391	20	800	1,453	16	832	1,506	11	864	1,558	12	903	1,628	8	810	1,457	0	455	814	0	0)
																										ļ						井.
erest during Construction (IDC)	613	0	613	<u>0 </u>	0 0			15	31	0	31	49	1 0	49	67	ļ <u>0</u>	67	86		86	106	0	106		0	124	134	Δ	134	<u>ő</u>	0	井
erest during Construction (Construction)	612	0	612 (0	0 0	15	0	15	31	0	31	49	0	49	67	0	67	86	·	86	106	0	106	124	0	124	134	0	134	0	0	4.
erest during Construction (Consultant)	0	0	0 (0	0 0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
nt End Fee	19	0	19 (0	0 0	ļ	0	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
D TOTAL (A+B+C+D)	727	6,094	11,634	0	0 0	43	664	1,231	51	766	1,422	69	800	1,502	83	832	1,573	98	864	1,644	118	903	1,734	131	810	1,580	134	455	948	0	0	1
NA Firm Double (A)	0.0	5 140	0.200	<u> </u>	0 0		561	1.012	20	(1)	1 177	20	(75	1.220	1.0	702	1 274	1 1	720	1 210	10	7.0	1 277		604	1 222		205	600			<u>.</u> l.
CA Finance Portion (A)	96			VI	0 0	9	561	1,013	20	646		20	L		16			11			12	763		8	684	ффф	0	385	689	<u> </u>		끍.
orrower Finance Portion (B+C+D) Administration Cos	t = 8.2%	947	2,327	<u> </u>	0] 0 <u> </u>	33	103	3 218	31	120	246	49	125	273	67	130	299	86	134	326	106	140	357	124	125	348	134	70]	260	0	0	기

Import Tax = 0.0%

Attachment 7

Cost Breakdown

Page No - (1-5)

Model Estimates

Page No - (1-31)

Model Estimates

Page No - (1-20)

Cost Breakdown for Package

Itom	Local	Total
Item	INR	JPY
Land Acquisition Cost		(

	C1 Ecosystem based Climate change measure	s		Unit Price			Loan Coverage Ratio	itio 100	
	Item	Unit	Q'ty		rice Local		ost Local	Amount	
	Helli	Oiiit	Qty	Foreign JPY	INR	Foreign JPY	INR	JPY	
1.1	Hills & North Bengal Landscape					0	0	0	
1.1.1	Production of Quality Planting Materials					0	0	0	
1.1.1.1	Upgrading Central Nurseries and maintenance	Nr	9		3,000,000	0	27,000,000	48,330,000	
1.1.1.2	Production of Quality Planting Material (QPM)	Nr	1,925,000		15	0	28,875,000	51,686,250	
1.1.2	Improving Quality of Forests					0	0	0	
1.1.2.1	Creation of New Seed Production Areas (SPAs) and Maintenance	ha	50		163,440	0	8,172,000	14,627,880	
1.1.2.2	Preparation of Range Forest Project Implementation Plan	Nr	90		0	0	0	0	
1.1.2.3	Plantation in degraded forest areas					0	0	0	
a)	Sal plantation	ha	100		171,045	0	17,104,500	30,617,055	
b)	Misc. plantation	ha	250		155,195	0	38,798,750	69,449,763	
1.1.2.4	TPOFA Plantation - Raiganj SF Div.					0	0	0	
a)	Strip Plantation	ha	250		165,000	0	41,250,000	73,837,500	
1.1.3	Ecosystem-based Disaster Risk Reduction					0	0	0	
1.1.3.1	(Eco DRR) Activities Embankment Protection					0	0	0	
a)	Large Check dams	Nr	1		2,500,000	0	2,500,000	4,475,000	
b)	Medium Check dams	Nr	15		1,500,000	0	22,500,000	40,275,000	
c)	Small Check dams	Nr	20		1,000,000	0	20,000,000	35,800,000	
d)	Grass planting along the outlet					0	0	0	
	i) Large	ha	5		150,000	0	750,000	1,342,500	
	ii) Medium	ha	45		150,000	0	6,750,000	12,082,500	
	iii) Small	ha	40		150,000	0	6,000,000	10,740,000	
e)	Boulder sausage work along the embankments	km	2		2,500,000	0	5,000,000	8,950,000	
1.1.4	(for large check dams) 2 km/ check dam Green Laboratory Initiatives					0	0	0	
1.1.4.1	Nature Study in forests by Students (National/	Students	15		49,000	0	735,000	1,315,650	
1.1.4.2	International) 10 students/yr; 2 weeks Nature and Forests Programme engaging	Program	5		1,500,000	0	7,500,000	13,425,000	
1.2	Education/ Research Institutions Dry Lateritic & Alluvial Landscape					0	0	0	
1.2.1	Production of Quality Planting Material					0	0	0	
1.2.1.1	Upgrading Central Nurseries and maintenance	Nr	31		3,000,000	0	93,000,000	166,470,000	
1.2.1.2	Production of Quality Planting Material (QPM)	Nr	4,004,000		15	0	60,060,000	107,507,400	
1.2.2	Improving Quality of Forests					0	0	0	
1.2.2.1	Preparation of Range Forest Project	Nr	90		0	0	0	0	
1.2.2.2	Implementation Plan (RFIP) ANR of degraded Sal forests (coppicing)	ha	1,000		20,000	0	20,000,000	35,800,000	
1.2.2.3	Plantation in degraded forest areas		-			0		0	
a)	Sal plantation	ha	400		177,075	0	70,830,000	126,785,700	
b)	Misc. plantation	ha	1,600		165,955	0	265,528,000	475,295,120	
1.2.2.4	TPOFA Plantation - Purulia Extn. Forestry Div.					0		0	
a)	Strip Plantation	ha	250		165,000	0		73,837,500	
1.2.3	Ecosystem-based Disaster Risk Reduction				, ,	0		0	
1.2.3.1	(Eco DRR) Activities GIS based CAT Plans as pilot for SMC works					0		0	
a)	@1.65 lakh per ha. For 10 ha/ range GIS based CAT Plan Preparation	DMUs	13		1,000,000	0		23,270,000	
1.2.3.2	SMC Works based on CAT Plans	ha	1,000		197,600	0		353,704,000	
1.4.3.4	SINC WOLKS DUSCU OII CAT FIRMS	nd	1,000	l .	197,000	0	197,000,000	333,704,000	

1.2.4	Green Laboratory Initiatives				0	0	0
1.2.4.1	Nature Study in forests by Students (National/ International) 10 students/yr; 2 weeks	Students	20	49,000	0	980,000	1,754,200
1.2.4.2	Nature and Forests Programme engaging Education/ Research Institutions	Program	0	1,500,000	0	0	0
1.3	Deltaic Landscape				0	0	0
1.3.1	Community resilience measures in Sundarbans				0	0	0
a)	Porcupine Structure (incl. 25% maintenance for 3 yrs.)	SQM	12,150	3,625	0	44,043,750	78,838,313
b)	Permeable Dam (incl. 25% maintenance for 3 yrs.)	RM	8,100	713	0	5,775,300	10,337,787
c)	Survey, Earth Work and Vetiver/Mangrove dibbling (incl. 25% maintenance for 3 yrs.)	SQM	12,150	38	0	461,700	826,443
1.3.2	Green Laboratory Initiatives				0	0	0
1.3.2.1	Nature Study in forests by Students (National/ International) 10 students/vr; 2 weeks	Students	15	49,000	0	735,000	1,315,650
1.3.2.2	Nature and Forests Programme engaging Education/ Research Institutions	Program	5	1,500,000	0	7,500,000	13,425,000
					0	0	0
					0	0	0
					0	0	0
			_		0	0	0
	Total				0	1,053,699,000	1,886,121,210

	C2 Biodiversity Conservation and Restoration	ı					Loan Coverage Ratio	100
				Unit I		_	ost	Amount
	Item	Unit	Q'ty	Foreign JPY	Local INR	Foreign JPY	Local INR	JPY
2.1	Hills and North Bengal Landscape			JFI	INK	JF 1 0	0	JF 1
2.1.1	Human Wildlife Conflict Mitigation					0	0	0
2.1.1.1	Stress-induced Conflict Risk Reduction by Wild Animals	km	40		500,000	0	20,000,000	35,800,000
a)	Control of straying of Wild animal - Elephants, Leopards & Gaur	ls	1		50,000,000	0	50,000,000	89,500,000
2.1.1.2	Support communities for HW mitigation	ls	1		13,500,000	0	13,500,000	24,165,000
2.1.1.3	Pilot (Eco sensitive Zone) plantation with non- palatable/repulsive species	ha	20		300,000	0	6,000,000	10,740,000
2.1.2	Species Conservation Programme					0	0	0
2.1.2.1	Species recovery programme for local RET (50 ha.)	ha	50		155,195	0	7,759,750	13,889,953
a)	Protection of RET Species in the habitat	Nr	20		90,000	0	1,800,000	3,222,000
2.1.3	Studies on wild animals and their behavior					0	0	0
2.1.3.1	Study on Lesser Cat in North Bengal (5 spp.)	ls	1		3,000,000	0	3,000,000	5,370,000
2.2	Dry Lateritic & Alluvial Landscape					0	0	0
2.2.1	Biodiversity conservation through people's participation in protected area					0	0	0
2.2.1.1	Bethuadahari Wildlife Sanctuary	ls	1		6,000,000	0	6,000,000	10,740,000
2.2.1.2	Ballavpur Wildlife Sanctuary	ls	1		7,400,000	0	7,400,000	13,246,000
2.2.2	Conservation for Smaller Mammals					0	0	0
2.2.2.1	Habitat Improvement (Water bodies creation)	Nr	25		200,000	0	5,000,000	8,950,000
2.2.2.2	Conservation awareness Generation	ls	1		18,500,000	0	18,500,000	33,115,000
2.2.3	Human Wildlife Conflict Mitigation					0	0	0
2.2.3.1	Rescue Centre for elephants including study of their behavior (15 km)	ls	1		500,000,000	0	500,000,000	895,000,000
2.2.3.2	Stress induce conflict risk reduction by wild animals	ls	1		200,000,000	0	200,000,000	358,000,000
2.2.3.3	Tracking of elephant route through radio collaring	Nr	10		226,000	0	2,260,000	4,045,400
2.2.3.4	Enhancement of tranquilizer equipment for wild animals to be kept in Airavat vans	ls	1		2,900,000	0	2,900,000	5,191,000
2.2.3.5	Installation of Early Warning System (EWS) for Wild Elephants	Nr	200		48,000	0	9,600,000	17,184,000
2.2.3.6	Development of software application for compensation for depredation by wild animals	ls	1		5,000,000	0	5,000,000	8,950,000
2.2.3.7	Installation of Elephant Proof Trench (EPT) in South-West Bengal	km	95.36		278,100	0	26,519,616	47,470,113
2.2.4	Species Conservation Programme					0	0	0
2.2.4.1	Dolphin Conservation Programme	ls	1		9,000,000	0	9,000,000	16,110,000
2.2.4.2	Breeding and releasing of Indian pangolin	ls	1		15,700,000	0	15,700,000	28,103,000
2.2.4.3	Breeding and releasing of fishing cat	ls	1		18,000,000	0	18,000,000	32,220,000
2.2.4.4	Breeding and releasing of Indian Vulture	ls	1		10,000,000	0	10,000,000	17,900,000
2.2.4.5	Species recovery programme for local RET (25 ha.)	ha	25		176,640	0	4,416,000	7,904,640
a)	Protection of RET Species in the habitat	plot	10		90,000	0	900,000	1,611,000

2.3	Deltaic Landscape				0	0	0
2.3.1	Biodiversity conservation through people's participation in protected area				0	0	0
2.3.1.1	Chintamoni Kar Bird Sanctuary	ls	1	7,600,000	0	7,600,000	13,604,000
2.3.1.2	Bibhutibhushan Wildlife Sanctuary	ls	1	6,600,000	0	6,600,000	11,814,000
2.3.2	Human Wildlife Conflict Mitigation				0	0	0
2.3.2.1	Stress induce conflict risk reduction by wild animals (Net-fencing installation)	km	84	620,060	0	52,085,040	93,232,222
2.3.2.2	Veterinary facility in Sundarbans	ls	1	21,200,000	0	21,200,000	37,948,000
2.3.3	Studies on wild animals and their behavior				0	0	0
2.3.3.1	Assessment of aquatic biodiversity in Sundarbans and territorial waters	ls	1	4,000,000	0	4,000,000	7,160,000
2.3.3.2	Studies Suggested by Central Asian Flyway	ls	1	10,000,000	0	10,000,000	17,900,000
					0	0	0
					0	0	0
	Total				0	1,044,740,406	1,870,085,327

	C3 Livelihood Improvement						Loan Coverage Ratio	itio 100	
		TT 14	Oli	Unit P			ost	Amount	
	Item	Unit	Q'ty	Foreign JPY	Local INR	Foreign JPY	Local INR	JPY	
3.1	Hills and North Bengal Landscape			J1 1	INK	0	0	0	
3.1.1	Preparatory Activities for JFMCs					0	0	0	
3.1.1.1	Community mobilization					0	0	0	
3.1.1.2	Reorganisation/ Reconstitution of JFMCs and Confirmation of Demarcation of JFMC	JFMCs	74		2,500	0	185,000	331,150	
3.1.1.3	Familiarization of project to JFMC	JFMCs	74		2,000	0	148,000	264,920	
3.1.1.4	Micro-planning					0	0	0	
a)	Microplan Preparation	JFMCs	74		6,000	0	444,000	794,760	
b)	Revisiting of Microplan	JFMCs	74		1,000	0	74,000	132,460	
3.1.1.5	EPA / CDA	JFMCs	74		816,000	0	60,384,000	108,087,360	
3.1.2	Support for Income Generation					0	0	0	
3.1.2.1	Support to SHGs - JFMC	JFMCs	74		300,000	0	22,200,000	39,738,000	
3.1.2.2	Technical Agency	Ls	1		6,000,000	0	6,000,000	10,740,000	
3.1.3	Support for Community Wellbeing					0	0	0	
3.1.3.1	Support for Community Well Being (Local Traditional Healers)	FMUs	22		60,000	0	1,320,000	2,362,800	
3.1.4	Support for Community Mobilizing					0	0	0	
3.1.4.1	Extension Worker (74 JFMCs)	Year	3		2,131,200	0	6,393,600	11,444,544	
3.2	Dry Lateritic & Alluvial Landscape					0	0	0	
3.2.1	Preparatory Activities for JFMCs					0	0	0	
3.2.1.1	Community mobilization					0	0	0	
3.2.1.2	Reorganization/reconstitution of JFMC and confirmation of demarcation of JFM boundary	JFMCs	517		2,500	0	1,292,500	2,313,575	
3.2.1.3	Familiarization of project to JFMC	JFMCs	517		2,000	0	1,034,000	1,850,860	
3.2.1.4	Micro-planning					0	0	0	
a)	Microplan Preparation	JFMCs	517		6,000	0	3,102,000	5,552,580	
b)	Revisiting of Microplan	JFMCs	517		1,000	0	517,000	925,430	
3.2.1.5	EPA / CDA	JFMCs	517		816,000	0	421,872,000	755,150,880	
3.2.2	Support for Income Generation					0	0	0	
3.2.2.1	Support to SHGs - JFMC	JFMCs	517		300,000	0	155,100,000	277,629,000	
3.2.2.2	Technical Agency	Ls	2		6,000,000	0	12,000,000	21,480,000	
3.2.3	Support for Community Wellbeing					0	0	0	
3.2.3.2	Support for Community Well Being (Local Traditional Healers)	FMUs	57		60,000	0	3,420,000	6,121,800	
3.2.4	Support for Community Mobilizing					0	0	0	
3.2.4.1	Extension Worker (517 JFMCs)	Year	3		14,889,600	0	44,668,800	79,957,152	

3.3	Deltaic Landscape				0	0	0
3.3.1	Preparatory Activities for JFMCs				0	0	0
3.3.1.1	Community mobilization				0	0	0
3.3.1.2	Reorganization/reconstitution of JFMC and confirmation of demarcation of JFM boundary	JFMCs	9	2,500	0	22,500	40,275
3.3.1.3	Familiarization of project to JFMC	JFMCs	9	2,000	0	18,000	32,220
3.3.1.4	Micro-planning				0	0	0
a)	Microplan Preparation	JFMCs	9	6,000	0	54,000	96,660
b)	Revisiting of Microplan	JFMCs	9	1,000	0	9,000	16,110
3.3.1.5	EPA / CDA	JFMCs	9	816,000	0	7,344,000	13,145,760
3.3.2	Support for Income Generation				0	0	0
3.3.2.1	Support to SHGs - JFMC	JFMCs	9	300,000	0	2,700,000	4,833,000
3.3.2.2	Technical Agency	Ls	1	6,000,000	0	6,000,000	10,740,000
3.3.4	Support for Community Mobilizing				0	0	0
3.3.4.1	Extension Worker (9 JFMCs)	Year	3	259,200	0	777,600	1,391,904
					0	0	0
					0	0	0
					0	0	0
	Total				0	757,080,000	1,355,173,200

Loan Coverage Ratio C4 Institutional Strengthening Unit Price Cost Amount Unit Q'ty Item Local Local Foreign Foreign JPY INR JPY INR JPY Strengthening Project Management 4.1.1 Capacity Development on MIS/ DX 4.1.1.1 Digitization of JFMC boundaries **JFMCs** 600 11,750 7,050,000 12,619,500 Boundary Pillars establishment (5 pillars/ JFMCs a) 600 18,100 10,860,000 19,439,400 4.1.2 Mobility 45.000.000 80.550.000 30 1.500.000 a) Cars Nr 100,000 8,500,000 15,215,000 85 b) Motorcycles Nr 4 Truck (LPT407) Nr 1,500,000 6,000,000 10,740,000 c) 7 Speed Boats for Sundarbans Nr 2,000,000 14,000,000 25,060,000 d) 4.1.3 Buildings PMU building (floor area 4000 sq.ft x 8 28,000 4,650 130,200,000 233,058,000 Sq.ft. a) (Ground + 7 levels) CCF Office (Durgapur) (floor area 5000 sq.ft : Sq.ft. 5,000 3,000 15,000,000 26,850,000 b) 25 2,400,000 60,000,000 107,400,000 Range Office Complex (floor area 1200 sq.ft.) Units c) 4.1.4 Project Contractual Staff a) PMU (8 positions) 8 4,068,000 32,544,000 58,253,760 b) DMU (4 positions) Years 8 17,820,000 142,560,000 255,182,400 c) FMU (3 positions) for 85 FMUs Years 8 30,600,000 244,800,000 438,192,000 4.1.5 Digital Strengthening a) Equipment/ Digital interface ls 30 500,000 15,000,000 26,850,000 4.2 Capacity Development Training Plan based on Training Needs 4.2.1 plan 0 2 500 000 Assessment (TNA)
Trainings of Forest Officers (DCF & above 4.2.2 ranks)
Specialized Trainings - 20 batches (size 20; 400 80,000 32,000,000 57,280,000 a) Persons one week)
Exposure Trips - 10 batches (size 12; one 30,072,000 120 140,000 16,800,000 b) Persons week)
International training - 3 batches (size 12; 2 Persons 36 1,000,000 36,000,000 64,440,000 c) weeks) Trainings of Forest Officers/ Frontline Staff 4.2.3 (Ranger & below ranks)
Specialized Trainings - 30 batches (size 20; 7-600 54,000 32,400,000 57,996,000 Persons a) 35,800,000 b) Exposure Trips - 10 batches (size 20; 10 days) Persons 200 100,000 20,000,000 International training (Regional) - 5 batches 75 375,000 28,125,000 50,343,750 c) Persons (size 15; 2 weeks) National Workshop (70 participants from JICA 4.2.4 Persons 70 90,000 6,300,000 11,277,000 project states) - 3 days; one time

4.2.5	Trainings for JFMC/ SHG members				0	0	0
a)	JFMC members - 120 batches (size 20; 5 days)	Persons	2,400	7,500	0	18,000,000	32,220,000
b)	SHG members - 90 batches (size 20; 5 days)	Persons	1,800	7,500	0	13,500,000	24,165,000
4.3	Monitoring & Evaluation				0	0	0
4.3.1	Progress Monitoring				0	0	0
4.3.1.1	Biodiversity Monitoring	Biennial	4	1,500,000	0	6,000,000	10,740,000
4.3.1.2	Concurrent Monitoring & Periodic Review (PMU and Circle level)	Quarterly	32	60,000	0	1,920,000	3,436,800
4.3.1.3	Community Self-monitoring (by JFMCs)	Quarterly	32	10,000	0	320,000	572,800
4.3.1.4	Computerized MIS & GIS/ applications/ UAV for monitoring				0	0	0
	a) GIS Enterprise (latest) - multi user software	Nr	1	11,050,000	0	11,050,000	19,779,500
	b) Procurement of GPS	Nr	90	20,500	0	1,845,000	3,302,550
	c) Mobile app - upgrade of e-monitoring for e- plantation journal function	ls	1		0	0	0
	d) Development of project MIS platform linked to web-GIS and mobile app (including cost of item c. and AMC for 3 yrs)	ls	1	6,500,000	0	6,500,000	11,635,000
	e) Pilot project for use of UAV	Nr	1	4,700,000	0	4,700,000	8,413,000
4.3.1.5	Computerized Accounting System	DMUs	30	50,000	0	1,500,000	2,685,000
4.3.1.6	Annual Strategy Planning & Review Workshops	Annual	8	350,000	0	2,800,000	5,012,000
4.3.2	Impact Evaluation				0	0	0
4.3.2.1	Annual Outcome Assessments (by DMUs)	Annual	7	750,000	0	5,250,000	9,397,500
4.3.2.2	Baseline and Impact Surveys				0	0	0
	a) Socio-economic/ Gender Surveys				0	0	0
	i) Baseline	times	1	2,500,000	0	2,500,000	4,475,000
	ii) Impact (mid and end-term)	times	2	3,000,000	0	6,000,000	10,740,000
	b) Physical (forest resource) Surveys				0	0	0
	i) Baseline	times	1	2,500,000	0	2,500,000	4,475,000
	ii) Impact (mid and end-term)	times	2	3,000,000	0	6,000,000	10,740,000
4.3.2.3	Thematic and Short Studies	studies	10	1,500,000	0	15,000,000	26,850,000
4)	Environmental Impact Assessment	study	1	2,000,000	0	2,000,000	3,580,000
	i) Baseline				0	0	0
	ii) Impact (mid and end-term)				0	0	0
4.3.3	Audits				0	0	0
1)	Statutory Financial Audits (at PMU and DMUs level)	Annual	8	25,000	0	200,000	358,000
2)	Internal (Concurrent) Audits (in-house by PMU at DMU level)	Annual	7	450,000	0	3,150,000	5,638,500
3)	Social Audits (by JFMCs facilitated by FMUs)	Annual	7	900,000	0	6,300,000	11,277,000
4.4	Strengthening Forest Research				0	0	0
1)	Creation of Carbon Estimation Lab	Units	1	5,000,000	0	5,000,000	8,950,000
2)	Prioritized research topics as per Research Plan	Nr	3	2,500,000	0	7,500,000	13,425,000
4.5	Publicity and Publications				0	0	0
4.5.1	Website maintenance	Years	8	120,000	0	960,000	1,718,400
4.5.2	Guidelines, Manual and Annual Reports	Years	8	500,000	0	4,000,000	7,160,000
4.5.3	Small films/ videos/ Digital documentation	Years	8	900,000	0	7,200,000	12,888,000
4.5.4	Knowledge Material / Course Material	Years	8	500,000	0	4,000,000	7,160,000
4.5.5	РоС	ls	1	25,800,000	0	25,800,000	46,182,000
	Total				0	1,074,634,000	1,923,594,860

1.1 Quality Planting Material

1.1.1.Detailed estimate of upgrading Central Nursery and Maintenance (Model: B1)

A. Provision of one backup deep tube well with pump house

i) Sinking of deep tube-well (100 mt depth 150 mm dia, Tube well top enlarge of 250 mm dia.)

Sl. No.	Particulars of Work	Unit	Vol/ € ntm	Rate	Amount
a	Boring 150mm dia. Including hire charges of labour and machine upto				
	a) first 50 mts	m	50	1141	57,060.00
	b) next 35 mts	m	35	1200.00	42,000.00
b	Washing & devloping tubewell with air compressor	no	2	10800.00	21,600.00
С	Supplying of PVC pipes & fittings(medium duty) confirming ISI standard				0.00
	a) 150 mm dia nominal dia	Rmt	45	1080.00	48,600.00
	b) 250 mm dia	Rmt	25	3102.00	77,550.00
d	Supplying of ISI standard superior quality Sub- mersible pump 32 Amp, TPN main switch	no	1	40000.00	40,000.00
	Sub-total				2,86,810.00
е	Contingency	3%			8,604.30
	Total				2,95,414

B. Provision of raised nursery Beds, stands and hycopots shed etc.

i) Laying out beds including supply of Root-trainers & iron stands

a	Root Trainer made by Black HDPE material, 300 cc capacity, Inner Dia – 71 mm,Outer Dia – 75	no	100000	6.00	6,00,000.00
	mm,Wall Thickness - 2 mm,Length - 129 mm,Inner Ridges - 05 Nos.,Inner Ridge height -				
	2mm,Outer Ring – 1.5 cm from top, Ring Thickness – 2 mm				
b	MS Stand:One stand Can hold100 root trainers of 300 CC capacity, Size: 33" x 33" x 2 ft (ht),	no	1000	1800.00	18,00,000.00
	Frame-1" x ¼," Patti; ½" x ¼" Middle Support ¼" x ½ ;Stand 1" x ¼",Support Angle 3" x ½";				
	Weight 15 to 17 kgs				
	Sub-total				24,00,000.00
С	Contingency	3%			72,000.00
	Total				24,72,000

ii) Replacemenr of damaged Water Pipe line network

a PVC pipe 2 inches dia	Rmt	120.0	390.00	46,800.00
b PVC pipe 1 inches dia	Rmt	150.0	180.00	27,000.00
c Accessories :-				
Stop Cock - 0.05x0.05mt	no	3	720.00	2,160.00
End connector - 0.05 mt.	no	3	68.00	204.00
Straight connector - 0.05 mt.	no	14	36.00	504.00
End cap - 2.75 cm.	no	4	50.00	200.00
T- connector	no	3	78.00	234.00
Straight connector - 2.75 cm.	no	5	36.00	180.00
End connector - 2.75 cm.	no	4	70.00	280.00
5 Horse Power Motor Pump.	no	1	20000.00	20,000.00
50 D.M. Filter.	no	1	5000.00	5,000.00
Sub-total				1,02,562.00
d Contingency	3%			3,077
Total			, in the second	1,05,638

iii) Replacement of Agronet shed area with pipes over 12mt x 12 mt

a Supplying of 30-32 mm GI pipes including rafter & purlin	rmt	400	160.00	64,000.00
b Labour for fitting & fixing the shed	Unskilled	16	340.00	5,440.00
	Skilled	8	422.00	3,376.00
c Supplying of 50 % Agronet shed - 144m2 + 10% including carriage	m2	144	92.00	13,248.00
d. Nuts, G.I Wire, hiring of wilding machine etc.	LS			2,500.00
Sub-total				88,564.00
e Contingency	3%			2,656.92
Total				91,221

C. Maintenance of Central Nursery

Item				R	ate	Amount
No	Description	Unit	Quantity	Labour	Material	(in Rs)
of SoR	SoR			Unskilled	(in Rs.)	(III KS)
RA-						
25(a)	Cleaning of Central Nursery site which is in regular use	1 ha	5 ha	5	4860	6215
RA-	Maintenance of hypocots, M.S.Strands by thorough scrapping and painting with primer and rust					
25(b)	proof paint	100	1850	20	10000	15420
RA-25	Cleaning of drain and other sewage of Central Nursery					
(c)	Creating of drain and other sewage of Central Nursery	1 ha	5 ha	10		2710
RA-25	Repair and maintenance of Agronet shed excluding supply of Agronet shed and other petty	10	144			
(f)	repairs etc.	S¶ mt	S q mt	42		11382
				, and the second second		
	Sub-Total :			77	14860	35727
	Total:					35727

Compo	nent 1 : E	cosystem	based C	limate Ch	ange measu	ıres		
1.1.1. D	etailed es	timate of	upgradin	g Central	Nurseries ar	nd Mainte	nance (Model B1)	
	T	1	1	T	0,000 QPM		Ī	
<u>A.</u>	<u>Provision</u>	<u>ı of one de</u>	ep tube w	ell with pu	<u>mp house</u>			
1 Sinking deep tube-well							2,95,414	
	Tomming doop tube wen				Total Part -I	2,95,414		
<u>B.</u>	Provision	of raised	nursery Be	eds, stands	and hycopot	s shed etc.		
	, ,				ainers & iron s	stands		24,72,000
	Replaceme							1,05,638
3	Replaceme	ent of Agro	net shed wi	th Iron Pip	es			91,221
							Total Part-II	26,68,859
<u>C.</u>	Maintena	nce of Cen	tral Nurse	<u>ry</u>			Rs.	35727
							Total Part-III	35727
							GRAND Total Part-I, II & III	30,00,000

Component 1 : Ecosystem based Climate Change measures

1.1.2 Production of Quality Planting Material (QPM)

Estimate for Production of QPM for 2023-24

A. Creation year 2023-24

	No. of seedlings			os in 300 cc hy	pocot	
	Labour Rate (Skilled- Rs.3	28/- & Unskilled	d- Rs.271/-)			
			Rate	per Ha (2023	-24)	Amount (Rs.)
Sl No.	Particulars of work	SoR ref. item no.	Labour (Mandays)	Material	
			Skilled	Unskilled	(in Rs.)	
1	Initial cleaning of Central Nursery site which is in regular use	RA-2(ii)	0	6	0.00	1,626
	Procurement/ purchase/ making of ingredient and preparation of potting mixture (details of ingredient listed below), filling root trainer and arranging then in trays over raised bed	RA-5b	0	10	1023	3,733
2	a) Leaf Compost / Vermicompost 0.15 m3	RA-3 (c)	0	0	350	
	b) Sand 0.15 m3	RA-3 (b)	0	0	250	
	c) Good earth 0.15 m3	RA-3 (a)	0	0	150	
	d) Insecticides & fungicides (1/2 Lt)	RA-(h,i)	0	0	150	
	e) Growth hormone, micronutrients etc. 100 ml	RA-(m)	0	0	123	
3	Cleaning and disinfecting Root Trainer (300 cc)	RA-4 (a)	0	1	0	271
4	Collection of Seeds, drying, sorting, treatment etc.	RA-6,7		1	250	521
5	Preparation of mother bed, sowing of seeds in mother beds and hygropits etc	RA-8	0	1	150	421
6	Pricking out of seedlings from mother bed into hypocots	RA-9	0	4	0	1,084
7	Sorting & Shifting whenever necessary	RA-11	0	4	0	1,084
8	Weeding and cleaning of hypocots/root trainer, application of insecticides, growth hormone etc.	RA-12	0	4	0	1,084
9	Watering of seedlings two times a day	RA-13	0	1	100	371
Γotal			0.0	32.0	1,523	10,195.00
	Add : Contingency @3%		-			304.85
Grand T	'otal					10,500

B. Estimate for Maintenance of QPM in Central Nursery for 2024-25

1	Sorting & Shifting whenever necessary	RA-11	0	6	0	1,626
2	Application of insecticides, fungicides, micronutrients, ,neem cake etc.	RA-14	0	2	205	612
3	Weeding and cleaning of hypocots/root trainer, application of insecticides, growth hormone etc.	RA-12	0	6	0	1,626
4	Watering of seedlings two times a day	RA-13	0	2	100	507
Total			0.0	15.0	305.0	4,370.00
	Add : Contingency @3%					130.10
Grand To	Grand Total					4,500

B. Rate of maintenance of one QPM in Central Nurseries $\,$ - Rs.4.50 $\,$

Rate of production and maintenance of one QPM in Central Nursery (A+B) = Rs.

15.00

1.2.1. Improving Quality of Forests
1.2.1. Creation of new Seed Production Areas (SPAs) and maintenance

Model: B3 Estimate for Seed Production Areas (per Ha)-2022-23

	Model : B3 Estimate for S Type of Plantation	seea Producti	on Areas (pei	: Ha)-2022-23 SPA	5	
	No. of seedling per ha			2000		
	Spacing per ha			2m x 2.5m	l	
	Pit Size		600	m. x 45cm. x	45cm.	
	Labour Rate (Skill	ed- Rs.328/- &	Unskilled- Rs.	271/-)		
		SoR Ref.		ate (2022-23		
Sl No.	Particulars of Work	item no.	Labour (I Skilled	Mandays) Unskilled	Material (in Rs.)	Amount (Rs.)
	Survey and demarcation of the plantation site		Skilleu	Oliskineu	Konj	
1	including preparation of Regeneration Map and	RA-29	0.5	1	90	525
	GPS Survey map Clearance of thick density areas: Clear felling,					
2	burning, heaping and re-burning in thick	RA-27(a)	0	35	0	9,485
	undergrowth and bushes					
3	Staking and alignment of plantation site, collection of stakes, pitching etc.	RA-30	0	5	390	1,745
	Pit cutting: Seed Production areas (60x45x45					
4	cm)	RA-31 (a)	0	35	0	9,485
5	Sorting and shifting of seedlings per each time	RA-11 (i)	0	5	0	1,355
	in Nurseries :Seed Production area Weeding and cleaning of seedlings in Hycopots /					
6	root trainers per each time ::Seed Production	RA-12 (i)	0	5	0	1,355
	area					
7	Watering and cleaning of seedlings in Hycopots two times per day :SPA	RA-13 (i)	0	2	0	542
	Creation of inspection path by removing weeds,					
8	scarping and by providing proper drain along	RA-42	0	5	0	1,355
	the diagonal of the Seed Production Area of 3 mt wide					
9	Pit filling and appliction of Farm yard Manure	RA-33(i)	0	17	2400	7,007
<u> </u>	::Seed Production area	101 55(1)	Ů	- 17	2100	7,007
10	Transplanting of Hycopots seedling into pits including man carriags from the unloading point	RA-36(iii)	0	24	0	6,504
	::Seed Production area	, ,				
11	Application of insecticides and other chemicals whenever necessary	RA-41	0	2	690	1,232
	Vacancy infilling of pits with new seedling					
12	wherever there mortality due abiotic and biotic	RA-40	0	3		813
13	factors 1st cleaning	RA-38(a)	0	16		4,336
14	1st Mulching with fertilizer including cost of		0	14	2300	6,094
	carraige	RA-39(a)			2300	·
15	2nd cleaning 2nd Mulching with fertilizer including cost of	RA-38(b)	0	14		3,794
16	carraige	RA-39(b)	0	12	1500	4,752
17	3rd cleaning	RA-38(c)	0	12		3,252
18	4th cleaning	RA-38(d)	0	10		2,710
19	5th cleaning Creation of fireline to protect plantation from	RA-38 (e)	0	10		2,710
20	Fire, by making 3mt wide fireline inside plantation and along boundary, by removing weeds and vegetation and scarpping, cutting of all existing weed growth to a width of 3 m. Heaping, burning and re-burning in younger plantations	RA-44	0	4	0	1,084
21	Providing watch and ward in the form of man days to oversee the plantation and protect the plantation from damages arining out of biotic factors for the entire year	RA-45	0	12	0	3,252
22	Transportation of Hycopots seedling from nursery to Plantation site including loading & unloading: d) lead distance>20km & upto 30km : 300CC Hycopots	RA-34(d)	0	2	3200	3,742
23	Collection of Hycopots after plantation & transporting back to central nursery after careful packing etc.: d) lead distance > 20km & unto 30km: 300 CC Hycopots	RA-43(d)	0	2	0	542
24	upto 30km: 300 CC Hycopots Barbed wire / energized fencing, with 4 strand, using wooden post of 6-7 ft height and 6 inch girth at 2.5 mt apart.Fixing the fence posts after digging pits of 30 cm x 30 cm x 40 cm depth and consolidation, ensuring firm fixture, unrolling and fixing barbed wire with 'U' nils in four rows, ensuring proper fixture	RA-46(b)	0	2	20000	20,542
25	SIGNAGE: Installation of sign board with Forest directorate colour code and emblem of size 3 'x4' ft made out of brick work and plastered and well finished and painted with good quality paint	RA-49			300	300
Α	Total		0.5	249.0	30,870	98,513
В	Add : Contingency @3%					2,955
С	Grand Total					1,01,468
D	ad Continuo la afficia di Baratta di Canada Bara					
Project	ed Cost per ha of Seed Production Areas for the F.Y	Skilled	Unskilled	Amount	Price Escalation	Total Labour cost
A. Man		0.5	249.0	67,643	LocaidUUII -	67,643
B. Mate				30,870	-	30,870
CTota	l			98,513	-	98,513

Skilled	Unskilled	Amount	Escalation	Total Labour cost
0.5	249.0	67,643	-	67,643
		30,870	-	30,870
		98,513	-	98,513
				2,957
				1,01,470
	Skilled 0.5		0.5 249.0 67,643 30,870	Skilled Unskilled Amount Escalation 0.5 249.0 67,643 - 30,870 -

Estimate for 1st year maintenance of Seed Production Areas (per Ha) for 2022-23

	Estimate for 1st year maintenai			per Ha (2022		
Sl No.	Particulars of work	SoR ref.		Mandays)	Material (in	Amount
		item no.	Skilled	Unskilled	Rs.)	(Rs.)
1	Vacancy infilling of pits with new seedling wherever there mortality due aboitic and biotic factors including cost of transportation	RA-40	0	6	450	2,076
2	1st cleaning	RA-38 (a)	0	16	0	4,336
3	1st Mulching with fertilizer including cost of carraige	RA-39(a)	0	14	2300	6,094
4	2nd cleaning	RA-38 (b)	0	14	0	3,794
5	3rd cleaning	RA-38 (c)	0	10	0	2,710
6	4th cleaning	RA-38 (d)	0	8	0	2,168
7	Creation of fireline to protect plantation from Fire, by making 3mt wide fireline inside plantation and along boundary, by removing weeds and vegetation and scrapping, cutting of all existing weed growth to a width of 3 m. Heaping, burning and re-burning in younger plantations	RA-44	0	5	0	1,355
8	Application of insecticides and other chemicals whenever necessary including carraige (nos.)	RA-41	0	5	690	2,045
9	Providing watch and ward in the form of man days to oversee the plantation and protect the plantation from damages arining out of biotic factors for the entire year	RA-45	0	12	0	3,252
10	Repairing of barbed wire fencing		0	1	600	871
A	Total		0.0	91.0	4,040	28,701
В	Add: Contingency @3%					861
C	Grand Total					29,562

Projected Cost per ha of 1st year maintenance Seed Production Areas for the F.Y 2025-26	Skilled	Unskilled	Amount	Price Escalation	Total Labour cost
A. Mandays	0.0	91	24,661	-	24,661
B. Materials			4,040	-	4,040
CTotal			28,701	-	28,701
Add: Contingency @3%					859
Grand Total (In Rs.)					29,560

Estimate for 2nd year maintenance of Seed Production Areas (per Ha) for 2022-23

	Estimate for 2nd year maintenance of Seed Production Areas (per Ha) for 2022-23							
		SoR ref.	Rate	per Ha (2022	2-23)	Amount		
Sl No.	Particulars of work		Labour (Mandays)		Material (in			
		item no.	Skilled	Unskilled	Rs.)	(Rs.)		
1	Vacancy infilling of pits with new seedling wherever there mortality due aboitic and biotic factors including cost of transportation	RA-40	0	4	300	1,384		
2	1st cleaning	RA-38 (a)	0	16	0	4,336		
3	2nd cleaning	RA-38 (b)	0	14	0	3,794		
4	3rd cleaning	RA-38 (c)	0	12	0	3,252		
5	Creation of fireline to protect plantation from Fire, by making 3mt wide fireline inside plantation and along boundary, by removing weeds and vegetation and scrapping, cutting of all existing weed growth to a width of 3 m. Heaping, burning and re-burning in younger plantations	RA-44	0	4	0	1,084		
6	Providing watch and ward in the form of man days to oversee the plantation and protect the plantation from damages arining out of biotic factors for the entire year	RA-45	0	12	0	3,252		
7	Repairing of barbed wire fencing		0	1	184	455		
A	Total		0	63	484	17,557		
В	Add : Contingency @3%					528		
С	Grand Total					18085		

Projected Cost per ha of 2nd year maintenance of Seed Production Areas for the F.Y 2026-27	Skilled	Unskilled	Amount	Price Escalation	Total Labour cost
A. Mandavs	0.0	63	17,073	Licalation	17,073
,	0.0	03	484	-	,
B. Materials				-	484
CTotal			17,557	-	17,557
Add: Contingency @3%					527.72
Grand Total (In Rs.)					18,085

Estimate for 3rd year maintenance of Seed Production Areas (per Ha) for 2022-23

		C-D	Rate	per Ha (2022	2-23)	Amount	
Sl No.	Particulars of work	SoR ref. item no.	Labour (Mandays)		Material (in		
		item no.	Skilled	Unskilled	Rs.)	(Rs.)	
1	Vacancy infilling of pits with new seedling wherever there mortality due aboitic and biotic factors including cost of transportation	RA-40	0	2	87	629	
2	1st cleaning	RA-38 (a)	0	14	0	3,794	
3	2nd cleaning	RA-38 (b)	0	12	0	3,252	
4	3rd cleaning	RA-38 (c)	0	8	0	2,168	
5	Creation of fireline to protect plantation from Fire, by making 3mt wide fireline inside plantation and along boundary, by removing weeds and vegetation and scrapping, cutting of all existing weed growth to a width of 3 m. Heaping, burning and re-burning in younger plantations	RA-44	0	4	0	1,084	
6	Providing watch and ward in the form of man days to oversee the plantation and protect the plantation from damages arining out of biotic factors for the entire year	RA-45	0	10	0	2,710	
7	Repairing of barbed wire fencing		0	1	0	271	
A	Total		0	51	87	13,908	
В	Add: Contingency @3%		_			417	
С	Grand Total					14325	

Projected Cost per ha of 3rd year maintenanceof Seed Production Areas for the F.Y 2027-28	Skilled	Unskilled	Amount	Price Escalation	Total Labour cost
A. Mandays	0.0	51	13,821	-	13,821
B. Materials			87	-	87
CTotal			13,908	-	13,908
Add: Contingency @3%					417.24
Grand Total (In Rs.)					14,325

Cost abstract	Amount (in Rs.)
Creation of Seed Production Areas	1,01,470
1st year maintenance of Seed Production Areas	29,560
2nd year of maintenance of Seed Production Areas	18,085
3rd year maintenance of Seed Production Areas	14,325
Grand Total	1,63,440

Component 1 : Ecosystem based Climate Change measures

1.2. Improving Quality of Forests

1.2.2. ANR of degrated Sal forests (Coppicing)

Model: Estimate for Rehabilitation of degrated Sal forests (RDF) in SW Bengal for 2023-24

	Wodel: Estimate for Kenabilitation of degra	teu sai iorests (iti	Di j ili Svv Deligai i			
	Type of Plantation			RDF		
	Labour Rate (Skilled- Rs.328/- & Unskilled- Rs.271/-)					
		SoR ref. item	Rate pe	er Ha (2023-2	24)	Amount
Sl No.	Particulars of work		Labour (Ma	ındays)	Material	
		no.	Skilled	Unskilled	(in Rs.)	(Rs.)
1	Survey and demarcation of the plantation area including GPS survey by technical person	RA-29	0.5	1	60.00	495
2	Cutting of dead, dying, moribund, bent, suppressed, coppice shoots of sal flush of the ground			8	0	2,168
3	Hoeing around basal portion of living stamp, mulching, application of fertilizer and spraying of insecticide			4	0	1,084
4	Irraction of live edge of Ipomea, Vitex, thorny spp, fencing with bamboo including cost of material			2	500	1,042
8	Soil moisture Conservation- Digging of box trench over a length of 500 mt of size 5 m x 0.45 m x 0.45 m	RA-32	0	35	0	9,485
A	Total		0.5	50	560	14,274
В	Add : Contingency @3%					426
С	Grand Total					14,700

	Model: Estimate for Multiple shoot cutti	ng (MSC) in 4th y	ear after RDF in SV	V Bengal		
	Type of Plantation			MSC		
		SoR ref. item	R	ate per Ha		
Sl No.	Particulars of work		Labour (Ma	ındays)	Material	Amount (Rs.)
		no.	Skilled	Unskilled	(in Rs.)	(RS.)
1	Survey and demarcation of the plantation area including GPS survey by technical person	RA-29	0.5	1	60.00	495
2	Cleaning of the brushes in the boundary and inside forest			4	0	1,084
3	Coal taring the leading shoots to be retained 2-3 nos per stump using labour			1	50	321
4	Cutting all non leading shoots per stumps keeping 2-3 coal tarred leading shoots			12	0	3,252
A	Total		0.5	18	110	5,152
В	Add : Contingency @3%					148
С	Grand Total					5,300

Cost abstract `	Amount (in Rs.)
Rehabilitation of degrated Sal forests in SW Bengal	14,700
Multiple shoot cutting after RDF	5,300
Grand Total	20,000

Model: Estimate for Creation of Strip Plantation for 2022-23

	Model : Estimate for Creati	on of Strip Plantation				
	Type of Plantation		S	trip SB		
	No. of seedlings per ha			1600		
	Spacing per ha		2.5	m x 2.5m		
	Pit Size		60cm. X	60cm. X 45cm	l	
	Labour Rate (Skilled- Rs.328/- & Unskilled- Rs.271/-)					
		4.		Rate per Ha (2022-23		Amount
Sl No.	Particulars of work	SoR ref. item no.	Labour (M		Material	(Rs.)
	Survey and demarcation of the plantation site including		Skilled	Unskilled	(in Rs.)	
1	preparation of Regeneration Map and GPS Survey map	RA-29	0.5	1	90.00	525
	Clearance of undergrowth in thick forest areas : Clear					
2	felling, burning, heaping and re-burning in thick density	RA-27 (a)	0	35	0	9,485
	areas of undergrowth and bushes					
3	Staking and alignment of plantation site, collection of stakes, pitching etc.	RA-30	0	4	310	1,394
4	Pit cutting : b) Strip Plantation-60x60x45cm	RA-31 (b)	0	50	0	13,550
6	Sorting and shifting of seedlings per each time	RA-31 (b) RA-11 (ii)	0	5	0	1,355
	Weeding and cleaning of seedlings in Hycopots / root					·
7	trainers per each time	RA-12(ii)	0	5	0	1,355
8	Watering of seedlings in Hycopots two times per day	RA-13(ii)	0	3	0	813
	Creation of inspection path by removing weeds, scraping	` `				
9	and by providing proper drain along the diagonal of the	RA-42	0	5	0	1,355
<u> </u>	plantation site, of 3 mt wide					
10	Pit filling and application of Farm yard Manure including cost of carraige	RA-33(ii)	0	22	5520	11,482
	Transplanting of Hycopots seedlings into pits including					
11	man carriage from the unloading point	RA-36 (iv)	0	13	0	3,523
12	Application of insecticides and other chemicals whenever	DA 41	0	2	600	1 222
12	necessary including carraige (nos.)	RA-41	0	2	690	1,232
13	Vacancy infilling of pits with new seedling wherever there	RA-40	0	3	0	813
	mortality due aboitic and biotic factors					
14 15	1st cleaning 1st Mulching with fertilizer including cost of carraige	RA-38 (a)	0	14 14	0	3,794 6.094
16	2nd cleaning	RA-39(a) RA-38 (b)	0	12	2300	3,252
	2nd Mulching with Chemical fertilizer including cost of		0			
17	carraige	RA-39(b)	0	12	1840	5,092
18	3rd cleaning and Multching	RA-38 (c)	0	10	0	2,710
19	4th cleaning and Multching	RA-38 (d)	0	10	0	2,710
20	5th cleaning	RA-38 (e)	0	10	0	2,710
	Creation of fireline to protect plantation from Fire, by making 3mt wide fireline inside plantation and along					
	boundary, by removing weeds and vegetation and					
21	scrapping, cutting of all existing weed growth to a width of	RA-44	0	4	0	1,084
	3 m. Heaping, burning and re-burning in younger					
	plantations					
	Providing watch and ward in the form of man days to				-	
22	oversee the plantation and protect the plantation from	RA-45	0	12	0	3,252
	damages arining out of biotic factors for the entire year					
22	Transportation of Hycopots seedling from nursery to Plantation site including loading & unloading: d) lead	DV 34(3)			2177	4360
23	distance>20km & upto 30km : 300CC Hycopots	RA-34(d)	0	4	3176	4,260
	Collection of Hycopots after plantation & transporting back					
24	to central nursery after careful packing etc. : d) lead	RA-43(d)	0	2	0	542
	distance> 20km & upto 30km : 300CC Hycopots					
26	Cost of signage (one for each 10 Ha or part thereof)	RA-49	0	0	300	300
	Barbed wire fencing, with 4 strand, using wooden post of 6-					
	7 ft height and 6 inch girth at 2.5 mt apart. Fixing the fence posts after digging pits of 30 cm x 30 cm x 40 cm depth and					
27	consolidation, ensuring firm fixture, unrolling and fixing	RA-46 (b)	0	2	20000	20,542
	barbed wire with 'U' nils in four rows, ensuring proper					
<u></u>	fixture					
A	Total		0.5	254	34,226	1,03,224
В	Add : Contingency @3%					3,096
С	Grand Total			1		1,06,320

Projected Cost per ha of Strip plantation in SB for the F.Y 2025-26	Skilled Unskill	Unskilled	Unskilled	Unskilled	Amount	Price	Total Labour
, , , , , , , , , , , , , , , , , , ,	Omneu	Olishinea	71111041110	Escalation	cost		
A. Mandays	0.5	254	68,998		68,998		
B. Materials			34,226		34,226		
CTotal			1,03,224	-	1,03,224		
Add: Contingency @3%					3,096.72		
Grand Total (In Rs.)					1,06,321		

	Estimate for 1st year maintenance of Strip Plantation in SB for 2022-23								
			Rate per Ha (2022-23)			A			
Sl No.	Particulars of work	SoR ref. item no.	Labour (Mandays)		Material	Amount (Rs.)			
			Skilled	Unskilled	(in Rs.)	(KS.)			
	Vacancy infilling of pits with new seedling wherever there								
1	mortality due aboitic and biotic factors including cost of		0	4	300	1,384			
	transportation								

2	1st cleaning	RA-38 (a)	0	14	0	3,794
3	1st Mulching with fertilizer including cost of carraige	RA-39(a)	0	14	2300	6,094
4	2nd cleaning	RA-38 (b)	0	12	0	3,252
5	3rd cleaning	RA-38 (c)	0	10	0	2,710
6	Creation of fireline to protect plantation from Fire, by making 3mt wide fireline inside plantation and along boundary, by removing weeds and vegetation and scrapping, cutting of all existing weed growth to a width of 3 m. Heaping, burning and re-burning in younger plantations	RA-44	0	4	0	1,084
7	Application of insecticides and other chemicals whenever necessary including carraige (nos.)	RA-41	0	2	690	1,232
8	Providing watch and ward in the form of man days to oversee the plantation and protect the plantation from damages arining out of biotic factors for the entire year	RA-45	0	12	0	3,252
9	Repairing of fencing		0	2	2500	3,042
10	Labour for watering		0	3	0	813
A	Total		0.0	77	5,790	26,657
В	Add : Contingency @3%					803
C	Grand Total					27,460

Projected Cost per ha of 1st year maintenance of Strip plantation in SB for the F.Y 2026-27	Skilled	Unskilled	Amount	Price Escalation	Total Labour cost
A. Mandays	0.0	77.0	20,867		20,867
B. Materials			5,790		5,790
CTotal			26,657	-	26,657
Add: Contingency @3%					801.71
Grand Total (In Rs.)					27,459

Estimate for 2nd year maintenance of Strip Plantation in SB for 2022-23

			Rate	per Ha (2022	-23)	Amount
Sl No.	Particulars of work	SoR ref. item no.	Labour (Mandays)		Material	(Rs.)
			Unskilled	(in Rs.)	(NS.)	
1	Vacancy infilling of pits with new seedling wherever there mortality due aboitic and biotic factors including cost of transportation	RA-40	0	2.5	150	828
2	1st cleaning	RA-38 (a)	0	14	0	3,794
3	2nd cleaning	RA-38 (b)	0	12	0	3,252
4	3rd cleaning	RA-38 (c)	0	10	0	2,710
5	Creation of fireline to protect plantation from Fire, by making 3mt wide fireline inside plantation and along boundary, by removing weeds and vegetation and scrapping, cutting of all existing weed growth to a width of 3 m. Heaping, burning and re-burning in younger plantations	RA-44	0	4	0	1,084
6	Providing watch and ward in the form of man days to oversee the plantation and protect the plantation from damages arining out of biotic factors for the entire year	RA-45	0	12	0	3,252
7	Repairing of fencing		0	1	1000	1,271
8	Labour for watering		0	3	0	813
A	Total		0	59	1,150	17,004
В	Add : Contingency @3%					511
C	Grand Total					17,515

Projected Cost per ha of 2nd year maintenance of Strip plantation in SB for the F.Y 2027-28	Skilled	Unskilled	Amount	Price Escalation	Total Labour cost
A. Mandays	0.0	58.5	15,854		15,854
B. Materials			1,150		1,150
CTotal			17,004	-	17,004
Add: Contingency @3%					508
Grand Total (In Rs.)					17,511

Estimate for 3rd year maintenance of Strip Plantation in SB for 2022-23

			Rate	Amount		
Sl No.	Particulars of work	SoR ref. item no.	Labour (Mandays)		Material	(Rs.)
			Skilled	Unskilled	(in Rs.)	(KS.)
1	Vacancy infilling of pits with new seedling wherever there mortality due aboitic and biotic factors including cost of transportation	RA-40	0	2.0	75	617
2	1st cleaning	RA-38 (a)	0	14	0	3,794

3	2nd cleaning	RA-38 (b)	0	12	0	3,252
4	Creation of fireline to protect plantation from Fire, by making 3mt wide fireline inside plantation and along boundary, by removing weeds and vegetation and scrapping, cutting of all existing weed growth to a width of 3 m. Heaping, burning and re-burning in younger plantations	RA-44	0	4	0	1,084
5	Providing watch and ward in the form of man days to oversee the plantation and protect the plantation from damages arining out of biotic factors for the entire year	RA-45	0	12	0	3,252
6	Repairing of fencing		0	1	500	771
7	Labour for watering		0	2	0	542
A	Total		0	47	575	13,312
В	Add : Contingency @3%					398
С	Grand Total					13710

Projected Cost per ha of 3rd year maintenance of Strip plantation in SB for the F.Y 2028-29	Skilled	Unskilled	Amount	Price Escalation	Total Labour cost
A. Mandays	0.0	47.0	12,737		12,737
B. Materials			575		575
CTotal			13,312	-	13,312
Add: Contingency @3%					399.36
Grand Total (In Rs.)					13,710

Cost abstract	Amount (in Rs.)
Creation of Strip Plantation in S.B	1,06,321
1st year maintenance of Strip Plantation in S.B	27,459
2nd year of maintenance of Strip Plantation in S.B	17,511
3rd year maintenance of Strip Plantation in S.B	13,710
Grand Total	1,65,000

1.2. Improving Quality of Forests
1.2.4. Plantation in CFC and degraded Forest areas
1.2.4 Plantation in CFC and degrated forest areas
Model: Estimate for Creation of Misc. Plantation NB & Hills (per Ha)-2022-23

Model: Estimate for Creation of Misc. Plantation NB & Hills (per Ha)-2022-23					
Type of Plantation	Misc NB & Hills				
No. of seedling per ha	2500				
Spacing per ha	2m x 2m				
Pit Size	60cm. x 45cm. x 45cm.				

	Pit Size	60cm. x 45cm. x 45cm.						
	Labour Rate (Skill	led- Rs.328/- & Unskilled- Rs.271/-)						
		SoR Ref.		tate (2022-23				
Sl No.	Particulars of Work	item no.	Labour (I Skilled	Mandays) Unskilled	Material (in Rs.)	Amount (Rs.)		
1	Survey and demarcation of the plantation site including preparation of Regeneration Map and GPS Survey map	RA-29	0.5	1	90	525		
2	Clearance of thick density areas: Clear felling, burning, heaping and re-burning in thick undergrowth and bushes	RA-27(a)	0	35	0	9,485		
3	Staking and alignment of plantation site, collection of stakes, pitching etc.	RA-30	0	6	390	2,016		
4	Pit cutting : a) Miscellaneous (NB)/ Miscellaneous (Hill)-60x45x45 cm	RA-31 (a)	0	40	0	10,840		
5	Sorting and shifting of seedlings per each time : i) Misc (NB)	RA-11 (i)	0	5	0	1,355		
6	Weeding and cleaning of seedlings in Hycopots / root trainers per each time : i) Misc (NB)	RA-12 (i)	0	5	0	1,355		
7	Watering and cleaning of seedlings in Hycopots two times per day: i) Misc (NB)	RA-13 (i)	0	2	0	542		
8	Creation of inspection path by removing weeds, scarping and by providing proper drain along the diagonal of the plantation site, of 3 mt wide	RA-42	0	5	0	1,355		
9	Pit filling and appliction of Farm yard Manure : i) Miscellaneous (NB)/ Miscellaneous (Hill)	RA-33(i)	0	17	2940	7,547		
10	Transplanting of Hycopots seedling into pits including man carriags from the unloading point : iii) North Bengal Miscellaneous	RA-36(iii)	0	30	0	8,130		
11	Application of insecticides and other chemicals whenever necessary	RA-41	0	2	690	1,232		
12	Vacancy infilling of pits with new seedling wherever there mortality due abiotic and biotic factors	RA-40	0	3		813		
13	1st cleaning	RA-38(a)	0	16		4,336		
14	1st Mulching with fertilizer including cost of carraige	RA-39(a)	0	14	2300	6,094		
15	2nd cleaning	RA-38(b)	0	14		3,794		
16	2nd Mulching with fertilizer including cost of carraige	RA-39(b)	0	12	1840	5,092		
17	3rd cleaning	RA-38(c)	0	12		3,252		
18	4th cleaning	RA-38(d)	0	10		2,710		
19	5th cleaning	RA-38 (e)	0	10		2,710		
20	Creation of fireline to protect plantation from Fire, by making 3mt wide fireline inside plantation and along boundary, by removing weeds and vegetation and scarpping, cutting of all existing weed growth to a width of 3 m. Heaping, burning and re-burning in younger plantations	RA-44	0	4	0	1,084		
21	Providing watch and ward in the form of man days to oversee the plantation and protect the plantation from damages arining out of biotic factors for the entire year	RA-45	0	12	0	3,252		
22	Transportation of Hycopots seedling from nursery to Plantation site including loading & unloading: d) lead distance>20km & upto 30km : 300CC Hycopots	RA-34(d)	0	2	4000	4,542		
23	Collection of Hycopots after plantation & transporting back to central nursery after careful packing etc.: d) lead distance > 20km & upto 30km: 300CC Hycopots	RA-43(d)	0	2	0	542		
24	Fencing: Vegetative fencing using bamboo posts at least of 6 ft height with 1 ft embedded underground and not more than 5 ft apart with splitted bamboo of atleast 5 rows and using ipomea/brushwood/thorn as locally available as filler	RA-46(a)	0	2	7500	8,042		
25	SIGNAGE: Installation of sign board with Forest directorate colour code and emblem of size 3 'x4ft made out of brick work and plastered and well finished and painted with good quality paint	RA-49			300	300		
A	Total		0.5	261.0	20,050	90,945		
В	Add : Contingency @3%					2,725.35		
C	Grand Total					93,670		

Projected Cost per ha of Misc. Plantation in NB for the F.Y 2025-26	Skilled	Unskilled	Amount	Price Escalation	Total Labour cost
A. Mandays	0.5	261.0	70,895	-	70,895
B. Materials			20,050	-	20,050
CTotal			90,945	-	90,945
Add: Contingency @3%					2,725.35
Grand Total (In Rs.)					93,670

Estimate for 1st year maintenance of Misc. Plantation in NB for 2022-23

		SoR ref.	Rate	Amount		
Sl No.	Particulars of work	item no.	Labour (Mandays)	Material (in	
		item no.	Skilled	Unskilled	Rs.)	(Rs.)
1	Vacancy infilling of pits with new seedling wherever there mortality due aboitic and biotic factors including cost of transportation	RA-40	0	6	450	2,076
2	1st cleaning	RA-38 (a)	0	16	0	4,336
3	1st Mulching with fertilizer including cost of carraige	RA-39(a)	0	14	2300	6,094
4	2nd cleaning	RA-38 (b)	0	14	0	3,794
5	3rd cleaning	RA-38 (c)	0	10	0	2,710
6	4th cleaning	RA-38 (d)	0	8	0	2,168
7	Creation of fireline to protect plantation from Fire, by making 3mt wide fireline inside plantation and along boundary, by removing weeds and vegetation and scrapping, cutting of all existing weed growth to a width of 3 m. Heaping, burning and re-burning in younger plantations	RA-44	0	5	0	1,355
8	Application of insecticides and other chemicals whenever necessary including carraige (nos.)	RA-41	0	5	690	2,045
9	Providing watch and ward in the form of man days to oversee the plantation and protect the plantation from damages arining out of biotic factors for the entire year	RA-45	0	12	0	3,252
10	Repairing of fencing		0	1	127	398
A	Total		0.0	91.0	3,567	28,228
В	Add : Contingency @3%					848
С	Grand Total					29,075

Projected Cost per ha of 1st year maintenance of Misc plantation in NB for the F.Y 2026-27	Skilled	Unskilled	Amount	Price Escalation	Total Labour cost
A. Mandays	0.0	91	24,661	-	24,661
B. Materials			3,567	-	3,567
CTotal			28,228	-	28,228
Add: Contingency @3%				•	847.83
Grand Total (In Rs.)					29,075

Estimate for 2nd year maintenance of Misc. Plantation in NB for 2022-23 $\,$

		SoR ref.	Rate	per Ha (2022	2-23)	Amount
Sl No.	Particulars of work	item no.	Labour (N	Mandays)	Material (in	(Rs.)
		item no.	Skilled	Unskilled	Rs.)	(NS.)
1	Vacancy infilling of pits with new seedling wherever there mortality due aboitic and biotic factors including cost of transportation	RA-40	0	4	300	1,384
2	1st cleaning	RA-38 (a)	0	16	0	4,336
3	2nd cleaning	RA-38 (b)	0	14	0	3,794
4	3rd cleaning	RA-38 (c)	0	12	0	3,252
5	Creation of fireline to protect plantation from Fire, by making 3mt wide fireline inside plantation and along boundary, by removing weeds and vegetation and scrapping, cutting of all existing weed growth to a width of 3 m. Heaping, burning and re-burning in younger plantations	RA-44	0	4	0	1,084
6	Providing watch and ward in the form of man days to oversee the plantation and protect the plantation from damages arining out of biotic factors for the entire year	RA-45	0	12	0	3,252
7	Repairing of fencing with bamboo		0	1	223	494
A	Total		0	63	523	17,596
В	Add : Contingency @3%					529
C	Grand Total					18125

Projected Cost per ha of 2nd year maintenance of Misc. plantation in NB for the F.Y 2027-28	Skilled	Unskilled	Amount	Price Escalation	Total Labour cost
A. Mandays	0.0	63	17,073	ı	17,073
B. Materials			523	-	523
CTotal			17,596	-	17,596
Add: Contingency @3%					528.89
Grand Total (In Rs.)					18,125

Estimate for 3rd year maintenance of Misc. Plantation in NB for 2022-23

		C-D f	Rate	per Ha (2022	2-23)	A	
Sl No.	Particulars of work	SoR ref. item no.	Labour (1	Mandays)	Material (in	Amount	
		item no.	Skilled	Unskilled	Rs.)	(Rs.)	
1	Vacancy infilling of pits with new seedling wherever there mortality due aboitic and biotic factors including cost of transportation	RA-40	0	2	87	629	
2	1st cleaning	RA-38 (a)	0	14	0	3,794	
3	2nd cleaning	RA-38 (b)	0	12	0	3,252	
4	3rd cleaning	RA-38 (c)	0	8	0	2,168	
5	Creation of fireline to protect plantation from Fire, by making 3mt wide fireline inside plantation and along boundary, by removing weeds and vegetation and scrapping, cutting of all existing weed growth to a width of 3 m. Heaping, burning and re-burning in younger plantations	RA-44	0	4	0	1,084	
6	Providing watch and ward in the form of man days to oversee the plantation and protect the plantation from damages arining out of biotic factors for the entire year	RA-45	0	10	0	2,710	
7	Repairing of fencing		0	1	0	271	
A	Total		0	51	87	13,908	
В	Add : Contingency @3%					417	
C	Grand Total					14325	

Projected Cost per ha of 3rd year maintenance of Misc. Plantation in NB for the F.Y 2028-29	Skilled	Unskilled	Amount	Price Escalation	Total Labour cost
A. Mandays	0.0	51	13,821	-	13,821
B. Materials			87	-	87
CTotal			13,908	-	13,908
Add: Contingency @3%					417
Grand Total (In Rs.)					14,325

Cost abstract	Amount (in Rs.)
Creation of Misc. Plantation in N.B	93,670
1st year maintenance of Misc. Plantation in N.B	29,075
2nd year of maintenance of Misc. Plantation in N.B	18,125
3rd year maintenance of Misc. Plantation in N.B	14,325
Grand Total	1,55,195

- 1.2. Improving Quality of Forests
 1.2.4. Plantation in CFC and degraded Forest areas

1.2.4.(a) Plantation in CFC areas

Model: Estimate for Creation of Sal Plantation SB for 2022-23

	Model: Estimate for Creati	on of Sal Plantation S	B for 2022-23			
	Type of Plantation	Sal SB				
	No. of seedlings per ha			1600		
	Spacing per ha		2.5	5m x 2.5m		
	Pit Size		60cm. X	60cm. X 45cm	1.	
	Labour Rate (Skilled- Rs.328/- & Unskilled- Rs.271/-)			l		
Sl No.	Particulars of work	C-D 6 it	Rate Labour (I	per Ha (2022		Amount
SI NO.	r articulars of work	SoR ref. item no.	Skilled	Unskilled	Material (in Rs.)	(Rs.)
1	Survey and demarcation of the plantation site including	RA-29	0.5	1	90.00	525
1	preparation of Regeneration Map and GPS Survey map	KA-23	0.5	1	90.00	323
2	Clearance of undergrowth in thick forest areas: Clear felling, burning, heaping and re-burning in thick density areas of undergrowth and bushes	RA-27 (a)	0	30	0	8,130
3	Staking and alignment of plantation site, collection of stakes, pitching etc.	RA-30	0	4	310	1,394
4	Pit cutting: b) Sal Plantation-60x60x45cm	RA-31 (b)	0	50	0	13,550
5	Soil moisture Conservation- Digging of box trench over a		0		0	
5	length of 500 mt of size 5 m x 0.45m x 0.45m	RA-32		35		9,485
6	Sorting and shifting of seedlings per each time	RA-11 (ii)	0	5	0	1,355
7	Weeding and cleaning of seedlings in Hycopots / root trainers per each time	RA-12(ii)	0	5	0	1,355
8	Watering of seedlings in Hycopots two times per day	RA-13(ii)	0	3	0	813
9	Creation of inspection path by removing weeds, scraping and by providing proper drain along the diagonal of the plantation site, of 3 mt wide	RA-42	0	5	0	1,355
10	Pit filling and application of Farm yard Manure including cost of carraige	RA-33(ii)	0	22	5520	11,482
11	Transplanting of Hycopots seedlings into pits including man carriage from the unloading point	RA-36 (ii)	0	13	0	3,523
12	Application of insecticides and other chemicals whenever necessary including carraige (nos.)	RA-41	0	2	690	1,232
13	Vacancy infilling of pits with new seedling wherever there mortality due aboitic and biotic factors	RA-40	0	3	0	813
14	1st cleaning	RA-38 (a)	0	14	0	3,794
15	1st Mulching with fertilizer including cost of carraige 2nd cleaning	RA-39(a)	0	14	2300	6,094
16 17	2nd Mulching with Chemical fertilizer including cost of	RA-38 (b) RA-39(b)		12 12	1840	3,252 5,092
18	carraige 3rd cleaning and Multching	RA-38 (c)	0	10	0	2,710
19	4th cleaning and Multching	RA-38 (d)	0	10	0	2,710
		141 00 (4)				
20	Cost of Arhar seeds and application in trenches / SMC sites		0	1	150	421
21	Creation of fireline to protect plantation from Fire, by making 3mt wide fireline inside plantation and along boundary, by removing weeds and vegetation and scrapping, cutting of all existing weed growth to a width of 3 m. Heaping, burning and re-burning in younger plantations	RA-44	0	4	0	1,084
22	Providing watch and ward in the form of man days to oversee the plantation and protect the plantation from damages arining out of biotic factors for the entire year	RA-45	0	12	0	3,252
23	Transportation of Hycopots seedling from nursery to Plantation site including loading & unloading: d) lead distance>20km & upto 30km : 300CC Hycopots	RA-34(d)	0	2	3186	3,728
24	Collection of Hycopots after plantation & transporting back to central nursery after careful packing etc.:d) lead distance> 20km & upto 30km: 300CC Hycopots	RA-43(d)	0	2	0	542
25	Digging dug well/shallow tube well including labour for watering (one no per 10 ha, Sal plantation sites)		1	4	5000	6,412
26	Cost of signage (one for each 10 Ha or part thereof)	RA-49	0	0	300	300
27	Barbed wire fencing, with 4 strand, using wooden post of 6-7 ft height and 6 inch girth at 2.5 mt apart. Fixing the fence posts after digging pits of 30 cm x 30 cm x 40 cm depth and consolidation, ensuring firm fixture, unrolling and fixing barbed wire with 'U' nils in four rows, ensuring proper fixture	RA-46 (b)	0	2	20000	20,542
A	Total		1.5	277	39,386	1,14,945
В	Add: Contingency @3%					3,448
C	Grand Total					1,18,393

Projected Cost per ha of Sal plantation in SB for the F.Y 2025-26	Skilled	Unskilled	Amount	Price Escalation	Total Labour cost
A. Mandays	1.5	277	75,559	ı	75,559
B. Materials			39,386	-	39,386
CTotal			1,14,945	-	1,14,945
Add: Contingency @3%					3,445.35
Grand Total (In Rs.)					1,18,390

	Estimate for 1st year maintena	nce of Sal Plantation i	n SB for 2022-	23		
	Particulars of work		Rate			
Sl No.		SoR ref. item no.	Labour (Mandays)	Material	Amount (Rs.)
			Skilled	Unskilled	(in Rs.)	(KS.)
1	Vacancy infilling of pits with new seedling wherever there mortality due aboitic and biotic factors including cost of transportation		0	4	300	1,384
2	1st cleaning	RA-38 (a)	0	14	0	3,794
3	1st Mulching with fertilizer including cost of carraige	RA-39(a)	0	14	2300	6,094
4	2nd cleaning	RA-38 (b)	0	12	0	3,252
5	3rd cleaning	RA-38 (c)	0	10	0	2,710
6	Creation of fireline to protect plantation from Fire, by making 3mt wide fireline inside plantation and along boundary, by removing weeds and vegetation and scrapping, cutting of all existing weed growth to a width of 3 m. Heaping, burning and re-burning in younger plantations	RA-44	0	4	0	1,084
7	Application of insecticides and other chemicals whenever necessary including carraige (nos.)	RA-41	0	2	690	1,232
8	Providing watch and ward in the form of man days to oversee the plantation and protect the plantation from damages arining out of biotic factors for the entire year	RA-45	0	12	0	3,252
9	Repairing of fencing		0	2	2500	3,042
10	Labour for watering		0	3	0	813
A	Total		0.0	77	5,790	26,657
В	Add: Contingency @3%					800
С	Grand Total					27,457

Projected Cost per ha of 1st year maintenance of Sal plantation in SB for the F.Y 2026-27	Skilled	Unskilled	Amount	Price Escalation	Total Labour cost
A. Mandays	0.0	77.0	20,867	-	20,867
B. Materials			5,790	-	5,790
CTotal			26,657	-	26,657
Add: Contingency @3%					803
Grand Total (In Rs.)					27,460

Estimate for 2nd year maintenance of Sal Plantation in SB for 2022-23

			Rate p	-23)	4	
Sl No.	Particulars of work	SoR ref. item no.	Labour (M	landays)	Material	Amount
			Skilled	Unskilled	(in Rs.)	(Rs.)
1	Vacancy infilling of pits with new seedling wherever there mortality due aboitic and biotic factors including cost of transportation	RA-40	0	2.5	150	828
2	1st cleaning	RA-38 (a)	0	14	0	3,794
3	2nd cleaning	RA-38 (b)	0	12	0	3,252
4	3rd cleaning	RA-38 (c)	0	10	0	2,710
5	Creation of fireline to protect plantation from Fire, by making 3mt wide fireline inside plantation and along boundary, by removing weeds and vegetation and scrapping, cutting of all existing weed growth to a width of 3 m. Heaping, burning and re-burning in younger plantations	RA-44	0	4	0	1,084
6	Providing watch and ward in the form of man days to oversee the plantation and protect the plantation from damages arining out of biotic factors for the entire year	RA-45	0	12	0	3,252
7	Repairing of fencing		0	1	1000	1,271
8	Labour for watering		0	3	0	813
A	Total		0	59	1,150	17,004
В	Add : Contingency @3%					511
C	Grand Total					17,515

Projected Cost per ha of 2nd year maintenance of Sal plantation in SB for the F.Y 2027-28	Skilled	Unskilled	Amount	Price Escalation	Total Labour cost
A. Mandays	0.0	59	15,854	·	15,854
B. Materials			1,150	-	1,150
CTotal			17,004	-	17,004
Add: Contingency @3%					511.11
Grand Total (In Rs.)					17,515

Estimate for 3rd year maintenance of Sal Plantation in SB for 2022-23

			Rate	4		
Sl No.	Particulars of work	SoR ref. item no.	Labour (M	landays)	Material	Amount (Rs.)
			Skilled	Unskilled	(in Rs.)	(KS.)
1	Vacancy infilling of pits with new seedling wherever there mortality due aboitic and biotic factors including cost of transportation	RA-40	0	2.0	75	617
2	1st cleaning	RA-38 (a)	0	14	0	3,794
3	2nd cleaning	RA-38 (b)	0	12	0	3,252
4	Creation of fireline to protect plantation from Fire, by making 3mt wide fireline inside plantation and along boundary, by removing weeds and vegetation and scrapping, cutting of all existing weed growth to a width of 3 m. Heaping, burning and re-burning in younger plantations	RA-44	0	4	0	1,084
5	Providing watch and ward in the form of man days to oversee the plantation and protect the plantation from damages arining out of biotic factors for the entire year	RA-45	0	12	0	3,252
6	Repairing of fencing		0	1	500	771
7	Labour for watering		0	2	0	542
A	Total		0	47	575	13,312
В	Add : Contingency @3%					398
С	Grand Total					13710

Projected Cost per ha of 3rd year maintenance of Sal plantation in SB for the F.Y 2028-29	Skilled	Unskilled	Amount	Price Escalation	Total Labour cost
A. Mandays	0.0	47.0	12,737	ı	12,737
B. Materials			575	-	575
CTotal			13,312	-	13,312
Add: Contingency @3%					399.36
Grand Total (In Rs.)					13,710

Cost abstract	Amount (in Rs.)
Creation of Sal Plantation in S.B	1,18,390
1st year maintenance of Sal Plantation in S.B	27,460
2nd year of maintenance of Sal Plantation in S.B	17,515
3rd year maintenance of Sal Plantation in S.B	13,710
Grand Total	1,77,075

- 1.2. Improving Quality of Forests
 1.2.4. Plantation in CFC and degraded Forest areas

1.2.4.(a) Plantation in CFC areas

Model - Estimates for Creation of Mis-	 Dlantation with native can 	in CD (non Ha) 2022 22

	Model - Estimates for Creation of Misc. Plan	itation with na	tive spp. in SB	(per Ha)-202		
	Type of Plantation				Misc. SB 1600	
	No. of seedlings per ha Spacing per ha				2.5 m x 2.5	m
	Pit Size			60 c	m. x 45 cm. >	
	Labour Rate (Skilled- Rs.:	328/- & Unskill	ed- Rs 271/-)	000	III. X 15 CIII. 2	15 cm.
	Bubbai Tare (Skilled As.	SZO/ & Oliskii		er Ha in 2022	2.23	
			Rate pe	.1 11a 111 2022	L-23	
Sl No.	Particulars ofWork	SoR Ref.	Labour (M	andays)		Amount (Rs.)
			Skilled	Unskilled	Material (in Rs.)	
	Survey and demarcation of the plantation site including					
1	preparation of Regeneration Map and GPS Survey map	RA-29	0.5	1	90.00	525
2	Clearance of undergrowth in thick forest areas : Clear felling, burning, heaping & reburning in thick density areas of undergrowth and bushes	RA-27(a)	0	30	0	8,130
3	Staking and alignment of plantation site, collection of stakes, pitching etc.	RA-30	0	4	320	1,404
4	Pit cutting : Miscellaneous (SB)-60x45x45cm	RA-31 (a)	0	40	0	10,840
5	Soil moisture Conservation-Digging of box trench over a	RA-32	0	35	0	9,485
	length of 500 mt of size 5 m x 0.45m x 0.45m					
6	Sorting and shifting of seedlings per each time : i) Misc (SB)	RA-11 (i)	0	5	0	1,355
7	Weeding and cleaning of seedlings in Hycopots / root trainers per each time : i) Misc (SB)	RA-12 (i)	0	3	0	813
8	Watering and cleaning of seedlings in Hycopots two times	RA-13 (i)	0	2.0	0	542
	per day : i) Misc (SB) Creation of inspection path y removing weed, scarping and	101 15 (1)	Ů	2.0	Ů	312
9	by providing proper drain along the diagonal of the plantation site, of 3 mt wide	RA-42	0	5	0	1,355
10	Pit filling and application of Farm yard Manure : Miscellaneous (SB)	RA-33 (i)	0	17	1882	6,489
11	Tranplanting of Hycopots seedlings into pits including man carriage from the unloading point : i) Misc (SB)	RA-36 (i)	0	20.0	0	5,420
12	Application of insecticides and other chemicals whenever necessary	RA-41	0	2	690	1,232
13	Vacancy infilling of pits with new seedling wherever there mortality due abiotic and biotic factors	RA-40	0	2.0	0	542
14	1st cleaning	RA-38(a)	0	14		3,794
15	1st Mulching with fertilizer including cost of carraige	RA-39 (a)	0	14	2300	6,094
16	2nd cleaning	RA-38 (b)	0	12		3,252
17	2nd Mulching with Chemical fertilizer including cost of carraige	RA-39 (b)	0	12	1840	5,092
18	3rd cleaning	RA-38 (c)	0	10		2,710
19	Creation of fireline to protect plantation from Fire, by making 3mt wide fireline inside plantation and along boundary, by removing weeds and vegetation and scraping, cutting of all existing weed growth to a width of 3 m. Heaping, buring and reburning in younger plantations	RA-44	0	4		1,084
20	Providing watch and ward in the form of man days to oversee the plantation and protect the plantation from damages arining out of biotic factors for the entire year	RA-45	0	12		3,252
21	Transportation of Hycopots seedling from nursery to Plantation site including loading & unloading: d) lead distance>20km & upto 30km : 300cc Hycopots	RA-34(d)	0	1	3000	3,271
22	Collection of Hycopots after plantation & transporting back to central nursery after careful packing etc. D) lead distance> 20km & upto 30km : 300cc Hycopots	RA-43 (b)	0	2		542
23	Barbed wire / energized fencing, with 4 strand, using wooden post of 6-7 ft height and 6 inch girth at 2.5 mt apart. Fixing the fence posts after digging pits of 30 cm x 30 cm x 40 cm depth and consolidation, ensuring firm fixture, unrolling and fixing barbed wire with 'U' nils in four rows, ensuring proper fixture	RA-46 (b)	0	2	20000	20,542
24	SIGNAGE: Installation of sign board with Forest directorate colour code and emblem of size 3' x 4 ft made out of brick work and plastered and well finished and painted with good quality paint	RA-49	0	0	300	300
25	Digging dug well/shallow tube well including labour for watering (one no per 10 ha. Misc. plantation sites)		0	4	5000	6,084
A	Total		0.5	253.0	35,422	1,04,149
B C	Add : Contingency @3% Grand Total					3,124 1,07,274
<u></u>	uranu 10tai	1	l .	l	l .	1,0/,4/4
Projecte F.Y 2025	ed Cost per ha of Misc. Plantation with native spp. in SB for the	Skilled	Unskilled	Amount	Price Escalation	Total Labour cost
A. Mano		0.5	253.0	68,727	- LocaldiiOfi	68,727

Chilled	Undrilled	Amount	Price	Total Labour
Skilleu	Oliskilleu		Escalation	cost
0.5	253.0	68,727	·	68,727
		35,422		35,422
		1,04,149	-	1,04,149
				3,125
				1,07,275
	Skilled	Skilled Unskilled	Skilled Unskilled Amount 0.5 253.0 68,727 35,422 35,422	Skilled Unskilled Amount Escalation 0.5 253.0 68,727 - 35,422 - -

Estimate for 1st year maintenance of Misc. Native spp. In SB Plantation in SB for 2022-23

	Estimate for 1st year maintenance of Misc. Native spp. In SB Plantation in SB for 2022-23							
			Rate pe	23)	1			
SI No.	Particulars of work	SoR ref. item Labour (Ma		andays)	Material	Amount		
Si No.	ratuculais of work	no.	Skilled	Unskilled	(in Rs.)	(Rs.)		
1	Vacancy infilling of pits with new seedling wherever there mortality due aboitic and biotic factors including cost of transportation	RA-40	0	4	300	1,384		
2	1st cleaning	RA-38 (a)	0	14	0	3,794		
3	1st Mulching with fertilizer including cost of carraige	RA-39(a)	0	14	2300	6,094		
4	2nd cleaning	RA-38 (b)	0	12	0	3,252		
5	3rd cleaning	RA-38 (c)	0	10	0	2,710		
6	Creation of fireline to protect plantation from Fire, by making 3mt wide fireline inside plantation and along boundary, by removing weeds and vegetation and scrapping, cutting of all existing weed growth to a width of 3 m. Heaping, burning and re-burning in younger plantations	RA-44	0	4	0	1,084		
7	Application of insecticides and other chemicals whenever necessary including carraige (nos.)	RA-41	0	2	690	1,232		
8	Providing watch and ward in the form of man days to oversee the plantation and protect the plantation from damages arining out of biotic factors for the entire year	RA-45	0	12	0	3,252		
9	Repairing of fencing		0	2	2500	3,042		
10	Labour for watering		0	3	0	813		
A	Total		0.0	77	5,790	26,657		
В	Add: Contingency @3%					800		
С	Grand Total					27,457		

Projected Cost per ha of 1st year maintenance of Misc plantation in SB	Skilled	Unskilled	Amount	Price	Total Labour
for the F.Y 2026-27	Skilleu	Oliskilled		Escalation	cost
A. Mandays	0.0	77	20,867		20,867
B. Materials			5,790		5,790
CTotal			26,657	1	26,657
Add: Contingency @3%					803
Grand Total (In Rs.)					27,460

Estimate for 2nd year maintenance of Misc. Native Plantation in SB for 2022-23

			Rate pe	er Ha (2022-	23)	
Sl No.	Particulars of work	SoR ref. item	Labour (Ma	Labour (Mandays)		Amount
or no.	Turucularo or norm	no.	Skilled	Unskilled	Material (in Rs.)	(Rs.)
1	Vacancy infilling of pits with new seedling wherever there mortality due aboitic and biotic factors including cost of transportation	RA-40	0	2.5	150	828
2	1st cleaning	RA-38 (a)	0	14	0	3,794
3	2nd cleaning	RA-38 (b)	0	12	0	3,252
4	3rd cleaning	RA-38 (c)	0	10	0	2,710
5	Creation of fireline to protect plantation from Fire, by making 3mt wide fireline inside plantation and along boundary, by removing weeds and vegetation and scrapping, cutting of all existing weed growth to a width of 3 m. Heaping, burning and re-burning in younger plantations	RA-44	0	4	0	1,084
6	Providing watch and ward in the form of man days to oversee the plantation and protect the plantation from damages arining out of biotic factors for the entire year	RA-45	0	12	0	3,252
7	Repairing of fencing		0	1	1000	1,271
8	Labour for watering		0	3	0	813
A	Total		0	59	1,150	17,004
В	Add : Contingency @3%					506
С	Grand Total					17,510

Projected Cost per ha of 2nd year maintenance of Misc. plantation in N.B for the F.Y 2027-28	Skilled	Unskilled	Amount	Price Escalation	Total Labour cost
A. Mandays	0.0	59	15,854		15,854
B. Materials			1,150	-	1,150
CTotal			17,004	-	17,004
Add: Contingency @3%					506.11
Grand Total (In Rs.)					17,510

Estimate for 3rd year maintenance of Misc. native spp. Plantation in SB for 2022-23

		1	Rate pe			
Sl No.	Particulars of work	SoR ref. item	SoR ref. item Labour (Ma		Material	Amount
SI NO.	raticulars of work	no.	Skilled	Unskilled	(in Rs.)	(Rs.)
1	Vacancy infilling of pits with new seedling wherever there mortality due aboitic and biotic factors including cost of transportation	RA-40	0	2	75	617
2	1st cleaning	RA-38 (a)	0	14	0	3,794
3	2nd cleaning	RA-38 (b)	0	12	0	3,252
4	Creation of fireline to protect plantation from Fire, by making 3mt wide fireline inside plantation and along boundary, by removing weeds and vegetation and scrapping, cutting of all existing weed growth to a width of 3 m. Heaping, burning and re-burning in younger plantations	RA-44	0	4	0	1,084
5	Providing watch and ward in the form of man days to oversee the plantation and protect the plantation from damages arining out of biotic factors for the entire year	RA-45	0	12	0	3,252
6	Repairing of fencing		0	1	500	771
7	Labour for watering		0	2	0	542
A	Total		0	47	575	13,312
В	Add: Contingency @3%		•			398
С	Grand Total					13710

Projected Cost per ha of 3rd year maintenance of Misc. plantation in SB for the F.Y 2028-29	Skilled	Unskilled	Amount	Price Escalation	Total Labour cost
A. Mandays	0.0	47.0	12,737	•	12,737
B. Materials			575	-	575
CTotal			13,312	-	13,312
Add: Contingency @3%					398
Grand Total (In Rs.)					13,710

Cost abstract	Amount (in Rs.)
Creation of Misc. native spp. Plantation in S.B	1,07,275
1st year maintenance of Misc. native spp. Plantation in S.B	27,460
2nd year maintenance of Misc. native spp. Plantation in S.B	17,510
3rd year maintenance of Misc. native spp. Plantation in S.B	13,710
Grand Total	1,65,955

Component 1 : Ecosystem based Climate Change measures

- 1.2. Improving Quality of Forests
 1.2.4. Plantation in CFC and degraded Forest areas

1.2.4.(a) Plantation in CFC areas

Model:	Estimate for Creation of Sal Plantation NR &	Hills (ner Ha)- 2022-23

Model: Estimate for Creation of Sal Plantation NB & Hills (per Ha)- 2022-23						
	Type of Plantation Sal NB & Hills No. of seedlings per ha 2500					
	Spacing per ha		2	m x 2m		
	Pit Size			60cm. X 45cm		
	Labour Rate (Skilled-	· Rs.328/- & Unskille	, , , , , , , , , , , , , , , , , , ,	(2022 22)		
				ate (2022-23)		Amount
Sl No.	Particulars of work	SoR ref. item no.	Labour (N		Material	(Rs.)
			Skilled	Unskilled	(in Rs.)	
1	Survey and demarcation of the plantation site including preparation of Regeneration Map and GPS Survey map	RA-29	0.5	1	90.00	525
2	Clearance of undergrowth in thick forest areas : Clear felling, burning, heaping and re-burning in thick density areas of undergrowth and bushes	RA-27 (b)	0	35	0	9,485
3	Staking and alignment of plantation site, collection of stakes, pitching etc.	RA-30	0	4	206	1,290
4	Pit cutting : b) Sal Plantation-60x60x45cm	RA-31 (b)	0	35	0	9,485
5	Sorting and shifting of seedlings per each time	RA-11 (ii)	0	4	0	1,084
6	Weeding and cleaning of seedlings in Hycopots / root trainers per each time	RA-12(ii)	0	4	0	1,084
7	Watering of seedlings in Hycopots two times per day	RA-13(ii)	0	2.0	0	542
8	Creation of inspection path by removing weeds, scraping and by providing proper drain along the diagonal of the plantation site, of 3 mt wide	RA-42	0	5	0	1,355
9	Pit filling and application of Farm yard Manure	RA-33(ii)	0	22	4860	10,822
10	Hoeing of the sal lines (30 cm. x 30 cm.)		0	16	0	4,336
11	Transplanting of Hycopots seedlings into pits including man carriage from the unloading point	RA-36 (ii)	0	12	0	3,252
12	Transportation of Hycopots seedling from nursery to Plantation site including loading & unloading: d) lead distance>20km & upto 30km : 300CC Hycopots	RA-34 (d)		1	2540	2,811
13	Dibbling of Sal seeds (in 3 rows)		0	12	0	3,252
14	Application of insecticides and other chemicals whenever necessary	Ra-41	0	2	690	1,232
15	Vacancy infilling of pits with new seedling wherever there mortality due aboitic and biotic factors	RA-40	0	2.0	0	542
16	Hand weeding and cleaning of sal lines (3 times)		0	18		4,878
17 18	1st cleaning 1st Mulching	RA-38 (a)	0	16	2300	4,336 6,094
19	2nd cleaning	RA-39 (a) RA-38 (b)	0	14 12	0	3,252
20	2nd Mulching	RA-39 (b)	0	12	1840	5,092
21	3rd cleaning	RA-38(Ç)	0	12	0	3,252
22	4th cleaning	RA-38 (d)	0	10	0	2,710
23	5th cleaning	RA-38(É)	0	8	0	2,168
24	Creation of fireline to protect plantation from Fire, by making 3mt wide fireline inside plantation and along boundary, by removing weeds and vegetation and scrapping, cutting of all existing weed growth to a width of 3 m. Heaping, burning and re-burning in younger plantations	RA-44	0	4	0	1,084
25	Providing watch and ward in the form of man days to oversee the plantation and protect the plantation from damages arining out of biotic factors for the entire year	RA-45	0	12	0	3,252
26	Collection of Hycopots after plantation & transporting back to central nursery after careful packing etc. : d) lead distance> 20km & upto 30km : 300CC Hycopots	RA-43(d)	0	1.0	0	271
27	Cost of signage (one for each 10 Ha or part thereof)	RA-49	0	0	300	300
28	Barbed wire / energized fencing, with 4 strand, using wooden post of 6-7 ft height and 6 inch girth at 2.5 mt apart. Fixing the fence posts after digging pits of 30 cm x 30 cm x 40 cm depth and consolidation, ensuring firm fixture, unrolling and fixing barbed wire with 'U' nils in four rows, ensuring proper fixture	RA-46 (b)	0	2	20000	20,542
A B	Total Add : Contingency @3%		0.5	278	32,826	1,08,328
C	Add : Contingency @3% Grand Total					3,252 1,11,580
			I	<u> </u>	Price	Total Labour
Projecte	d Cost per ha of Sal plantation in NB for the F.Y 2025-26	Skilled	Unskilled	Amount	Escalation	cost
A. Mand		0.5	278	75,502	-	75,502
B. Mater				32,826	-	32,826
CTotal Add: Cor	Latingency @3%			1,08,328	-	1,08,328 3,251.84
	<u> </u>		!	,		-,

Grand Total (In Rs.) 1,11,580

Estimate for 1st year maintenance of Sal Plantation in NB for 2022-23

			Rate	per Ha (2022-	23)	Amount
Sl No.	Particulars of work	SoR ref. item no.	Labour (Mandays)		Material	(Rs.)
			Skilled	Unskilled	(in Rs.)	(KS.)
1	Vacancy infilling of pits with new seedling wherever there mortality due aboitic and biotic factors including cost of transportation	RA-40	0	4	300	1,384
2	1st cleaning	RA-38 (a)	0	14	0	3,794
3	1st Mulching with fertilizer including cost of carraige	RA-39(a)	0	14	2300	6,094
4	2nd cleaning	RA-38 (b)	0	12	0	3,252
5	3rd cleaning	RA-38 (c)	0	10	0	2,710
	4th cleaning	RA-38 (d)	0	8	0	2,168
6	Creation of fireline to protect plantation from Fire, by making 3mt wide fireline inside plantation and along boundary, by removing weeds and vegetation and scrapping, cutting of all existing weed growth to a width of 3 m. Heaping, burning and re-burning in younger plantations	RA-44	0	4	0	1,084
7	Application of insecticides and other chemicals whenever necessary including carraige (nos.)	RA-41	0	2	690	1,232
8	Providing watch and ward in the form of man days to oversee the plantation and protect the plantation from damages arining out of biotic factors for the entire	RA-45	0	12	0	3,252
9	Repairing of fencing		0	2	1707	2,249
A	Total		0.0	82	4,997	27,219
В	Add : Contingency @3%					817
С	Grand Total					28,035

Projected Cost per ha of 1st year maintenance of Sal plantation in NB for the F.Y 2026-27	Skilled	Unskilled	Amount	Price Escalation	Total Labour cost
A. Mandays	0.0	82	22,222	-	22,222
B. Materials			4,997	-	4,997
CTotal			27,219	-	27,219
Add: Contingency @3%					817
Grand Total (In Rs.)					28,035

Estimate for 2nd year maintenance of Sal Plantation in NB for 2022-23

			Rate	per Ha (2022	-23)	Amount
Sl No.	Particulars of work	SoR ref. item no.	Labour (I	Mandays)	Material	
			Skilled	Unskilled	(in Rs.)	(Rs.)
1	Vacancy infilling of pits with new seedling wherever there mortality due aboitic and biotic factors including cost of transportation	RA-40	0	2.5	150	828
2	1st cleaning	RA-38 (a)	0	14	0	3,794
4	2nd cleaning	RA-38 (b)	0	12	0	3,252
5	3rd cleaning	RA-38 (c)	0	10	0	2,710
6	Creation of fireline to protect plantation from Fire, by making 3mt wide fireline inside plantation and along boundary, by removing weeds and vegetation and scrapping, cutting of all existing weed growth to a width of 3 m. Heaping, burning and re-burning in younger plantations	RA-44	0	4	0	1,084
7	oversee the plantation and protect the plantation from damages arining out of biotic factors for the entire year	RA-45	0	12	0	3,252
8	Repairing of fencing		0	1	1416	1,687
A	Total		0	56	1,566	16,606
В	Add : Contingency @3%					499
С	Grand Total					17,105

Projected Cost per ha of 2nd year maintenance of Sal Plantation in NB for the F.Y 2027-28	Skilled	Unskilled	Amount	Price Escalation	Total Labour cost
A. Mandays	0.0	56	15,041	-	15,041
B. Materials			1,566	-	1,566
CTotal			16,606	-	16,606
Add: Contingency @3%					499
Grand Total (In Rs.)					17,105

Estimate for 3rd year maintenance of Sal Plantation in SB for 2022-23

	Estimate for 3rd year mainte	manice of 3dl Fidillati				
			Rate p	er Ha (2022-	23)	Amount
SI No.	Particulars of work	SoR ref. item no.	Labour (M	landays)	Material	(Rs.)
			Skilled	Unskilled	(in Rs.)	
1	Vacancy infilling of pits with new seedling wherever there mortality due aboitic and biotic factors including cost of transportation	RA-40	0	2	87	629
2	1st cleaning		0	12	0	3,252
3	2nd cleaning		0	12	0	3,252
4	3rd cleaning		0	8	0	2,168
5	Creation of fireline to protect plantation from Fire, by making 3mt wide fireline inside plantation and along boundary, by removing weeds and vegetation and scrapping, cutting of all existing weed growth to a width of 3 m. Heaping, burning and re-burning in younger plantations	RA-44	0	4	0	1,084
6	Providing watch and ward in the form of man days to oversee the plantation and protect the plantation from damages arining out of biotic factors for the entire year	RA-45	0	12	0	3,252
7	Repairing of fencing		0	1	0	271
A	Total		0	51	87	13,908
В	Add : Contingency @3%					417
С	Grand Total					14,325

Projected Cost per ha of 3rd year maintenance of Sal plantation in NB for the F.Y 2028-29	Skilled	Unskilled	Amount	Price Escalation	Total Labour cost
A. Mandays	0.0	51.0	13,821	-	13,821
B. Materials			87	-	87
CTotal			13,908	-	13,908
Add: Contingency @3%					417
Grand Total (In Rs.)	•				14,325

Cost abstract	Amount (in Rs.)
Creation of Sal Plantation in N.B	1,11,580
1st year maintenance of Sal Plantation in N.B	28,035
2nd year of maintenance of Sal Plantation in N.B	17,105
3rd year maintenance of Sal Plantation in N.B	14,325
Grand Total	1,71,045

Component 1 : Ecosystem based Climate Change measures

- 1.3. Eco DRR activities to strengthen forestry operation 1.3.2. Embankment protection in North Bengal (inside P.As)

	Type of Plantation		Foo	lder grass plai	ntation			
	No. of seedling per ha	10000						
	Spacing per ha	1m x 1m						
	Labour Rate (Skilled	- Rs.328/- & U	nskilled- Rs.2'	71/-)				
Sl No.	Particulars of Work	SoR Ref. item no.	Labour (Rate (2022-23 Mandays)	Material (in	Amount (Rs.)		
	Nurse	ery work (per	Skilled ha)	Unskilled	Rs.)			
1	Cleaning of nursery site- details of cost of cleaning of fodder grass nursery	17(a)	0	1	0	271		
2	Preparation of mother bed by way of hoeing the soil, breaking clods, mixing of manure (Dry farmyard manure, Neem cake) etc.	17(b)	0	2	4000	4,542		
	Edging of mother bed with brick and cement		0	2	2500	3,042		
3	Collection of fodder grass slips, seeds and preparing the slips/ seeds for planting by treating with fungicide	17(c)	0	4	1000	2,084		
4	Details of cost for weeding cleaning of beds upto planting time	17(d)	0	10	0	2,710		
5	Details of cost for watering of beds upto planting time	17(e)	0	12	0	3,252		
6	Details of cost of application of fungicide/ insecticide/ micronutrients etc.	17(f)	0	2	1455	1,997		
A	Total		-	33	8,955	17,898		
3	Add : Contingency @3%					534.94		
<u> </u>	Grand Total			†		18,433		

Projected Cost per ha of nursery work for Fodder grass Plantation in NB for the F.Y 2023-24	Skilled	Unskilled	Amount	Price Escalation	Total Labour cost
A. Mandays	0.0	33.0	8,943	ı	8,943
B. Materials			8,955	-	8,955
CTotal			17,898	,	17,898
Add: Contingency @3%					535
Grand Total (In Rs.)					18,433

Creaion works (per ha)

1	Survey and demarcation of the plantation site including preparation of Regeneration Map and GPS Survey map	RA-29	1	1	400.00	999
1	Details of cost for fodder grass platation- cleaning the plantation site thoroughly.	52(a)	0	12	0	3,252
2	Alignment of planting line and staking of fodder grass plantion	52(b)	0	12	0	3,252
3	Removal of debris before planting and controlled burning over the fodder plantation site	52(c)	0	6	0	1,626
4	Carriage of fodder slips from nursery to planting sites	52(d)	0	10	4000	6,710
5	Cost of digging pits by dug and plant method / digging trenches for planting fodder slips at a spacing of 1m.x 1m.	52(e)	0	20	0	5,420
6	Transplanting of fodder slips into pits / ttrenches including man carriage from the unloading point		0	20	0	5,420
7	Cost of application fungicide/ insecticide/ micronutrients etc.	52(f)	0	2	1000	1,542
8	Vacancy filling with fodder slips including cost of local carriage	52(g)	0	5	0	1,355
9	1st cleaning	RA-52 (h)	0	16	0	4,336
10	2nd cleaning	RA-52 (i)	0	14	0	3,794
11	3rd cleaning	RA-52 (j)	0	10	0	2,710
12	4th cleaning	RA-52 (k)	0	10	0	2,710
13	Providing watch and ward in the form of man days to oversee the fodder plantation and protect fodder plantation from damages over the entire year	RA-52 (l)	0	10	0	2,710
14	Application of organic manure / farmyard manure along site of planting trenches		0	4	7500	8,584

15	Energized fencing, with 3 strand, using wooden post of 6-7 ft height and 6 inch girth at 2.5 mt apart. Fixing the fence posts after digging pits of 30 cm x 30 cm x 40 cm depth and consolidation, ensuring firm fixture, unrolling and fixing barbed wire with 'U' nils in four rows, ensuring proper fixture	RA-46 (b)	0	2	25000	25,542
Α	Total		1	154	37,900	79,962
В	Add: Contingency @3%					2,399
С	Grand Total					82,361

Projected Cost per ha of 1st year maintenance of Fodder grass plantation in NB for the F.Y 2024-25	Skilled	Unskilled	Amount	Price Escalation	Total Labour cost
A. Mandays	1.0	154	42,062	-	42,062
B. Materials			37,900	-	37,900
CTotal			79,962	-	79,962
Add: Contingency @3%					2,398.86
Grand Total (In Rs.)					82,361

Estimate for 1st year maintenance of Fodder grass Plantation in NB for 2022-23

		SoR ref. item	Rate	per Ha (2022	2-23)	Amount
Sl No.	Particulars of work	no.	Labour (Mandays)		Material (in	(Rs.)
		110.	Skilled	Unskilled	Rs.)	(KS.)
1	Vacancy filling with fodder slips including cost of local carriage	52(g)	0	5	2500	3,855
2	1st cleaning	RA-52 (h)	0	16	0	4,336
3	2nd cleaning	RA-52 (i)	0	14	0	3,794
4	3rd cleaning	RA-52 (j)	0	10	0	2,710
5	Uprooting, removal and burning of unwanted invasive aline spp.		0	24	0	6,504
6	Providing watch and ward in the form of man days to oversee the fodder plantation and protect fodder plantation from damages over the entire year	RA-52 (l)	0	10	0	2,710
A	Total		0	79	2,500	23,909
В	Add : Contingency @3%					716
C	Grand Total					24625

Projected Cost per ha of 1st year maintenance of Fodder grass plantation in NB for the F.Y 2025-26	Skilled	Unskilled	Amount	Price Escalation	Total Labour cost
A. Mandays	0.0	79	21,409	-	21,409
B. Materials			2,500	-	2,500
CTotal			23,909	-	23,909
Add: Contingency @3%					716
Grand Total (In Rs.)					24,625

Estimate for 2nd year maintenance of Fodder grass Plantation in NB for 2022-23

		SoR ref. item	Rate per Ha (2022-23)			Amount
Sl No. Particulars of	Particulars of work		Labour (Manda		Material (in	
		no.	Skilled	Unskilled	Rs.)	(Rs.)
1	1st cleaning	RA-52 (h)	0	16	0	4,336
2	2nd cleaning	RA-52 (i)	0	14	0	3,794
3	Uprooting, removal and burning of unwanted invasive aline spp.		0	24	0	6,504
A	Total		0	54	0	14,634
В	Add : Contingency @3%					441
С	Grand Total					15075

Projected Cost per ha of 2nd year maintenance of Fodder grass Plantation in NB for the F.Y 2026-27	Skilled	Unskilled	Amount	Price Escalation	Total Labour cost
A. Mandays	0.0	54	14,634	١	14,634
B. Materials			0	-	-
CTotal			14,634	-	14,634
Add: Contingency @3%					441.02
Grand Total (In Rs.)					15,075

Estimate for Cut Back operationduring 3rd year of Fodder grass Plantation in NB for 2022-23

	Estimate for date back operational ing ora year of rounding grass raintation in the for 2022 25							
Sl No.	Particulars of work	SoR ref. item	Rate	Amount				
		no.	Labour (Mandays)		Material (in	(Rs.)		
			Skilled	Unskilled	Rs.)	(NS.)		
	Survey and demarcation of the plantation site							
1	including preparation of operational Map and GPS	RA-29	1	1	500.00	1,099		
	Survey map							

2	Cutting of matured grass clumps having grown wooding stem rendering it unsuitable as fodder for wildlife, at a hight of 30-45 cm. from ground level and placing the cut portion in inter spaces between the planted clumps to allow it to decomposed naturally		30	0	8,130
A	Total	1.0	31	500	9,229
В	Add : Contingency @3%				277
С	Grand Total				9506

Projected Cost per ha of 2nd year maintenance of Fodder grass Plantation in NB for the F.Y 2027-28	Skilled	Unskilled	Amount	Price Escalation	Total Labour cost
A. Mandays	1.0	31	8,729	-	8,729
B. Materials			500		500
CTotal			9,229	-	9,229
Add: Contingency @3%					276.87
Grand Total (In Rs.)					9,506

Cost abstract	Amount (in Rs.)
Advance work of Fodder grass Plantation in N.B	18,433
Creation of Fodder grass Plantation in N.B	82,361
1st year maintenance of Fodder grass Plantation in N.B	24,625
2nd year of maintenance of Fodder grass Plantation in N.B	15,075
Cut Back operationduring 3rd year of Fodder grass Plantation	9,506
Grand Total	1,50,000

$\underline{2.4.4}$ Species recovery programme for local RET

Model: Estimate for Creation of RET Plantation SB for 2022-23

Model: Estimate for Creation of RET Plantation SB for 2022-23 Type of Plantation RET SB							
	No. of seedlings per ha			1600			
	Spacing per ha		2.5	5m x 2.5m			
	Pit Size			60cm. X 45cm	1		
	Labour Rate (Skilled- Rs.328/- & Unskilled- Rs.271/-)		oceni. A	1 10011			
	, , , , , , , , , , , , , , , , , , , ,		Rate	per Ha (2022	-23)	Amount	
Sl No.	Particulars of work	SoR ref. item no.	Labour (N Skilled	landays) Unskilled	Material (in Rs.)	Amount (Rs.)	
1	Survey and demarcation of the plantation site including preparation of Regeneration Map and GPS Survey map	RA-29	0.5	1	90.00	525	
2	Clearance of undergrowth in thick forest areas : Clear felling, burning, heaping and re-burning in thick density areas of undergrowth and bushes	RA-27 (a)	0	30	0	8,130	
3	Staking and alignment of plantation site, collection of stakes, pitching etc.	RA-30	0	4	310	1,394	
4	Pit cutting : b) RET Plantation-60x60x45cm	RA-31 (b)	0	50	0	13,550	
5	Soil moisture Conservation- Digging of box trench over a length of 500 mt of size 5 m x 0.45m x 0.45m	RA-32	0	35	0	9,485	
6	Sorting and shifting of seedlings per each time	RA-11 (ii)	0	5	0	1,355	
7	Weeding and cleaning of seedlings in Hycopots / root trainers per each time	RA-12(ii)	0	5	0	1,355	
8	Watering of seedlings in Hycopots two times per day	RA-13(ii)	0	3	0	813	
9	Creation of inspection path by removing weeds, scraping and by providing proper drain along the diagonal of the plantation site, of 3 mt wide	RA-42	0	5	0	1,355	
10	Pit filling and application of Farm yard Manure including cost of carraige	RA-33(ii)	0	22	5520	11,482	
11	Transplanting of Hycopots seedlings into pits including man carriage from the unloading point	RA-36 (ii)	0	13	0	3,523	
12	Application of insecticides and other chemicals whenever necessary including carraige (nos.)	RA-41	0	2	690	1,232	
13	Vacancy infilling of pits with new seedling wherever there mortality due aboitic and biotic factors	RA-40	0	3	0	813	
14	1st cleaning	RA-38 (a)	0	14	0	3,794	
15	1st Mulching with fertilizer including cost of carraige	RA-39(a)	0	14	2300	6,094	
16	2nd cleaning 2nd Mulching with Chemical fertilizer including cost of	RA-38 (b)	0	12	0	3,252	
17	carraige	RA-39(b)	0	12	1840	5,092	
18 19	3rd cleaning and Multching 4th cleaning and Multching	RA-38 (c) RA-38 (d)	0	10	0	2,710 2,710	
21	Creation of fireline to protect plantation from Fire, by making 3mt wide fireline inside plantation and along boundary, by removing weeds and vegetation and scrapping, cutting of all existing weed growth to a width of 3 m. Heaping, burning and re-burning in younger plantations	RA-44	0	4	0	1,084	
22	Providing watch and ward in the form of man days to oversee the plantation and protect the plantation from damages arining out of biotic factors for the entire year	RA-45	0	12	0	3,252	
23	Transportation of Hycopots seedling from nursery to Plantation site including loading & unloading: d) lead distance>20km & upto 30km : 300CC Hycopots	RA-34(d)	0	2	3186	3,728	
24	Collection of Hycopots after plantation & transporting back to central nursery after careful packing etc. : d) lead distance> 20km & upto 30km : 300CC Hycopots	RA-43(d)	0	2	0	542	
25	Digging dug well/shallow tube well including labour for watering (one no per 10 ha. RET plantation sites)		1	4	5000	6,412	
26	Cost of signage (one for each 10 Ha or part thereof)	RA-49	0	0	300	300	
27	Barbed wire fencing, with 4 strand, using wooden post of 6-7 ft height and 6 inch girth at 2.5 mt apart. Fixing the fence posts after digging pits of 30 cm x 30 cm x 40 cm depth and consolidation, ensuring firm fixture, unrolling and fixing barbed wire with 'U' nils in four rows, ensuring proper fixture	RA-46 (b)	0	2	20000	20,542	
A	Total		1.5	276	39,236	1,14,524	
В	Add : Contingency @3%					3,436	
С	Grand Total			l		1,17,960	

Projected Cost per ha of RET plantation in SB for the F.Y 2025-26	Skilled	Unskilled	Amount	Price	Total Labour
Projected cost per ha of NET plantation in 35 for the 1.1 2023-20	Skilleu	Uliskilleu	Amount	Escalation	cost
A. Mandays	1.5	276	75,288	-	75,288
B. Materials			39,236	-	39,236
CTotal			1,14,524	-	1,14,524
Add: Contingency @3%					3,435.72
Grand Total (In Rs.)					1,17,960

Estimate for 1st year maintenance of RET Plantation in SB for 2022-23								
			Rate	Amount				
Sl No.	Particulars of work	SoR ref. item no.	Labour (N	/landays)	Material	(Rs.)		
			Skilled	Unskilled	(in Rs.)	(KS.)		
1	Vacancy infilling of pits with new seedling wherever there mortality due aboitic and biotic factors including cost of transportation		0	4	300	1,384		
2	1st cleaning	RA-38 (a)	0	14	0	3,794		
3	1st Mulching with fertilizer including cost of carraige	RA-39(a)	0	14	2300	6,094		
4	2nd cleaning	RA-38 (b)	0	12	0	3,252		
5	3rd cleaning	RA-38 (c)	0	10	0	2,710		
6	Creation of fireline to protect plantation from Fire, by making 3mt wide fireline inside plantation and along boundary, by removing weeds and vegetation and scrapping, cutting of all existing weed growth to a width of 3 m. Heaping, burning and re-burning in younger plantations	RA-44	0	4	0	1,084		
7	Application of insecticides and other chemicals whenever necessary including carraige (nos.)	RA-41	0	2	690	1,232		
8	Providing watch and ward in the form of man days to oversee the plantation and protect the plantation from damages arining out of biotic factors for the entire year	RA-45	0	12	0	3,252		
9	Repairing of fencing		0	2	2500	3,042		
10	Labour for watering		0	3	0	813		
A	Total		0.0	77	5,790	26,657		
В	Add: Contingency @3%					798		
С	Grand Total					27,455		

Projected Cost per ha of 1st year maintenance of RET plantation in SB for the F.Y 2026-27	Skilled	Unskilled	Amount	Price Escalation	Total Labour cost
A. Mandays	0.0	77.0	20,867	-	20,867
B. Materials			5,790	-	5,790
CTotal			26,657	-	26,657
Add: Contingency @3%					798
Grand Total (In Rs.)					27,455

Estimate for 2nd year maintenance of RET Plantation in SB for 2022-23

	Particulars of work		Rate p	-23)	Amount	
Sl No.		SoR ref. item no.	Labour (M	landays)	Material	(Rs.)
			Skilled	Unskilled	(in Rs.)	(KS.)
1	Vacancy infilling of pits with new seedling wherever there mortality due aboitic and biotic factors including cost of transportation	RA-40	0	2.5	150	828
2	1st cleaning	RA-38 (a)	0	14	0	3,794
3	2nd cleaning	RA-38 (b)	0	12	0	3,252
4	3rd cleaning	RA-38 (c)	0	10	0	2,710
5	Creation of fireline to protect plantation from Fire, by making 3mt wide fireline inside plantation and along boundary, by removing weeds and vegetation and scrapping, cutting of all existing weed growth to a width of 3 m. Heaping, burning and re-burning in younger plantations	RA-44	0	4	0	1,084
6	Providing watch and ward in the form of man days to oversee the plantation and protect the plantation from damages arining out of biotic factors for the entire year	RA-45	0	12	0	3,252
7	Repairing of fencing		0	1	1000	1,271
8	Labour for watering		0	3	0	813
A	Total		0	59	1,150	17,004
В	Add : Contingency @3%					511
С	Grand Total					17,515

Projected Cost per ha of 2nd year maintenance of RET plantation in SB	Skilled	Unskilled	Amount	Price	Total Labour
for the F.Y 2027-28	Skilleu	Oliskilieu		Escalation	cost
A. Mandays	0.0	59	15,854	ı	15,854
B. Materials			1,150	ı	1,150
CTotal			17,004	ı	17,004
Add: Contingency @3%					511
Grand Total (In Rs.)					17,515

Estimate for 3rd year maintenance of RET Plantation in SB for 2022-23

	Estillate for Siu year maintena			er Ha (2022	22)	T
				Amount		
Sl No.	Particulars of work	SoR ref. item no.	Labour (M	landays)	Material	(Rs.)
			Skilled	Unskilled	(in Rs.)	(11.3.)
1	Vacancy infilling of pits with new seedling wherever there mortality due aboitic and biotic factors including cost of transportation	RA-40	0	2.0	75	617
2	1st cleaning	RA-38 (a)	0	14	0	3,794
3	2nd cleaning	RA-38 (b)	0	12	0	3,252
4	Creation of fireline to protect plantation from Fire, by making 3mt wide fireline inside plantation and along boundary, by removing weeds and vegetation and scrapping, cutting of all existing weed growth to a width of 3 m. Heaping, burning and re-burning in younger plantations	RA-44	0	4	0	1,084
5	Providing watch and ward in the form of man days to		0	12	0	3,252
6	Repairing of fencing		0	1	500	771
7	Labour for watering		0	2	0	542
A	Total		0	47	575	13,312
В	Add : Contingency @3%					398
С	Grand Total					13710

Projected Cost per ha of 3rd year maintenance of RET plantation in SB for the F.Y 2028-29	Skilled	Unskilled	Amount	Price Escalation	Total Labour cost
A. Mandays	0.0	47.0	12,737	-	12,737
B. Materials			575	-	575
CTotal			13,312	-	13,312
Add: Contingency @3%					399.36
Grand Total (In Rs.)					13,710

Cost abstract	Amount (in Rs.)
Creation of RET Plantation in S.B	1,17,960
1st year maintenance of RET Plantation in S.B	27,455
2nd year of maintenance of RET Plantation in S.B	17,515
3rd year maintenance of RET Plantation in S.B	13,710
Grand Total	1,76,640

Model: Estimate for Creation of RET Plantation NB for 2022-23

Type of Plantation	RET NB
No. of seedling per ha	2500
Spacing per ha	2m x 2m
Pit Size	60cm. x 60cm. x 45cm.

Labour Rate (Skilled- Rs.328/- & Unskilled- Rs.271/-) Rate (2022-23) SI No. Particulars of Work SoR Ref. item no. Labour (Mandays) Material (in Amount (Rs.) Skilled Unskilled Rs.) Survey and demarcation of the plantation site 1 including preparation of Regeneration Map and RA-29 525 0.5 1 90 GPS Survey map Clearance of thick density areas: Clear felling, 2 burning, heaping and re-burning in thick RA-27(a) 0 35 0 9,485 ndergrowth and bushes Staking and alignment of plantation site. 3 RA-30 0 6 390 2,016 collection of stakes, pitching etc. RA-31 (a) Pit cutting: a) RET-60x60x45 cm Λ 40 Λ 10.840 Sorting and shifting of seedlings per each time : 5 5 1,355 RA-11 (i) 0 0 i) RET (NB) 6 Weeding and cleaning of seedlings in Hycopots / RA-12 (i) 0 5 0 1,355 root trainers per each time : i) RET (NB) Watering and cleaning of seedlings in Hycopots RA-13 (i) 0 2 0 542 two times per day : i) RET (NB) Creation of inspection path by removing weeds, scarping and by providing proper drain along RA-42 0 5 0 1,355 the diagonal of the plantation site, of 3 mt wide Pit filling and appliction of Farm yard Manure: 9 RA-33(i) 0 17 2940 7.547 Transplanting of Hycopots seedling into pits 0 10 including man carriags from the unloading point RA-36(iii) 30 0 8.130 iii) North Bengal RET Application of insecticides and other chemicals RA-41 0 2 690 1.232 whenever necessary Vacancy infilling of pits with new seedling 12 wherever there mortality due abiotic and biotic RA-40 0 3 813 RA-38(a) 4.336 13 1st cleaning 0 16 1st Mulching with fertilizer including cost of 14 RA-39(a) 0 14 2300 6,094 carraige 0 3,794 15 2nd cleaning RA-38(b) 14 2nd Mulching with fertilizer including cost of RA-39(b) 0 12 1840 5,092 16 arraige RA-38(c) 3.252 3rd cleaning 0 18 4th cleaning RA-38(d) 0 10 2,710 19 5th cleaning RA-38 (e) 0 10 2.710 Creation of fireline to protect plantation from Fire, by making 3mt wide fireline inside plantation and along boundary, by removing weeds and vegetation and scarpping, cutting of RA-44 0 4 0 1.084 all existing weed growth to a width of 3 m. Heaping, burning and re-burning in younger plantations Providing watch and ward in the form of man days to oversee the plantation and protect the RA-45 0 12 0 3,252 plantation from damages arining out of biotic factors for the entire year Transportation of Hycopots seedling from nursery to Plantation site including loading & RA-34(d) 0 2 4000 4.542 unloading: d) lead distance>20km & upto 30km 300CC Hycopots Collection of Hycopots after plantation & transporting back to central nursery after RA-43(d) 542 careful packing etc. : d) lead distance > 20km & upto 30km : 300CC Hycopots Fencing: Vegetative fencing using bamboo posts at least of 6 ft height with 1 ft embedded underground and not more than 5 ft apart with RA-46(a) 0 2 7500 8,042 splitted bamboo of atleast 5 rows and using ipomea/brushwood/thorn as locally available as SIGNAGE : Installation of sign board with Forest directorate colour code and emblem of size 3 'x4ft made out of brick work and plastered and RA-49 300 300 well finished and painted with good quality paint 0.5 261.0 20.050 90.945 Α Total 2,725.35 Add: Contingency @3% Grand Total 93,670

Projected Cost per ha of RET. Plantation in NB for the F.Y	Skilled	Unskilled	Amount	Price Escalation	Total Labour cost
A. Mandays	0.5	261.0	70,895	-	70,895
B. Materials			20,050	-	20,050
CTotal			90,945	-	90,945
Add: Contingency @3%					2,725
Grand Total (In Rs.)					93,670

Estimate for 1st year maintenance of RET. Plantation in NB for 2022-23

		1st year maintenance o	R			
Sl No.		SoR ref. item no.	Labour	Labour (Mandays)		Amount
			Skilled	Unskilled	Rs.)	(Rs.)
1	Vacancy infilling of pits with new seedling wherever there mortality due aboitic and biotic factors including cost of transportation	RA-40	0	6	450	2,076
2	1st cleaning	RA-38 (a)	0	16	0	4,336
3	1st Mulching with fertilizer including cost of carraige	RA-39(a)	0	14	2300	6,094
4	2nd cleaning	RA-38 (b)	0	14	0	3,794
5	3rd cleaning	RA-38 (c)	0	10	0	2,710
6	4th cleaning	RA-38 (d)	0	8	0	2,168
7	Creation of fireline to protect plantation from Fire, by making 3mt wide fireline inside plantation and along boundary, by removing weeds and vegetation and scrapping, cutting of all existing weed growth to a width of 3 m. Heaping, burning and re-burning in younger plantations	RA-44	0	5	0	1,355
8	Application of insecticides and other chemicals whenever necessary including carraige (nos.)	RA-41	0	5	690	2,045
9	Providing watch and ward in the form of man days to oversee the plantation and protect the plantation from damages arining out of biotic factors for the entire year	RA-45	0	12	0	3,252
10	Repairing of fencing		0	1	127	398
A	Total		0.0	91.0	3,567	28,228
В	Add : Contingency @3%		•			848
С	Grand Total		·			29,075

Projected Cost per ha of 1st year maintenance of RET	Skilled	Unskilled	Amount	Price Escalation	Total Labour cost
A. Mandays	0.0	91	24,661		24,661
B. Materials			3,567	-	3,567
CTotal			28,228	-	28,228
Add: Contingency @3%					847.83
Grand Total (In Rs.)					29,075

Estimate for 2nd year maintenance of RET. Plantation in NB for 2022-23

	Estimate for a	and year maintenance				
Sl No.	. Particulars of work	L		Rate per Ha (2022-23) Labour (Mandays) Material (in		
		SoR ref. item no.	Labour (1	Labour (Mandays)		Amount (Rs.)
			Skilled	Unskilled	Rs.)	(KS.)
1	Vacancy infilling of pits with new seedling wherever there mortality due aboitic and biotic factors including cost of transportation	RA-40	0	4	300	1,384
2	1st cleaning	RA-38 (a)	0	16	0	4,336
3	2nd cleaning	RA-38 (b)	0	14	0	3,794
4	3rd cleaning	RA-38 (c)	0	12	0	3,252
5	Creation of fireline to protect plantation from Fire, by making 3mt wide fireline inside plantation and along boundary, by removing weeds and vegetation and scrapping, cutting of all existing weed growth to a width of 3 m. Heaping, burning and re-burning in younger plantations	RA-44	0	4	0	1,084
6	Providing watch and ward in the form of man days to oversee the plantation and protect the plantation from damages arining out of biotic factors for the entire year	RA-45	0	12	0	3,252
7	Repairing of fencing with bamboo		0	1	223	494
A	Total		0	63	523	17,596
В	Add : Contingency @3%		•			529
С	Grand Total		•			18125

Projected Cost per ha of 2nd year maintenance of RET.	Skilled	Unskilled	Amount	Price Escalation	Total Labour cost
A. Mandays	0.0	63	17,073	-	17,073
B. Materials			523	-	523
CTotal			17,596	-	17,596
Add: Contingency @3%					528.89
Grand Total (In Rs.)					18,125

Estimate for 3rd year maintenance of RET. Plantation in NB for 2022-23

	Estimate 151	oru year mamtenance		te per Ha (2022-2	2)	
Sl No.	Particulars of work	SoR ref. item no.		Mandays)	Material (in	Amount
DI MOI	Turesculars of Work	SORTER REIN HO.	Skilled	Unskilled	Rs.)	(Rs.)
1	Vacancy infilling of pits with new seedling wherever there mortality due aboitic and biotic factors including cost of transportation	RA-40	0	2	87	629
2	1st cleaning	RA-38 (a)	0	14	0	3,794
3	2nd cleaning	RA-38 (b)	0	12	0	3,252
4	3rd cleaning	RA-38 (c)	0	8	0	2,168
5	Creation of fireline to protect plantation from Fire, by making 3mt wide fireline inside plantation and along boundary, by removing weeds and vegetation and scrapping, cutting of all existing weed growth to a width of 3 m. Heaping, burning and re-burning in younger plantations	RA-44	0	4	0	1,084
6	Providing watch and ward in the form of man days to oversee the plantation and protect the plantation from damages arining out of biotic factors for the entire year	RA-45	0	10	0	2,710
7	Repairing of fencing		0	1	0	271
A	Total		0	51	87	13,908
В	Add : Contingency @3%					417
С	Grand Total					14325

Projected Cost per ha of 3rd year maintenance of RET.	Skilled	Unskilled	Amount	Price Escalation	Total Labour cost
A. Mandays	0.0	51	13,821	-	13,821
B. Materials			87	-	87
CTotal			13,908	-	13,908
Add: Contingency @3%					417
Grand Total (In Rs.)					14,325

Cost abstract	Amount (in Rs.)
Creation of RET. Plantation in N.B	93,670
1st year maintenance of RET. Plantation in N.B	29,075
2nd year of maintenance of RET. Plantation in N.B	18,125
3rd year maintenance of RET. Plantation in N.B	14,325
Grand Total	1,55,195

				Total (Re)		•	12,39,06,611	9,11,491	6,49,100	12,00,00,000	54,67,202	62,73,360	13,17,40,563
					2030								
					5029								
					2028								•
					2057						٠	٠	•
				(LAYS (Rs)	2026						٠	٠	
				FINANCIAL OUTLAYS (Rs)	2								-
					2025			491	100	080	511	78,030	621
					2024			9,11,491	6,49,100	14,29,080	1,31,511	78,	16,38,621
					2023	۰	12,39,06,611	۰	۰	11,85,70,920	53,35,691	61,95,331	13,01,01,942
					2005								
	5.00%				Total		40	40	40	Base Cost	Price Escalation	Physical Contingency	Total Cost
					2030							Phys	
	Physical Confingency:				2029								
	Physica				2008								
				-	2027								
				PHYSICAL TARGETS (nos.)	2026								
				PHYSICAL	2025								
					2024			40	40				
					2023		40						
					2022								
	2030	0.4221	Ī		2030								
	5003	0.3609			5059								
	2028	0.3023			2028								
	2027	0.2462			2027								
	2026	0.1925			2026								
	2025	0.1412		T (nos.)	2025								
	2024	0.0920	1	UNIT COST (nos.)	2024			22,787	16,227				
	2023	0.0450	1		2023		30,97,665						
Price Escalation:	2002	000000			2002								
ά			1		žį.		29,64,273	20,867	14,860				
					Base year Cost	Labour	Material	Labour	Material				
				Bonne of Mork	200	Upgrading Central	Nursery	Maintenance of	Central Nursery				

Figure F		, , ,																											
May be part of the						UNIT COST,	per nos.)								PHYSIC	CAL TARGETS (nos.)						A.E.	ANCIAL OUTLAYS (Rs)					
Design 150 167 168<	_	Base year Cost	2002	2023	2004	2025	2026	2027	2028	2029	2030	2022	2023	2024	2025	2026						2024	2025	2026	2007	2028	2029	2030	Total (Rs)
1,2,2,2,2,2,2,2,2,2,2,2,2,2,2,2,2,2,2,2	Creation	10.50		10.97	11.47	11.98							18,04,450	18,04,450	23,20,100				. 59	29,000	1,97,99,							٠	6,82,89,630
15.00 15.0	Mainteance	4.50			4.91	5.14	5.37							18,04,450		23,20,100			58	29,000		. 88,67,27					•	•	3,05,83,999
. 8,22,503 24,90,816 45,56,227 20,09,81 . 9,89,966 14,17,878 16,53,315 6,22,52 . 2,07,89,294 3,10,35,446 3,89,19,616 1,30,72,952	otal	15.00																	8	ise Cost	1,89,46,						٠		8,89,35,000
9,89,996 14,77,878 18,53,315 2,07,89,294 3,10,35,446 3,89,19,616 1,3																			Price Es	calation	8,52,						•	•	99,38,629
2,07,89,294 3,10,35,446 3,89,19,618																L			Physical Con.	Ingency	- 9,89,						•	•	49,43,681
																<u> </u>			T	'tal Cost	. 2,07,89,								10,38,17,310

Planting year			5	2025		2026	7	2027	
SI. No.	Plantation	No. /ha	Area	No.	Area	No. Seedlings	Area	No.	Total Nos.
1	NB Sal	1100	30	33,000	30	33,000	40	44,000	
2	SB Sal	1760	120	2,11,200	120	2,11,200	160	2,81,600	
3	NB Misc	2750	75	2,06,250	7.5	2,06,250	100	2,75,000	
4	SB Misc	1760	200	8,80,000	200	8,80,000	009	10,56,000	
5	Strip	1760	150	2,64,000	150	2,64,000	200	3,52,000	
9	SPA	2200	25	25,000	25	25,000	0	0	
7	RET	2750	20	55,000	20	55,000	32	96,250	
				17,04,450		17,04,450		21,04,850	55,13,750
Seedling creation year	on year			2023		2024		2025	
Seedling maintence year	ence vear			2024		2025		2026	

Seedling creation year 2023 2024 Seedling realistence year 2024 2025 Baze Rate (seedlings Creation) 10.50

	2030 Total (Rs)	59,19,975	18,02,200	11,52,214	9,53,731	81,72,000	16,56,119	4,91,406	
	2029	ŀ	٠	٠	4,87,359	3,58,125	1,29,234	24,368	
	2028	ľ		5,88,784	4,66,372	8,10,250	2,44,906	52,758	
	2027	ŀ	9,20,928	5,63,430		11,91,125	2,93,233	74,218	
FINANCIAL OUTLAYS (Rs)	2026	30,25,122	8,81,271			32,75,750	6,30,643	1,95,320	
FINANCIA	2025	28,94,853				25,36,750	3,58,103	1,44,743	
	2024	٠	٠	٠	٠	٠	٠		
	2023	٠	٠	٠	٠	٠	٠	٠	
	2002								
	Total	90	99	95	95	Base Cost	Price Escalation	Physical Contingency	
	2030	·			٠			Phy	
	2029	ľ		•	123				
	2028	ľ		25	25				
eETS (Ha)	2027	ľ	25	25					
PHYSICAL TARGETS (Ha)	2026	92	83						
ā	2022	25							
	2024								
	2023	٠							
	2202								
	2030								
	2029				19,494				
	2028			23,551	18,655				
	2027		36,837	22,537					
(ber Ha)	2026	1,21,005	35,251						
UNIT COST (per Ha)	2025	1,15,794							
	2004								
	2023								
	2002								
	ork Base year Cost	1,01,470	29,560	18,085	14,325	1,63,440			
	tems of Work	Creation	Maint- Y1	Maint- Y2	Maint- Y3	Total			

d)		a Sai Figuration III N.D.																												
					UNIL	UNIT COST (per Ha)					_			PHY	PHYSICAL TARGETS (Ha)	'S (Ha)								FINANCIAL	FINANCIAL OUTLAYS (Rs)					
	Base year Cost	rr Cost 2022	2023	2024	2025	2026	2027	2028	5003	2030	2022	2023	2024	2025	2026	2027	2028	2029	Z030 T	Total 2	2022	2023 203	2024	2025	2028	2027	2028	2029	2030	Total (Rs)
	171	1,11,580			1,27,331	1,33,061	1,39,049				ľ			30	8	40	٠			100				38,19,939	39,91,837	55,61,959	٠			1,33,73,735
	22	28,035				33,432	22 34,907	96,509							8	30	40			100	٠				10,02,968	10,48,101	14,60,355	٠		35,11,424
	Ŧ	17,105					21,316	32,275	23,278							30	30	40		100	٠				٠	6,39,478	6,68,255	9,31,102		22,38,835
	+	14,325						18,655	19,494	20,372							30	8	40	100							5,59,646	5,84,830	8,14,864	19,59,340
	47	1,71,045																		Base Cost				33,47,400	41,88,450.00	58,17,400.00	20,64,300.00	11,13,950.00	5,73,000.00	1,71,04,500
																			Price	Price Escalation				4,72,539	8,06,355	14,32,139	6,23,956	4,01,982	2,41,864	39,78,834
																			Physical Contingency	ntingency				1,90,997	2,49,740	3,62,477	1,34,413	75,797	40,743	10,54,167
																				Total Cost				40,10,936	52,44,545	76,12,016	28,22,668	15,91,729	8,55,607	2,21,37,501
															I															
3	Misc. Pl.	b) Misc. Plantation in N.B	gal																											
П																								The party of the p	1 00 0				Ξ	

					UNIT	UNIT COST (per Ha)								PH	PHYSICAL TARGETS (Ha)	ETS (Ha)								FINANCIAL OUTLAYS (Rs)	4YS (Rs)					
tems of Work	Base year Cost	ost 2002	2023	2024	2025	2026	2027	2028	2029	2030	2022	2023	2024	2002	2026	2027	2028	2029	3030	Total	2002	2023	2024	2025	2026	2002	2028	2029	2030	Total (Rs)
Creation	93,670	70			1,06,893	1,11,703	1,16,730							75	75	100				250				776,91,08	83,77,741	1,16,72,986	ľ	ľ		2,80,67,705
Maint- Y1	29,075	75				34,672	72 36,233	37,863							75	72	100			250					26,00,436	27,17,455	37,86,321			91,04,213
Maint- Y2	18,125	52					22,587	23,603	24,666							72	75	100		250					٠	16,94,029	17,70,260	24,66,562		29,30,850
Maint- Y3	14,325	32						18,655	19,494	20,372							75	75	100	250					٠	•	13,99,116	14,62,076	20,37,159	48,98,351
Total	1,55,195	195																		Base Cost				70,25,250	92,05,875	1,29,07,000	53,41,250	28,86,875	14,32,500	3,87,98,750
															•				Pric	Price Escalation				9,91,727	17,72,302	31,77,470	16,14,447	10,41,763	6,04,659	
																			Dhusing	Divisional Continuance				A 00 840	5.49.000	ACC NO S	2 47 785	1 08 433	101959	334.00.05

6,37,16,417 1,71,96,394 1,14,59,876 93,76,110 8,25,00,000 1,92,48,796 50,87,440 10,68,36,236 Total (Rs) . 500 500 500 500 Base Cost Price Escalation Physical Confingency Total Cost Total 1.1.2.4 TPOFA Plantation

a) Strip Plantation

19,497

1.1.3.1 Embankment Protection

a) Large Check dams	Large Check dams	ock dams																										
UNIT COST (nos.)	UNIT COST (nos.)	UNIT COST (nos.)	UNIT COST (nos.)	UNIT COST (nos.)	OST (nos.)								PHYSICAL	PHYSICAL TARGETS (nos.)								FINAN	FINANCIAL OUTLAYS (Rs)					
Basey year Cost 2022 2023 2024 2025 2026 2027 2028 2	2022 2023 2024 2025 2028 2027 2028	2024 2025 2026 2027 2028	2025 2026 2027 2028	2026 2027 2028	2027 2028	2028	8	5058	2030	2022 203	2023 2	2024 20	2022 202	2026 2027	7 2028	8 2029	2030	Total	2022	2023	2024	2025	2026	2027	2028	2029	2030	Total (Rs)
25,00,000 28,52,915 29,81,297					29,81,297									+					-				29,81,297		٠	٠		29,81,297
000'0027								H										Base Cost	19.			٠	25,00,000		Ì	•		25,00,000
																		Price Escalation	us.				4,81,297	٠		•		4,81,297
																	Æ	Physical Confingency	ch.				1,49,065	٠		•		1,49,065
																		Total Cost		L		•	31,30,361	•	•	•		31,30,361

2,56,91,476 2,25,00,000 41,91,476 13,34,574 2,80,26,050 Total (Rs) 1,02,70,496 Total Cost Total 18,69,273 17,11,749 16,38,038 Base year Cost tems of Work

62,30,910 83,47,630 91,29,329 Total 12,46,182 11,92,519 11,41,166 10,92,025 c) Small Check dams Cost of Civil Works Total tems of Work

2,37,07,869 2,00,00,000 37,07,869 11,85,393 2,48,93,262

Total (Rs)

1.1.3.1 Embankment Protection d) Grass planting along the outlet

	Total (Rs)	1,05,176	4,91,085	1,53,436	98,158	64,682	7,50,000	1,62,536	45,627	9,58,163
	Top.									
	2000									
	6202	ľ		•	•	789'+9	069'24	17,152	3,234	916'29
	2028				98,158		75,375	22,783	4,908	1,03,066
	2027			1,53,436			1,23,125	30,311	7,672	1,61,108
FINANCIAL OUTLAYS (Rs)	2026		4,91,085				4,11,805	79,280	24,554	5,15,639
FINAN	2025	1,05,176	٠	٠	٠	٠	92,165	13,011	5,259	1,10,434
	2024		٠	٠	٠	٠	٠		٠	٠
	2023		٠	٠	٠	٠	٠			
	2022							٠	*	٠
	Total	5	9	9	9	5	Base Cost	Price Escalation	Physical Confingency	Total Cost
	2030								Physi	
	2029					9				
	2028				9					
TS (Ha)	2027			2						
PHYSICAL TARGETS (Ha)	2026		9							
Н	2002	5								
	2024									
	2023									
	2002									
	2030									
	2029					12,936				
	8202				19,632					
	2002			30,687						
UNIT COST (per Ha)	2026		98,217							
UNIT CC	2022	21,035								
	\$202									
	5202									
	2022									
	Base year Cost	18,433	82,361	24,625	15,075	909'6	1,50,000			
	Items of Work	Advance Work	Creation	Maint- Y1	Maint- Y2	Maint- Y3	Total			

	Fotal (Rs)	9,47,192	44,22,621	13,81,817	8,83,991	5,82,512	67,50,000	14,68,133	4,10,907	86,29,040
	ţ					-	,			3
	2000					2,02,777	1,42,590	60,187	10,139	2,12,916
	6202		•	•	3,07,725	1,94,045	3,68,715	1,33,055	52,089	858'92'5
	2028	٠		4,81,022	2,94,474	1,85,689	7,38,090	2,23,085	48,059	10,09,244
	2027		15,39,562	4,60,308	2,81,793		18,30,915	4,50,738	1,14,083	23,95,736
FINANCIAL OUTLAYS (Rs)	2026	3,29,725	14,73,255	4,40,487			18,81,285	3,62,182	1,12,173	23,55,641
FINANC	2025	3,15,527	14,09,814				15,11,910	2,13,430	86,267	18,11,607
	2024	3,01,539					2,76,495	25,444	15,097	3,17,036
	2023	٠				٠				
	2022		٠	٠	٠					
	Total	45	45	45	45	45	Base Cost	Price Escalation	Physical Contingency	Total Cost
	2030	٠	٠	٠	٠	15		P.	Physica	
	2029	٠			15	15				
	2028			15	15	15				
ETS (Ha)	2027		15	15	15					
PHYSICAL TARGETS (Ha)	2026	15	15	15						
Ŧ	2025	15	15							
	2024	15								
	2023									
	2002	·								
	2030					13,518				
	5058				20,515	12,936				
	2028			32,068	19,632	12,379				
	2027		1,02,637	30,687	18,786					
UNIT COST (per Ha)	2026	21,962	98,217	29,366						
UNIT COS.	2025	21,035	933,988							
	2024	20,129								
	2023									
	2022									
	Base year Cost	18,433	82,361	24,625	15,075	909'6	1,50,000			
	Items of Work	Advance Work	Creation	Maint- Y1	Maint-Y2	Maint- Y3	Total			

d) Grass planting along the outlet

	Total (Rs)	8,40,082	39,22,506
	2030	٠	
	2029		٠
	2028	٠	٠
	2027		12,31,641
FINANCIAL OUTLAYS (Rs)	2026	2,63,790	13,75,038
FINANCI	2025	2,94,492	13,15,826
	2024	2,81,810	٠
	2023		
	2022		٠
	Total	40	40
	2030		٠
	2029		
	2028		٠
ETS (Ha)	2027	٠	12
HYSICAL TARGETS (Ha)	2026	12	14
ā	2002	71	71
	2024	14	
	2023		
	2002		
	2030		
	2028		
	2028		
	2027		1,02,637
ST (per Ha)	2026	21,962	98,217
UNIT COST	2022	21,035	896'55
	2024	20,129	
	2023		
	2022		
	Base year Cost	18,433	82,361
	tems of Work	Advance Work	Creation

					_						_		
12,25,560 7,64,023 5,16,641 60,000 12,68,817 3,64,441 76,53,258	Total (Rs) 62,20,910 50,00,000 12,20,910 3,11,545 65,42,455	Total (Rs)	29,54,813	5,04,813 1,47,741 31,02,553		Total (Rs)	1,89,63,518	1,50,00,000 39,63,518 9,48,176	1,99,11,694	Total (Rs) 1,68,60,382 72,49,217 2,00,000 41,09,599 12,05,480 2,53,15,079		Total (Rs) 5,67,59,889 1,37,57,616 91,69,395 7,08,30,000 7,43,28,308 43,29,418 9,15,47,786	Total (Rs) 20,53,83,515
1,62,222 1,14,072 48,150 8,111 1,70,333	5030	300		 		3030				2030 	_	2030 	5000
2,46,180 1,61,109 3,13,964 1,13,305 21,364 4,48,653	5029	5002		1		5029	40,82,585	30,00,000	42,86,715	2029 		2023 	5005
3,84,818 2,74,842 1,73,310 6,39,634 1,83,336 41,648 8,74,618	2028	2028	12,76,215	2,96,215 63,811 13,40,026		2028	39,06,780		41,02,119	2028 - 20,70,594 15,90,000 4,80,594 1,03,530 21,74,123		2028 57.21,610 27,37,000 21,42,478 81,40,600 24,60,579 5,30,059 1,11,31,238	2028
4,29,621 2,63,007 15,44,132 3,80,137 96,213 20,20,483	2027 62,30,910 90,00,000 12,30,910 3,11,515 66,42,455	2302				2027	55,07,819	45,00,000	58,88,210	2021		2027 2.28.05,677 41.06,419 28.19,225 2.43.39,400 59,91,221 15,16,568 3,18,47,887	2027
4,11,121 17,19,000 3,20,839 1,102,497 21,52,436	AL OUTLAYS (Rs) 2026	INANCIAL OUTLAYS (Rs)	5,84,334	294,334		INANCIAL OUTLAYS (Rs)	53,66,334	45,00,000	56,34,650	FINANCIAL OUTLAYS Rs) 5 20,6 20,6 20,6 20,6 20,6 20,6 20,6 20,6	FINANCIAL OUTLAYS IRS	2026 1,68,41,873 39,29,587 1,75,02,000 33,89,461 10,43,573 2,19,15,034	NANCIAL OUTLAYS (Rs) 2026 208 6.39.63,716
14,11,116 1,99,202 80,516 16,90,634	FINANCI	FINANG	5,59,171	5,87,130		FINANCI 2025				2025 2025 50,32,543 44,10,000 6,22,543 2,51,627 52,84,170	FINANCI	2025 1,62,12,319 1,42,06,800 20,05,519 8,10,616 1,70,22,935	FINANC 2025 6.12,09,288
2,58,062 23,748 14,091 2,95,901	2004	20024	5,35,092	45,092 28,756 5,61,847		2024				2024 48,15,830 44,10,000 4,05,830 2,40,782 50,56,622		2002	2024
	500	2003				3003	,			200		5000	5202
	2202	2022		 		2022	ď.			2002		2002	2022
40 40 Base Cost Price Escalation Ical Confingency Total Cost	Total 2 Base Cost Phos Escalation toal Confingency Total Cost	Total	88 See Co.	Price Escalation Ical Confingency Total Cost		Total	10	Base Cost Price Escalation ical Confingency	Total Cost	Total 1,000 1,000 Base Cost Price Escalation Ical Confingency Total Cost		Total 400 400 400 400 800 Fine Excitation (cal Confingerry) Total Cost	Total
12 Frys	2030	2000	·	Phys		2030		Phys		2030 400 Phys		2030 	2030
14 12 14 14	2028	5026	8			2029	2	-		2029		2029 	5028
2 2	20028	ents)				2028	m			2028		2028	2028
2	2026 2027	RGETS (Nos. of Stud	ōt .	Ш		L TARGETS (Prog.) 2026 2027	m			PHYSICAL TARGETS (Ha) 2026 2027 400	PHYSICAL TARGETS (Ha)	120 26 2027 120 120 1	2026 2027 500 (6)
	PHYSICAL 2025 2025	PHYSICAL TARGETS	ō.			PHYSICAL 2025				2025 20 300 20	PHYSICAL	2025 20 120 120	2025 202 500
	2004	3004	01			2004				300		900	3004
	2023	2023				2023							2023
	2022	2022		-		2002				2002		2022	2222
13,518	2030 2	2 2030	·		ω.	2030				2030 2		19,497	2030 2
20,515 12,936	6200	6202	·		HNB	5029	20,41,283			7,213		22,835 18,657	5003
32,068 19,632 12,379	2008	ks ks	11823			2028	19,53,390			6,902		30.26 35,780 22,889 17,854	2008
18,786	2027 31,15,455	dents/yr; 2 wee	·		stitutions	2007	18,59,273			1202		2027 1,47,535 34,220 21,827	1,33,684
29,366	arge check di	ational) 10 stuc	58,433		/ Research In	ar Prog.) 2006	17,88,778			2005 17,530	(Dec Ha)	2006 1,44,182 32,747	2028 1,27,927
	NUIT COST (g	tional/ International) : UNIT COST [per Student	55,917		ng Education	2025 2026 2026				2025 2036 16,775 11	INIT COST (ner Ha)	2005 1,25,103	UNIT COST [per Ha] 2025 2026 1,22,419 1,2
	2024	/Students (N.	806 (53		amme engagi	2024			(8)	16,063		2024	20024
	1.1.3.1 Embandment Protection of Boulder susceptum Along the ambandments files lines sheet demis 2 ban cheek dam of Confidence and Confidence	Green Laboratory Initiatives 215 1.14.4			4) Goven taboratory initiatives $\frac{1}{1.3.2.2} \frac{1.1.4.2}{\text{Nature and Forests Programme engaging Education/ Research Institutions}}{1.3.2.2}$	2023			1.2.2.2 ANR of degraded Sal forests (coppicing)	5023	orest areas	2002	2023
	Embankmer Boulder sause	Nature Study			ratory Initiati	2022			aded Sal fore	3022	1.2.2.3 Plantation in degraded forest areas a) Sal Plantation in S.B	2022	b) Misc. Plantation in S.B. or 2022 2023
24,625 15,075 9,506 1,50,000	88	Green Labor 1.1.4.1 1.2.4.1 1.3.4.1 Total	49,000		Green Labor 1.1.4.2 1.3.2.2	Base year Cost	15,00,000,00	15,00,000.00	ANR of degr	Base year Cost 14,700 5,300 20,000	Plantation i	Base year Cost 1,18,390 27,480 17,515 13,710 1,77,075	Base year Cost
Main: Y? Main: Y2 Main: Y3 Total	Hems of Work Cost of Chill Works Total	1.1.4 / 1.2.4 / 1.3.2 15 20 15 50 15 50 1	Nature Study in forests by Students (National/ International/ 10 students/yr; 2 weeks		1.1.4/1.2.4/ 1.3.2 5		Forests Programme engaging Education/ Research Institutions	Total	1.2.2.2	Hems of Work RDF NSC Total	1.2.2.3	ltems of Work Creation Maint Y1 Maint Y2 Maint Y2 Total	Items of Work

									ĺ											
Maint- Y1	27,460	32,747	34,220	35,760			4)	900	200 000			1,600	•		1,63,73,280	1,71	10,078 2,14,56,038	.38	•	5,49,39,396
Maint- Y2	17,510		21,821	22,803	23,829			w)	200 200	009		1,600				1,09,10,323	1,14,0	1,287 1,42,97,214		3,66,08,825
Maint- Y3	13,710			17,854	18,657	19,497			200	900	009	1,600					89,26,963	93,28,708	1,16,98,200	2,99,53,901
Total	1,65,955											Base Cost		5,36,37,500	6,73,67,500	05'89'8	000 320,86,000	000 1,73,61,000	0 82,26,000	26,55,28,000
											Ph	Price Escalation		. 75,71,798	1,29,69,497	7 2,13,80,901	96,98,318	318 62,64,922	2 34,72,200	6,13,57,636
											Physical	hysical Confingency		30,60,465	40,16,850	0 54,11,545	545 20,89,216	216 11,81,296	5,84,910	1,63,44,282

04,35,25,310				Total (Rs)	1,46,04,648	1,30,00,000	16,04,648	7,30,232	1,53,34,880	
0111007				2030						
11 017/10/0				2029 2						
to a more to				2028 20						
C'F 044/74/00				2027 2	٠					
ATT-TOTAL TOTAL STATE ST			3 (Rs)	ĸ	47,70,074	40,00,000	7,70,074	2,38,504	50,08,578	
			FINANCIAL OUTLAYS (Rs)	2026						
0945,02,102			FINA	2025	34,23,498	30,00,000	4,23,498	1,71,175	35,94,673	
				2024	32,76,075	30,00,000	2,76,075	1,63,804	34,39,879	
				52023	31,35,000	30,00,000	1,35,000	1,56,750	32,91,750	
				2022	٠					
100				Total	13	Base Cost	Price Escalation	Physical Contingency	Total Cost	
				2030	٠			Phys		
				2029	r					
				2028						
			SETS (Division)	2027	42					
			PHYSICAL TARGETS (Division)	2026	e					
			۵	2002	8					
				2024	8					
				2023	6					
				2002	i					
				2030						
				6202						
		7		9202						
	9.			2027						
	GIS based CAT Plans as pilot for SMC works @1.65 lakh per ha. For 10 ha/ range		UNIT COST (per Division)	2008	11,92,519					
	akh per ha. Fo		UNIT COST	5202	11,41,166					
	vorks @1.65 la	paration		2024	10,92,025					
	ilot for SMC v	(s) GIS based CAT Plan Preparation		2023	10,45,000					
	4T Plans as p	GIS based C		2022						
	GIS based C	(е		Base year Cost	10,00,000.00	10,00,000.00				
	1.2.3.1			Items of Work	GIS based CAT Plan	Preparation				

AT Plans
Juop
hased
Morkel
SMC
233

	Total (Rs)	22,96,86,381		19,76,00,000	3,20,86,381
	2030				
	2029			٠	٠
	2028			٠	٠
	2027	2,46,24,555		1,97,60,000	48,64,555
FINANCIAL OUTLAYS (Rs)	2026	9,42,56,670		7,90,40,000	1,52,16,670
FINANC	2025	6,76,48,328		5,92,80,000	83,68,328
	2024	4,31,56,628		3,96,20,000	36,36,828
	2003	٠			
_	2022				
	Total	1,000		Base Cost	Price Escalation
	2000				
	2029				
	2028				
ETS (Ha)	2027	100.00			
PHYSICAL TARGETS (Ha)	9202	007			
Ξ	2002	300			
	\$2024	200			
	2023				
	2002				
	2030				
	5059				
	2028				
	2027	2,46,246			
NIT COST (per Ha)	9202	2,35,642			
UNIT CL	2025	2,25,494			
	2024	2,15,784	_		
	2023				
	2022		_		
	Base year Cost	1,97,600.00		1,97,600.00	
	tems of Work	SMC Works based on CAT	Plans	Total	

1.3.1 Community resilience measures in Sundarbans

	(e)	Procupine:	Structure (in	cl. 25% main	Procupine Structure (incl. 25% maintenance for 3 yrs.)	(Ars.)																								
					UNIT COST (per SQM)	(per SQM)								PHY	PHYSICAL TARGETS (SQM)	S (SQM)								FINANCIA	FINANCIAL OUTLAYS (Rs)					
Items of Work	Base year Cost	2022	2023	2024	2025	2026	2027	2028	6202	2030	2002	2023	2024	2002	2026	2027	2028	5029	2000	Total	2022	2023	2024	2025	2026	2027	2028	2029	2000	Total (Rs)
Procupine																														
Structure																														
(incl. 25%	3,625		3,788	3,959	4,137	4,323					•	1,500	10,650			٠	•	•		12,150	10	56,82,188	4,21,58,980	•	٠	٠		٠	•	4,78,41,178
maintenance																														
for 3 yrs.)																														
Total	3,625																			Base Cost	9	54,37,500	3,86,06,250	٠	٠				٠	4,40,43,750
																			Price	Price Escalation		2,44,687	35,52,740	٠	٠				٠	37,97,428
																			Physical Confingency	onfingency		2,84,109	21,07,950		٠					23,92,059
																				Total Cost		59,66,297	4,42,66,940	٠				٠		5,02,33,237

b) Permeable Dam (incl. 25% maintenance for 3 yrs.)

	Total (Rs)	62,79,614		57,75,300	5,04,314	3,13,981	65,93,594			Total (Rs)	5,01,508	4,61,700
	2030									2030		
	5029	,								2029	•	
	2028									2028		
	2027						٠			2027		
FINANCIAL OUTLAYS (Rs)	2026						٠		FINANCIAL OUTLAYS (Rs)	2026		
FINANCI	2025								FINANCI	2025		
	2024	56,76,086		51,97,770	4,78,325	2,83,805	006'89'89			2024	4,41,943	4,04,700
	2023	6,03,519		5,77,530	25,989	30,176	6,33,695			2023	59,585	92,000
	2022									2022		ŀ
	Total	8,100		Base Cost	Price Escalation	Physical Confingency	Total Cost			Total	12,150	Base Cost
	2030				Phic	Physical				2030		
	2029									2029		
	2028									2028		
TS (RM)	2027								TS (SQM)	2027	•	
PHYSICAL TARGETS (RM)	2026								PHYSICAL TARGETS (SQM)	2026		
Н	2002								HH	2002		
	2024	7,290								2024	10,650	
	2023	810								2023	1,500	
	2002									2022		
	2030									2030		
	2029									5059		
	2008							ce for 3 yrs.)		2028		
	2027							6 maintenan		2027		
UNIT COST (per RM)	2026							c) Survey, Earth Work and Vetiver/Mangrove dibbling (Incl. 25% maintenance for 3 yrs.)	UNIT COST (per SQM)	2028		
UNIT CO	2022							ingrove dibl	UNITCO	2025		
	2024	877						Vetiver/Ma		2024	14	
	2023	745						th Work and		2023	40	
	2022							Survey, Ear		2022		
	Base year Cost	713.00		713.00				0		Base year Cost	38.00	38.00
	Items of Work	Permeable Dam (incl. 25%	maintenance for 3 yrs.)	Total						Items of Work	Survey, Earth Work and Vetiver/Mang	Tove dibbling Total

		Total (Rs)		5.01.508			4,61,700	39,808	25,075	5,26,583
		2030								٠
		2029		٠						•
		2028					٠	٠	٠	
		2027								٠
	FINANCIAL OUTLAYS (Rs)	2026		•						٠
	FINANC	2025		•						
		2024		4.41.943			4,04,700	37,243	22,097	4,64,040
		5202		59.565			92,000	2,565	2,978	62,543
		2022								
		Total		12.150			Base Cost	Price Escalation	Physical Confingency	Total Cost
		2000		٠					Phy.	
		2029		٠						
		2028		٠						
	ETS (SQM)	7202		٠						
	PHYSICAL TARGETS (SQM)	2028		٠						
	H	2002								
		2024		10.650						
		2023		1.500						
		2002		٠						
		2030								
		5000								
		9202								
		2002								
לי מתבלו בתורו הסוגיתות בבתבלו וותוח מסבר תומתות (וותו ביין וותוח ביין בתורות ביין בתורות ביין ביין ביין ביין	UNIT COST (per SQM)	2026								
	UNITC	2025								
		2024		4						
		\$20Z		40						
		2022								
7		Base year Cost		38.00			38.00			
		Items of Work	Survey, Earth	Work and	Vetiver/Mang	rove dibbling	Total			

2 Biodiversity Conservation and Restoration 2.1 HNB

2.1.1

Human Wildlife Conflict Mitigation 2.1.1.1 Stress induce conflict risk reduction by wild animals

					2030
					2029
					2028
					2027
				TLAYS (Rs)	2026
				FINANCIAL OUTLAYS (Rs)	2002
					2024
					2023
					2002
5.00%					Total
					2030
					2029
Physical Confingency:					2028
Physi				PHYSICAL TARGETS (Km)	2002
				PHYSICAL	2026
					2025
					2024
					2023
			ı		2005
	0E0Z	1224.0			2030
	2029	0.3609			2029
	2028	0.3023			2028
	2027	2972'0			7202
	2026	0.1925		(per Km)	3008
	2002	0.1412		UNIT COST	2025
	2024	0.0920			2024
	2023	0.0450			2023
	2022	00000			2002
4.50%			,		Base wear Cost
Price Escalation:				Manner of Monte	WIDE OF WIDE

6,51,130

6,23,091

5,96,259

5,70,583

5,46,013

5,00,000

Implementation of Solar Fending Total

2,38,96,607 2,00,00,000 38,96,607 11,94,830 2,50,91,438

Total (Rs)

2.1.1.1 Stress induce conflict risk reduction by wild animals a) Control of straying of Wild animal - Elephants, Leopards & Gaur.

Total (Be)	(cash mass)	27,27,319	27,65,761	2,39,51,704	1,43,71,023	1,43,71,023	31,93,561	5,00,00,000	4 42 90 304
	2030	2,13,315	4,26,630	38,39,672	23,03,803	23,03,803	5,11,956	67,50,000	10 40 470
	5029	4,08,259	3,87,846	32,66,068	19,59,641	19,59,641	4,35,476	61,85,000	22.24.030
	20028	3,90,678	3,71,144	31,25,424	18,75,255	18,75,255	4,16,723	61,85,000	40.00.470
	2027	3,73,855	3,55,162	29,90,837	17,94,502	17,94,502	3,98,778	61,85,000	16 22 626
LAYS (Rs)	2026	3,57,756	3,39,868	28,62,045	17,17,227	17,17,227	3,81,606	61,85,000	44 00 750
FINANCIAL OUTLAYS (Rs)	2002	3,42,350	3,08,115	27,38,799	16,43,279	16,43,279	3,65,173	61,70,000	300.07.0
	5024	3,27,608	2,94,847	26,20,860	15,72,516	15,72,516	3,49,448	61,70,000	A GC 720.8
	2023	3,13,500	2,82,150	25,08,000	15,04,800	15,04,800	3,34,400	61,70,000	277 cm
	2002					٠			
	Total	300	1,500	005'9	005'9	006'9	9 (500	Base Cost	Drice Combeton
	2030	8	200	006	006	006	006		à
	5029	40	190	800	800	800	800		
	2028	9	190	900	800	900	900		
ARGETS	2002	40	190	800	008	800	800		
PHYSICAL TARGETS	2028	40	180	800	008	800	800		
	2025	9	81	900	008	900	800		
	2024	40	180	800	800	800	800		
	2023	40	180	900	008	800	008		
	2002								
	2030	999'01	2,133	992'4	09972	2,560	695		
	5029	10,206	2,041	4,083	2,450	2,450	544		
	2028	9,767	1,963	3,907	2,344	2,344	521		
	2027	9,346	1,869	3,739	2,243	2,243	498		
JST .	2026	8,944	1,789	3,578	2,147	2,147	477		
UNIT COST	2025	8,559	1,712	3,423	2,054	2,054	456		
	2024	8,190	829'1	3,276	1,988	1,966	437		
	2023	7,838	1,568	3,135	1,881	1,881	418		
	2002								
	Base year Cost	7,500	1,500	3,000	1,800	1,800	400	16,000	
home of Work	NION IO SILINI	Search lights for driving operation (= 300 nos @ Rs. 7500)	Search lights for distribution among villagers (= 1500 nos @ Rs. 1500)	Hiring vehicle for driving operation vehicle supply of P.O.L.	Wages for man power for driving operation (=6 per team @ 300)	Scaring material over (=6 gross (§ 300))	Working meal for uninterrupted duty for a team (=6 persons @ 50)	Total	

2.1.1.2 Support communities for HW mitigation (Wild boars in NB Hills)

Total (Be)	2030		1,50,88,645		1,35,00,000	15,88,645	7,54,432	1,58,43,078
-	2029		٠					
	2008		•					
	2027		•					
LAYS (Rs)	2026		40,24,750		33,75,000	6,49,750	2,01,238	42,25,988
FINANCIAL OUTLAYS (Rs)	2002		38,51,436		33,75,000	4,76,436	1,92,572	40,44,007
	2024		36,85,584		33,75,000	3,10,584	1,84,279	38,69,864
	2023		35,26,875		33,75,000	1,51,875	1,76,344	37,03,219
	2002		•					
	Total		-		Base Cost	Price Escalation	Physical Contingency	Total Cost
	2030		•			a.	Physic.	
	5029		•					
	2028		•					
TARGETS	2002		•					
PHYSICAL TARGETS	2026		0.25					
	2025		0.25					
	2024		0.25					
	2023		0.25					
	2002							
	2030							
	5029							
	2028							
	2027							
ST	2008		1,60,99,001					
UNIT COST	9202		1,54,06,743 1,					
	2024		1,47,42,338					
	2023		1,41,07,500					
	2002							
	Base year Cost		1,35,00,000.00		1,35,00,000.00			
dean of Work	NOW TO SHIPM	Support	communities for	HW mitigation	Total			

2.1.1.3 Pilot (Eco sensitive Zone) plantation with non-palatable/repulsive species

bone of Morb					UNIT COST	T (per ha)									PHYSICAL TARGETS (ha)	(RGETS (ha)								FINANCIAL OUTLAYS (Rs)	UTLAYS (Rs)					Total (Re)
Nettus of Work	Base year Cost	2002	2023	2024	2002	2026	2027	2028	2029	2030	2002	2023	2024	2025	2028	2027	2028	5029	2030	Total	2002	2023	2024	2002	2026	2027	2028	2029	2030	(eval (krai)
Creation and Pilot planting	2,25,000.00		2,35,125	2,45,706	2,56,762						٠	7	7	9			٠	٠	٠	20		16,45,875	17,19,939	15,40,574	٠		•	•		49,06,389
Maintenance works	75,000.00			81,902	85,587	89,439							7	7	10					20	•	٠	5,73,313	5,99,112	5,36,633		•	•	•	17,09,059
Total	3,00,000.00													L						Base Cost		15,75,000	21,00,000	18,75,000	4,50,000		ľ	ľ	ŀ	000'00'09
																			å	Price Escalation		70.875	1 93 253	2 64 686	86 633					8 15 447

2.1.2 Species Conservation Programme 2.1.2 Species recovery programme for local RET (50 ha.) (NB)

Total (De)	(ex) moo	56,13,541	18,20,843	11,86,170	9,79,670	77,59,750	18,40,474	4,80,011	1,00,80,235
	2030		٠		4,07,432	2,98,500	1,20,932	20,372	4,27,803
	5029		٠	4,93,312	2,92,415	5,77,375	2,08,353	39,286	8,25,014
	20028		7,57,264	3,54,052	2,79,823	10,68,250	3,22,889	69,557	14,60,696
	2027	23,34,597	5,43,491	3,38,806		25,81,400	6,35,494	1,60,845	33,77,739
LAYS (Rs)	2026	16,75,548	5,20,087			18,41,175	3,54,480	1,09,782	23,05,417
FINANCIAL OUTLAYS (Rs)	5002	16,03,395				14,05,050	1,98,345	80,170	16,83,565
	2024								
	2023		٠	٠	٠	٠	٠	٠	٠
	2002								
	Total	95	90	90	90	Base Cost	Price Escalation	Physical Contingency	Total Cost
	0000				07		-	Physic	
	5029			20	15				
	2028		02	15	15				
(RGETS (Ha)	2057	20	15	15					
PHYSICAL TARGETS (Ha)	2026	5 15	15						
	2025								
	5024								
	2023								
	2002								
	2030			9	20,372				
	5029			24,696	19,494				
	2028		37,863	23,603	18,655				
	2027	1,16,730	36,233	22,587					
(ber Ha)	2002	1,11,703	34,672						
UNIT COST (per Ha)	2025	1,06,893							
	2024								
	2023								
	2002					,			
	Base year Cost	93,670	29,075	18,125	14,325	1,55,195			
Berne of March	Wills of Work	Creation	Maint: Y1	Maint- Y2	Maint- Y3	Total			

2.1.2.1 a) Protection of RET Species in the habitat (N.B)

Total (Re)	facilities.	21,52,611	18,00,000
۲	2030		٠
	2028		٠
	2028		
	2027	7,85,096	6,30,000
LAYS (Rs)	2026	7,51,287	6,30,000
FINANCIAL OUTLAYS (Rs)	2002	6,16,230	5,40,000
	2024	•	٠
	2023	٠	•
	2002		
	Total	20	Base Cost
	0002		
	6202		
	8202		
TARGETS (Nr)	2002	7	
PHYSICAL T	5026	7	
	2025	9	
	2024	٠	
	2023	•	
	2002		
	2030		
	2029		
	2028		
	2027	1,12,156	
(ber Nr)	2026	1,07,327	
UNIT COST	2025	1,02,705	
	2024		
	2023		
	3022	0	0(
	Base year Cost	000'06	000'06
from of More	NAME OF TAXABLE PARTY.	Protection of RET Species	Total

_	440000			Ure re o	7 00 054	0.47.044			Total Post
_	1,07,631	•		39,255	37,584	30,811	٠		Physical Contingency
_	3,52,611			1,55,095	1,21,287	76,230	٠		Price Escalation

2.1.3 Studies on wild animals and their behavior 2.1.3.1 Study on Lesser Cat in North Bengal (5 spp.)

Total (De)	fourt man	35,08,893	30,00,000	200,000
	2030			
	5003			
	2028			
	2002			
AYS (Rs)	2026	23,25,411	19,50,000	22.0
FINANCIAL OUTLAYS (Rs)	2025	8,55,875	7,50,000	4 05 025
	2024	3,27,608	3,00,000	000 200
	2023	٠		
	2022	٠		
	Total	1.00	Base Cost	Date President
	3030			
	5029			
	3028			
PHYSICAL TARGETS (Nr)	2027			
PHYSICAL T	5026	99'0		
	2002	0.25		
	2024	0.10		
	2023	•		
	2022			
	2030			
	5058			
	2028			
	2027			
(ber Nr)	2026	36,77,566		
UNIT COST	2002	34,23,498		
	2024	32,76,075		
	2023			
	2022	0	8	
	Base year Cost	30,00,000	30,00,000	
Bearing of March	-	udy on Lesser Cat (5 spp.)	Total	

2.2.1 Biodiversity conservation through people's participation in protected area 2.2.1.1 Bethuadahari Wildlife Sanctuary

Total (Re)		68,85,772	60,00,000	8,85,772
	2030			
	2029			
	2028			
	2027	7,47,709	000'00'9	1,47,709
AYS (Rs)	2026	21,46,533	18,00,000	3,46,533
FINANCIAL OUTLAYS (2025	20,54,099	18,00,000	2.54,099
	2024	13,10,430	12,00,000	1,10,430
	2023	6,27,000	000'00'9	27,000
	2022			٠
	Total	1.00	Base Cost	Price Escalation
	2030			ď
	5029			
	2028			
RGETS (Is)	2027	0.10		
PHYSICAL TARGETS	2026	0.30		
	2002	0:30		
	2024	0.20		
	2023	0.10		
	2022			
	2030			
	2029			
	2008			
	2027	74,77,092		
ST (ls)	2026	71,55,112		
UNIT COST	2002	68,46,997		
	2024	65,52,150		
	2023	62,70,000		
	2022			
	Base year Cost	000'00'09	000'00'09	
from of Morb	100	Bethusdahari WLS	Total	

2.2.1.2 Ballavpur Wildlife Sanctuary

Total (Be)	(1) ii	84,92,452	74,00,000	10,92,452
Toto				_
	9 2000			
	8 2009			L
	7 2028	9,22,175	7,40,000	1,82,175
	2027			1,27,391 1,82,
UTLAYS (Rs)	9202	26,47,391	22,20,000	,
FINANCIAL OUTLAYS (Rs)	2002	25,33,389	22,20,000	3,13,389
	2024	16,16,197	14,80,000	1,36,197
	2023	7,73,300	7,40,000	33,300
	2022			
	Total	1.00	Base Cost	Price Escalation
	2000	٠		Pri
	5029			
	2028	٠		
TARGETS (Is)	2027	0.10		
PHYSICAL TA	2026	00'0		
	2002	0.30		
	2024	070		
	2023	0.10		
	2202			
	2030			
	2029			
	2028			
	2027	92,21,746		
T (ls)	2026	88,24,638		
UNIT COST	3002	84,44,629		
	2024	90,80,985		
	2023	77,33,000		
	2022	٠		
	Base year Cost	74,00,000	74,00,000	
from of Work		Balaypur WLS	Total	

2.2.2 Conservation for Smaller Mammals 2.2.2.1 Habitat Improvement for Smaller Mammals (Water bodies creation)

Total (De)	fresh man	59,74,152	50,00,000	9,74,152
	2000			
	5003			٠
	2028	13,02,260	10,00,000	3,02,260
	2027	12,46,182	10,00,000	2,46,182
TLAYS (Rs)	2026	11,92,519	10,00,000	1,92,519
FINANCIAL OUT	2002	11,41,168	10,00,000	1,41,166
	2024	10,92,025	10,00,000	92,025
	2003			•
	2022			
	Total	92	Base Cost	Price Escalation
	2030			4
	5029			
	2028	9		
RGETS (Nos)	2027	9		
PHYSICAL TARGETS	2026	9		
	2002	9		
	2024	9		
	2023			
	2022			
	0002			
	2029			
	2008	2,60,452		
	2027	2,49,236		
IT COST (Nos)	2028	2,38,504		
UNIT COS	2002	2,28,233		
	2024	2,18,405		
	2023			
	2022			
	Base year Cost	2,00,000	2,00,000	
from of Work	NO. IN COLUMN	Habitat Improvement	Total	

2.2.2.2 Conservation awareness Generation for Smaller Mammals

2027 2028 2029 2030
0202 0202 4202
Conservation awareness

2.2.3.1 Rescue Centre for elephants including study of their behavior (15 km)

Total (Be)	2029 2030 (193)	27,21,72,386 - 65,44,38,675	000'00'00'00'00'00'	7,21,72,366 15,44,38,675	1,36,08,618 3,27,21,934	20 57 50 504
	2028	19,53,39,019 27,	15,00,00,000 20,0	4,53,39,019 7,	1,06,96,1	20 64 05 070 30
	2002	18,69,27,291	15,00,00,000	3,69,27,291	53,46,365	40 67 73 656
FINANCIAL OUTLAYS (Rs)	2026	·				
FINANCIA	2025	٠				
	2024	٠	٠	٠	٠	
	2023					
	2022		٠	٠		
	Total	1.00	Base Cost	Price Escalation	Physical Contingency	Total Cost
	2030				Phys	
	5029	040				
	2028	030				
PHYSICAL TARGETS (Ha)	2027	030				
PHYSICAL	2026					
	2002					
	2024					
	2023					
	2022	·				
	2030	10				
	2029	68,04,30,915				
	3008	65,11,30,062				
	2027	65,30,90,969				
COST	2026					
UNIT COST	2002					
	2024					
	2023					
	2022					
	Base year Cost	90,00,00,00	50,00,00,000			
Manual of March	Willia of Work	Rescue Centre for elephants including study of their behavior	Total			

2.2.3.2 Stress induce conflict risk reduction by wild animals in SB

Total (Be)	fruit mo.	24,50,52,856	20,00,00,000	4,50,52,856	1,22,52,643	25,73,05,499
	2000	3,55,52,515	2,50,00,000	1,06,52,515	17,77,626	3,73,30,141
	5003	3,40,21,546	2,50,00,000	90,21,546	17,01,077	3,57,22,623
	2028	3,25,56,503	2,50,00,000	75,56,503	16,27,825	3,41,84,328
	2027	3,11,54,548	2,50,00,000	61,54,548	15,57,727	3,27,12,276
FINANCIAL OUTLAYS (Rs)	2026	2,98,12,965	2,50,00,000	48,12,965	14,90,648	3,13,03,613
FINANCIA	2022	2,85,29,153	2,50,00,000	35,29,153	14,26,458	2,99,55,611
	2024	2,73,00,625	2,50,00,000	23,00,625	13,65,031	2,86,65,656
	2023	2,61,25,000	2,50,00,000	11,25,000	13,06,250	2,74,31,250
	2022					
	Total	-	Base Cost	Price Escalation	hysical Contingency	Total Cost
	2030	0.125		-B	Physical	
	5029	0.125				
	2028	0.125				
RGETS (Ha)	2027	0.125				
PHYSICAL TARGETS (Ha)	2028	0.125			L	<u> </u>
•	2002	0.125				
	5024	0.125				
	2023	0.125				
	2022					
	2030	28,44,20,123				
	2029	27,21,72,386 2				
	2028	28,04,52,025				
	2027	88:'96'36'47				
UNIT COST	2026	23,85,03,720				
UNIT	2002	22,82,33,225				
	2024	21,84,06,000				
	2023	20,90,00,000				
	2022					
	Base year Cost	20,00,00,000	20,00,00,000			
Home of Work	NO.	stress induce conflict risk eduction by wild nnimals	Total			

	Triang 2022 2024 2026 2026 2020	1,000 1,004 2,002 2,003 2,004 2,005 2,00	Total Core Tot	Total Figs 2022 2024 2026 2026 2027 2029 2	Triest 2022 2024 2025 2026 2025 2026 2025 2026 2025 2026	1564 1564 1664 1665
	2022 2020 2030 2034 2035 2036 2030 2030 2030 2030 2030 2030 2030	2022 2020 2034 2036 2134 2037 2039 2120 223 	2022 2020 2020 2024 2026 2026 2020 2020	7022 7020 2024 7026 7026 7026 7020 7020 7020 7020 7020	2022 2020 2024 2026 2026 2020 2020 2020	2022 2024 2026 2028 2029
2.2.3.3 Tracking of elephant route through radio collaring	Plant of Work Star year Cost 2022 2020 2026 20	Cost (1000.00)	2.2.3.5 Installation of Early Warning System (EWS) for Wild Elephants 12.2.3.5 Installation of Early Warning System (EWS) for Wild Elephants 12.2.3.5 Installation of Early Warning System (EWS) for Wild Elephants 12.2.3.5 Installation of Early 12.2.3.5 Installation of Early 12.2.3.5 Installation of Early Warning System (EWS) for Wild Englands 12.2.3.5 Installation of Early Warning System (EWS) for Wild Englands 12.2.3.5 Installation of Compensation for compensation for depredation of the compensation of the co	Heart of Work	Beam of Next Beam of Next 2007 2004 2005 2009<	2.2.4.5 Species Conservation Programme Part of Work

1,90,91,947 1,57,00,000 36,91,947 9,89,997 2,00,61,545	Total (Rs) 22232866 1800,000 4232866 111160 23344446	122.29,736 1,20,29,736 1,00,00,000 22,29,786 6,11,499 1,28,41,275	10cm (Fs) 35-40-751 8 63.378 8 63.378 44.16.000 10.45.226 57.22.69	Total (Rs) 10,78,720 9,00,000 1,78,720 53,306 11,22,696	89,31,176 89,31,176 76,00,000 13,31,176 4,66,559 83,77,734	Total (%) 77.13.402 86.0000 11.13.402 3.55.675 89.59.167
8000	0000	88	2000	000	0000	300
32,04,830 23,55,000 8,49,830 1,50,241 33,65,071	2029 36.74.327 27.00,000 9.74.327 1.83,716 38,58,043	828	2009 2.28,365 1,86,574 3,12,200 2,1,266 4,46,176	6202	8202	5000
2028 40,89,097 31,40,000 9,49,097 2,04,455 42,93,552	2028 46,88,136 36,00,000 10,88,136 2,34,407 49,22,543	2028 26,04,520 20,00,000 6,04,520 1,30,226 27,34,746	2028 - 3,57,536 - 2,28,091 - 89,270 - 1,56,546 - 33,745 - 7,08,641	3038	2028 19,79,435 15,20,000 4,59,435 88,972 20,78,407	2028 13,75,187 10,56,000 3,19,187 88,739 14,43,346
39,13,011 31,40,000 7,73,011 1,95,651 41,08,662	2027 44,86,255 36,00,000 8,86,256 2,24,313 47,10,568	2027 43,61,637 35,00,000 8,61,637 2,18,082 45,79,719	2027 14,89,996 3,42,139 1,09,134 15,41,725 15,41,725 96,053 20,17,333	2027 4,48,625 3,80,000 88,625 22,431 4,71,057	2027 15,15,357 12,16,000 2,96,357 75,788 15,91,125	2027 13,15,988 10,56,000 2,59,988 15,81,767 13,81,767
2026 37,44,508 31,40,000 6,04,508 1,87,225 38,31,734		2006 2006 2007 2007 2007 2007 2007 2007	63,703 63,703 78,520 48,918	2006 3.21,980 2.70,000 51,980 16,099 1,589 1,589	00TLAYS (Rs) 2008 8 14.50,103 22.51,000 72.516 8 72.516 11 15.22,608	1,4.YS (Rs) 2026 12,59,300 10,58,000 2,003,000 11,25,000 13,22,285
35,83,262 31,40,000 4,43,262 1,79,163 37,62,425	2005 41,08,198 5,00,000 5,08,198 5,08,198 2,05,10 41,15,698	22.82.332 29.23.332 28.2332 28.2332 28.2332 28.2332 4.4.111 1.4.117 1.1.2386.449 31.	67.000 (13.000) (13.0	2005 2008 3.08.115 3. 2.70,000 2. 15.406 15.406 3.33,521 3.	2025 13,87,688 17,16,000 17,16,000 69,383 14,57,041	2005 2005 2005 2005 2005 2005 2005 2005
8,57,240 7,25,000 72,240 42,862 9,00,102	2024 9,82,823 9,00,000 82,822 49,141 10,31,864	7007	7202	2024	2024 13,27,902 12,16,000 111,902 66,395 13,4,298	2024 11,53,178 97,78 57,689 12,10,837
820	88	5000	200	5200	2023 (12.70,720 (12.16,000 (13.720 (13.428)	11,03,820 11,53,820 10,56,000 11,58,696
220	200	2000	2200	200	12 12 12 14	2002
Total 2 1,00 Base Cost Price Escalation Ideal Contingency Total Cost		100 Base Cost Price Escilation ical Cortingency Total Cost	Total 25 25 25 25 25 25 25 2	Total 10 10 10 10 10 10 10 10 10 10 10 10 10	Total 1.00 Base Cost Escalation Total Cost Total Cost	Total 100 100 Been Costs Price Ecolation Total Costs
2000 Total 1,000 Bese Cost Price Escalation Physical Contingency Total Cost	2000 Total 1.00 Base Cost Phize Escalation Physical Contrigency Total Cost	2000 Price E Price E	100 10 Prive E Prive E	2000 Totals 1	2000 	2000 Physical Co
0.15	0.15	2002	2023	5005	6202	2023
0.20	0.20	0.20	2028	3008	0.20	0.16
0.20	2027 0.20	2027 0.35	2027 (Ha) 10 10 5	2027 4	2027 2027 0.16	2027 2027 0.16
0.20	2026 2027 0.20 0.20 0.20 0.20 0.20 0.20 0.20	2026 2027 0.25 0.33	2028 2028 10 10 10 10 10 10 10 10 10 10 10 10 10	PHYSICAL TARGE	PHYSICAL TARGETS 2026 2027 0.16 0.16	2006 0.16
0.20	0.20	020	2002	3002	0.16	0.20
2024	2024	2024	2024	3024	2024	2024
2003	9000	2023	2003	2023	0.16	2023
2022	2002	2022	7002	202	2002	2002
2030	2030	2030	2030	2030	2030	2330
2,13,85,531	2,244,56,513	2029	2028	2029	2029	2003
2,04,45,484	2,34,40,682	1,30,22,601	36,754 36,754 17,854	3008	30,07,177	2008 85,94,917 17R
1,96,65,056	2027	124,61,819	2027 147,000 34,214 21,827	1,12,156	2027	2027 82,24,801
2026	(le) 2006 2,14,65,335	2006 1,19,25,186	2005 2005 1,40,669 32,741	2026 1,07,327	2028 90,63,141	78,70,623
2025 1,79,16,308	UNIT COST (Is) 2/05/40,990 2.	2025 1,141,11,861 1,	(25ha.) (5B) UNIT COST (per Ha) 2025 1,34,612 1,	7 COST per 25 (0.705	UNIT COST 2025 88.72.863	2025 75,31,886 75,31,886
2024 2	2 2 2		2.2.4.5 Species recovery programme for local RT (25ha.) (59) WIT COST (part 1780) WIT COST (part 1780) WIT SAS (part 1780) WIT SAS (part 1780) WIT SAS (part 1780) WIT SAS (part 1780)	22.4.5 a) Protection of RET Species in the habitat (5.8) 100 100 100 100 100 100 100 1	2024 2 82.96.380 8 8	2024 2
0097	2023 203 1.98 (1000 1.	2023 200 1,04,50,000 1,09	ogramme fc	pecies in the	## Sanctuary Bird Sanctuary 2023 2020 19,42,000 82	Wildlife Sanctus 2023 2023 700 88,97,000 72 non in S.B
	and r	pue 8	2023	ion of RET S ₁	noni Kar Bird	2.3.1.2 Bibhutibhushan Wildlife Sanctiany ene Oat 2022 2024
,000 0,000	4.3 Breedin	et 2022 000 0,000	2.2.4.5 Species 2022 (Cost 2022 (Cost 2022	Conservatio	1.1.2 Bibhutit
1,57,00,000 1,57,00,000	Base yr	Base yr	2.2. Base year Co 1,17, 27, 1,17, 1,	2.2.4.5 i Base year Cost 90.00	2.3.1 (Biodiversity conservation through people's participation in protected area 7.3.1.1 (Influence) files pied Susteary 2.3.1.1 (Influence) files pied Susteary 2.3.	2.3.1.2 Bishutshushan Woldlife Sanctuary Net Cost
Breeding and releasing of index paragitin	Benns of Work Seeding and Helseng of Identified and Total	Brenst of Work Brenston and releasing of Indian Volume Total	Permit of Work Consign Matter Y Matter Y2 Matter Y2 Total	homs of Work Proxection of RET Spaces Total	Plems of Work Chintamoni Kar Bird Sanctuary Total	Blems of Work Bibbut Bhat Bhat Bhat Bhat Bhat Bhat Bhat Bha

Here of the first
6,22,27,053	5,20,85,040	1,01,42,013	
	•		
	•		
1,29,19,671	99,20,960	29,98,711	
1,23,63,221	99,20,960	24,42,361	
1,47,88,662	1,24,01,200	23,87,462	
1,13,21,463	99,20,960	14,00,503	
1,08,33,936	99,20,960	9,12,976	
ŧ	•		
84.00	Base Cost	Price Escalation	
•		Price	
•			
00'91			
16.00			
2000			
16,00			
16.00			
•			
8,07,479			
7,72,708			
7,39,433			
7,07,591			
6,77,121			
6,20,060	6,20,060		
Stress induce conflict risk reduction by wild animals (Net-fencing installation) in S.B.	Total		

2.3.2.2 Veterinary facility in Sundarbans

Total (Re)	2030	2,52,96,825	2,12,00,000	
	5058	٠		
	2028	38,65,108	29,68,000	
	2027	47,55,430	38,16,000	
AYS (Rs)	2026	91,01,302	76,32,000	
FINANCIAL OUTLAYS (Rs)	2025	38,70,835	33,92,000	
	2024	37,04,149	33,92,000	
	2023			
	2002	٠		
	Total	1.00	Base Cost	
	2030			
	5029			
	2028	0.14		
ARGETS	2027	0.18		
PHYSICAL TARGETS	2026	0.36		
	2002	0.16		
	2024	0.16		
	2023	٠		
	2002			
	2030			
	2029			
	2028	2,76,07,915		
	2027	2,64,19,067		
COST	2026	2,52,81,394		
UNITC	2002	2,41,92,722		
	2024	2,31,50,930		
	2023			
	2022		0	
	Base year Cost	2,12,00,000	2,12,00,000	
from of Work	MINIS OF FEORING	Veterinary facility in Sundarbans	Total	

2.3.3 Studies on wild animals and their behavior

				0	q
	Total (De)	(ext) into	45,87,859	40,00,000	5 87 850
		2030			
		2029	٠		
		2028			
		2027			
	LAYS (Rs)	2026	19,08,030	16,00,000	3.08.030
	FINANCIAL OUTLAYS (Rs)	2002	13,69,399	12,00,000	1 60 100
		2024	13,10,430	12,00,000	110.430
		2023	٠	٠	
		2002			٠
		Total	1.00	Base Cost	Price Feralation
		2030			a
		5029			
		2028			
	TARGETS	2002			
	PHYSICAL TARGETS	2026	0.40		
		2025	0:30		
		2024	0:30		
		2023			
		2002			
		2030			
		2029			
т		2028			
		2027			
	OST	2026	47,70,074		
	UNIT COST	2002	45,64,665		
		2024	43,68,100		
		2023			
		2022			
		Base year Cost	40,00,000	40,00,000	
	Manage of Manage	WIIIS OF WOLK	Assessment of aquatic biodiversity in Sundarbans and territorial waters	Total	

2.3.3.2 Studies suggested by Central Asian Flyway

Total (Be)	2030	1,14,69,648		1,00,00,000	14,69,648	5,73,482	4 20 42 430
	5029						
	2028	٠					
	2027	٠					
TLAYS (Rs)	9202	720'02'25		000'00'07	7/10/02/2	5,38,504	023 00 03
FINANCIAL OUTLAYS (Rs)	2002	34,23,498		30,00,000	4,23,498	1,71,175	25 04 673
	2024	32,76,075		30,00,000	2,76,075	1,63,804	070 07 10
	2023						
	2002	٠				. ,	,
	Total	1.00		Base Cost	Price Escalation	Physical Contingency	Total Cost
	2000					Phys	
	5029	٠					
	2028	٠					
PHYSICAL TARGETS	2027	٠					
PHYSICA	2028	0.40					
	2002	0000					
	5024	0.30					
	2023						
	2002						
	2030						
	5029						
	8202						
	2027						
UST.	9202	1,19,25,186	_				
UNIT COST	2025	1,14,11,661					
	2024	1,09,20,250					
	2023						
	2022	0		00.			
	Base year Cost	1,00,00,000		1,00,00,000			
Second Mark	NOT TO STORY	Studies suggested by Central Asian	Flyway	Total			

7,99,711 6,00,000 1,99,711 39,986 8,39,696 40,23,639 36,00,000 4,23,639 2,01,182 42,24,821 15,00,000 1,76,516 83,826 17,60,342 13,41,213 12,00,000 1,41,213 67,061 14,08,274 57,18,39,540 48,96,00,000 8,22,39,540 2,85,91,977 60,04,31,517 16,76,516 Tetal (Rs) Total (Rs) Total (Rs) Total (Rs) 2030 2030 2030 2029 2,04,129 1,50,000 54,129 10,206 2,14,336 5029 5029 2029 2028 1,95,339 1,50,000 45,339 9,767 2,05,106 2028 2028 2028 2027 1,86,927 1,50,000 36,927 9,346 1,96,274 66.83,193 69.83,937 72,98,214 76,26,633 14,03,47,053 14,66,62,670 15,32,62,491 16,01,59,303 2023 2024 2025 2026 2027 - 13,26,53,860 13,86,78,74 14,56,64,277 15,25,22,86 - 12,24,00,000 12,24,00,000 12,24,00,00 FINANCIAL OUTLAYS (Rs) FINANCIAL OUTLAYS (Rs) FINANCIAL OUTLAYS (Rs) FINANCIAL OUTLAYS (Rs)
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 <th 3,75,000 72,194 22,360 4,69,554 4,47,194 FINANCIAL OUTLAYS (Rs) 2026 3,42,350 3,75,000 52,937 21,397 4,49,334 2025 4,27,937 2025 3,75,000 34,509 20,475 4,29,985 4,09,509 2024 2024 3,91,875 3,75,000 16,875 19,594 4,11,469 13,500 15,675 3,29,175 2023 2022 2022 2022 2030 Total Base Cost
Price Escalation
Physical Contingency
Total Cost 5.00% Base Cost
Price Escalation
Physical Contingency
Total Cost 2030 Total
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Base Cost
Physical Confingency
Total Cost 2030 Total 600 Base Cost 009 Base Cost Price Escalation Total 2030 2029 2029 2029 2029 2029 2028 Physical Contingency 2028 2028 PHYSICAL TARGETS (JFMCs)

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150 PHYSICAL TARGETS (JFMCs)
2026 2027
150 150 2025 2026 2027 150 150 150 2027 PHYSICAL TARGETS (JFMCs)
2026 2027 PHYSICAL TARGETS (JFMCs) PHYSICAL TARGETS (JFMCs) 2025 2026 33 2025 150 2025 2024 2024 150 8 2024 2024 2023 150 2023
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 2030 2030 2030 2030 3.1.1 Preparatory Activities for JPMCs
74 3.1.1.2 Reorganisation/ Reconstitution of JFMCs and Confirmation of Demarcation of JFMC Boundaries
77 3.3.1.2
9 3.3.1.2 2029 2029 2029 2029 2028 2028 2028 7,477 2023 2024 2025 2026 2027 8.91.092 9.31.192 9.73.095 10.16.894 UNIT COST (Per JFMC)
2025 2026
2 6.847 7,155 UNIT COST (Per JFMC)
2025 2026
2,282 2,385 UNIT COST (Per JFMC) 2025 2026 2,981 HNB DLA DELTA UNIT COST (JFMCs) 2,853 2024 3.1.1.4 Micro-planning 3.2.1.4 b) Revisiting of Microplan 3.3.1.4 3.1.2 Support for Income Generation
74 3.1.2.1 Support to SHGs - JFMC
517 3.2.2.1 Support to SHGs - JFMC
9 3.3.2.1 Support to SHGs - JFMC
600 Total 3.1.1.3 Familialisation of project to JFMC 3.2.1.3 3.1.1.4 Micro-planning 3.2.1.4 a) Microplan Preparation 3.3.1.4 2024 2,730 2024 2024 2023 6,270 2023 2,613 2023 2022 2022 3.1.1.5 EPA / CDA 3.2.1.5 3.3.1.5 2022 2022 Base year Cost 2,000 Base year Cost Base year Cost 6,000 6,000 Base year Cost 8,16,000 8,16,000 2,500 Base year Cost 1,000 2,000 2,500 74 517 9 600 Price Escalation: Reorganisation/ Reconstitution of JFMCs and Confirmation of Demarcation of JFMC Boundaries Familialisation of project to JFMC Total Revisiting of Microplan Total Items of Work tems of Work tems of Work tems of Work Items of Work EPA / CDA Total teme of Work Fotal

1-1	21,96,95,705	18,00,00,000	3,96,95,705	1,09,84,785	23,06,80,491
2030					٠
5029					•
2028	5,86,01,706	4,50,00,000	1,36,01,706	29,30,085	6,15,31,791
2027	5,60,78,187	4,50,00,000	1,10,78,187	28,03,909	5,88,82,097
2026	5,36,63,337	4,50,00,000	86,63,337	26,83,167	5,63,46,504
2025	5,13,52,476	4,50,00,000	63,52,476	25,67,624	5,39,20,099
2024					
2023					•
2022					٠
Total	00'009	Base Cost	Price Escalation	Physical Contingency	Total Cost
2030			-	Physic	
5029					
2028	150				
2027	150				
2026	150			_	
2025	150				
2024					
2023					
2022					
2030					
5029					
2028	3,90,678				
2027	3,73,855				
2026	3,57,756				
2025	3,42,350				
2024					
2023					
2022					
Base year Cost	3,00,000	3,00,000			
	Support to SHGs - JFMC	Total			

3.1.2.2 3.2.2.2 Technical Agency 3.3.2.2

Home of More					UNIT COST	T								ď	PHYSICAL TARGETS	ETS							FINANCIAL O	FINANCIAL OUTLAYS (Rs)					Total (Be)
NO.	Base year Cost	2022	2023	2024	2022	2026	2027	2028	5029	2030	2022	2023	2024	2025 2	2026 20	2027 2028	8 2029	2030	Total C	2022	2023	2024	2025	2026	2027	2028	5029	2030	(evi) imo
Technical Agency	2,40,00,000				2,73,87,987	2,86,20,446	2,99,08,367	3,12,54,243	3,26,60,684	3,41,30,415				0.20	0.20	0.20	0.20	0.20	-	- 00:			54,77,597	57,24,089	59,81,673	62,50,849	65,32,137		2,99,66,345
Total	2,40,00,000																		Base C	Cost -			48,00,000	48,00,000	48,00,000	48,00,000	48,00,000		2,40,00,000
																			Price Escalation	tion -			6,77,597	9,24,089	11,81,673	14,50,849	17,32,137		59,66,345
																		4	Physical Contingency	ncy -			2,73,880	2,86,204	2,99,084	3,12,542	3,26,607		14,98,317
																			Total Cost	- Jsot			57,51,477	60,10,294	62,80,757	65,63,391	68,58,744		3,14,64,663

3.1.3 Support for Community Wellbeing
3.1.3.1 Support local traditional healers
3.2.3.2 22 for HNB 57 for DLA

Total (Be)	2028 2029 2030	55,36,192	0 47,40,000	7,96,192	5 2,76,81	100 67 03
	2027	14,76,726	11,85,000	5 2,91,726	73,836	15 50 562
FINANCIAL OUTLAYS (Rs)	2026	14,13,135	11,85,000	2,28,135	10,657	14 22 701
FINANCIAL	2025	13,52,282	11,85,000	1,67,282	67,614	44 10 906
	2024	12,94,050	11,85,000	1,09,050	64,702	12 59 752
	2023	,				٠
	2022					
	Total	79.00	Base Cost	Price Escalation	Physical Contingency	Total Cost
	2030			-	Physic	
	5029					
	2028					
RGETS (FMUS)	2027	19.75				
PHYSICAL TARGETS (FMUs)	5026	19.75				
_	2025	19.75				
	2024	19.75				
	2023					
	2022					
	2030					
	5029					
	2028					
	2027	74,771				
MUs)	2026	71,551				
UNIT COST (FMUs)	2025	68,470				
	2024	65,522				
	2023					
	2022					
	Base year Cost	000'09	000'09			
Manual of Mark	Mellis OI WOLK	Support local traditional nealers	Total			

3.1.4 Support for Community Mobilizing 3.1.4.1 Extension Worker (120 no)

The second second				Š	UNIT COST (Per Head)	lead)								H.	PHYSICAL TARGETS (Nos.)	ETS (Nos.)							FINANCI	INANCIAL OUTLAYS (Rs)	s)				Total (Da)
rems of work	Base year Cost	2022	2023	2024	2022	2026	2027	2028	2029	2030	2022	2023	2024	2025	2026	2027	5028	2029 2	2030 To	Total 20	2022 2023	2024	2025	2026	2027	2028	2029	2030	(eu) ipio
Support for Community Mobilizing (Extension Worker)	1,44,000			1,57,252	1,64,328	1,71,723	1,79,450	1,87,525	1,95,964	2,04,782			30	09	96	06	09	8		360	•	47,17,548	48 98,59,675	1,54,55,041	11 1,61,50,518	8 1,12,51,527	27 58,78,923	3	6,33,13,233
Total	1,44,000																		Ba.	Base Cost		43,20,000	00 86,40,000	1,29,60,000	1,29,60,000	000'04'0'000	30 43,20,000	- 0	5,18,40,000
																			Price Escalation	calation		3,97,548	12,19,675	375 24,95,04	11 31,90,518	8 26,11,527	27 15,58,923	- 3	1,14,73,233
																			Physical Contingency	ngency		2,35,877	77 4,92,984	384 7,72,752	52 8,07,526	5,62,576	76 2,93,946	- 9	31,65,662
																			To	Total Cost		49,53,425	25 1,03,52,659	1,62,27,793	33 1,69,58,044	1,18,14,104	04 61,72,869	. 6	6,64,78,895

				Total (De)	(ex)	78,79,626		70,50,000	8,29,626	3,93,981	82,73,607
					2030			٠			
			ŀ		505						
					2028	٠		•			
					2002	٠		•			٠
				JILAYS (Ks)	2026	21,01,814		17,62,500	3,39,314	1,06,091	22,06,905
				FINANCIAL CUTLAYS (Rs)	2025	20,11,305		17,62,500	2,48,805	1,00,565	21,11,871
					2004	19,24,694		17,62,500	1,62,194	96,235	20,20,929
					2023	18,41,813		17,62,500	79,313	92,091	19,33,903
					2022	٠		٠			
500%					Total	600.00		Base Cost	Price Escalation	Physical Confingency	Total Cost
					2030				Ы	Physics	
					5029						
Physical Contingency:	,				2028						
Physical				GETS (JFMCs)	2027						
				PHYSICAL TARGETS (JFMCs)	2026	150.00					
				4	2002	150.00					
					2024	150.00					
					2003	150.00					
					2022	٠					
	2030	0.4221			2030						
	5059	0.3609			5003						
	2028	0.3023			2028						
	2027	0.2462			2027						
	2026	0.1925		(%)	2026	14,012					
	2025	0.1412		UNIT COST (JFMCs)	2025	13,409					
	2024	0.0920			2024	12,831					
	2023	0.0450			2023	12,279					
	2022	0,000			2022						
4.50%					Base year Cost	11,750		11,750			
Price Escalation:				Home of Mark		Digitization of JFM	boundaries	Total			

4.1.1.1 a) Boundary Pillars establishment (5 pillars/ JFMC)

Total (Be)	feath more	1,26,84,186		1,08,60,000	18,24,186	6,34,209	1,33,18,395
	2030	٠					
	5002	٠					
	2028	٠					٠
	2002	33,83,384		27,15,000	6,68,384	1,69,169	35,52,553
TLAYS (Rs)	2008	32,37,688		27,15,000	5,22,688	1,61,884	33,99,572
FINANCIAL OUTLAYS (Rs)	2025	30,98,266		27,15,000	3,83,266	1,54,913	32,53,179
	2004	29,64,848		27,15,000	2,49,848	1,48,242	31,13,090
	2023						•
	2022	٠					
	Total	00'009		Base Cost	Price Escalation	Physical Contingency	Total Cost
	2030					Physic	
	2029						
_	2028						
PHYSICAL TARGETS (JFMCs)	2027	150.00					
PHYSICAL TAF	2026	150.00					
	2002	150.00					
	2024	150.00					
	2023						
	2022	٠					
	2030						
	505						
	2028						
	2027	22,556					
FMCs)	2026	21,585					
UNIT COST (JFMCs	2025	20,655					
	2024	19,786					
	2023						
	2022						
	Base year Cost	18,100		18,100			
Manual of Manual	_	Boundary Pillars establishment (5	pillars/ JFMC)	Total			

4.1.2 Mobility a) Cars

					UNIT COST (Nos	ST (Nos)									PHYSICAL TARGETS (Nos)	RGETS (Nos)							FIN	FINANCIAL OUTLAYS (Rs)	VYS (Rs)				-	Tetal (Da)
Base year Cost 2022	3022	_	2023	2024	2025	2026	2027	2028	5003	2030	2022	2023	2024	2025	3026	2027	2028	2029	2030	Total	2022	2023	2024	2025	2008	2002	2028	5003	2030	(S)
15,00,000		L				17,88,778									30.00					8				. 5,31	5,36,63,337					5,36,63,337
15,00,000																				Base Cost				4,5	20'00'000					20,00,000
																			Prior.	Price Escalation					6,63,337					86,63,337
																			Physical C	hysical Confingency				. 3	26,83,167					26,83,167

b) Motorcycles

Hems of Work Base year Cost 2022 2023

92,82,213	85,00,000	7,82,212	4,64,111	97,46,323		Total (Rs)	faul ma	71,55,112	
•							2030		
							5059		
•							2028		
							2027		
•					190 SAVO	LAYS (KS)	2026	71,55,112	
•					CHANCIAL DITT AVE DO	INANCIAL OU	2025		
92,82,213	85,00,000	7,82,212	4,64,111	97,46,323			2054		
							2023		
•							2022		
18	Base Cost	Price Escalation	Physical Confingency	Total Cost			Total	7	
		_	Physi				2030		
							5058		
							20028		
					i caron	PHYSICAL TARGETS (Nos)	2027		
					. Walter	PHYSICAL T	3036	400	
							2025		
82							2024		
							2003		
٠							2022		
							2030		
							5003		
							2028		
							2027		
						Nos)	2026	17,88,778	
					acc ann	UNIT COST (Nos)	2025		
1,09,203							2024		
) Truck (LPT407)		2023		
					0 1		2022		
1,00,000	1,00,000						Base year Cost	15,00,000	
Motorcycles	Total					Home of Work		Truck (LPT407)	

7.00																														
Total	15,00,000																			Base Cost		٠			000'00'09			٠	٠	60,00,000
																				Price Escalation			٠		11,55,112			٠	٠	11,55,112
																			Phys	Physical Confingency			Ŀ		3,57,756					3,57,756
																				Total Cost	٠	٠	•	•	75,12,867		٠			75,12,867
tems of Work	Base year Cost	2022	2023	2024	2025	2026	2027	2028	505	2030	2022	2023	2024	2025	2026	2027	2028	2028	2030	Total	2022	2023	2024	2025	2026	2027	2028	2029	2030	Total (Rs)
					UNIT COST (Nos)	ST (Nos)									PHYSICAL	PHYSICAL TARGETS (Nos)								FINANCIAL	FINANCIAL OUTLAYS (Rs)					Total
Speed Boats for	20,00,000					23,85,037					,				7.00					2	٠		٠	٠	1,66,95,280	,	٠	٠		1,66,95,260
Total	20,00,000	-							-											Base Cost			٠	ŀ	1,40,00,000	٠	٠			1,40,00,000
																				Daine Considering					200 00 000					2000

Total (Rs) 16.78.17.522	2030	2029	2028	2027	2026 2027 31,05,318 2,75,82,991	1 N	FINANCU 24 2025 14.85.1	2024	2023	2022	Total 1.00	2030	2028	2028	2027 0.17	2026 2027 0.02 0.17	2025 0.01	2024	2023	2022	2030	2029	2028	2027	2023 2024 2025 2026 2029 2029 2029 2029 2029 2029 2029	2025 20 14.85.79.829 15.5	2024	2023	1 1 12	2022
																								(s	a) PMU building (floor area 4000 sq.ft x 8 (Ground + 7 levels)	00 sq.ft x 8 (c	loor area 400	building (f	₹	a) PML
1,75,30,023	٠																													A13 Buildings
8,34,763					1,75,30,023			•	-		Total Cost																			900
26,95,260					5,30,023	1,7					Physical Confingency Total Cost	Physi																		dinae
					8,34,763 75,30,023	. 4					Price Escalation ical Confingency Total Cost	Physi																		dina
1,40,00,000					26,56,280 26,56,280 8,24,763 1,75,30,023	5 5					Base Cost Price Escalation cal Confingency Total Cost	Physi																		dinas
					1,66,96,280 1,40,00,000 26,96,280 8,24,763 1,75,30,023	5 5 5					Base Cost Phoe Escalation cal Confingency Total Cost	Physi				007									23.85,037					dinas

Total (Be)	(cut mo	16,78,17,522	13,02,00,000	3,76,17,522	83,90,876
	2030				
	5003				
	2028	13,56,43,415	10,41,60,000	3,14,83,415	67,82,171
	2002	2,75,82,991	2,21,34,000	54,48,991	13,79,150
JTLAYS (Rs)	2002	31,05,318	26,04,000	5,01,318	1,55,286
FINANCIAL OUTLAYS (Rs)	2025	14,85,798	13,02,000	1,83,798	74,290
	2024				
	2023				
	2022				
	Total	1,00	Base Cost	Price Escalation	Physical Confingency
	2030				Physic
	5058				
_	2028	08'0			
PHYSICAL TARGETS (Nos)	2027	0.17			
PHYSICAL T	2026	0.02			
	2025	10.01			
	2024				
	2003				
	2022	٠			
	2030				
	5003				
	2028	16,95,54,268			
	2027	16,22,52,888			
(Nos)	2028	15,52,65,922			
UNIT COST (2025	14,85,79,829			
	2024	14,21,81,655			
	2023	13,60,59,000			
	2022				
	Base year Cost	13,02,00,000	13,02,00,000		
tome of Work	104 00	PMU building	Total		

17,62,08,398 15,60,088 32,60,584 2,89,62,141 14,24,25,585

CCF Offices (Durgapur) (floor area 5000 sq.ft x 1) â

				NO.	UNIT COST (Nos)									PHYSICAL T.	PHYSICAL TARGETS (Nos)								FINANCIAL OUTLAYS (Rs)	(LAYS (Rs)					Total (Be)
Base year Cost 2022 2023 2024 2025 2026	2023 2024 2025	2002	2002	9202		2027	2028	5003	2030	2022	2003	2024	2002	9702 9707	2027	2008	2029	2030	Total	2022	2003	2024 2025	2025	2026	2027	8002	2029	2030	(exp) man (see)
1,50,00,000 1,50,75,000 1,63,80,375 1,71,17,492 1,78,87,779	1,63,80,375 1,71,17,492 1,78,87,779	1,63,80,375 1,71,17,492 1,78,87,779	1,71,17,492	1,78,87,779		1,86,92,729	1,729 1,95,33,902	7061					0.01	0.02	0.17	08'0			1.00				1,71,175	3,57,796	31,77,764	1,56,27,121			1,93,33,816
1,50,00,000																			Base Cost				1,50,000	3,00,000	25,50,000	1,20,00,000			1,50,00,000
																		4	Price Escalation		٠		21,175	957,756	6,27,764	36,27,121			43,33,816
																		Physica	Physical Contingency		٠		8,559	17,888	1,58,888	7,81,356			9,66,691
																			Total Oast				7 44 44 7	446	* *******	444 644 4			400 00 000

c) Range Office Complex (floor area 1200 sq.ft.) (25 nos. @Rs.24,00,000/-)

Total (Be)	(10)	7,73,35,264	6,00,00,000	1,73,35,264	38,66,763	8.12.02.027
	2030					
	2029					
	2008	6,25,08,496	4,80,00,000	1,45,08,496	31,25,424	6.56.33.910
	2027	1,27,11,066	1,02,00,000	25,11,056	6,35,563	1.33.46.639
TLAYS (Rs)	9702	14,31,022	12,00,000	2,31,022	71,551	15.02.573
FINANCIAL OUTLAYS (Rs)	2002	6,84,700	000'00'9	84,700	34,235	7.18.935
_	2024			٠	٠	
	2003			٠	٠	
	2022					
	Total	1.00	Base Cost	Price Escalation	Physical Contingency	Total Cost
	2030			ď	Physics	
	5029					
	2008	08'0				
RGETS (Nos)	2027	0.17				
PHYSICAL TARGETS (Nos)	2026	0.02				
	2002	0.01				
	2024					
	2023					
	2022					
	0002					
	6202					
	2028	7,81,35,607				
	2027	7,47,70,916				
(Nos)	3026	7,15,51,116				
UNIT COST (Nos)	2002	6,84,69,968				
	2024	6,55,21,500				
	2023	6,27,00,000				
	2022					
	Base year Cost	000'00'00'9	6,00,00,000			
Banne of Work	VIOLE OF STREET	Range Office Complex	Total			

4.1.4 Project Contractual Staff a) PMU (7 positions 20 persons)

Total (De)	(ev) ima	5 3,69,34,366	0 3,01,44,000	5 67,90,366	4 18,46,718	3.87.81.085
	2030	53,58,475	37,68,000	15,90,475	2,67,924	6629299
	2029	51,27,727	37,68,000	13,59,727	2,56,386	53.84.114
	2028	49,06,916	37,68,000	11,38,916	2,45,346	51 52 262
	2027	46,95,614	37,68,000	9,27,614	2,34,781	49.30.394
JTLAYS (Rs)	2026	44,93,410	37,68,000	7,25,410	2,24,671	47.18.081
FINANCIAL OUTLAYS (Rs)	2025	42,99,914	37,68,000	5,31,914	2,14,996	45.14.910
	2024	41,14,750	37,68,000	3,46,750	2,05,738	43.20.488
	2023	39,37,560	37,68,000	1,69,580	1,96,878	41.34.438
	2022		٠			
	Total	91	Base Cost	Price Escalation	Physical Contingency	Total Cost
	2030	20		Pri	Physica	
	2029	8				
	2028	8				
GETS (Nos)	2027	20	-			
PHYSICAL TARGETS (Nos)	2026	8			l	
•	2022	50				
	2024	8				
	2023	8				
	2022	•				
	2030	2,67,924				
	2029	2,56,386				
	2028	2,45,346				
	2027	2,34,781				
er year)	2006	2,24,671				
UNIT COST (per year)	2002	2,14,996				
	2024	2,05,738				
	2023	1,96,878				
	2022					
	Base year Cost	1,88,400	1,88,400			
17-14-0		PMU Contractual Staff	Total			

PMU (1 position 1 person Project Engineer)

Total (De)	П	27,44,108	24,00,000	3,44,108	1,37,205	28,81,313
	2030			Ì		
	2029	٠				٠
	2028					٠
	2027	5,98,167	4,80,000	1,18,167	29,908	6,28,076
TLAYS (Rs)	2026	5,72,409	4,80,000	85,409	28,620	6,01,029
FINANCIAL OUTLAYS (Rs)	2025	5,47,760	4,80,000	67,780	27,388	5,75,148
	2024	5,24,172	4,80,000	44,172	26,209	5,50,381
	2023	5,01,600	4,80,000	21,600	25,080	5,26,680
	2022	•				٠
	Total	10	Base Cost	Price Escalation	Physical Contingency	Total Cost
	2030			Pric	Physical	
	2029					
	2028					
ETS (Nos)	2027	-				
PHYSICAL TARGETS (Nos)	2026	-				
ā	2025	-				
	2024	-				
	2023	-				
	2022					
	2030	6,82,608				
	5029	6,53,214				
	2028	6,25,085				
		5,98,167				
	2027	5,72,409 5,				
JNIT COST (per year)	3008					
UNIT COS	2002	5,47,780				
	2024	5,24,172				
	2023	5,01,600				
	2022					
	Base year Cost 21	000'08'1	4,80,000			
	٦					
Brane of West	TOTAL OF WORK	PMU Contractua Staff	Total			

DMU (4 positions, 72 number, 30 M&E TC @25000, 10 Acct@20000, 8 CO@18000 & 24 OA@15000)

		-	Į		UNIT COST	UNIT COST (per year)								ı	PHYSICAL TARGETS (Nos)	ETS (Nos)	-		ŀ				-	AL OUTL	Į	ļ			Total (Rs)
Base year Cost 2022 2023 2024 2025 2026	2023 2024 2025	2024 2025	2005		2006		2027	2028	2029	2030	2022	2023	2024	2025	2026	2027	2028	2029	2030	Total	2022 2023	3 2024		2025 20	2026 2	2027 2	2028 20	2029 2030	
2,47,500 2,58,638 2,70,276 2,82,439 2,8	2,70,276 2,82,439	2,70,276 2,82,439	2,70,276 2,82,439	2,82,439		2,95,148	3,08,430	3,22,309	3,36,813	3,51,970	٠	72	22	72	72	72	72	22	72	576	1,86,2	1,86,21,900 1,94,5	1,94,59,886 2,03	2,03,35,580 2,12,	2,12,50,681 2,22	2,22,06,962 2,32	2,32,06,275 2,42,	2,42,50,558 2,53,41,833	333 17,46,73,676
2,47,500																				Base Cost	1,78,20,000	_	1,78,20,000 1,78	1,78,20,000 1,78,	1,78,20,000 1,78	1,78,20,000 1,78	1,78,20,000 1,78,	1,78,20,000 1,78,20,000	14,25,60,000
																			Price	Price Escalation	9.0	8,01,900 16,3	16,39,886 25	25,15,580 34,	34,30,681 43	43,86,962 53	53,86,275 64,	64,30,558 75,21,833	333 3,21,13,676
																			Physical Contingency	ontingency	6.8	9,31,095 9,7	9,72,994 10	10,16,779 10,	10,62,534 11	11,10,348 11	11,60,314 12,	12,12,528 12,67,092	392 87,33,684
																				Total Cost	1,95,52,995		2,04,32,880 2,13	2,13,52,359 2,23,	2,23,13,216 2,33	2,33,17,310 2,43	2,43,66,589 2,54,	2,54,63,086 2,66,08,925	18,34,07,359
c) FMU (3 positions) for 85 FMUs	c) FMU (3 positions) for 85 FMUs	FMU (3 positions) for 85 FMUs	tions) for 85 FMUs	MUs																									
UNIT COST (per year)	UNIT COST (per year)	UNIT COST (per year)	UNIT COST (per year)	UNIT COST (per year)	(ber year)									Ŧ	PHYSICAL TARGETS (Nos)	ETS (Nos)							FINA	FINANCIAL OUTLAYS (Rs)	(S (Rs)				Total (Be)
Base year Cost 2022 2023 2024 2025 2026	2023 2024 2025	2024 2025	2002		2008		2027	2028	5059	2030	2022	2003	2024	2002	2026	2027	8008	5029	2030	Total	2022 2023		2024 3	2025 20	2026 2	2027 2	3038 30	2029 2030	
400 000 TO	070000	070000	070000	01000		1	40000	* 00 000 *	000 00 .	* 10.000		220	944	990	220	000	990	944	900	0.00		200 00 00 00 00 00 00 00 00 00 00 00 00	00.0	000 01	201010101010101010101010101010101010101	000 000	000 01 01 1	000 01 001	200 11 20 00

Total (Be)	(equi) mano :	29,99,44,695	24,48,00,000	5,51,44,695	1,49,97,235	31,49,41,930
	2030	4,35,16,279	3,06,00,000	1,29,16,279	21,75,814	4,56,92,093
	2029	4,16,42,372	3,06,00,000	1,10,42,372	20,82,119	4,37,24,491
	2028	3,98,49,160	3,06,00,000	92,49,160	19,92,458	4,18,41,618
	2027	3,81,33,167	3,06,00,000	75,33,167	19,06,658	4,00,39,826
וועוועווער פפודעופ וויש	2026	3,64,91,069	3,06,00,000	58,91,069	18,24,553	3,83,15,623
	2025	3,49,19,683	3,06,00,000	43,19,683	17,45,984	3,66,65,668
	2024	3,34,15,965	3,06,00,000	28,15,965	16,70,798	3,50,86,763
	2003	3,19,77,000	3,06,00,000	13,77,000	15,98,850	3,35,75,850
	2022	٠	٠		٠	
	Total	2,040	Base Cost	Price Escalation	Physical Contingency	Total Cost
	2030	255			Physi	
	2029	282				
	8202	255				
FILISICAL PARGETS (NOS)	2027	997				
THI SHOWE	2026	255				
	3002	255				
	5024	997				
	2023	255				
	2022	٠				
	2030	1,70,652				
	5002	1,63,303				
	2028	1,56,271				
	2027	1,49,542				
per year)	2006	1,43,102				
out cost (per year)	3002	1,36,940				
	2024	1,31,043				
	2023	1,25,400				
	2022					
	Base year Cost	1,20,000	1,20,000			
Banner of Want.		FMU Contractual Staff	Total			

4.1.5 Digital Strengthening a) Equipment/ Digital interface

					UNIT COST (p	(per year)								P	PHYSICAL TARGETS (Nos)	TS (Nos)							FINANCIA	INANCIAL OUTLAYS (Rs)	(8)				Total (Ba)
Dems of Work	Base year Cost	2022	2023	2024	2002	3006	2027	2028	5003	2030	2022	2003	2024	3002	2026	2027 2	3028	2029 20	2030 Total	al 2022	2 2023	3 2024	3025	2026	2027	2008	2029	2030	(cu) limit
ipment/ tal interface	900'00'9			5,46,013	5,70,583								153	9						8		1,36,50,31	,313 28,52,915	916					1,65,03,228
Total	5,00,000																		Bas.	Base Cost		1,25,00,00	000 25,00,000	000					1,50,00,000

_	1,73,28,389	٠	•	•	٠	29,95,561	1,43,32,828	٠	Total Cost
_	8,25,161					1,42,646	6,82,516		Physical Contingency
_	15,03,228					3,52,915	11,50,313		Price Escalation

4.2.2 Trainings of Forest Officers (DCF & above ranks) a) Specialized Trainings - 20 batches (size 20; one week)

					UNIT COST (pers	ton)								PHY	PHYSICAL TARGETS (person)	TS (person)							Ē	FINANCIAL OUTLAYS (Rs)	YS (Rs)				,
year Cost 2022	922	2023	_	2024	2022	2026	2027	2028	2029	2030	2022	2023	2023 2024	2002	2026	2027	2028	2029	2030	2030 Total 2022 2023 2024 3	2022	2023	2024	520	2026	2027	2008 2	2029 2030	S I ONE (NS)
80,000		86	83,600	87,362	91,293	109'98	989'66	1,04,181					8	09	001	120	09			400			52,41,720	54,77,597 98	95,40,149 1,11	1,19,63,347 6	62,50,849		3,84,73,661
80,000																				Base Cost			48,00,000	48,00,000 48,00,000 80,00,000 96,00,000	6 000'00'0		48,00,000		3,20,00,000
																			Drive	Drien Exemination			002.00	75.5 CO. C. A.	240.440	4 252 247	44.50.040		54 T3 CC4

b) Exposure Trips - 10 batches (size 12; one week)

Total (De)		2,06,81,446	1,68,00,000	38.81.446
	2030			
	2029			
	8202	65,63,391	50,40,000	15.23.391
	2027	41,87,171	33,60,000	8.27.171
JTLAYS (Rs)	2026	80,13,725	67,20,000	12 93 725
FINANCIAL OUTLAYS (Rs)	2002	19,17,159	16,90,000	2.37.159
	2024	٠		
	2003	٠		
	2022	ņ		
	Total	120	Base Cost	Price Escalation
	2030			ď
	5029			
	2008	8		
ETS (person)	2027	24		
PHYSICAL TARGETS (person)	2026	84		
폾	2002	12		
	2024			
	2003			٠
	2022	٠		
	2030			
	5003			
	2028	1,82,316		
	2027	1,74,465		
rson)	3006	1,66,953		
UNIT COST (person)	3002	1,59,763		
	2024			
	2023			
	2022			
	Base year Cost	1,40,000	1,40,000	
Banes of Work	_	Exposure Trips (DCF & above ranks)	Total	

c) International training - 3 batches (size 12; 2 weeks)

					UNIT COST	T COST (person)								PHY	PHYSICAL TARGETS (person)	TS (berson)							FINANCIA	FINANCIAL OUTLAYS (Rs)					Total (Da)
ems of work	Base year Cost	2022	2023	2024	2002	2006	2027	2028	5003	2030	2022	2023	2024	2002	2026	2027	2008 2	2029 20	2030 To	Total 2022	2003	2024	2025	2026	2027	2008	5029	2030	I Orali (NS)
ng (DCF &	10,00,000	_			11,41,166	11,92,519	12,46,182							12	12	12	•			88			1,36,93,994	1,43,10,223	1,49,54,183		•	•	4,29,58,400
		_																											
	10,00,000																		Ba	Base Cost			1,20,00,000	1,20,00,000	1,20,00,000				3,60,00,000
																			Date: Personalist				1000001	000 07 00					907 94 90

4.2.3 Trainings of Forest Officers/ Frontline Staff (Ranger & below ranks) a) Specialized Trainings - 30 batches (size 20; 7-15 days)

Total (Re)	fourth amount	3,87,12,504	3,24,00,000	83 12 504
	2030	٠		
	5029	•		
	2028	84,38,646	64,80,000	19 58 646
	2027	80,75,259	64,80,000	15 95 259
TLAYS (Rs)	2026	77,27,521	64,80,000	12 47 521
FINANCIAL OUTLAYS (Rs)	2025	73,94,756	64,80,000	9 14 756
_	2024	70,76,322	64,80,000	5 96 322
	2023	•		
	2022	•		
	Total	009	Base Cost	Price Escalation
	2030	•		ď
	2029			
	2008	120		
PHYSICAL TARGETS (person)	2027	120		
HYSICAL TAR	2026	120		
	2025	120		
	2024	120		
	2023			
	2202	٠		
	060Z			
	5002			
	2028	70,322		
	2027	67,294		
(berson)	2026	64,396		
UNIT COST (2022	61,623		
	2024	58,969		
	2023			
	2022			
	Base year Cost	54,000	54,000	
House of More	_	Specialized Trainings Frontline Staff (Ranger & below ranks)	Total	

b) Exposure Trips - 10 batches (size 20; 10 days)

TARGETS (person)
2026 2027 2028 2029 2030 Total 2022
60 40 100 200
Base Cost
Phos Escalation
Physical Contingency
Total Cost

c) International training (Regional) - 5 batches (size 15; 2 weeks)

Total (Be)	(ext)	3,47,87,176	2,81,25,000	66,62,176	17,39,359	3,65,26,535
	2030					
	2029					
	8008	1,46,50,426	1,12,50,000	34,00,426	7,32,521	1,53,82,948
	2027	70,09,773	56,25,000	13,84,773	3,50,489	73,60,262
TLAYS (Rs)	2026	67,07,917	96,25,000	10,82,917	3,35,396	70,43,313
FINANCIAL OUTLAYS (Rs)	2002	64,19,059	56,25,000	7,94,059	3,20,953	67,40,012
	2024		٠	٠	٠	
	2003					
	2022	٠	٠	٠	٠	
	Total	75	Base Cost	Price Escalation	Physical Contingency	Total Cost
	2030	٠			Physic	
	2029	٠				
	3008	30				
PHYSICAL TARGETS (person)	2027	15				
HYSICAL TAR	2026	15				
	2002	15				
	2024					
	2003					
	2022	٠				
	2030					
	6202					
	2028	4,88,348				
	2027	4,67,318				
person)	2006	4,47,194				
UNIT COST (person)	2002	4,27,937				
	2024	4,09,509				
	2023					
	2022					
	Base year Cost	3,75,000	3,75,000			
Manual of March		International training (Regional - Ranger & below ranks)	Total			

4.2.5 Trainings for JFMC/ SHG members a) JFMC members - 120 batches (size 20; 5 days)

from at Wash					UNIT COST	(Lerson)								HH	PHYSICAL TARGETS (TS (person)							FINANCI	FINANCIAL OUTLAYS (Rs)	(S)				Total (De)
Viole of the last	Base year Cost	2022	2023	5024	2002	9202	2027	2028	5002	2030	2022	6202	2024	2002	2026	2027	2008 2	2029 2N	2030 Tot	Total 2022	5003	3 2024	3025	2026	2027	3008	2029	2030	
ainings for JFMC	7,500	0	7,838	8,190	8,559							008	900	800						2,400	62,70,000	(000 65,52,1	,150 68,46,997	- 266					1,96,69,147
Total	7,50	7,500																	Bass	Base Cost	000'00'09	09	100'09 000'00'	000'0					1,80,00,000
																			Price Escalation	alation	2,70	2,70,000 5,52;	,150 8,46,997	. 66				•	16,69,147

				о) эно шешре.	SHIG members - 90 patches (size 20; 5 days)	size zu; o days	_																						
The second					UNIT COST (person)	(berson)								H	PHYSICAL TARGETS (person)	:TS (person)							FINAN	FINANCIAL OUTLAYS (Rs)	(Rs)				Total (Da)
terms of work	Base year Cost	2022	2023	2024	2002	2026	2027	2028	5029	2030	2022	2023	2024	2002	2026	2027	2008	2029	2030	Total	2022 20	2023 20	2024 20	2025 2026	2026 2027	2008	2029	2030	(N)
nings for SHG r	n 7,500	_		8,190	8,559	8,944							000	900	009		-			1,900		- 49	49,14,113 51,2	51,35,248 53,66,334	3,334			·	1,54,15,694
Total	7,500	0																		Base Cost		45,	45,00,000 45,0	45,00,000 45,00,000	000't				1,35,00,000
																			Price	Price Escalation		. 4	4,14,112 6,3	6,35,248 8,66,334	3,334				19,15,694
																			Physical Contingency	ntingency		. 2.	2,45,706 2,5	2,56,762 2,68,	2,68,317				7,70,785
															L		I	ĺ	I										

Monitoring & Evaluation
 4.3.1 Progress Monitoring
 4.3.1.1 Biodiversity Monitoring System

Total (Be)		74,74,841	000'00'00	14,74,841
	2030	32,66,068	000'	3,66,068
	5029	32,66	24,00,000	8.66
	2008	121	000'00'	127
(S)	2027	22,43,127	18,00,0	4,43,127
FINANCIAL OUTLAYS (Rs)	2026			
FINANCIA	2024 2025	92	. 00	9
	2024	19,65,645	18,00,000	1,65,645
	820Z	•		
	2022	٠		
	Total	1,00	Base Cost	Price Escalation
	2030	٠		-
	2029	0.40		
	2008			
rargets	2027	0:30		
PHYSICAL TARGETS	2026			
	2002			
	2024	0.30		
	2023			
	2022	٠		
	2030			
	5003	81,66,171		
	2028			
	2027	74,77,082		
IT COST (Biennial)	2008			
UNIT COST	2002			
	2024	65,52,150		
	2023			
	2022			
	Base year Cost	000'00'09	000'00'09	
Banca of Monte	NOW IO SILLON	Biodiversity Monitoring System	Total	

4.3.1.2

Total (Be)		23,52,507	19,20,000	4,32,507
	2030	3,41,304	2,40,00	1,01,304
	2029	3,26,607	2,40,000 2,40,000	709'98
	2008	3,12,542	2,40,000	72,542
	2027	2,99,084	2,40,000 2,40,000	59,064
INANCIAL OUTLAYS (Rs)	2026	2,86,204	2,40,000	46,204
FINANCIAL OF	2025	2,73,880	2,40,000	33,880
	2024	2,62,086	2,40,000	22,086
	2003	2,50,800	2,40,000	10,800
	2022	•	٠	
	Total	25	Base Cost	Price Escalation
	2030	4		Prik
	2029	4		
	2028	*		
ETS (Plan)	2027	4		
PHYSICAL TARGETS (Plan)	2026	+		
d	2002	4		
	2024	4		
	2003	*		
	2022			
	2030	86,326		
	5002	81,652		
	2028	78,136		
		74,771		
	2027	1,561		
T (plan)	2006	71.5		
UNIT COST (plan	2002	68,470		
	2024	66,522		
	2023	62,700		
	. 226			
	year Cost 20	000'09	000'09	
	Base year	-		
death of Mark	NO.	Concurrent Monitoring & Periodic Review (PMU and Circle level)	Total	

4.3.1.3 Community Self-monitoring (by JFMCs)

04 201 201 201 201 201 201 201 201 201 201		_	S9.	00,	98	104	68,
Supplier	Total (De	·	3,92,085	8			
Supplier		2030					
Mark Black part of 2012 2012 2012 2013 2014 2015		2029	54,434	40,000	14,434	2,722	57,156
Supplier		2008	95,090	40,000	12,090	2,605	54,695
Supplier		2027	49,847	40,000	9,847	2,492	52,340
Supplier Continue C		2026	47,701	40,000	7,701	2,385	980'09
Substrate 202		2002	45,647	40,000	5,647	2,282	47,929
Sub-year-Cale 2022 2024 2025 2024 2025 2026 2025 2026 2027 2029		2024	43,681	40,000	3,681	2,184	45,865
Supplier Supplier Cell S		2003	41,800	40,000	1,800	2,090	43,890
Supple S		2022					
80 WWH Flags year Cost		Total	32.00	Base Cost	nos Escalation	nl Contingency	Total Cost
84 Work Rear 94 Gard 202 2024 2026 2024 2025 2025		2030	4		ď	Physics	
84 Weyl State		2029	4				
84 Work State year Coat 2022 2024 2025 2026 2026 2026 2020 2020 2020 2020		2008	7				
### Sub-year-Code 2022 2024 2025 2026 2026 2026 2020 2020 2020 2020		2027	4				
### State 2022 2024 2025 2024 2025 2026 2025 2026 2026 2027 2028 2029 2029 2029 2024 2024 2024 2025		2026	4				
8 WWA (Bea year Cast 2022 2023 2024 2025 2024 2025 2027 2029		2002	4				
### State 1,000 1,		2024	4				
### State 2021 2022 2024 2025 2024 2025 2029		2023	7				
### 80mm 10 mm 10		2022					
8 WWA Reave year Case 2020 2024 2026 2020 2020 2020 2020 2020		2030	14,221				
### Size yet Cell 1869 yet Cell 2024 2026 2027 202 2024 2029 2027 202 2024 2029 2027 202 2024 2029 2027 202 2024 2029		5003	13,609				
### 84		2028	13,023				
### State 2003 2004 2005 2009		2027	12,462				
### 100			11,925				
Suppress Cont. 2022 2024 2024 2025 2024 2025		200	112				
### 1000 1000		2002					
Section Sect		2024	10,920				
is of Work Buses year Cost Innity Self- Initing (by Total 10,000		2023	10,450				
is of Work Buses year Cost Innity Self- Initing (by Total 10,000		2022					
s of Work unity Self- iring (by Total		se year Cost	10,000	10,000			
Community monitoring JFMCs) Total	North		/ Self-	_			
	themes of L		Community monitoring JFMCs)	Tota			

Computerized MIS & GIS/ applications/ UAV for monitoring a) GIS Enterprise (latest) - multi user software 4.3.1.4

Total (De)	com (tre)		U62,19,61,T		1,10,50,000	4,97,250	5,77,363	
	2030							
	2029							
	3008							
	2027							
TLAYS (Rs)	2026				٠			
FINANCIAL OUTLAYS (Rs)	2025							
	2024							İ
	2003	000 00 00 0	1,15,47,290		1,10,50,000	4,97,250	5,77,363	
	2022							
	Total	·	-		Base Cost	Price Escalation	Physical Contingency	
	2030					d	Physica	
	2029							
	3058							
RGETS (Nos.)	2027							
PHYSICAL TARGETS (Nos.)	2026							
	2002							
	2024							
	£20Z	,	-					
	2022							
	2030							
	5002							
	2028							
	2027							
(Nos.)	2026							
UNIT COST (Nos.)	2002							
	2024							
	2023	*******	1,15,47,250					
	2022							
	Base year Cost		000,000,01,1		1,10,50,000			
Phone activities		GIS Enterprise	(latest) - multi	user software	Total			

b) Procurement of GPS

Total (Be)	(01)	19,28,025	18,45,000	83,025	96,401	20,24,426
	2030	٠				
	6202	•				•
	2002	٠				
	2027	٠				
FINANCIAL OUTLAYS (Rs)	9707	•	٠		٠	•
FINANCIAL	2022	٠			٠	
	2024	٠				٠
	52023	19,28,025	18,45,000	83,025	96,401	20,24,426
	2022	•	٠		٠	
	Total	06	Base Cost	Price Escalation	Physical Contingency	Total Cost
	2030				Physic	
	2029					
	9202	٠				
PHYSICAL TARGETS (Nos.)	2027					
PHYSICAL TA	9202					
	5202					
	2024					
	2023	06				
	2022					
	2030					
	5002					
	2028					
	2027					
ST (Nos.)	2008					
UNIT COST (Nos.)	2025					
	2024					
	2023	21,423				
	2022					
	Base year Cost	20,500	20,500			
home of Work		Procurement of GPS	Total			

d) Development of project MIS platform linked to web-GIS and mobile app (including cost of item c. and AMC for 3 yrs)

Total (De)	(ex)	67,92,500	000'00'59	2,92,500	3,39,625
	2030		٠	٠	
	2029				
	20028				
	2027				
ITLAYS (Rs)	2026				
FINANCIAL OUTLAYS (Rs)	2025				
	2024				
	2003	67,92,500	65,00,000	2,92,500	3,39,625
	2022				
	Total	-	Base Cost	Price Escalation	Physical Contingency
	2030			Pric	Physical
	2029				
	2008				
RGETS	2027				
PHYSICAL TARGETS	2026				
	2002				
	2024				
	2003	-			
	2022				
	2030				
	5002				
	2028				
	2027				
)ST	2006				
UNIT COST	2002				
	2054				
	2023	67,92,500			
	2022				
	Base year Cost	65,00,000	65,00,000		
Demanda of Otherste	_	Development of project MIS platform linked to web-GIS and mobile app	Total		

e) Pilot project for use of UAV

Total (Be)	(exp) man (exp)	49,11,500	47,00,000	2,11,500	2,45,575	200 00 00
	2030					
	5029					
	2008					
	2027					
(LAYS (Rs)	2026					
FINANCIAL OUTLAYS (Rs)	2002					
	2024	٠				
	2003	49,11,500	47,00,000	2,11,500	2,45,575	2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
	2022	٠				
	Total	1	Base Cost	Price Escalation	Physical Contingency	*****
	2000			4	Physic	
	5029	٠				
	870Z	٠				
PHYSICAL TARGETS	2027					
PHYSICAL	2026					
	9202					
	707					
	2003	1				
	2022	٠				
	2030					
	5002					
	2028					
	2027					
	9000					
UNIT COST	2002					
	2024					
	2023	49,11,500				
	2022					
	Base year Cost	47,00,000	47,00,000			
House of Work	NO STORES	Pilot project for use of UAV	Total			

4.3.1.5 Computerized Accounting System

Total (Be)	(cash man)		15,67,500		15,00,000	002 20
	2030		٠			
	2029		•			
	2002		•			
	2027		•			
ITLAYS (Rs)	2026		•			
FINANCIAL OUTLAYS (Rs)	2025		•			
	2024		•			
	2003		15,67,500		15,00,000	04.00
	2022		٠			
	Total		8		Base Cost	Dies Persied
	2030		•			
	2029		•			
	3008					
(DMUS)	2027					
PHYSICAL TARGETS (DMUs)	2026					
	2002					
	2024					
	2003		8			
	2022		•			
	2030					
	5002					
	2028					
	2027					
(SUMICS)	3006					
UNIT COST (DM	2002					
	2024					
	2023		52,250			
	2022					
	Base year Cost		20,000		20,000	
from of Host	VIOLE OF SHIPPI	Computerized	Accounting	System	Total	

4.3.1.6 Annual Strategy Planning & Review Workshops

Total (Re)	(2)	34,30,740	28,00,000	6,30,740
	2030	4,97,735	3,50,000	1,47,735
	2029	4,76,302	3,50,000	1,26,302
	2028	4,55,791	3,50,000	1,06,791
	2027	4,36,164	3,50,000	86,164
(ou) clay	2026	4,17,382	3,50,000	67,382
I HAMINGING OOL LATE O (NS)	2025	3,99,408	3,50,000	49,408
	2024	3,82,209	3,50,000	32,209
	2003	3,65,750	3,50,000	15,750
	2022	٠		
	Total	8.00	Base Cost	Price Escalation
	2030	1		d
	2029	1		
	2008	1		
MUSEL S (FIBIL)	2027	-		
PRISICAL LANGETS (PIBIT)	2026	1		
	2025	1		
	2024	1		
	2023	1		
	2022	,		
	2030	4,97,735		
	6202	4,76,302		
	2028	4,55,791		
	2027	4,36,164		
i hedi)	3006	4,17,382		
DMII COSI (per year)	2025	3,99,408		
	2024	3,82,209		
	2023	3,65,750		
	2022			
	Base year Cost	3,50,000	3,50,000	
Borne of More		Annual Strategy Planning & Review Workshops	Total	

4.3.2 Impact Evaluation

4.3.2.1 Annual Outcome Assessments (by DMUs)

(96)	(ext)	65,67,836	52,50,000	13,17,836	3,28,392	68,96,227
Total (Be)	Г					
	2030	10,66,575	000'05'2 00	3,16,575	32 53,329	11,19,904
	2029	10,20,646	000'05'2 0	5 2,70,646	5 51,032	0 10,71,679
	2008	9,76,695	7,50,000	2,26,695	48,835	10,25,530
	2027	934,636	7,50,000	1,84,636	46,732	9,81,368
INANCIAL OUTLAYS (Rs)	9707	686,149,8	000'05'2	1,44,389	612'515	931,66,6
FINANCIAL	9202	928'99'8	000'06'7	1,05,875	45,794	899'86'8
	2024	8,19,019	7,50,000	69,019	40,951	8,59,970
	2003					
	2022					
	Total	1	Base Cost	Price Escalation	Physical Contingency	Total Cost
	2030	+		Ь	Physica	
	2029	+				
	3008	1				
ARGETS	2027	-				
PHYSICAL TARGETS	2026	+				
	2002	1				
	2024	+				
	2023					
	2022					
	2030	10,66,575				
	5059	10,20,646				
	2028	9,76,695				
		9,34,636				
	2027					
T (Annual)	3008	8,94,389				
UNIT COST (Annua	2002	8,55,875				
	2024	8,19,019				
	2023					
	2022					
	Base year Cost	7,50,000	7,50,000			
Hannes of West		Annual Outcome Assessments (by DMUs)	Total			

4.3.2.2 Baseline and Impact Surveys a) Socio-economic/ Gender Surveys i) Baseline

Total (Be)	fourt man.
	2030
	2029
	2028
	2027
ITLAYS (Rs)	2026
FINANCIAL OF	2025
	2024
	2023
	2022
	Total
	2030
	2029
	3028
TARGETS	2027
PHYSICAL TARG	2026
	5202
	2024
	2003
	2022
	2030
	5029
	8202
	2027
T (Times)	2026
UNIT COS	2025
	2024
	2023
	2022
	Base year Cost
from of Mork	and the second

Total 25,000 27,	27,06,550	25,00,000	2,06,550	1,35,328	28,41,878
1.00 26.250 27.50.00 2.00.00					
10 2,230 2,94,50 2	,				
State time	•				•
10 22,300 27,30					
100 25,0					
100 25,0	4,050	000'0	4,050	9,203	3,253
1.00 25.00.000					
ownering statement 26,03,000 27,30,033 . 0.20 0.00 out 25,00,000 . 0.20 0.00 0.00					
ownering statement 26,03,000 27,30,033 . 0.20 0.00 out 25,00,000 . 0.20 0.00 0.00	0071	Sase Cost	scalation	ntingency	Fotal Cost
ocomic/ 25.00.000 27.30.000 - 0.20 -			Price E	Physical Co	Į.
ocomic/ 25.00.000 27.30.000 - 0.20 -					
ocomic/ 25.00.000 27.30.000 - 0.20 -					
ocomic/ 25.00.000 27.30.000 - 0.20 -					
ocomic/ 25.00.000 27.30.000 - 0.20 -					
ocomic/ 25.00.000 27.30.000 - 0.20 -					
oranic/ 26,00,000 & 27,30,03					
oremic/ 25.0,000 28.0,200 27,30,000 044 25.0,000					
oromic/ 26.03.000 26.02.50					
oromic/ 26.03.000 26.02.50					
oromic/ 26.03.000 26.02.50					
oromic/ 26.03.000 26.02.50					
oromic/ 26.03.000 26.02.50					
oromic/ 26.03.000 26.02.50					
oromic/ 26.03.000 26.02.50					
onomic/ Baseline 25,00,000	27,30,063				
onomic/ Baseline 25,00,000	26,12,500				
onomic/ Baseline otal					
Peconomic/ ler Baseline 2ys Total	25,00,000	25,00,000			
fer Ba	nomic/ seline	-			
Socic Gend Surve	Socio-econ Gender Bas Surveys	Tota			

ii) Impact (mid and end-term)

Total (Be)	(ex) imo	79,24,353	80,00,000	19,24,353	3,96,218	83 20 570
	2030	42,66,302	30,00,000	12,66,302	2,13,315	AA 70 617
	2029	*				
	2028	i		٠	٠	
	2027	18,69,273	15,00,000	3,69,273	93,464	10 62 717
TLAYS (Rs)	2026	17,88,778	15,00,000	2,88,778	89,439	12 78 217
FINANCIAL OUTLAYS (Rs)	2025	i	ŀ	٠	٠	
	2024	i				
	2023	i				
	2022	·	ŀ			
	Total	87	Base Cost	Price Escalation	Physical Contingency	Total Cost
	2030	0.50		Ph	Physical	
	2029					
	2028					
ARGETS	2027	0.25				
PHYSICAL TARGETS	2026	0.25			ı	ı
	2022					
	2024					
	2023					
	2022					
	2030	85,32,604				
	2029					
	2028					
	2027	74,77,092				
nes)	3006	71,55,112				
UNIT COST (Times)	2002					
	2024					
	2023					
	2022					
	Base year Cost	000'00'09	60,00,000			
Bearing of West.		Socio-economic/ Gender Impact (mid and end- term)	Total			

b) Physical (Forest resource) Surveys i) Baseline

Total (Be)	2030	27,06,550	25,00,000	2,06,550	1,35,328	28,41,878
	2029		٠			
	3028					٠
	2027					٠
TLAYS (Rs)	2026		٠			٠
FINANCIAL OUTLAYS (Rs)	2025					٠
	2024	21,84,050	20,00,000	1,84,050	1,09,203	22.83.253
	2003	5,22,500	5,00,000	22,500	26,125	5.48,625
	2022	٠				
	Total	100	Base Cost	Price Escalation	Physical Contingency	Total Cost
	2030			_	Physic	
	5029					
	3008					
PHYSICAL TARGETS	2027					
PHYSICAL	2026					
	2025					
	2024	080				
	2003	0.20				
	2022					
	2030					
	5029					
	2028					
	2027					
(Times)	3006					
UNIT COST (Times)	2025					
	2024	27,30,063				
	2023	26,12,500				
	2022					
	Base year Cost	25,00,000	25,00,000			
The second	5	Physical (Forest resource) Baseline Surveys	Total			

ii) Impact (mid and end-te

2055 2005 2007 2009 2009 2009 2009 2009 2009 2009					Ē	FINANCIAL OUTLAYS (Rs)	rS (Rs)			Total (Da)
74,77,592	2024 2026 2027 2028 2028	2030 Total	2022	2003	2024	2025	2026 2027	2028 2029	2030	(cu) lino
74,77,692										
7800 (114)	300	000					47 00 01 A		47.00.707	C2C FC UE
									700'00'7+	CCC*4-7*6 /
		Base Cost					15,00,000 15,00,000		30,00,000	000'00'09
		Price Escalation					2,88,778 3,69,273		12,66,302	19,24,353
		Physical Contingency					89,439 93,464	攻	2,13,315	3,96,218
		Total Cost		٠			18,78,217 19,62,737		44,79,617	83,20,570

4.3.2.3 Thematic and Short Studies

Total (De)	(coal (kra)	1,79,22,455	1,50,00,000	29,22,455	8,96,123
	2030	٠			
	5029				
	2008	39,06,780	30,00,000	9,06,780	1,96,339
	2027	37,38,546	30,00,000	7,38,546	1,86,927
TLAYS (Rs)	2026	35,77,556	30,00,000	5,77,556	1,78,878
FINANCIAL OUTLAYS (Rs)	2002	34,23,498	30,00,000	4,23,498	1,71,175
	2024	32,76,075	30,00,000	2,76,075	1,63,804
	2003				
	2022	٠		٠	٠
	Total	10	Base Cost	Price Escalation	Physical Contingency
	2030				Physic
	2029				
	2008	2			
PHYSICAL TARGETS	2027	2			
PHYSICAL	2026	2			
	2002	2			
	2024	2			
	2023	•			
	2022	•			
	2030				
	5002				
	2028	19,53,390			
	2027	18,69,273			
Studies)	2026	17,88,778			
UNIT COST (Stuc	2002	17,11,749			
	2024	16,38,038			
	2023				
	2022				
	Base year Cost	15,00,000	15,00,000		
The state of	Dems of Work	Thematic and	nort Studies Total		

4.2.2.4 Environmental Impact Accommon

Bells yet Close 2007 2008 2009					UNIT COST (per year)	per year)								H.	PHYSICAL TARGETS (Plan)	ETS (Plan)						FINANCIA	FINANCIAL OUTLAYS (Rs)	(6				Total (De)
205000 218/050 228.20 20 20 02 02 02 02 02 02 02 02 02 02 0	-	Base year Cost	2023		2025	2026		2028	2029	2030	2022	2023	2024	2025	2026		_	_	_		_		_	2027	2028	2029	2030	(wall (wa)
20,000 218,400 228,2	Г																											
Bear Cod 4,0000 4,0		20,00,000	20,90,000	21,84,050	22,82,332	23,85,037	24,92,364				•	0.2	0.2	0.2	0.5	0.2				87	4,18,0					٠	•	22,86,78
Professional 40000 40000 40000 40000 40000 40000 40000 40000 40000 40000 40000 40000 40000 40000 40000 40000 40000 40000 400000 4000000																												
18,000 36,810 56,466 77,007 98,473	Г	20,00,000											F						Base	Cost	4,00,0			-			٠	20,00,00
																			Price Escal	ation	- 18,0				3			2,86,75

4.3.3 Audits

1) Statutory Financial Audits (at PMU and DMUs level)

(ca) man
2030
2029
2008
2027
2026
2025
2024
2003
2022
Total
2030
5029
8202
2027
5026
2022
2024
2023
2022
2030
5003
2028
2027
3006
2002
2024
2023
2022
Cost

				-
2,54,480	2,00,000			2 67 204
71,105	000'09	21,105	3,555	USS 72
34,022	25,000	8,022	1,701	35.722
32,557	25,000	7,557	1,628	24 184
31,155	25,000	6,155	1,558	22.742
29,813	25,000	4,813	1,491	24 304
28,529	25,000	3,529	1,426	20 056
27,301	25,000	2,301	1,385	38 666
٠				
٠				
8.00	Base Cost	Price Escalation	Physical Contingency	Total Cost
2		Pric	Physical	
4				
+				
-				
+				
-				
+				
35,553				
34,022				
32,557				
1,156				
3.				
29,813				
28,529				
27,301				
25,000	000%			
ŠŽ	25			
Statutory Financial Audits (at PMU and DMUs level)	Total			
_				

2) Concurrent Audits (in-bouse by PMI) at DMI lew

Total (Be)	(11)	39,36,469	31,50,000	7,86,469	1,96,823	41,33,293
	2030	6,39,945	4,50,000	1,89,945	31,997	6,71,943
	2028	6,12,388	4,50,000	1,62,388	30,619	6.43.007
	20028	5,86,017	4,50,000	1,36,017	29,301	6.15.318
	2027	5,60,782	4,50,000	1,10,782	28,039	5.88.821
TLAYS (Rs)	2026	5,38,633	4,50,000	86,633	26,832	5.63.465
FINANCIAL OUTLAYS (Rs)	2025	5,13,525	4,50,000	63,525	25,676	5.39.201
	2024	3,93,129	3,60,000	33,129	19,656	4,12,785
	2023	94,050	000'06	4,050	4,703	98.753
	2022					
	Total	7.00	Base Cost	Price Escalation	Physical Contingency	Total Cost
	2030	1.00		P	Physics	
	2029	1.00				
	2028	1.00				
RGETS (Plan)	2027	1.00				
PHYSICAL TARGETS (Plan)	2026	1.00				
	2002	1.00				
	2024	080				
	2023	0.20				
	2022	*				
	2030	6,39,945				
	5003	6,12,388				
	2028	5,86,017				
	2027	5,60,782				
year)	3006	5,36,633				
UNIT COST (per year)	2025	5,13,525				
	2054	4,81,411				
	2023	4,70,250				
	2022					
	Base year Cost	4,50,000	4,50,000			
home of Work	_	Concurrent Audits (In-house by PMU at DMU level)	Total			

3) Social Audits (hy IDMCs facilitated hy En

				UNIT CO.	VIT COST (per year)									PHYSICAL TARGETS (Plan)	RGETS (Plan)								FINANCIAL OUTLAYS (Rs)	TLAYS (Rs)					Total (Dr.)
Base year Cost 2022		2023	2024	2002	2026	2027	2028	5059	2030	2022	2053	2024	2002	2026	2027	3058	2029	2030	Total	2022	2003	2024	2025	2026	2027	2008	2029	2030	(cu) man
000'00'6			9,82,823	10,27,050	10,73,267	7 11,21,564	4 11,72,034	12,24,776	12,79,891			-		-	-	-	-	-	7.00			9,82,823	10,27,050	10,73,267	11,21,584	11,72,034	12,24,776	12,79,891	78,81,403
000'000	1																		Base Cost			000'00'6	000'00'6	000'00'6	000'00'6	9,00,000	000'00'6	000'00'6	63,00,000
																		Δ.	Price Escalation	٠	٠	82,822	1,27,050	1,73,267	2,21,564	2,72,034	3,24,776	3,79,891	15,81,403
																		Physic	Physical Contingency			49,141	51,352	53,663	56,078	58,602	61,239	63,995	3,94,070
																			Total Cost			10,31,964	10,78,402	11,26,930	11.77.642	12 30 636	12.86.014	13,43,885	82,75,473

4.4 Strengthening Forest Research 1) Creation of Carbon Estimation Lal

	Total (Rs)	61,08,570	50,00,000	11,08,570
	2030	,		
	2029	6,80,431	5,00,000	1,80,431
	2002	13,02,260	10,00,000	3,02,260
(Rs)	2027	12,46,182	10,00,000	2,46,182
FINANCIAL OUTLAYS (Rs)	2026	11,92,519	10,00,000	1,92,519
FINANC	2025	11,41,166	10,00,000	1,41,166
	2024	5,46,013	5,00,000	46,012
	2023			
	2022			
	Total	1.00	Base Cost	Price Escalation
	0007			
	6202	0.10		
	2028	0.20		
PHYSICAL TARGETS (Unit)	2027	0.20		
PHYSICAL TA	2026	0.20		
	2002	0.20		
	2024	0.10		
	5003	٠		
	2022	•		
	2030			
	6202	68,04,309		
	2028	65,11,301		
	2027	62,30,910		
(Per Unit)	2026	59,62,593		
UNIT COST (P	2025	57,05,831		
	2024	54,60,125		
	2023			
	2022			
	Base year Cost	90,00,000	20,00,000	
	Items of Work	Creation of Carbon Estimation Lab	Total	

2) Prioritized research topics as per Besearch

See Part 200	2025 2026 2026 2026 2026 2027 2029 2029 2029 2029 2029 2029 2029	2030													
1	61,50,108 65,50,746 66,4,500 50,44,200 77,6,50			2022			2030	Total			2026	2027	2028		Total (Rs)
Page Page	Tsoloop	1,02,06,464	01.0		0.20		10	1.00	•					10,20,646	91,62,855
R8010 211736 288276 368273 463390								Base Cost					15,00,000	7,50,000	75,00,000
40,951 85,587 89,439 93,464 97,670 80,439 81 81,8217 81,8217 820,51,060 10								Price Escalation					4,53,390	2,70,646	16,62,855
8,59,970 17,97,337 18,78,217 19,62,737 20,51,060							Phy	sical Contingency	٠				97,670	51,032	4,58,143
								Total Cost					20,51,060	10,71,679	96,20,998

1.5.1 Website maintenant

					UNIT COS	UNIT COST (Per Years)								H	YSICAL TARG.	PHYSICAL TARGETS (Per Years)								FINANCIAL	FINANCIAL OUTLAYS (Rs)	_			
terns of Work	Base year Cost	2022	2 2023	2024	2002	2008	2027	2028	2029	0002	2022	2023	2024	2025	2026	2027	2008	2029	2030	Total	2022	2023	2024	2025	2026	2027 2	2028	2029 2030	70 Total (Rs)
Website maintenance	1,20,000	000	1,25,400	1,31,043	1,36,940	1,43,102	1,49,542	1,56,271	1,63,303	1,70,652		-	-	1	-	+		-	1	8		1,25,400	1,31,043	1,36,940	1,43,102	1,49,542	1,56,271 1,	1,63,303	1,70,652 11,76,254
Total	1,20,000	000																		Base Cost		1,20,000	1,20,000	1,20,000	1,20,000	1,20,000	1,20,000 1,	1,20,000 1,3	1,20,000 9,60,000
																			Pri	Price Escalation		5,400	11,043	16,940	23,102	29,542	36,271	43,303	50,652
																			Physical	Physical Contingency		6,270	6,562	6,847	7,155	7,477	7,814	8,165	8,533
																				Total Cost	٠	1,31,670	1,37,595	1,43,787	1,50,257	1,57,019 1	1,64,085 1,	1,71,469 1,7	1,79,185 12,35,066
					UNIT COS	UNIT COST (Per Years)								H	YSICAL TARG	PHYSICAL TARGETS (Per Years)								FINANCIAL	FINANCIAL OUTLAYS (Rs)				
Items of Work	Base year Cost	DSt 2022	2 2023	2024	2025	3026	2027	2028	2029	0002	2022	2023	2024	2022	2026	2027	2008	2029	2030	Total	2022	2023	2024	2025 2	2026	2027 2	2028	2029 20	2030 Total (Rs)
Guidelines, Manual and Annual Reports	000'00'S	000	5,22,500	5,46,013	5,70,583	3 5,96,259	6,23,091	1 6,51,130	6,80,431	7,11,050		-	-	-	-	-	-	-	-	60		5,22,500	5,46,013	5,70,583 6	5,96,259	6,23,091 6	6,51,130 6,	6,80,431 7.	7,11,050 49,01,057
Total	5,00,000	000																		Base Cost	٠	2,00,000	9,00,000	5,00,000	2,00,000	2,000,000	5,00,000 5,	2,00,000 5,0	5,00,000 40,00,000
																			Pré	Price Escalation	٠	22,500	46,012	70,583	96,259	1,23,091	1,51,130 1,	1,80,431 2,7	2,11,050 9,01,057
																			Physical	Physical Contingency		26,125	27,301	28.529	29,813	31,155	32,557	34,022	35,553

4.5.3 Small films/ videos/ Digital documentation

					UNIT COST (P	Per Years)								PHYS	PHYSICAL TARGETS (Po	(Per Years)							FINA	FINANCIAL OUTLAYS (Rs)	3 (Rs)			
tems of Work	Base year Cost	2002	2023	2024	2025	2026	2027	2028	2029	2030	2022	2023	2004	2025	2026 2	2027 2028		2029 2030	Total	2022	2023	2024	2025	2026	2002	2028	5059	2030
films/ videos/ Digital documentation	72,00,000			78,62,590	82,16,396	85,86,134	89,72,510	93,76,273	97,98,205	1,02,39,124			90'0	0.15	0.20	0.20	0.20	0.10	0,10	1.00		3,90,129	12,32,459	17,17,227	17,94,502	18,75,256	9,79,821	10,23,912
otal	72,00,000																		Base (Cost		3.60.000	10,80,000	14,40,000	14.40.000	14,40,000	7.20.000	7.20,000

4.5.4 Knowledge Material / Course Material

					UNIT COST (Per	er Years)								PHYS	PHYSICAL TARGETS (Per Years)	Per Years)							FINANC	FINANCIAL OUTLAYS (Rs)	'Rs)				
Items of Work	Base year Cost	3052	2002	2024	2025	2026	2002	2028	2029	2030	2022	2023	2024	2025	2026 2	2027 203	2028 2029	9 2030	Total	2002	2023	2024	2025	2026	2057	2028	2029	2030	Total (Rs)
Knowledge Material / Course Material	40,00,000		41,80,000	43,68,100	45,64,665	47,70,074	49,84,728					0.20	0.20	0.20	020	0.20			1.00		8,36,000	8,73,620	9,12,933	9,54,015	976'96'6				45,73,513
Total	40,00,000	0																	Base Cost		8,00,000	8,00,000	8,00,000	8,00,000	8,00,000	٠			40,00,000
																			Price Escalation	u	36,000	73,620	1,12,933	1,54,015	1,96,946	٠			5,73,513
																		В	Physical Confingency		41,800	43,681	45,647	47,701	49,847	٠	٠		2,28,676
																						l	l	ł	l	l			

4.5.5 PoC (Proof of Concept)

	lotal (Ks)	2,79,42,515	2,58,00,000	21,42,515	13,97,126	
	2030		٠	٠	٠	
	2002					
	2028		٠	٠	٠	
S (Rs)	2002					
FINANCIAL OUTLAYS (Rs)	2026	ľ	•	•	•	
FINAN	2025	58,88,417	51,60,000	7,28,417	2,94,421	
	2004	1,12,69,698	1,03,20,000	969'69'6	5,63,485	
	2023	1,07,84,400	1,03,20,000	4,64,400	5,39,220	
	2022				,	
	Total	100	Base Cost	Price Escalation	Physical Confingency	
	2030	ľ			Physi	
	2029	ľ				
	2028	ľ				
TARGETS (Is)	2027					
PHYSICAL TARGETS (2009	Ĺ				
	2025	0.20				
	2024	0.40				
	2023	070				
	2002					
	2030					
	2029					
	2028					
	2027					
(ls)	2026					
UNIT COST (2025	2,94,42,086				
	2024	2,81,74,245				
	2023	2,69,61,000 2,				
	2002	2,				
	Base year Cost	2,58,00,000	2,58,00,000			
	ams of Work	Proof of Concept	Total			

Major Component 5 : Consulting Services
Yearly Fund Distribution of Consulting Services

2.06% Base Year. 2022
Price Escalation: Fo

		Total			2023		20.	2024		2025	2		2026			2027			2028			2029			2030	
Tearly rund Distribution of Consulting Services	5	27	Total	5	LC Total	Total FC		LC To	Total FC	07	Total	55	OI .	Total	5	21	Total	5	21	Total	5	27	Total	5	1 J	Total
Base Cost	1 8,47,08,000 12,11,95,137	1,11,95,137	30,16,47,295 87,96,000	37,96,000 88	86,40,728 2,42,62,903	2,62,903 1,80,67,200		2,17,49,049 5,69,97,998	97,998 1,80,67,200	7,200 2,17,49,049	,049 5,69,97,998	1,39,86,000	1,93,93,747	4,87,00,807	97,46,400	1,61,35,914	3,86,29,686	97,46,400	1,61,35,914	3,86,29,686	62,98,800	1,73,90,736	3,74,28,217			
Price Escalation		2,43,19,442	65,42,405 2,43,19,442 5,00,74,206 1,81,198	1,81,198	3,88,833 8,77,208		7,52,036 20,0	20,01,456 43,3	43,34,642 11,39	11,39,712 30,70,229	1,229 66,35,422	22 11,88,549	37,33,657	78,71,795	10,46,100	39,72,371	81,56,643	12,68,425	48,77,243	99,98,691	9,66,386	62,75,653	1,21,99,805			
Physical Contingency	45,62,520	72,75,729	72,75,729 1,75,86,075 4,48,860 4,51,478 12,57,006	4,48,860	4,51,478 12	9,4	9,40,962 11,87	11,87,525 30,6	30,66,632 9,60	9,60,346 12,40,964	1,964 31,81,671	71,58,727	11,56,370	28,28,630	5,39,625	10,05,414	23,39,316	5,50,741	10,50,658	24,31,419	3,63,259	11,83,319	24,81,401			
Total Cost	Total Cost 9,58,12,926 15,27,90,308 36,93,07,576 94,26,057 94,81,039 2,63,97,117 1,97,60,197	5,27,90,308	\$ 92,07,576	34,26,057 94	4,81,039 2,63	3,76,1 7,17,197,6		2,49,38,030 6,43,9	19,272 2,01,67	7,257 2,60,60,	6,43,99,272 2,01,67,257 2,60,60,242 6,68,15,090	1,59,33,27	76 2,42,83,77	1,59,33,276 2,42,83,774 5,94,01,232 1,13,32,125 2,11,13,699 4,91,25,646	1,13,32,125	2,11,13,699	4,91,25,646	1,15,65,567	2,20,63,815 5,10,59,796 76,28,446 2,48,49,708	5,10,59,796	76,28,446		5,21,09,424	٠		

	1.3023	0.3023	
2028	1,1301	0.1301	
	1.2462	0.2462	
2027	1,1073	0.1073	
	1.1925	0.1925	
2026	1.0850	0.0850	
	1.1412	0.1412	
2025	1.0631	0.0631	
	1.0920	0.0920	
2024	1.0416	0.0416	
	1.0450	0.0450	
2023	1.0206	0.0206	

2030 1,1772 1,4221 0,1772 0,4221

1.3609

1.1534

2030	•	•
20		
2029	62.98.800	1,73,90,736
2028	97.46.400	1,61,35,914
2027	97.46.400	1,61,35,914
2026	1.39.86,000	1,93,93,747
2025	1.80.67.200	2,17,49,049
2024	1.80.67.200	2,17,49,049
2023	87.96.000	86,40,728
2022	0	0
Total	8,47,08,000	12,11,95,137
ITEMS	Total of FC (Base Cost)	Total of Local (Base Cost)
	ي	2

Cost Breakdown for Project Management Consulting

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Cost Breakdown for the Consulting Services

USD 1 = JPY 147 USD 1 = INR 82.3 INR 1 = = JPY 1.79

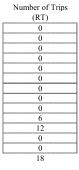
			Foreign	Portion	Local I	Portion	Amount
			JP	Y	INR	. 1 =	JPY
	Unit	Q'ty	Rate	Unit Price	Rate	Unit Price	
				(000')		(000')	('000')
I Remuneration							
1 International Expert (IE)	M/M	18	3,606,000	64,908	0	0	64,908
-International Expert 1 (IE1)	M/M	18	3,606,000	64,908	0	0	64,908
-International Expert 2 (IE2)	M/M	0	0	0	0	0	
2 Local Expert (LE)	M/M	107	0	0	352,291	37,695	67,474
-Local Expert 1 (LE1)	M/M	107	0	0	352,291	37,695	67,474
-Local Expert 2 (LE2)	M/M	0	0	0	0	0	(
-Local Expert 3 (LE3)	M/M	0	0	0	0	0	(
-Local Expert 4 (LE4)	M/M	0	0	0	0	0	(
-Local Expert 5 (LE5)	M/M	0	0	0	0	0	(
-Local Expert 6 (LE6)	M/M	0	0	0	0	0	(
-Local Expert 7 (LE7)	M/M	0	0	0	0	0	(
-Local Expert 8 (LE8)	M/M	0	0	0	40,000		
3 Supporting Staff (SS)	M/M	368	U	0	40,000	14,720	26,349
Subtotal of I				64,908		52,415	158,73
H. D C							
II Direct Cost		10	500.000	0.000		0	0.004
1 International Airfare	RT	18	500,000	9,000	25,000	0	9,000
2 Domestic Airfare	RT	55		0	25,000	1,375	2,461
3 Domestic Travel/ Field Trips	RT	30		0	45,000	1,350	2,417
4 Accommodation Allowance (IE)	M/M	18	300,000	5,400		0	5,400
5 Per Diem (IE)	M/M	18	300,000	5,400	1.70.000	0	5,400
6 Accommodation Allowance (LE)	M/M	107		0	150,000	16,050	28,730
7 Per Diem (LE)	M/M	107		0	30,000	3,210	5,740
8 Accommodation Allowance (SS)	M/M	368		0	75,000	27,600	49,404
9 Vehicle Rental	Num-Month			0	195,000	8,125	14,544
10 Office Rental	Month	42		0	150,000	6,300	11,277
11 International Communications	M/M	18		0		0	(
12 Domestic Communications	M/M	125		0	15,000	1,875	3,350
13 Office Supply	Month	42		0	20,000	840	1,504
14 Office Furniture and Equipment	Month	42		0	10,000	420	752
15 Report Preparation	Month	42		0	5,000	210	370
16 Per Diem (SS)	M/M	190		0	7,500	1,425	2,55
Subtotal of II				19,800		68,780	142,916
Total				84,708		121,195	301,647

Manning Schedule for the Consulting Services

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Manning Schedule for the Consulting Services

Position	Billing Rate	Total	2022	2023	2024	2025	2026	2027	2028	2029	2030
	FC/ JPY LC/ INR	1 Otal	4 5 6 7 8 9 10 11 12 1 2 3	4 5 6 7 8 9 10 11 12 1 2 3	4 5 6 7 8 9 10 11 12 1 2 3	3 4 5 6 7 8 9 10 11 12 1 2 3	4 5 6 7 8 9 10 11 12 1 2 3	4 5 6 7 8 9 10 11 12 1 2 3	4 5 6 7 8 9 10 11 12 1 2 3	4 5 6 7 8 9 10 11 12 1 2 3 4	5 6 7 8 9 10 11 12 1
Team Leader/ Sustainable Forest Management	0 352,291	23			$egin{array}{c c c c c c c c c c c c c c c c c c c $						
Biodiversity Conservation	0 352,291	14									
Soil/ Water Conservation	0 352,291	9									
Capacity Development	0 352,291	13			1 1 1	1 1 1 1					
M&E	0 352,291	13				1 1	1	1 1		1 1	
Social and Environmental Consideration	0 352,291	3		1			1				
Micro Finance/ Business Development Support	0 352,291	12				1 1	1 1 1	1 1			
GIS/ MIS/ DX	0 352,291	20			1 1 1 1 1 1	1 1 1 1	1 1 1	1 1	1 1		
	0 0	0									
Community Resilience against Climate Change	3,606,000 0	6				1	1	1			
GIS/ MIS/ DX	3,606,000 0	12				1 1	1				
	0 0	0									
	0 0	0									
[Total of IE]		18	0	2	4	4	3	2	2	1	0
Total of LE]		107	0	8	19	19	17	14	14	16	0
Total of IE+LE]		125	0	10	23	23	20	16	16	17	0
Cotal Cost of FC for Each Month (IE)		64,908,000	0	7,212,000	14,424,000	14,424,000	10,818,000	7,212,000	7,212,000	3,606,000	0
Total Cost of FC for Each Month (LE)		0	0	0	0	0	0	0	0	0	0
Total Cost of LC for Each Month (IE)		0	0	0	0	0	0	0	0	0	0
Total Cost of LC for Each Month (LE)		37,695,137	0	2,818,328	6,693,529	6,693,529	5,988,947	4,932,074	4,932,074	5,636,656	0
Office Manager	0 40,000	76		1 1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1 1 1 1	
Admin Assistant	0 40,000	76		1 1 1 1	1 1 1 1 1 1 1 1 1 1		1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1 1 1 1 1		
Regional coordinator (HNB)	0 40,000	72			1 1 1 1 1 1 1 1 1 1				1 1 1 1 1 1 1 1 1 1		
Regional coordinator (DLA)	0 40,000	72			1 1 1 1 1 1 1 1 1 1				1 1 1 1 1 1 1 1 1 1		
Regional coordinator (Delta)	0 40,000	72							1 1 1 1 1 1 1 1 1 1		
······································	0 0	0									
······	0 0	0		[-	-1		***	
	, , , , , , , , , , , , , , , , , , ,	0		[-	-1		. #	
	<u>.</u>	<u> </u>	╶╫╍╌┟╍╌┼╍╌┦╍╌╂╍╌┼╍╌╬╼╌╬╼╌╬╍╌╟╍╌╟╍╌┠╍╌	║ ╍╍┼╍╍╂╍╍╂╍╍┼╍╍╁╍╍┾╍╍┼╍╍┼╍╍┼╍╍╂╍╍╂╍╍╂		╍╫╍╍┾╍╍┾╍╍┾╍╍┾╍╍┼╍╍┦╍╍┦╍╍┽╍╍┾╍╍┾╍╍	╏╍╌┝╍╌┠╍╌╂╍╌╂╍╌╂╍╌╃╍╌╂╍╌╋╍╌┾╍╌╊╍╌┠╍╌	╸║╸╸╴┟╸╸╸┤╸╸╸┤╸╶╸┼╸╸╴┼╸╶╸┼╸╶╸┼		╌╫╌╍┼╍╌┾╍╌┾╍╌┟╍╌┟╍╌┦╍╌╉╍╌┼╍╌┿╍╌┼╍╌╢╍╌┦	
	 	} <u>-</u>	╌╟╼╼╎╾╍┼╼╼┤╾╾╉╾╾╅╼╍┿╼╾┿╼╍┿╼╼╁╼╼┼╍╾┟╾╍┟╾╍	<u></u>		╍╫╼╼┾╼╼┾╼╼┾╼╼┝╼╼┼╍╼┤╾╍┤╍╍┤╍╾╬╍╾┾╼╍┾╼╍	╟╍╌├╍╌├╍╌┼╍╌┤╍╌╉╍╌┩╍╌╉╍╌╬╍╌┾╍╌┠╍╌┠╍	┩╍╌┠╍╌╂╍╌╂╍╌╂╍╌┼╍╌╂╍╌╂╍╌┠╍╌┠╍╌╂╍╌╂╌╌╢		╶╫╍╌┼╍╌┼╍╌┼╍╌┼╍╌┠╍╸┤╍╸┨╍╸╂╍╌┼╍╌┼╍╌╂╍╸╂╍╸┨	╍┼╍┼╍┼╍┼╍┼╍┼
[Total of Supporting Staff (SS)]		368		8	60	60	60	60	60	60	
Total Cost of LC for Each Month (SS)		14,720,000	0	320,000	2,400,000	2,400,000	2,400,000	2,400,000	2,400,000	2,400,000	0
Grand Total		493		18	83	83	80	76	2,100,000	77	



Principles of Procurement

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Principles of Procurement under the Project

Guidelines

1. Procurement of goods and services for the Project shall be implemented in accordance with "Guidelines for Procurement under Japanese ODA Loans" dated April 2012 and selection of consultants shall be in accordance with "Guidelines for Employment of Consultants under Japanese ODA Loans" dated April 2012. The Executive Agency (EA) may make the use of the domestic procurement rules, but JICA's guidelines should overrule whenever JICA's guidelines and such procurement rules are in conflict.

Consulting Services

- 2. Whereas requirements of JICA's review and concurrence would be stipulated in the Loan Agreement, JICA's review and concurrence is usually required for (a) Short-list, Terms of Reference, and Letter of Invitation (Request for Proposal), (b) evaluation results of proposals, and (c) contract (ex-post concurrence). EA agreed to start preparation of TOR, Letter of Invitation (Request for Proposal), Short-list right after Government of Japan make prior-notification to the Government of India, without waiting for Exchange of Notes between both Governments and signing of Loan Agreement with JICA. Letter of Invitation may be prepared, with reference to JICA's sample documents. The key features of the JICA's consultant guidelines are as follows:
 - (a) Selection procedures of consultants should be Quality- and Cost-Based Selection (QCBS). 20% of the financial proposal, 80% of the technical proposal will be evaluated for selection of international consultant.
 - (b) Information on JICA's files on consultants is available, at the request of the Borrower.
 - (c) Short list should normally consist of not less than three and not more than five consultants.
 - (d) Letter of Invitation should stipulate the details of the selection procedure including technical evaluation categories and the weight for evaluation.
- 3. However, for cases where QCBS is not the most appropriate, other methods of selection, such as Quality-Based Selection (QBS) or Single-Source Selection (SSS) are applied. QBS is a method based on evaluating only the quality of the technical proposals and the subsequent negotiation of the financial terms and the contract with the highest ranked consultant. QBS should be applied only for the following types of assignments.
 - (a) Complex or highly specialized assignments for which it is difficult to define precise TOR and the required input from the consultants;
 - (b) Assignments where the downstream impact is so large that the quality of the service is of overriding importance for the outcome of the project (for example, engineering

- design of major infrastructure);
- (c) Assignments that can be carried out in substantially different ways such that financial proposals maybe difficult to compare; and
- (d) Assignments including supervision of large and complex construction works for which it is particularly important to take safety measures.
- 4. SSS shall be used only in exceptional cases. SSS may be appropriate only if it presents a clear advantage over competition:
 - (a) For tasks that represent a natural continuation of previous work carried out by the firm;
 - (b) In emergency cases, such as in response to disasters;
 - (c) For very small assignments; or
 - (d) When only one firm is qualified or has experience of exceptional worth for the assignment
- 5. Letter of Invitation (Request for Proposal) usually includes the following:
 - (a) Letter;
 - (b) Project Information including (i) introduction and information about the project background, (ii) project description, (iii) information on the area, and (iv) organization to implement the Project;
 - (c) Other Relevant Information including (i) technical information, (ii) relevant laws and regulations, and (iii) service provided by the Employer;
 - (d) Terms of Reference including (i) purpose, (ii) scope of consulting services, (iii) reporting, and (iv) provisions required by JICA;
 - (e) Information to Consultants in Preparation of Proposal;
 - (f) Evaluation Criteria; and
 - (g) Contract Conditions.

Procurement Package and Methods

- 6. The tender and contract packaging was based on nature of goods and services, and consideration of optimal package size—as large as possible—to attract the maximum participation from capable companies. Packages of procurement of goods and services under Public Awareness Components, which involve many small contracts and are implemented by direct contracting, shopping, LCB or other methods, are not able to be finalized at this stage, but will be determined by EA.
- 7. According to JICA's Procurement Guidelines, International Competitive Bidding (ICB) is applied in general. When procurement of good and services is made through small contracts and evidently does not attract foreign companies, National (Local) Competitive Bidding (LCB) may be applied and national and state procurement rules can be applied

while abiding by four principles of "Guidelines for Procurement under JICA ODA Loans" dated April 2012: economy, efficiency, non-discrimination among eligible bidders, and transparency. EA agreed to request JICA for prior concurrence in cases of a change in procurement methods.

Standard Bidding Documents

8. EA agreed to use JICA's Standard Bidding Documents with necessary modification suitable to needs for each package.

Principles of Procurement of Goods and Services

- 9. The key principles for procurement of goods and services in the Project are as follows:
 - (a) Preferential treatment of Indian companies is not acceptable under international competitive bidding.
 - (b) JICA's Procurement Guidelines do not allow price negotiation in principle. EA may conduct price negotiation with the lowest evaluated bidders only in exceptional cases subject to consultation with JICA, where the lowest evaluated bidder's price is substantially higher than credible estimates, as stipulated in Clause 5.10 of JICA's Procurement Guidelines. JICA is afraid that price negotiation may deteriorate quality of goods and works, and ultimately lead to higher prices including a cushion in bid prices to be given up for negotiation.
 - (c) Contract documents should have adequate price adjustment mechanism and fair claim and dispute resolution procedure based on international rules.
 - (d) A list of taxes and duties imposed and exempted should be clearly indicated in the tendering document to avoid any confusion and disputes with bidders.
 - (e) Submission of alternative bids may be allowed when it is clearly stipulated in the bidding documents, but those of the lowest evaluated bidders alone should be evaluated.
 - (f) In case of slice and package tendering, while bidders are allowed to participate in more than one package, EA may choose a combination of bidders to obtain the lowest evaluated prices as a whole and evaluate qualification of those bidders through predetermined prequalification criteria stipulated in prequalification and tendering documents.
 - (g) In cases of two-envelop procedures (with regard to any contract the value of which is estimated to be not less than THREE BILLION Japanese Yen (¥3,000,000,000)), EA has to request for JICA's concurrence in evaluation of technical bids before opening financial bids.
 - (h) Consultant Guidelines introduces the Borrower's debriefing to unsuccessful consultants as follows: "If any consultant who submitted a proposal wishes to ascertain the reasons why its proposal was not selected, such consultant should request an explanation from the Borrower. The Borrower shall promptly provide an explanation as to why its proposal

was not selected." In addition, Procurement Guidelines introduces the Borrower's debriefing to unsuccessful bidders as follows: "If any bidder who submitted a bid wishes to ascertain the reasons why its bid was not selected, such bidder should request an explanation from the Borrower. The Borrower shall promptly provide an explanation as to why its bid was not selected."

JICA's Review and Concurrence for Procurement

10. Whereas requirements of JICA's review and concurrence would be stipulated in the Loan Agreement, JICA's review and concurrence is, depending on the estimated contract amount, usually required for (i) prequalification documents, (ii) prequalification evaluation results, (iii) tender documents, (iv) tender evaluation results, and (v) contract (ex-post concurrence).

Table: Requirement of JICA's Review and Concurrence (subject to the stipulations of the Loan Agreement)

	Less than 1,000 million yen	Not less than 1,000 million yen	Not less than 3,000 million yen
Prequalification Evaluation Criteria	No	No	Required
Prequalification Evaluation Result	No	Required (In case of P/Q)	Required (In case of P/Q)
Tender Document	No	No	Required
Tender Evaluation Result	No	Required	Required
Contract	Required (In case of ICB)	Required	Required

Environmental Checklist

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Confirmation of Environmental Considerations (Reasons, Mitigation Measures)	(a) The project would be taking up plantation activities and establishing nurseries for production of planting material for plantations. As per the EIA notification of 14th Sep 2006 of MoEFCC, Environmental Cearance (EC) is required only for Chemical fertilizers and Pesticides/ insecticides producing plants. Under all the proposed subprojects there is no plan for such estblishments and therefore Environment Impact Assessment report is not required. (b) Not applicable (c) Not applicable (d) Other environmental permits are also not required for the proposed Project.	(a)(b)Consultation and information disclosure procedures are to be implemented prior to subproject implementation during the preparation of Micro Plan. Such consultations are included in the ESAF/ESMF	(a)Social and environmental considerations have been factored into the project design that incudes assessment/ identification of degraded forest areas, Identification of WLS for participatory biodiversity conservation, Human-Wildlife stress induced areas for conflict mitigation and adoption of exclusion criteria for project activities)	. (a) There is no activity under the proposed sub-projects having any significant negative impact on air quality.	(a) As part of forestry plantations, fertilizers/insecticides may be used as per the recommended quantity defined in the respective plantation model however the anticipated environmental imapct would be minimal/insignificant. It is expected that the project would promote usage of bio-fertilizers/manure/compost and organic insecticides. (b)There is no such facility proposed in the project activities.	(a) There will not be any significant waste associated with project activities as no manufacturing activity is proposed.	 (a) Use of such chemicals will be minimal/ negligible under the project (b) Under the livelihood component there is a possibility of agriculture based activity taken up by SHGs but under the project organic agri production models would be promoted
Yes: Y No: N	(a) N/A (b) N/A (c) N/A (d) N/A	(a) N (b) N	(a) Y	(a) N/A	(a) N N N N	(a) Y	(a) N/A (b) N/A
Main Check Items	 (a) Have EIA reports been already prepared in official process? (b) Have EIA reports been approved by authorities of the host country's government? (c) Have EIA reports been unconditionally approved? If conditions are imposed on the approval of EIA reports, are the conditions satisfied? (d) In addition to the above approvals, have other required environmental permits been obtained from the appropriate regulatory authorities of the host country's government? 	(a) Have contents of the project and the potential impacts been adequately explained to the Local stakeholders based on appropriate procedures, including information disclosure? Is understanding obtained from the Local stakeholders? (b) Have the comment from the stakeholders (such as local residents) been reflected to the project design?	(a) Have alternative plans of the project been examined with social and environmental considerations?	(a) Do air pollutants, such as dust, soot and dust, sulfur oxides (SOx), nitrogen oxides (NOx), and organic chemical substances emitted from various sources, such as logging operations, forest products manufacturing processes, and incinerators comply with the country's emission standards and ambient air quality standards? Are any mitigating measures taken?	(a) Is there a possibility that the use of chemicals, such as fertilizers, and agrochemicals will cause water pollution? (b) Where facilities, such as forest products manufacturing facilities are installed, do effluents from the facilities comply with the country's effluent standards and ambient water quality standards?	(a) Are wastes properly treated and disposed of in accordance with the country's regulations?	(a) Are adequate measures taken to prevent contamination of soil and groundwater by use of chemicals, such as agrochemicals?(b) Are any agrochemicals management plans prepared? Are any usages or any implementation structures organized for proper use of the plans?
Environmental Item	(1) EIA and Environmental Permits	(2) Explanation to the Local Stakeholders	(3) Examination of Alternatives	(1) Air Quality	(2) Water Quality i	(3) Wastes	(4) Soil (Contamination
Category		Explanation			2 Pollution Control		

Attachment 13-1 Environmental Checklist: 17. Forestry (2)

Confirmation of Environmental Considerations (Reasons, Mitigation Measures)	(a)One of the sub-project include conservation and restoration of biodiversity in selected WLS and the foreseen enviironmental impact from the proposed activities is of positive nature.	(a)The project will be implemented at 4 protected areas (PAs) sites and also include mangroves and areas around PAs. However, project activities are aimed at conservation and restoration of biodiversity and mitigation of human wildlife conflict (b)The sub-project activities are aimed at conservation of various species such as Dolphin, conservation breeding of Indian Pangolin and Fishing Cat and also plant species recovery programme and their impact would be positive. (c)There is no large-scale timber harvesting proposed in the project (d)There is no large-scale timber harvesting proposed in the project (d)There is no large-scale timber harvesting proposed in the project (e)In a sub-project, reforestation/plantation activities are proposed and quality plantation management of native species would be promoted (f)No significant negative impact is anticipated from project activities as the main objective of the proposed activities is ecological restoration (g)The project will support sustainable forest development/ management and protection and thus does not include any deforestation activity. The Forest (Conservation) Act of 1980 ensures conservation of forest and its resources from illegal deforestation.	(a)There is no large scale timber harvesting activities planned in the project. (b)The sub-project 'Ecosystem based Disaster Risk Reduction' project aims to reduce soil erosion and sedimentation of reservoirs through embankment protection and check dams inside PA. Along with the forestry interventions, the sub-project would enhance water retention in critical micro-watersheds.
Yes: ≺ No: N	(a) N	$\begin{array}{c} \mathbf{Z} & \mathbf{Z} & \mathbf{Z} & \mathbf{Z} \\ \mathbf{G} & \mathbf{G} & \mathbf{G} & \mathbf{G} \\ \mathbf{G} & \mathbf{G} & \mathbf{G} & \mathbf{G} \\ \end{array}$	(a) (b) N (b) N
Main Check Items	(a) Is the project site or discharge area located in protected areas designated by the country's laws or international treaties and conventions? Is there a possibility that the project will affect the protected areas?	 (a) Does the project site encompass primeval forests, tropical rain forests, ecologically valuable habitats (e.g., coral reefs, mangroves, or tidal flats)? (b) Does the project site encompass the protected habitats of endangered species designated by the country's laws or international treaties and conventions? (c) Is there a possibility that changes in localized micro-meteorological conditions, such as solar radiation, temperature, and humidity due to a large-scale timber harvesting will affect the surrounding vegetation? (d) Is there a possibility that a large-scale timber harvesting will result in loss of breeding and feeding grounds for wildlife? (e) In the case of reforestation projects, is there a possibility that monospecies plantations will adversely affect wildlife habitats? Is there a possibility that mono-species plantations will cause outbreaks of pests? (f) If significant ecological impacts are anticipated, are adequate protection measures taken to reduce the impacts on the ecosystem? (g) Isn't an illegal deforestation associated with the project being carried out, or is an acquisition of the forest certification by the project proponent being carried out? 	 (a) Is there a possibility that alteration of rainwater runoff and runoff characteristics due to a large-scale timber harvesting and access road construction will cause impacts on the hydrology of the surrounding areas? (b) Is there a possibility that decreased water retention capacity due to deforestation will affect the existing drainage patterns of the forest?
Environmental Item	(1) Protected Areas	(2) Ecosystem	(3) Hydrology
Category		3 Natural Environment	

Attachment 13-1 Environmental Checklist: 17. Forestry (3)

Category	Environmental Item	Main Check Items	Yes: Y No: N	Confirmation of Environmental Considerations (Reasons, Mitigation Measures)
	(4) Topography and Geology	(a) Is there a possibility that loss of forest stability due to timber harvesting will cause slope failures or landslides?	(a) N t	(a)There is no significant timber harvesting anticipated in the project. Activities like tree plantation, grass planting along the outlets and bunding along the embankments would help in stabilising vulnerable slopes.
3 Natural Environment	(5) Management of Abandoned Sites	 (a) Are adequate restoration and revegetation plans considered for the harvested areas? In particular, are adequate measures taken to prevent soil runoff from the harvested areas? (b) Is a sustainable management system for the harvested areas established? (c) Are adequate financial provisions secured to manage the harvested areas? 	(a) N (b) N (c) N	(a)-(c) There is no significant timber harvesting anticipated in the project.
4 Social Environment	(1) Resettlement	 (a) Is involuntary resettlement caused by project implementation? If involuntary resettlement is caused, are efforts made to minimize the impacts caused by the resettlement? (b) Is adequate explanation on compensation and resettlement assistance given to affected people prior to resettlement? (c) Is the resettlement plan, including compensation with full replacement costs, restoration of livelihoods and living standards developed based on socioeconomic studies on resettlement? (d) Is the compensations going to be paid prior to the resettlement? (e) Is the compensation policies prepared in document? (f) Does the resettlement plan pay particular attention to vulnerable groups or people, including women, children, the elderly, people below the poverty line, ethnic minorities, and indigenous peoples? (f) Are agreements with the affected people obtained prior to resettlement? (h) Is the organizational framework established to properly implement resettlement? Are the capacity and budget secured to implement the plan? (i) Are any plans developed to monitor the impacts of resettlement? (j) Is the grievance redress mechanism established? 	(a) N (b) N/A (c) N/A (c) N/A (d) N/A	(a) There will be no physical displacement (voluntary or involuntary) nor land acquisition under the project. (b)-(j) Same as Above

Attachment 13-1 Environmental Checklist: 17. Forestry (4)

Yes: Y No: N	(a) N (a) The project intends to have a positive impact in terms of alleviating poverty and improving local people's livelihoods/ living conditions. The planned activities under livelihood development and Income Generation Activities would ensure any negative into the inhabitants whose (c) N invelihood development and Income Generation Activities would ensure any negative impact, if any, would be negated. (b) No forestry road/ forest access road will be constructed under the project. There may be a possibility that the village access road constructed under community infrastructure to improve connectivity for the local villagers with the main roads. However field officer of the executing agencies conducts regular patrol and local communities are involved in forest resources management. (c) The project does not include activities to increase forest law enforcement or create additional restrictions of access to forest lands and resources (d) The baseline socio-economic and gender survey are planned to be conducted in the beginning of the project to understand and record the livelihood and living condition of the local residents	lage the local archeological, (a) N (a) There will be no anticipated impact on the local archeological, historical, cultural, and religious heritage due to project activities with the country's laws?	ersely affect the local (a) N (a) The project promotes sustainable forest development/ protection and biodiversity conservation and would rather help in restoring ecological landscape.	on the culture and lifestyle of (a) Y (b) There would not be any negative impact anticipated on the culture and lifestyle of (b) Y ethnic minorities and indigenous people due to project activities. Rather the environment in which they live would be conserved/restored and livelihood would be improved. (b) Through compliance with Forest Right Act, the rights of indigenous peoples are respected in terms of access to land and resources and no project activity negatively
Main Check Items	 (a) Is there a possibility that the project will adversely affect the living conditions of inhabitants? Are adequate measures considered to reduce the impacts, if necessary? Is particular attention paid to the inhabitants whose livelihoods are based on primary industries, such as farming, raising livestock, or hunting and gathering in the forests? (b) Are adequate measures taken to prevent illegal entry into the forestry resource areas from the outside through newly constructed access roads? (c) Is there a possibility that the forest right of common is obstructed? (d) Are considerations given to life of residents before implementation of project? 	 (a) Is there a possibility that the project will damage the local archeologic historical, cultural, and religious heritage? Are adequate measures considered to protect these sites in accordance with the country's laws? 	(a) Is there a possibility that the project will adversely affect the local landscape? Are necessary measures taken?	(a) Are considerations given to reduce impacts on the culture and lifestyle of (a) Y ethnic minorities and indigenous peoples? (b) Are all of the rights of ethnic minorities and indigenous peoples in relation to land and resources respected?
Environmental Item	(2) Living and Livelihood	(3) Heritage	(4) Landscape	(5) Ethnic Minorities and Indigenous Peoples
Category	4 Social			

Attachment 13-1 Environmental Checklist: 17. Forestry (5)

Environ Ite	Environmental Item		≻z	Confirmation of Environmental Considerations (Reasons, Mitigation Measures)
4 Social (6) Working Environment Conditions		 (a) Is the project proponent not violating any laws and ordinances associated (a) N with the working conditions of the country which the project proponent should observe in the project? (b) Are tangible safety considerations in place for individuals involved in the project, such as the installation of safety equipment which prevents industrial accidents, and management of hazardous materials? (c) Are intangible measures being planned and implemented for individuals involved in the project, such as the establishment of a safety and health program, and safety training (including traffic safety and public health) for workers etc.? (d) Are appropriate measures taken to ensure that security guards involved in the project not to violate safety of other individuals involved, or local residents? 	٨	 (a) All relevant national law for standard working conditions would be applicable under the project. (b) There is no industrial activity planned nor use of hazardous material proposed under the sub-projects/ activities. (c) In Human-wildlife conflict areas appropriate measures would be adopted as recommended by the local authorities and proper instruction and guidance on safety consideration will be given to workers and other individuals involved in the Projects. (d) Field management units established under the implementing agency, will be reponsible for the Project activities at the target fields.
(1) Impacts of	during	(a) Are adequate measures considered to reduce impacts during construction (e.g., noise, vibrations, turbid water, dust, exhaust gases, and (wastes)? (1) Impacts during (b) If construction activities adversely affect the natural environment (ecosystem), are adequate measures considered to reduce impacts? (c) If construction activities adversely affect the social environment, are adequate measures considered to reduce impacts?	(a) N/A (b) N/A (c) N/A	(a) No physical development relating to forestry development is planned in the project.(b) Same as Above(c) Same as Above
,	(2) Monitoring	(a) Does the proponent develop and implement monitoring program for the environmental items that are considered to have potential impacts? (b) What are the items, methods and frequencies of the monitoring program? (c) Does the proponent establish an adequate monitoring framework (organization, personnel, equipment, and adequate budget to sustain the monitoring framework)? (d) Are any regulatory requirements pertaining to the monitoring report system identified, such as the format and frequency of reports from the proponent to the regulatory authorities?	(a) N/A (b) N/A (c) N/A (d) N/A	(a) ESAF will be used as the basis for monitoring plan. (b)-(d) Same as Above

Environmental Checklist: 17. Forestry (6) Attachment 13-1

	Confirmation of Environmental Considerations (Reasons, Mitigation Measures)	 (a) N/A (b) No major agriculture activities under the project are expected and would be of should also be checked. (a) N/A (b) No major agriculture activities under the project are expected and would be of very small scale probably as part of Income Generation Activities and do not involve any environmental and social risks 	(a) N/A (a) The project will not have any significant global or transboundary impact. It will have a positive impact to global phenomenon due to forest restoration and carbon sequestration
	Yes: Y No: N	(a) N/A	(a) N/A
	Main Check Items	(a) Where necessary, pertinent items described in the Agriculture checklist should also be checked.	(a) If necessary, the impacts to transboundary or global issues should be confirmed (e.g., the project includes factors that may cause problems, such as transboundary waste treatment, acid rain, destruction of the ozone layer, or global warming).
	Environmental Item	Reference to Checklist of Other Sectors	Note on Using Environmental Checklist
	Category	6 Note	
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1) Regarding the term "Country's Standards" mentioned in the above table, in the event that environmental standards in the country where the project is located diverge significantly from international standards, appropriate environmental considerations are required to be made.

In cases where local environmental regulations are yet to be established in some areas, considerations should be made based on comparisons with appropriate standards of other countries (including Japan's experience).

2) Environmental checklist provides general environmental items to be checked. It may be necessary to add or delete an item taking into account the characteristics of the project and the particular circumstances of the country and locality in which the project is located.

Attachment 13-2 Environmental Checklist: 19. Other Infrastructure Projects (1)

Category	Environmental Item	Main Check Items	Yes: Y No: N	Confirmation of Environmental Considerations (Reasons, Mitigation Measures)
1 Permits and Explanation	(1) EIA and Environmental Permits	 (a) Have EIA reports been already prepared in official process? (b) Have EIA reports been approved by authorities of the host country's government? (c) Have EIA reports been unconditionally approved? If conditions are imposed on the approval of EIA reports, are the conditions satisfied? (d) In addition to the above approvals, have other required environmental permits been obtained from the appropriate regulatory authorities of the host country's government? 	(a) N/A (b) N/A (c) N/A (d) N/	(a) The project would include infrastructure development in the form of construction of office buildings in different and small community infrastructure. As per the EIA notification of 14th Sep 2006 of MoEFCC, Environmental Cearance (EC) is required when the built up area is >=20,000 sq.mtrs. Under all the proposed sub-projects the built up area is comparatively very small than the threshold criteria and therefore Environment Impact Assessment report is not required. It is expected that there might be a possibility to have village connecting road under EPA and is very small in comparison to the defined road types such as State Highway/ National Highway that would require EC as per EIA notification 2006. Thus, no EIA report is required for village roads (b) Not applicable (c) Not applicable (d) Other environmental permits are also not required for the proposed Project.
	(2) Explanation to the Local Stakeholders	(a) Have contents of the project and the potential impacts been adequately explained to the Local stakeholders based on appropriate procedures, including information disclosure? Is understanding obtained from the Local stakeholders? (b) Have the comment from the stakeholders (such as local residents) been reflected to the project design?	(a) Y (b) Y	(a)(b) Consultation and information disclosure procedures to be implemented prior to subproject implementation during the participatory preparation of Micro Plan. Such consultations are included in the ESAF/ESMF.
	(3) Examination of Alternatives	(a) Have alternative plans of the project been examined with social and environmental considerations?	(a) Y	(a) The scale of all such infrastructure would be very small thus no negative impact anticipated. Also during the initial stage of the project and at the time of Micro Planning proposed infrastructure type would be examined with social and environmental considerations.
2 Pollution Control	(1) Air Quality	 (a) Do air pollutants, (such as sulfur oxides (SOx), nitrogen oxides (NOx), and soot and dust) emitted from the proposed infrastructure facilities and ancillary facilities comply with the country's emission standards and ambient air quality standards? Are any mitigating measures taken? (b) Are electric and heat source at accommodation used fuel which emission factor is low? 	(a) N/A (b) N/A (c) N/A (d) (d) N/A (d) (d) (d) (d) (d) (d) (d) (d) (d) (d)	 (a) The construction of small-scale community infrastructure could generate unnoticeable dust. However, these impacts are inconsiderably temporal and below the country's emission standard. For office building construction appropriate laid down mitigation measures as per Govt regulations would be included in the contracts of the construction contractors. (b) The construction work would be seasonal and construction period would be relatively small so no electric and heat source is required during the construction.
	(2) Water Quality	(a) Do effluents or leachates from various facilities, such as infrastructure facilities and the ancillary facilities comply with the country's effluent standards and ambient water quality standards?	(a) Y	(a) The construction of small-scale community infrastructure and office building construction could generate very negligible amount of effluents; therefore, these impacts are inconsiderably temporal and below the country's emission standard.

Attachment 13-2 Environmental Checklist: 19. Other Infrastructure Projects (2)

Category	Environmental Item	Main Check Items	Yes: Y No: N	Confirmation of Environmental Considerations (Reasons, Mitigation Measures)
	(3) Wastes	(a) Are wastes from the infrastructure facilities and ancillary facilities properly treated and disposed of in accordance with the country's regulations?	(a) Y	(a) No such significant waste generation associated with project activities is anticipated since there will be virtually no manufacturing activity associated. For office building construction appropriate laid down mitigation measures as per Govt regulations would be adopted.
2 Dolli tion	(4) Soil Contamination	(a) Are adequate measures taken to prevent contamination of soil and groundwater by the effluents or leachates from the infrastructure facilities and the ancillary facilities?	(a) Y	(a) No such significant soil contamination/ ground water is associated with small scale community infrastructure and office building construction is anticipated. For office building construction appropriate laid down mitigation measures as per Govt regulations would be included in the contracts of the construction contractors.
Control	(5) Noise and Vibration	(a) Do noise and vibrations comply with the country's standards?	(a) Y	(a) No such significant noise and vibration is associated with small scale community infrastructure is anticipated. For office building construction appropriate laid down mitigation measures as per Govt regulations would be included in the contracts of the construction contractors.
	(6) Subsidence	(a) In the case of extraction of a large volume of groundwater, is there a possibility that the extraction of groundwater will cause subsidence?	(a) N	(a) No such large volume extraction of ground water is associated/anticipated with small scale community infrastructure and office building construction
	(7) Odor	(a) Are there any odor sources? Are adequate odor control measures taken?	(a) N	(a) No odor sources are foreseen from the infrastructure activities under the project.
	(1) Protected Areas	(a) Is the project site or discharge area located in protected areas designated by the country's laws or international treaties and conventions? Is there a possibility that the project will affect the protected areas?	(a) N	(a) There is no significant discharge anticipated from the construction activity in the project
3 Natural Environment	(2) Ecosystem	 (a) Does the project site encompass primeval forests, tropical rain forests, ecologically valuable habitats (e.g., coral reefs, mangroves, or tidal flats)? (b) Does the project site encompass the protected habitats of endangered species designated by the country's laws or international treaties and conventions? (c) Is there a possibility that changes in localized micro-meteorological conditions, such as solar radiation, temperature, and humidity due to a large-scale timber harvesting will affect the surrounding vegetation? (d) Is there a possibility that the amount of water (e.g., surface water, groundwater) used by the project will adversely affect aquatic environments, such as rivers? Are adequate measures taken to reduce the impacts on aquatic environments, such as aquatic organisms? 	(a) (b) (c) (b) (c) (c) (d) (d) (d) (d) (d) (d) (d) (d) (d) (d	 (a) No infrastructure development is planned in primeval forest or ecologically valuable habitat. (b) No infrastructure development is planned in the protected habitats of endangered species (c) No large scale timber harvesting is planned for construction of small scale community infrastructure and office building. There is a possibility of construction of village approach road and might require clearing of some amount of vegetation but will not be very significant. Appropriate govt. regulations would be adopted. There will not be construction of forest road under the project. (d) No such significant impaact on the aquatic environment associated with small scale community infrastructure and office building construction is anticipated.

Attachment 13-2 Environmental Checklist: 19. Other Infrastructure Projects (3)

Category	Environmental Item	Main Check Items	Yes: Y No: N	Confirmation of Environmental Considerations (Reasons, Mitigation Measures)
1	(3) Hydrology	(a) Is there a possibility that hydrologic changes due to the project will adversely affect surface water and groundwater flows?	(a) N	(a) No such significant impaact on the hydrology that would adversely impact surface and ground water flow is anticipated through the construction activity.
Environment	(4) Topography and Geology	(a) Is there a possibility the project will cause large-scale alteration of the topographic features and geologic structures in the project site and surrounding areas?	(a) N	(a) No such significant large scale alteration of topography and geological structure is anticipated due to construction of small scale community infrastructure as well as construction of office building
4 Social Environment	(1) Resettlement	 (a) Is involuntary resettlement caused by project implementation? If involuntary resettlement is caused, are efforts made to minimize the impacts caused by the resettlement? (b) Is adequate explanation on compensation and resettlement assistance given to affected people prior to resettlement? (c) Is the resettlement plan, including compensation with full replacement costs, restoration of livelihoods and living standards developed based on socioeconomic studies on resettlement? (d) Is the compensations going to be paid prior to the resettlement? (e) Is the compensation policies prepared in document? (f) Does the resettlement plan pay particular attention to vulnerable groups or people, including women, children, the elderly, people below the poverty line, ethnic minorities, and indigenous peoples? (g) Are agreements with the affected people obtained prior to resettlement? (h) Is the organizational framework established to properly implement resettlement? Are the capacity and budget secured to implement the plan? (i) Are any plans developed to monitor the impacts of resettlement? (j) Is the grievance redress mechanism established? 	(a) N (b) N/A (c) N/A (d) N/A (f) N/A (f) N/A (i) N/A (j) N/A (j) N/A	(a) There will be no physical displacement (voluntary or involuntary) nor land acquisition under the project. (b)-(j) Same as Above
	(2) Living and Livelihood	(a) Is there a possibility that the project will adversely affect the living conditions of inhabitants? Are adequate measures considered to reduce the impacts, if necessary?	(a) N	(a) The construction of small-scale community infrastructure and office building construction is not expected to adversely affect the living conditions of inhabitants. Rather the community infrastructure would benefit the entire community.
	(3) Heritage	(a) Is there a possibility that the project will damage the local archeological, historical, cultural, and religious heritage? Are adequate measures considered to protect these sites in accordance with the country's laws?	(a) N	(a) No anticipated damage to archaeological and historical heritage sites is anticipated.
	(4) Landscape	(a) Is there a possibility that the project will adversely affect the local landscape? Are necessary measures taken? (b) Is there a possibility that landscape is spoiled by construction of highrise buildings such as huge hotels?	(a) N (b) N	(a) The construction of small-scale community infrastructure and office building construction is not expected to adversely affect the landscape.(b) No high building would be constructed and the proposed community infrastructure as well as office buildings.

Attachment 13-2 Environmental Checklist: 19. Other Infrastructure Projects (4)

Category	Environmental Item	Main Check Items	Yes: Y No: N	Confirmation of Environmental Considerations (Reasons, Mitieation Measures)
	(5) Ethnic Minorities and Indigenous Peoples	(a) Are considerations given to reduce impacts on the culture and lifestyle of ethnic minorities and indigenous peoples? (b) Are all of the rights of ethnic minorities and indigenous peoples in relation to land and resources respected?		(a) The construction of small-scale community infrastructure and office building construction is not expected to adversely affect the ethnic minorities, rather the community infrastructure would benefit the entire community. (b) Same as Above
4 Social Environment	(6) Working Conditions	 (a) Is the project proponent not violating any laws and ordinances associated with the working conditions of the country which the project proponent should observe in the project? (b) Are tangible safety considerations in place for individuals involved in the project, such as the installation of safety equipment which prevents industrial accidents, and management of hazardous materials? (c) Are intangible measures being planned and implemented for individuals involved in the project, such as the establishment of a safety and health program, and safety training (including traffic safety and public health) for workers etc.? (d) Are appropriate measures taken to ensure that security guards involved in the project not to violate safety of other individuals involved, or local residents? 	(a) N (b) Y (c) Y (d) Y (d) Y (d) Y	 (a) All relevant national law for standard working conditions would be applicable under the project in general as wellas for construction of buildings and other community infrastructure. (b) Office building construction activities will be done by construction contractors. They will be bound by the provisions of the contract. The provisions of safety and security, fair working conditions, fair wage/minimum wages, basic work place facilities are included in the contract. (c) Same as Above (d) Building construction contractor's Environmental Code of conduct, in line with EnvironmentalCode of Practice, includes warning sign or /prohibitions sign around the construction site area that pose potential danger to public and bound to the contract conditions
5 Others	(1) Impacts during Construction			(a) The construction of small-scale community infrastructure and office building construction is expected to have minimal adverse impact. Building construction contractor would ensure adequate measures as per contractor's Environmental Code of conduct. (b) The proposed infrastructure would be constructed outside protected areas and no clear felling required and even the scale of such infrastructure is very small, thus there will not be any adverse impact. (c) There will be no physical resettlement or land acquisition in the project required and therefore social issues are expected to be minimal and thereby any temporary disruption/de;ays during the construction phase would also be minimal.
	(2) Monitoring	 (a) Does the proponent develop and implement monitoring program for the environmental items that are considered to have potential impacts? (b) What are the items, methods and frequencies of the monitoring program? (c) Does the proponent establish an adequate monitoring framework (organization, personnel, equipment, and adequate budget to sustain the monitoring framework)? (d) Are any regulatory requirements pertaining to the monitoring report system identified, such as the format and frequency of reports from the proponent to the regulatory authorities? 	(a) N/A (b) N/A (c) N/A (d) N/A (d) N/A	(a) ESAF will be used as the basis for monitoring plan (b)-(d) Same as Above

Environmental Checklist: 19. Other Infrastructure Projects (5) Attachment 13-2

	∢	est
Confirmation of Environmental Considerations (Reasons, Mitigation Measures)	 (a) N/A (a) There is a possibility of construction of community roads under IGA activity, however the sale of the roads would be too small to make a separate check list, and environmental review for such community infrastructure is covered by this check list. (b) No such acrivity is planned 	(a) N/A (a) The project will not have any significant global or transboundary impact. It will have a positive impact to global phenomenon due to forest restoration and carbon sequestration
Yes: Y No: N	(a) N/A	(a) N/A
Main Check Items	 (a) Where necessary, pertinent items described in the Roads, Railways and Bridges checklist should also be checked (e.g., projects including access roads to the infrastructure facilities). (b) For projects, such as installation of telecommunication cables, power line towers, and submarine cables, where necessary, pertinent items described in the Power Transmission and Distribution Lines checklists should also be checked. 	(a) If necessary, the impacts to transboundary or global issues should be confirmed (e.g., the project includes factors that may cause problems, such as transboundary waste treatment, acid rain, destruction of the ozone layer, or global warming).
Environmental Item	Reference to Checklist of Other Sectors	Note on Using Environmental Checklist
Category	6 Note	

1) Regarding the term "Country's Standards" mentioned in the above table, in the event that environmental standards in the country where the project is located diverge significantly from international standards, appropriate environmental considerations are required to be made.

In cases where local environmental regulations are yet to be established in some areas, considerations should be made based on comparisons with appropriate standards of other countries.

(including Japan's experience).

2) Environmental checklist provides general environmental items to be checked. It may be necessary to add or delete an item taking into account the characteristics of the project and the particular circumstances of thecountry and locality in which the project is located.

Definition of Environmental Categorization

Page No - (1-3)

Definition of Environmental Categorization

- 1. JICA classifies projects into four categories according to the extent of environmental and social impacts, taking into account an outline of project, scale, site condition, etc.
- ✓ Category A: Proposed projects are classified as Category A if they are likely to have significant adverse impacts on the environment and society. Projects with complicated or unprecedented impacts that are difficult to assess, or projects with a wide range of impacts or irreversible impacts, are also classified as Category A. These impacts may affect an area broader than the sites or facilities subject to physical construction. Category A, in principle, includes projects in sensitive sectors, projects that have characteristics that are liable to cause adverse environmental impacts, and projects located in or near sensitive areas. An illustrative list of sensitive sectors, characteristics, and areas is provided below:

■ Sensitive Sectors

Large-scale projects in the following sectors:

- (1) Mining, including oil and natural gas development
- (2) Oil and gas pipelines
- (3) Industrial development
- (4) Thermal power, including geothermal power
- (5) Hydropower, dams, and reservoirs
- (6) Power transmission and distribution lines involving large-scale involuntary resettlement, large-scale logging, or submarine electrical cables
- (7) River/erosion control
- (8) Roads, railways, and bridges
- (9) Airports
- (10) Ports and harbors
- (11) Water supply, sewage, and wastewater treatment that have sensitive characteristics or that are located in sensitive areas or in their vicinity
- (12) Waste management and disposal
- (13) Agriculture involving large-scale land clearing or irrigation
- Sensitive Characteristics
- (1)Large-scale involuntary resettlement
- (2)Large-scale groundwater pumping

- (3)Large-scale land reclamation, land development, and land clearing
- (4)Large-scale logging

■ Sensitive Areas

Projects in the following areas or their vicinity:

- (1)National parks, nationally-designated protected areas (coastal areas, wetlands, areas for ethnic minorities or indigenous peoples and cultural heritage, etc. designated by national governments)
- (2)Areas that are thought to require careful consideration by the country or locality

Natural Environment

- a) Primary forests or natural forests in tropical areas
- b) Habitats with important ecological value (coral reefs, mangrove wetlands, tidal flats, etc.)
- c) Habitats of rare species that require protection under domestic legislation, international treaties, etc.
- d) Areas in danger of large-scale salt accumulation or soil erosion
- e) Areas with a remarkable tendency towards desertification
- (3) Social Environment
- a) Areas with unique archeological, historical, or cultural value
- b) Areas inhabited by ethnic minorities, indigenous peoples, or nomadic peoples with traditional ways of life, and other areas with special social value
- ✓ Category B: Proposed projects are classified as Category B if their potential adverse impacts on the environment and society are less adverse than those of Category A projects. Generally, they are site-specific; few if any are irreversible; and in most cases, normal mitigation measures can be designed more readily.
- ✓ Category C: Proposed projects are classified as Category C if they are likely to have minimal or little adverse impact on the environment and society.
- ✓ Category FI: Proposed projects are classified as Category FI if they satisfy all of the following requirements: JICA's funding of projects is provided to a financial intermediary or executing agency; the selection and appraisal of the Sub-projects is substantially undertaken by such an institution only after JICA's approval of the funding, so that the Sub-projects cannot be specified prior to JICA's approval of funding (or project appraisal); and those Sub-projects are expected to have a potential impact on the environment.

Attachment 14: Definition of Environmental Categorization

2. When necessary, JICA can change a category even after screening. This might occur such as

when a new significant impact has come to light as a result of the cooperation project process, or

in other specific situations.

Source: Japan International Cooperation Agency (JICA)

Guidelines for Environmental and Social Considerations

April 2010

3

Outline of Annual Environmental and Social Performance Report to JICA

Page No - (1-2)

Outline of Annual Environmental and Social Performance Report to JICA

1. Basic Information

Name of Organization:	
Completed by (Name):	
Position in Organization:	
Reporting Period:	From: To:
Completed in (MM/YY)	

2. Sub-projects using JICA Funds during the Reporting Period

Name of Sub-project approved during the reporting period	Industry Sector	Project Scope	Project Cost (JPY)	Approval Date	Environ mental Category	Reason of Categoriza tion	Documents made (e.g. EIA, RAP, IPP)	Any outstanding environmental , IR or IP ¹ issues

^{*} Please refer the Criteria of Categorization finalized by PMU which are in line with JICA Guidelines for Environmental and Social Considerations (April 2010), and in case of **Category B**, please fill out the table below for the specific activities (at ward or GP level).

Location (① Range and ②Village)	Scope of the Activities	Specific Reason of Category B (Environmental/Social Impact)	Executor/ Contractor
① ②			
① ②			

3. Sub-projects using JICA Funds to be Approved in the Next FY

Name of Sub-project approved during the reporting period	Industry Sector	Project Scope	Project Cost (JPY)	Approval Date	Environ mental Category	Reason of Categoriza tion	Documents made (e.g. EIA, RAP, IPP)	Any outstanding environmental , IR or IP** issues

^{*} Please refer the Criteria of Categorization finalized by PMU which are in line with JICA Guidelines for Environmental and Social Considerations (April 2010), and in case of **Category B**, please fill out the table below for the specific activities (at ward or GP level).

¹ IR = Involuntary Resettlement, IP = Indigenous People

Attachment 15: Outline of Annual Environmental and Social Performance Report to JICA

Location (① Range and ②Village)		Scope of the Activities	Specific Reason of Category B (Environmental/Social Impact)	Executor/ Contractor
(1	2			
(1	2			

4. Environmental and Social Management System (ESMS)

Please describe if ESMS of your organization has changed in any way (e.g. establishment of a new division for environmental and social management) since JICA's appraisal.

Environmental and Social Management System (ESMS) Checklist

Page No - (1-3)

Environmental Social Management System (ESMS) checklist

No.	Questions (English)	Answer	Improvement Plan
1. Pol			•
1)	Does the executing agency have any formal environmental policy or procedures? If yes, please describe them and provide appropriate documentation. If no, does the financial intermediary/executing agency have any plan to set such policy or procedures?	DoE is the nodal department for environmental plan formulation in the state of West Bengal. Environmental plan is already in place in WB. PMU shall follow the plan/policy regulated by DoE.	-
2)	Are there any types of projects in which the financial intermediary/executing agency will not take part due to the environmental risks? (e.g., projects involving handling of hazardous wastes or endangered plants or animals).	No such activity is foreseen under the project. Community based activities and biodiversity, afforestation activities are pro- environment and no such environmental risks are part of the project components/ activities.	-
	Does the executing agency have any	In 2019, anyironmental risk	PMU assess the
1)	Does the executing agency have any environmental procedures such as screening, categorization and environmental review? If yes, please describe.	In 2018, environmental risk assessment for the phase-1 project was conducted and no negative impact or environmental issues was reported. WBFD has no systematic process such as screening, categorization etc. defined for the project level. Exceptionally, the projects require conversion of forest lands to infrastructure go through the processes defined in EIA Notification, 2006. Most of the projects of WBFD do not have environmental and social risks or community displacement.	expected impact of sub-projects based on Environmental Social Assessment Framework (ESAF). ESAF defines the selection criteria of the sub-projects to avoid/mitigate adverse environmental and social impact.
2)	Please describe how you ensure that your subproject companies and their subprojects are operated in compliance with the national laws and regulations and applicable JICA's requirements.	MOEF&CC provides EIA procedure. It is applicable to the Project as well.	Minutes of Discussion (MOD) on the Project shall define the obligation of the executing agency to ensure appropriate environmental and social consideration regulated by JICA guidelines. PMU operates the project in accordance with the MOD and ESAF.
3. Or:	ganization and Staff		Lom.
1)	Please provide us with the organization chart of the financial intermediary/executing agency's Environmental and Social Management System (ESMS).	There is no ESMS defined within WBFD. The organogram is shown in Chapter 2 of main text.	Under West Bengal Forest & Biodiversity Conservation Society, there should be ESMS in place and
2)	Who is responsible for environmental and social management within the financial intermediary/executing agency? (name/role and title)	Within WBFD there is no designated official for environmental and social management	appropriate official should be designated as overall in-charge and the nodal person for

No.	Questions (English)	Answer	Improvement Plan
			ESMS (From PMU, designated person will
			be selected during the
			implementation of the project if necessity is
			there.)
3)	Are there any staff with training for	There is no such official at	There should be a
	environmental and social considerations in the financial	present within WBFD or within the Society	provision to deploy environmental and
	intermediary/executing agency? If so,	the Boelety	social considerations
	describe.		expert under PMC to
			support the project in implementation of
			ESMS.
4)	What experience, if any, does the	No such experience of hiring or	PMU will hire a
	financial intermediary/executing agency have of hiring or dealing with	dealing with environmental consultants.	consultant in charge of environmental and
	environmental consultants?		social consideration.
			The draft ToR of the consultant will be
			prepared as in
5)	What was the budget allocated to the	There was no such budget	Attachment 4. The necessary budget
	ESMS and its implementation during a	allocated for ESMS.	for ESMS and training
	year? Please provide budget details		of the staff will be
	including staff costs and training as well as any actual costs.		estimated in the preparatory survey.
			PMU shall execute the
4 Ma	onitoring and Reporting		budget for the ESMS.
1)	Do you receive environmental and	Study on ESC Implementation	Under the proposed
	social monitoring reports from	Status under JICA loan Projects in	project periodical
	subproject companies that you finance?	India was conducted by a subcontractor and the report was	monitoring Reports would be prepared as
		submitted directly to JICA	per the laid down
2)	Please describe how you monitor the subproject company and their	JICA conducted ESC implementation status. There is no	ESMS
	subprojects' social and environmental	adverse environmental risk	
	performance.	reported under the project based	
		on the report submitted by the subcontractor.	
3)	Is there an internal process to report on	PMU, DFO, Extension Workers	Through the MIS of the
	social and environmental issues to senior management?	go to the project site and report each other periodically.	Project, an internal regular report flow is
	semoi management:	Following Right to Information	established.
		(RTI) act, the designated official	Besides, the field
		reply back to all the queries and disclose necessary information on	officers/DMU/PMC report issues to the
		the website.	nodal officer of PMU
			by group mail/ SNS occasionally in the case
			of emergency.
4)	Do you prepare any social and	Environmental aspects are	PMU prepares report
	environmental reports: - For other multilateral	generally neglected in such impact studies although social	based on ESAF using MIS to be established
	agencies or other	aspects are covered under project	in the Project.
	stakeholders - E&S reporting in the	through baseline and midterm or terminal survey studies.	
	Annual Report	terminal survey studies.	
5. Ext	perience		

No.	Questions (English)	Answer	Improvement Plan
1)	Has the executing agency signed any national or international agreements or declarations concerning environmental issues?	No	-
2)	Has the executing agency ever received any criticism of its environmental record? If so, what was the criticism?	No	-
3)	Does the executing agency carry out environmental audits of its properties to analyze health and safety issues, waste disposal, etc.?	No	-
4)	Please state any difficulties and/or constrains related to the implementation of the ESMS.	At present there is no dedicated nodal officer for implementation of ESMS	In the institutional arrangement of PMU and PMC, ESMS nodal officer and consultants will be assigned upon implementation of the project.

6. Need of Capacity Development and Improvement Plan

Training of PMU to execute ESAF, especially 1) selection of sub-projects and target area based on the defined selection criteria to avoid adverse environmental and social impact, 2) monitoring of the indicators defined in ESA, and 3) information disclosure and stakeholder engagement in planning and implementation.

Source: Prepared by the JICA Survey Team based on the interview with PMU

Environmental and Social Assessment Framework (ESAF)

Page No - (1-53)

Attachment 17 Environmental and Social Assessment Framework (ESAF)

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Abbreviations

Abbreviation	Name
ANR	Assisted Natural Regeneration
CCF	Chief Conservator of Forests
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
DMUs	District Management Units
EA	Executing Agency
EIAs	Environmental Impact Assessments
EMP	Environmental Management Plan
EMoP	Environmental Monitoring Plan
ESAF	Environmental and Social Assessment Framework
ESC	Environmental and Social Consideration
Eco-DRR	Ecosystem-based disaster risk reduction
FI	Financial Intermediary
FMUs	Field Management Units
FPIC	Free, Prior and Informed Consent
FRA	Forest Rights Act
GRM	Grievance Redress Mechanism
HPC	High Powered Committee
IA	Implementing Agency
JFM	Joint Forest Management
JFMC	Joint Forest Management Committee
JICA	Japan International Cooperation Agency
MIS	Monitoring and Information System
MoEF&CC	Ministry of Environment, Forest and Climate Change
NTFP	Non-Timber Forest Produce
OBC	Other Backward Classes
PMC	Project Management Consultant
PMU	Project Management Unit
PRO	Public Relations Officer
R&R	Rehabilitation and Resettlement
RFCTLARR	Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and
	Resettlement Act
SA	Social Assessment
SC	Scheduled Caste
SEAC	State Expert Appraisal Committee
SEIAA	State Environment Impact Assessment Authority

Abbreviation	Name
SHG	Self Help Group
ST	Scheduled Tribes
VP	Vulnerable People
VPPF	Vulnerable People's Planning Framework
WB	West Bengal
WB-	The Project for Forest and Biodiversity Conservation for Climate Change Response in West
FBCCCR	Bengal
WBFBS	West Bengal Forest and Biodiversity Society
WBFD	West Bengal Forest Department
WHO	World Health Organization

Draft Environmental and Social Assessment Framework (ESAF)

1 Objectives and Scope of ESAF

1.1 Objectives of ESAF

ESAF is prepared to assess the potential negative impacts and ensure that such impacts are safeguarded against in accordance with JICA's policies on environmental and social considerations in development projects, as well as relevant policies, laws and regulations of the country and the state.

1.2 Target Social Groups of ESAF

ESAF will be applicable to all communities and people within and surrounding the project area with full consideration on the depressed/ vulnerable groups to ensure their participation in the course of the project implementation and include as beneficiaries, receive appropriate benefit and avoid/mitigate any impacts affected by the Project. Table 1 indicates the key groups for ESAF to address environmental and social considerations. It should be noted that an individual or household may be categorized into more than one of the categories below;

Table 1 Key Targeted Social Groups of ESAF

Groups	Definition, Reasons, and Characteristics of the Group
Inhabitants of forest villages	- Forest village is a settlement inside forest, established by Forest Department for forest operation. In order to implement the provision of FRA with regard to conversion of forest villages to revenue mouzas, Land and Land Reform Department of WB published notifications in 2014 to announce the conversion of 25 forest villages in Jalpaiguri and 69 forest villages in Alipurduar districts, however there are still more than 150 forest villages in 7 divisions of the north of WB. In parallel with conversion to mouza village, WBFD promotes relocation of these forest villages to outside forest land area, especially from wildlife sanctuary. The population of forest village is not recorded. Some of the habitants of forest villages are JFMC/EDC members, and engage in forest management/ conservation work.
Forest dwellers	 Forest dwellers are the people residing inside the forest areas for generations, use forest resources and land for their livelihood. Some of them have already been recognised by the forest right act, and some are under appraisal or preparation for application to FRA. The project activities are expected to positively affect them in the same way of inhabitants of forest villages.
Members of JFMC/EDC	 Members of JFMC and EDC are the people who jointly work with forest department on the basis of mutual trust for forest protection and development. The project activities are expected to positively affect them in the same way of inhabitants of forest villages
Scheduled Tribe (ST)	 STs are the tribal groups declared by the Article 342 of the Constitution of India. The ST population of West Bengal is around 5.80% of the state's total population. Out of the total ST population, 92 % lives in rural area, representing 16.69% of the total rural population of the state. Higher concentration of Tribal population is found in the following districts: Darjeeling, Jalpaiguri, Alipurduar, Dakshin Dinajpur, Paschim Medinipur, Bankura and Purulia (Census 2011) They are the majority of the inhabitants of forest villages/forest dwellers, and JFMC members.
Scheduled Caste (SC)	- SCs are the groups notified as per the provisions in Clause 1 of Articles 341 and 342/ Clause 24 of Article 366 under the Constitution of India, which require special consideration for safeguarding their interests and to accelerate their socio-economic development.

Groups	Definition, Reasons, and Characteristics of the Group	
	 The total SC population of West Bengal is around 23.51% of the state's total population, which is about 4 times of ST population. SC population is mainly concentrated in the following districts: 24-Parganas South, 24-Parganas North, Burdwan, and Nadia (Census 2011) They are the majority of the forest dwellers/forest resources users in the southern region of WB. 	
Other Backward Classes (OBC)	 OBC is a collective term used by GoI to classify castes which are "socially and educationally disadvantaged". In the Indian Constitution, OBC are described as socially and educationally backward classes. All tribal communities and castes deemed under article 341 and 342 of the constitution of India are considered backward classes and there are OBC, which are not scheduled. According to the National Commission for Backward Classes (NCBC), around 99 communities in West Bengal belong to OBC. Total population of OBC in West Bengal is about 16% of the total population of the state (Census 2011). They are also a part of forest dwellers in WB. 	

Source: JICA Survey Team

1.3 Structure of ESAF

ESAF of the Project is structured as follows:

- i) <u>Project Summary Description</u> objectives and outline of the components/sub-projects, expected outcomes, target areas, and reasons for remaining the sub-projects and their target areas undecided;
- ii) <u>Environmental and Social Safeguard Policies</u> national and state level legal framework relevant to the EIA and environmental management;
- iii) <u>Potential Environmental and Social Impacts and Mitigation Measures</u> potential adverse environmental and social impacts by the sub-projects, potential mitigation measures;
- iv) Environmental and Social Management Measures screening criteria of the sub-projects/community infrastructures from the viewpoint of environmental and social consideration, and preparation of environmental and social management plan to address environmental and social concerns, and monitoring plan and forms for monitoring and reporting;
- v) <u>Institutional Arrangement and Capacity Building</u> proposed institutional arrangement, roles of the stakeholders, such as the implementing units, PMC, JICA, and relevant government institutions, in the process from preparation to approval of EIA of the sub-projects, proposed training outline of the implementing agencies, institutional structure of monitoring and reporting (including reporting to JICA);
- vi) <u>Stakeholder Involvement and Grievance Redressal Mechanism</u> framework of public consultations and consultation with the local stakeholders, information disclosure method (including the disclosure of EIA result of the sub-projects), and proposed method of grievance redressal; and
- vii) Cost Estimation and Budget Allocation cost estimate to finalise and implement the ESAF.

2 Project Summary Description

2.1 Project Objectives

The objective of the proposed Project is "to mitigate and adapt to climate change, improve ecosystems and improve livelihood through ecosystem-based climate change measures, biodiversity conservation and restoration, livelihood improvement activities and institutional strengthening, thereby contributing to sustainable socio-economic development in West Bengal".

2.2 Identified Project Area

The WBFD has proposed 23 territorial divisions, 6 wildlife divisions, and 5 functional divisions to be covered under the project. The list of divisions and the number of ranges and JFMCs that are covered under Phase 1 and proposed in Phase 2 are given in the table below. Under the Phase 1 of the project, 138 ranges are covered out of 190 ranges. Under the WB-FBCCCR, 90 ranges will be covered, which are mostly overlapping with Phase 1 ranges.

2.3 Proposed Project Components

The proposed project components are indicated in Figure 1. In total there are five Main Components but primarily 3 main components, viz. Component-1: Ecosystem based Climate Change Measures, Component-2: Biodiversity Conservation and Restoration and Component-3: Livelihood are the regarded as the nucleus of the Project. The sub-activities of each component is shown in the following table.

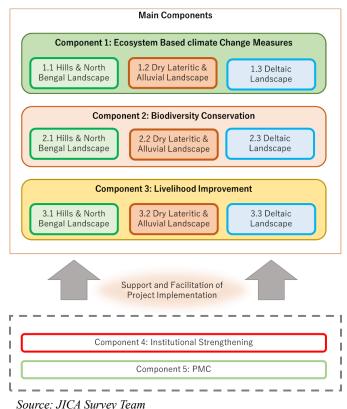


Figure 1 Framework of Project Components

Table 2 Project Outline

Component/ Sub- component	Project Activity
Component 1	Ecosystem Based Climate Change Measures
1 1 H'11 0 N 4 D 1	1.1.1Production of Quality Planting Materials
1.1 Hills & North Bengal Landscape	1.1.2 Improving Quality of Forests
Landscape	1.1.3 Eco DRR Activities (Soil Water Conservation Works in Protected Areas)
	1.1.4 Green Laboratory Initiatives

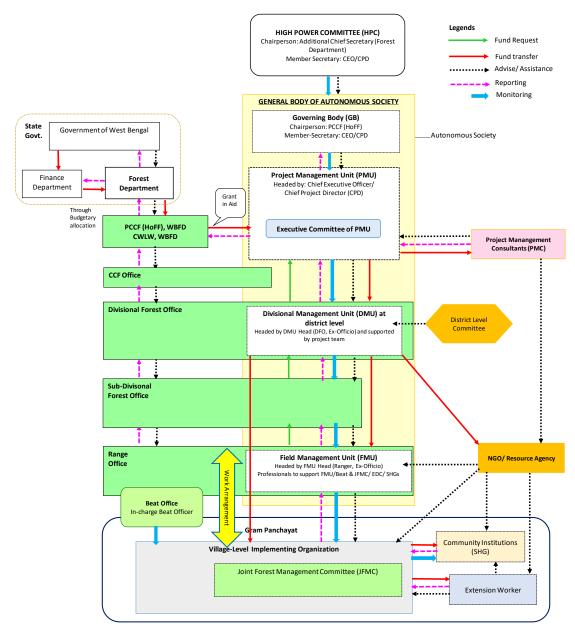
component	Project Activity
1 2 D I -4::4:- 0- All:-1	1.2.1 Production of Quality Planting Material
1.2 Dry Lateritic & Alluvial Landscape	1.2.2 Improving Quality of Forests
Lundscape	1.2.3 Eco DRR Activities (including Preparation of GIS-based CAT Plans, Soil and
	moisture conservation works based on CAT Plan)
	1.2.4Green Laboratory Initiatives
1.3 Deltaic Landscape	1.3.1 Eco DRR activities (field validation of the mangrove forest restoration models and its
	replication)
	1.3.2 Green Laboratory Initiative
Component 2	Biodiversity Conservation & Restoration
2.1 Hills & North Bengal	2.1.1 Human-wildlife conflict
Landscape	2.1.2 Species conservation programme
	2.1.3Studies on wild animals and other behaviour
2.2 Dry Lateritic & Alluvial	2.2.1 Biodiversity conservation through people's participation in protected area
Landscape	2.2.2 Biodiversity conservation through people's participation for smaller mammals
	2.2.3 Human-wildlife conflict mitigation
	2.2.4 Species conservation programme
	2.2.5 Studies on wild animals and their behaviour
2.3 Deltaic Landscape	2.3.1 Biodiversity conservation through people's participation in protected area
	2.3.2 Human-wildlife conflict mitigation
	2.3.3 Studies on wild animals and their behaviour
Component 3	Livelihood Improvement
3.0 Preparatory Works (All	i) Preparation of Manuals and Guidelines
land scapes)	ii) Deployment of Technical Agency for IGA Support Fund Management
	iii) Finalisation of Selection Criteria of JFMCs & Selection of JFMCs
a) Hills & North	3.1. Preparatory Activities with JFMCs (3 batches) including community mobilisation,
Bengal Landscape	micro planning, EPA/ CDA)
b) Dry Lateritic &	2. Support for Income Generation
Alluvial	3. Support for Community Well being (Traditional Healers) (Except in Deltaic Landscape)
c) Deltaic Landscape	4. Support for Community Mobilisation (Extension Worker)
Component 4	Institutional Strengthening
4.1 Strengthening Project	4.1.1 Demarcation of JFM boundary
Management	4.1.1.1 Digitization of JFMC boundary including procurement of mouza sheet and GPS,
	and outsourced digitisation of JFM boundaries, and boundary pillar setting
	4.1.2 Mobility
	4.1.2 Mobility 4.1.3 Buildings
	4.1.3 Buildings4.1.4 Project Contractual Staff
	4.1.3 Buildings
4.2 Capacity Development	4.1.3 Buildings4.1.4 Project Contractual Staff
4.2 Capacity Development	4.1.3 Buildings 4.1.4 Project Contractual Staff 4.1.5 Digital Strengthening
4.2 Capacity Development	4.1.3 Buildings 4.1.4 Project Contractual Staff 4.1.5 Digital Strengthening 4.2.1 Training Plan
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4.2 Capacity Development 4.3 Monitoring &	4.1.3 Buildings 4.1.4 Project Contractual Staff 4.1.5 Digital Strengthening 4.2.1 Training Plan 4.2.2 Training of Forest Officers (DCF & above Ranks) 4.2.3 Trainings of Forest Officers /Frontline staff (Ranger & below ranks) 4.2.4 National Workshop (3 days)
	4.1.3 Buildings 4.1.4 Project Contractual Staff 4.1.5 Digital Strengthening 4.2.1 Training Plan 4.2.2 Training of Forest Officers (DCF & above Ranks) 4.2.3 Trainings of Forest Officers /Frontline staff (Ranger & below ranks) 4.2.4 National Workshop (3 days) 4.2.5 Trainings for JFMC/ SHG members
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4.3 Monitoring &	4.1.3 Buildings 4.1.4 Project Contractual Staff 4.1.5 Digital Strengthening 4.2.1 Training Plan 4.2.2 Training of Forest Officers (DCF & above Ranks) 4.2.3 Trainings of Forest Officers /Frontline staff (Ranger & below ranks) 4.2.4 National Workshop (3 days) 4.2.5 Trainings for JFMC/ SHG members 4.3.1 Progress Monitoring 4.3.2 Impact Evaluation
4.3 Monitoring & Evaluation	4.1.3 Buildings 4.1.4 Project Contractual Staff 4.1.5 Digital Strengthening 4.2.1 Training Plan 4.2.2 Training of Forest Officers (DCF & above Ranks) 4.2.3 Trainings of Forest Officers /Frontline staff (Ranger & below ranks) 4.2.4 National Workshop (3 days) 4.2.5 Trainings for JFMC/ SHG members 4.3.1 Progress Monitoring 4.3.2 Impact Evaluation 4.3.3 Audits
4.3 Monitoring & Evaluation 4.4 Strengthening Forest Research	4.1.3 Buildings 4.1.4 Project Contractual Staff 4.1.5 Digital Strengthening 4.2.1 Training Plan 4.2.2 Training of Forest Officers (DCF & above Ranks) 4.2.3 Trainings of Forest Officers /Frontline staff (Ranger & below ranks) 4.2.4 National Workshop (3 days) 4.2.5 Trainings for JFMC/ SHG members 4.3.1 Progress Monitoring 4.3.2 Impact Evaluation 4.3.3 Audits a) Creation of carbon estimation lab
4.3 Monitoring & Evaluation 4.4 Strengthening Forest	4.1.3 Buildings 4.1.4 Project Contractual Staff 4.1.5 Digital Strengthening 4.2.1 Training Plan 4.2.2 Training of Forest Officers (DCF & above Ranks) 4.2.3 Trainings of Forest Officers /Frontline staff (Ranger & below ranks) 4.2.4 National Workshop (3 days) 4.2.5 Trainings for JFMC/ SHG members 4.3.1 Progress Monitoring 4.3.2 Impact Evaluation 4.3.3 Audits a) Creation of carbon estimation lab b) Research studies based on the research plan
4.3 Monitoring & Evaluation 4.4 Strengthening Forest Research 4.5 Publicity and	4.1.3 Buildings 4.1.4 Project Contractual Staff 4.1.5 Digital Strengthening 4.2.1 Training Plan 4.2.2 Training of Forest Officers (DCF & above Ranks) 4.2.3 Trainings of Forest Officers /Frontline staff (Ranger & below ranks) 4.2.4 National Workshop (3 days) 4.2.5 Trainings for JFMC/ SHG members 4.3.1 Progress Monitoring 4.3.2 Impact Evaluation 4.3.3 Audits a) Creation of carbon estimation lab b) Research studies based on the research plan 4.5.1 Website maintenance 4.5.2 Guidelines, manuals and annual reports
4.3 Monitoring & Evaluation 4.4 Strengthening Forest Research 4.5 Publicity and	4.1.3 Buildings 4.1.4 Project Contractual Staff 4.1.5 Digital Strengthening 4.2.1 Training Plan 4.2.2 Training of Forest Officers (DCF & above Ranks) 4.2.3 Trainings of Forest Officers /Frontline staff (Ranger & below ranks) 4.2.4 National Workshop (3 days) 4.2.5 Trainings for JFMC/ SHG members 4.3.1 Progress Monitoring 4.3.2 Impact Evaluation 4.3.3 Audits a) Creation of carbon estimation lab b) Research studies based on the research plan 4.5.1 Website maintenance 4.5.2 Guidelines, manuals and annual reports 4.5.3 Small filems/ videos/ digital documentation
4.3 Monitoring & Evaluation 4.4 Strengthening Forest Research 4.5 Publicity and	4.1.3 Buildings 4.1.4 Project Contractual Staff 4.1.5 Digital Strengthening 4.2.1 Training Plan 4.2.2 Training of Forest Officers (DCF & above Ranks) 4.2.3 Trainings of Forest Officers /Frontline staff (Ranger & below ranks) 4.2.4 National Workshop (3 days) 4.2.5 Trainings for JFMC/ SHG members 4.3.1 Progress Monitoring 4.3.2 Impact Evaluation 4.3.3 Audits a) Creation of carbon estimation lab b) Research studies based on the research plan 4.5.1 Website maintenance 4.5.2 Guidelines, manuals and annual reports

Component/ Sub-	Project Activity
component	
procurement of PMC requires time, PMU shall initiate the process at the earliest possible time. The proposed plan	
assumes PMC mobilisation in November 2023. The indicative TOR is attached as Attachment 10.2.2.	

Source: JICA Survey Team

2.4 Project Implementation Structure

The Project is proposed to be implemented through an autonomous society, named West Bengal-Forest and Biodiversity Conservation for Climate Resilience Enhancement (WB-FBCCCR). The detailed implementation structure of the autonomous society is depicted in Figure 2.



Source: JICA Survey Team

Figure 2 Proposed Project Implementation Structure

Project Management Unit (PMU) of the new project will continue to operate as autonomous registered society within the WBFD, and be made responsible to manage, coordinate, implement and monitor the planned activities. All offices created for the new project will exclusively work to assist and facilitate implementation of the proposed activities following the project implementation schedule, annual plan of operations and envisaged processes adopting an Operational Manual.

The High-Power Committee (HPC) created for WB-FBCCCR will act as its highest decision-making body at state government level and will not form a part of the autonomous society. To support project implementation at the field level, PMU will create and coordinate with set of offices viz., District Management Units (DMUs) and Field Management Units (FMUs) those will work as extended arms for the PMU under society mode. The Beat Office with its in-charge will work as a link office for FMU and contact between WB-FBCCCR and village level institutions such as JFMCs/ EDCs and SHGs. Under the propose project implementation structure, PD-Finance of PMU would also be the in charge of Environmental and Social Consideration to ensure smooth implementation, monitoring and compliance of ESAF. He/She would be the focal points to communicate with JICA on environmental and social safeguard matters.

2.5 Implementation Schedule of the Proposed Project

The following are indicative description about the overall implementation schedule for the proposed Project based on the discussion with WBFD.

- ❖ The proposed Project would be total 8 years duration, starting from 2023 until 2030.
- ❖ The plantation activities and the livelihood improvement activities would be implemented is three batches during the course of the project considering the interdependency of one activity on the others. All plantation activities would start from site identification and subsequently followed by survey and demarcation, advance work, plantation and maintenance one after another. Similarly, under Livelihood improvement component JFM based activities would start from community mobilisation and subsequently broadly followed by reorganisation and reconstruction of JFMC, micro planning, and so on.
- ❖ In case 1st Batch preparatory work would start from different period for different plantation model/ species. The production work of Quality Planting material would start from Year-1 (Oct-2023) and would be different for different plantation model. The
- The actual selection of JFMCs and their batches will be conducted by FMU with thorough consultation/confirmation with concerned JFMCs.

2.6 Reasons for the Sub-projects and their Target Areas Remaining Undecided

The main reasons for the sub-projects and their target areas remaining undecided is due to several factors listed below:

Table 3 Reasons for Remaining Undecided

Sub Project Type	Reasons for Remaining Undecided
Community	Type and Number of Community infrastructure and target location are generally
Development Activities	democratically identified and prioritised by the JFMC/EDC.

Sub Project Type	Reasons for Remaining Undecided
Soil and Water	Type and size of SWC structure is need based and generally
Conservation structure	identified/selected based on the site condition and its positive and negative
	impacts.

Source: JICA Survey Team

Since at the time of project formulation study the infrastructure related sub-projects type, size and quantity remained undecided, thus as part of ESAF detailed screening criteria is prepared to avoid/mitigate the risk of any potential negative impact arising out of them during site specific sub-project type identification.

3 Environmental and Social Safeguard Policies

3.1 JICA Principles for Environmental and Social Considerations

The environmental and social safeguards policies of JICA are covered within the JICA Guidelines for Environmental and Social Considerations (Revised 2022), in which it is committed to ensure that human rights are respected and that environmental issues are seriously considered in its investments, projects and programmes. The basic principles related to environmental/ social considerations are as follows:

- ❖ JICA is committed to address environmental and social issues in a prompt/ timely manner,
- ❖ Assess a wide range of environmental and social impacts in all JICA projects/programmes,
- Issues related to environmental and social must be considered from an early stage, from design and throughout the project cycle,
- ❖ Accountability and transparency in implementation of cooperation projects ensured by JICA,
- Stakeholder consultation/participation in consideration of environmental/ social issues would be recommended,
- ❖ Active disclosure of Information on environmental/ social consideration would ensure accountability and promote active participation of various stakeholders,
- ❖ Enhancement of organizational capacity on environmental and social consideration through Implementation of the guidelines to ensure appropriate consideration, management and monitoring of environmental/social issues.

3.2 Key Process Elements as per the requirements of JICA Guideline

Key processes in JICA projects related to environmental and social considerations are summarised below;

(1) Categorisation of Projects

Projects are categorised according to the scope/severity of the environmental and social impacts or risks, indicated as follows;

- Category A: Significant adverse impacts (e.g. Large-scale development/infrastructure),
- *Category B*: Generally site-specific impacts, with few irreversible impacts, can be addressed by designing normal mitigation measures,

- Category C: Minimal/little adverse impact
- Category FI (Financial intermediary): Substantial selection and appraisal of sub-projects after JICA approval of funding and those sub-projects are expected to have potential impacts on the environment and society.

The proposed Project is currently categorised as 'FI' as per the JICA Guidelines (2010), and the classification remains valid for the following reasons:

- a) JICA's funding of projects will be provided to a financial intermediary or executing agency,
- b) The selection and appraisal of the sub-projects will be substantially undertaken by the executing agency only after JICA's approval of the funding, so that the sub-projects cannot be specified prior to JICA's approval of funding,
- c) Sub-project type and their location will be selected in participatory mode by communities and as such cannot be specifically defined at this stage, and
- d) Sub-projects with significant adverse environmental or social impacts requiring environmental clearance will be eliminated through screening procedures. However, certain potential environmental and social impacts are perceived, and also the Project may involve depressed groups (SCs, STs, OBCs, forest dwellers, etc.).

The Project is anticipated to have primarily positive impacts on the environment, provided that the main objective of the Project is to enhance sustainable forest and biodiversity management practices and improve livelihoods in the project areas. Although it is not possible to precisely state which sub-projects will be executed in which specific location and scale, the Project will exclude "Category A", sub-projects with significant environmental impacts or risks.

At the time of selection, finalisation and approval of sub-projects, respective sub-projects will be categorized as either "Category B" or "Category C" according to the scope and severity of the environmental and social impacts or risks.

(2) Potential Impacts Assessment

An array of environmental and social impacts and risks are taken into account with a view towards enhancing positive benefits and at the same time avoiding/mitigating negative impacts. Table 4 indicates the required items to be assessed as potential environmental and social impacts.

Table 4 Potential Impacts to be Assessed

Type of	Items to be Assessed
Impact	
Environmental	Impact on the natural environment transmitted through air, water, soils, waste,
	accidents, water usage, climate change, ecosystems, fauna and flora and trans-
Impact	boundary/global scale impacts.
	On community/people's lands, resettlement, economies, livelihoods, employment,
	social institutions, vulnerable groups, gender, indigenous peoples, children, health,
Social Impact	cultural heritage, utilization of land and local resources, existing social
	infrastructures and services, equality of benefits and losses, local conflicts, working
	conditions, etc.

Source: JICA Survey Team based on the JICA Guidelines for Environmental and Social Considerations 2022

The impacts through a project life cycle are also considered.

(3) Information Disclosure and Consultation

Implementing Agency (IA) of the Project shall monitor the sub-projects following the Environmental Monitoring Plan (EMoP) which are the requirement for only Category B sub-projects. The environmental and social impacts of the sub-projects shall be disclosed to all relevant stakeholders. Also, IA shall prepare annual report of the Project in which ESC relevant details will be incorporated as dedicated chapter/section.

3.3 Compatibility with International Standards

JICA confirms that project proponents comply with the laws or standards related to the environment and society established by the host country governments, including local governments. JICA also confirms that environmental and social considerations of a project do not deviate significantly from the World Bank's environmental and social policies. JICA refers to standards stipulated by international financial organizations, other internationally recognized standards, and international standards/ treaties/ declarations as well as good practices of developed nations as appropriate.

Although JICA has particular concerns with respect to Indigenous People, it does not reflect a detailed policy with clear procedures for such people affected by the projects interventions, and refers to the World Bank Operational Policy 4.10 (OP4.10) on Indigenous Peoples. Thus, the contents and format of the safeguards framework elaborated for the Project follows that indicated in the World Bank OP 4.10, as requested by JICA for the preparation of the Project.

3.4 Requirements as per JICA Guidelines

As per the JICA guidelines, the following conditions are examined with respect to the project implementation. Financial intermediary or the executing agencies are mandated to comply with the following requirements:

- a) Ensure appropriate environmental and social considerations,
- b) Sufficiency of institutional capacity to confirm environmental and social considerations of the financial intermediary/ executing agency is sufficient; if requires adequate measures be taken to strengthen the capacity,
- c) Financial intermediary or executing agency to assess potential positive and negative environmental impacts of sub-projects, takes appropriate measures to avoid, minimise, mitigate, or compensate for potential negative impacts, and promote positive impacts if any available,
- d) Disclosure of the results of environmental reviews on its website after concluding agreement documents, and
- e) Confirm with project proponents on the results of monitoring items that have significant environmental impacts. Project proponents are undertaking environmental and social considerations for projects that fall under Categories A, B, and FI.

3.5 National and State Legal Framework for Environmental and Social Management

In the Indian context, there are a number of laws, rules, regulations, notifications, and policies for addressing various issues related to control, protection and management of environment.

In the following sections, the processes adopted in India for environmental clearance and the forest clearance is described although the Project is not anticipated any environmental or forest clearances.

(1) Environmental Clearance Procedures

Under the ambit of EIA laws and regulations in India, all projects and activities requiring "Environmental Clearance" (EC) are classified broadly into two categories - Category A (hereafter refered to as "Indian EIA Category A") and Category B (hereafter refer to as "Indian EIA Category B"), which is based on the spatial extent of potential impacts on natural and man-made resources. Indian EIA Category 'A' projects or development activities are mandated to conduct EIA studies along with conducting the "Public Consultation" as per the procedure stipulated in the Notification,

and the environmental clearance is required from the Central Government or MoEF&CC.

Indian EIA Category 'B' projects fall under the purview of the state authority as mentioned in EIA notification 2006 and decentralized procedure is done. The Government of India has constituted the State Expert Appraisal Committee (SEAC) and State Environmental Impact Assessment Authority (SEIAA) committee for decentralized procedure of environmental clearance. The category 'B' projects are further divided into Category 'B1' (projects that require submitting an EIA report) and Category 'B2' project activities which do not require EIA report.

The stages in the environmental clearance procedure as per EIA notification 2006 is described in **Figure 3**. For convenience, stages of EIA have been divided into the following six stages in this report; 1) Screening, 2) Scoping, 3) EIA Study, 4) Public Consultation, 5) Appraisal, and 6) Monitoring.

(2) Forest Clearance Procedures

Forest Clearance from the statutory authority will be required if forest area is to be diverted for the Project (including, notified roadside plantations). For this purpose, application is submitted to the state government, which in turn recommends the case to MoEF&CC.

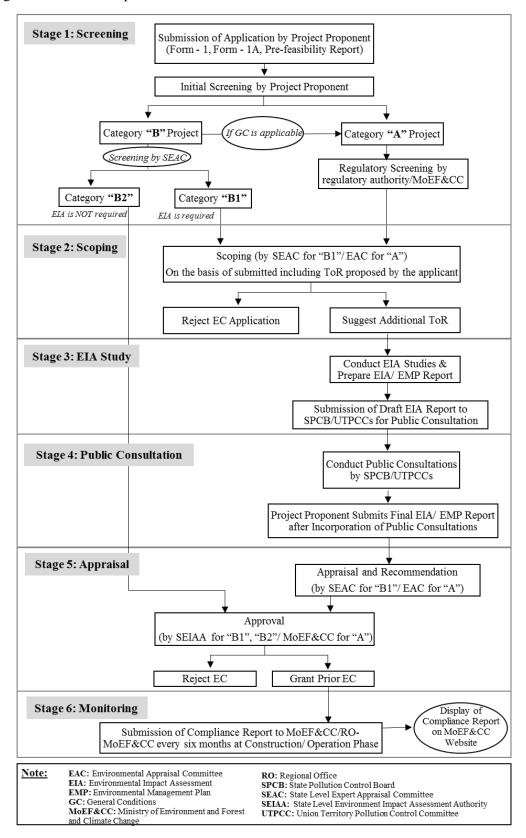
The process of Forest Clearance consists of two stages; **First Stage Clearance** and **Second Stage Clearance**. In the First Stage Clearance, the application could be granted "In Principle Approval", or it could be subject to fulfilment of conditions, if applicable, which could include: deposition of Net Present Value of Forest (@ 438,000 to 1,043,000 INR/ha), money for compensatory afforestation, plantation of at least double the number of trees felled, submission of plan for afforestation, certificate of compliance under FRA, etc. During this phase, no activity will be allowed until final clearance is accorded and the state can stipulate additional conditions². In the Second Stage Clearance process, it will be ensured if the conditions prescribed have been fulfilled.

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¹ Source: EIA Notification 2006 and http://www.sciencebeing.com/2012/10/eia-notification-and-its-implementation-in-india/

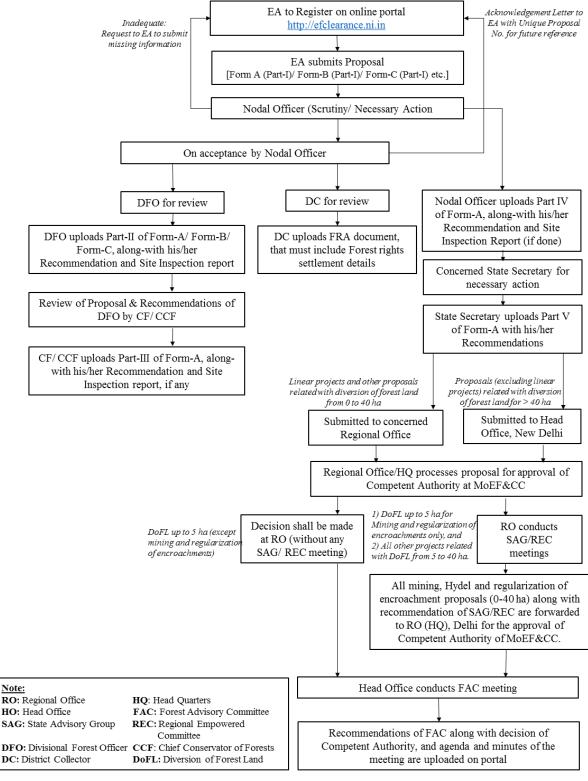
Source: http://www.teriuniversity.ac.in/mct/pdf/new/environment/Infrastructure_development_and_environment.pdf

Figure 4 describes the process of forest clearance.



Source: JICA Survey Team based on EPA 1984 and Notification 2006 and Amendments, MoEF&CC

Figure 3 Prior Environmental Clearance Process as per Indian EIA Law



Source: JICA Survey Team based on information from MoEF&CC https://parivesh.nic.in/downloads.aspx

Figure 4 Forest Clearance Process as per Relevant Indian Law

(3) Social Management Procedures - Land Acquisition and Involuntary Resettlement

JICA concerns that development projects are implemented with special attention to vulnerable
groups such as the poor, landless/landed poor, indigenous peoples (or STs in India) and women.

Rights of local communities and STs should be respected in all interventions.

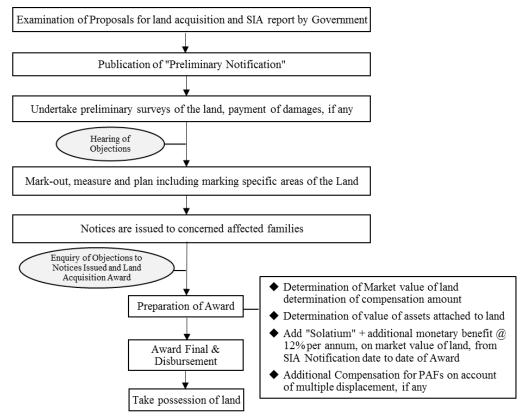
The potential negative social impacts are much lower compared with the large infrastructure projects which involve physical displacement and involuntary resettlement, but still there is a possibility to negatively impacts the local communities on their livelihoods, loss of access, ownership or use rights, and increased conflicts on forest lands by forestry activities which involve restricting practices or change existing land uses. The Project will involve the local communities to work through their respective village level implementation bodies in the designated project areas so that the relevant labour laws are also listed up. In the following sections, the procedures for land acquisition and involuntary resettlement applied in India are presented.

"The Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013 [No. 30 of 2013] dated 26th September 2013" (RFCTLARR Act 2013), came into force on 01-Jan-2014, is the legal foundation for all matters related to land acquisition and involuntary resettlement in the country.

According to the Act; it ensures "a humane, participative, informed and transparent process for land acquisition for the purpose of industrialisation, development of essential infrastructural facilities and urbanisation, which is in consultation with the local self-government institutions and Gram Sabhas established under the Constitution".

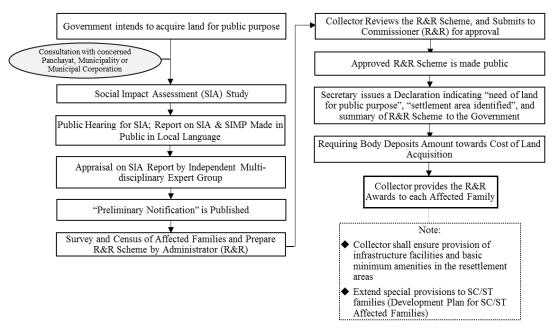
Also, the Act ensures that the negative impacts on the land owners and other affected families shall be minimised with the provision with a just and fair compensation to the affected families, leading to an improvement in their socio-economic status for their rehabilitation and resettlement.

The processes involved in land acquisition and involuntary settlement are depicted in Figure 5 and Figure 6 respectively.



Source: JICA Survey Team based on information from RFCTLARR Act 2013and subsequent Rules

Figure 5 Flow Diagram for Land Acquisition Process



Source: JICA Survey Team based on information from RFCTLARR Act 2013and subsequent Rules

Figure 6 Flow Diagram for Resettlement and Rehabilitation

3.6 Gaps between JICA Guidelines and Legal Framework of India

WB-FBCCCR, as the Executing Agency (EA), shall be responsible for the implementation of the entire Project, while the JFMCs/ EDC's and their respective Gram Sabha are PRIs to control and support the project activities in their lands from the community perspective. Key gaps and shortfalls identified in each institution in comparison to international standards as indicated in the JICA Guidelines are summarised in Table 4.

Table 3 Key Gaps and Shortfalls in Comparison to the Standards in the JICA Guidelines

Executing	Key Gaps and Shortfalls	Possible Gap Filling Measures
Agency/		
Body		
Implementing	Prior consultations with beneficiaries and project-affected	Application of ESAF and VPPF
agency	communities are limited	Implementation of Capacity
	Insufficient appraisal of environmental and social	Development Plan for
	considerations prior to implementation (weak baseline for	Environmental and Social
	impact evaluation) Restricted procedures for environmental screening and	Safeguards Engagement of Environmental and
	subsequent management of environmental risks associated with	Social Consideration Expert/
	small-scale construction and other activities with potential	Specialist(s)
	adverse impacts	
	Inadequate monitoring of safeguard processes and procedures	
Panchayati	Lack/ limitation in owning project activities within their areas	Application of ESAF and VPPF
Raj	Irregular community participation in JFMC meetings, thus	Implementation of Capacity
Institution:	paucity of prior consultation with project-affected communities	Development Plan for
JFMCs	Shortcomings in attending to concerns of ST, SC and OBCs	Environmental and Social
JITVICS	Inadequate awareness of potential adverse environmental	Safeguards
	Impacts Restrictive communication of sefective and approximation and sefective and approximation and sefective and approximation and sefective and approximation and sefective and approximation and sefective and approximation and sefective and approximation and sefective and sefect	
	Restrictive comprehension of safeguard processes and procedures	

Source: JICA Survey Team

WB-FBCCCR or WBFD does not have any system for environment and social management, for screening, managing and monitoring environmental and social risks. Thus, it is highly recommended that PMU must hire environmental and social safeguards expert during the preparatory stage in order to support PMU for the compliance of the required environmental and social safeguards, that further described in Section 7 of this document

4 Potential Environmental and Social Impacts

As already discussed above that it is unfeasible to assess the detailed environmental and social impacts of the proposed sub-projects at this stage, thus, in this section some of the potential environmental and social impacts for proposed broad types of activities are examined and mitigation measures are proposed through JICA checklist, environmental and component-wise potential deleterious environmental and social impacts assessment (Table 5 and Table 6). The purpose of the initial assessment is to summarise the potential (especially negative) impacts which could be referred when Environmental Management Plans (EMPs) as well as Environmental Monitoring Plan (EMoP) are required to prepare. Also, IA, i.e. PMU/ DMUs/ FMUs, can refer these documents at the screening and selection stage of range level plans as reference documents which indicate major points to be considered from ESC perspective.

4.1 Potential Environmental and Social Impacts

(1) Environmental Considerations

JICA guidelines indicate a wide range of environmental considerations that are required to be taken into account. Initial scoping identified the following impacts on the natural environment to be assessed under the project;

- ◆ Ecosystems (especially afforestation, densification of forests, sites of importance to biodiversity conservation and protected areas)
- Biodiversity (fauna and flora)
- ◆ Air, Water, Waste and Soils (resulting from infrastructure activities including embankment protection measures)
- ♦ Climate Change

Appendix C reflects the initial environmental screening and assessment by making use of the Environmental Checklists provided by the JICA Guideline. A wide range of environmental and social potential impacts have been assessed and considered. The purpose of scoping is to identify the potential environmental and social impacts caused by the Project based on available secondary data and information, and preliminary site reconnaissance.

(2) Assessment of Potential Environmental Impacts

i) Positive Environmental Impacts

The proposed Project primarily focuses on development, protection and restoration of forests, mitigate man-animal conflict and improves livelihoods for the community, therefore the associated activities are expected to present various environmental benefits, including the following:

- ◆ Sustainable forestry management through production of Quality Planting Material
- ◆ Increase the overall forest area in the state proportionate increase in dense & moderately dense forests,
- ◆ Restocking of open and scrub forest through additional plantations resulting in decrease of area under open and scrub forests,
- ◆ Climate change mitigation through reduced emissions from deforestation and forest degradation,
- ◆ Enhancement in ecosystem services by Catchment Area Treatment through watershed protection, protection of soils and moisture conservation measures, etc and plantation activities.
- ◆ Reduction in unsustainable utilization of forest resources through improvements and support for NTFPs, medicinal herbs and plants, investments in alternative livelihoods and income generating opportunities,
- ◆ Improvements in pasture management through embankment protection and soil and water conservation measures in North Bengal.
- Enhancements in protection of protected areas, and significant conservation of species

and habitats,

- Well managed forests and plantations would augment the livelihood resource base of the forest dependent population,
- ◆ Forest Department to be well equipped and strengthened to manage forest resources with active participation of an empowered & organized community.
- Protection of Endangered species through species conservation program for Dolphin, Indian Pangolin and Fishing Cat

ii) Negative Environmental Impacts

Table 5 below depicts potential deleterious environmental impacts associated with each project component. The table includes all aspects of implementation components, including project management, monitoring and evaluation components. Specific mitigation measures to the project components and activities are also indicated and these measures will be implemented through ESAF, especially through EMP and EMOP.

4.2 Social Considerations and Potential Impacts

(1) Social Considerations

JICA Guideline specifies a wide range of social aspects to be considered. Initial scoping identified the following social impacts to be assessed:

- ◆ Involuntary resettlement and land acquisition
- ◆ Poverty, vulnerability and livelihoods
- ◆ Specific impacts on Scheduled Castes (SCs), Scheduled Tribes (STs), Inhabitant of forest villages, forest dwellers, JFMC/EDC Members, etc.
- Gender

(2) Assessment of Potential Social Impacts

i) Positive Social Impacts

Although the primary objective of the project is forest development, protection, restoration, and conservation, equal amount of focus is also on livelihoods of the local communities, thus it is anticipated to provide a number of social benefits that would include;

- ◆ Improvement of physical capital for rural communities, including poor, with the help of prioritised community infrastructure development,
- ◆ Employment and income opportunities from forestry operations and forest protection activities would result in enhanced financial capital,
- ◆ Well managed forests and plantations would supplement livelihood resource-base of the forest dependent population,
- ◆ Increase in income levels of people,
- ◆ Improvements in range/pasture management would cater to fodder requirements of the rural communities,
- ◆ NTFP-based livelihoods would improve due to robust scientific management practices,

and

- ◆ Improved livelihood opportunities through project support for alternative income generating activities.
- ◆ Mitigation of human wildlife conflict through habitat protection
- ii) Negative Social Impacts

Table 6 details-out the potential deleterious social impacts or risks associated with each project component. Impacts on the social setting often over-weigh the environmental risks associated with the project activities. The project area includes a diverse variety of tribal communities (also designated as STs), the SCs and other forest dependent communities, vulnerable groups including women, widows, destitute, poor, landless, etc., on whom a number of potentially significant social safeguard issues could be linked with respect to their lands and forest rights and impacts on their livelihoods.

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Table 5 Potential Deleterious Environmental Impacts

Component	Sub-Component	Potential Environmental	Scoping	Mitigations Measures/ Suggestions
		Concerns		
Component 1:	1.1 Hill & North Bengal Landscape	Use of chemical fertilizers, insecticides and nesticides in the	Low	Ensure judicious use of chemical fertilizers insectivide/ necticides
Ecosystem- based Climate	1.1.1 Production of Quality Planting Materials 1.1.2 Improving Quality of Rorects	nursery and plantation site may		Ensure use of bio fertilizers and
Change Actions	1.1.2 Improving Quanty of Forests	seep into ground water		insecticides/ pesticides
Change Actions	1.1.3 Eco DKK Acuviues (Soit water Conservation Works in Protected Areas)		Low	Ensure use of native species
	1.1.4 Green Laboratory Initiatives	species may negatively impact the biodiversity		Elistric propagation of harrye species
		Soil and moisture conservation	Low	Ensure proper restoration of areas
	1.2 Dry Lateritic & Alluvial Landscape	structures like contour trench,		surrounding structures, through
	1.2.1 Production of Quality Planting Material	bunds may lead to removal of top		compaction of soils, cover crop or
	1.2.2 Improving Quality of Forests	Solls resulting in soil erosion Evesavated muck from water		piantalion of vegetation, etc. Fusure excavated mud is either
	1.2.3 Eco DRR Activities (including Preparation of	harvesting tanks may run-off		disposed properly or it is spread-out
	GIS-based CAT Plans, Soil and moisture conservation	and contaminate sources of water		and planted with vegetative cover.
	works based on CAT Plan)	and lands		Proper maintenance of water
	1.2.4 Green Laboratory Initiatives			harvesting tanks
	1 3 Deltoir I anderone			
	1.3 Deltare Farmescape 13 1 Eco DDD octivities (Field volidation of the			
	mangrove forest restoration models and its replication)			
	1.3.2 Green Laboratory Initiative			

Component	Sub-Component	Potential Environmental Concerns	Scoping	Mitigations Measures/ Suggestions
Component 2: Biodiversity Conservation	2.1 Hill & North Bengal Landscape 2.1.1 Human-wildlife conflict 2.1.2 Species conservation programme 2.1.3 Studies on wild animals and other behaviour	Wildlife movement in/ around project areas may pose threat to human life and property Use of non-native non-palatable/ repulsive species may negatively impact the biodiversity	Low	Provision of nets, trenches, and other mitigation measures to the affected communities. Provision of torches, lights, and other mitigation measures Ensure use of native species
	2.2 Dry Lateritic & Alluvial Landscape 2.2.1 Biodiversity conservation through people's participation in protected area 2.2.2 Biodiversity conservation through people's participation for smaller mammals 2.2.3 Human-wildlife conflict mitigation 2.2.4 Species conservation programme 2.2.5 Studies on wild animals and their behaviour			
	2.3 Deltaic Landscape 2.3.1 Biodiversity conservation through people's participation in protected area 2.3.2 Human-wildlife conflict mitigation 2.3.3 Studies on wild animals and their behaviour			
Component 3: Livelihood Improvement	 3.1 Hill & North Bengal Landscape 3.1.1 Preparatory Activities with JFMCs (3 batches) including community mobilisation, micro planning, EPA/CDA) 3.1.2. Support for Income Generation 3.1.3. Support for Community Well being (Traditional Healers) (Except in Deltaic Landscape) 	Construction of EPA may lead to air and water pollution Dust from construction sites and smoke from construction equipment, if used, may affected vegetation cover/ forests	Low	Water sprinklers may be used to settle dust and soil Properly serviced equipment to be used Ensure water mixed with concrete from mixers does not mix with run-off Democratically prioritise EPA to ensure benefits to all community members.

Component	Sub-Component	Potential Environmental	Scoping	Mitigations Measures/ Suggestions
		Concerns		
	3.1.4. Support for Community Mobilisation (Extension Worker)	Development of certain NTFPs and medicinal plants could lead to illegal and unsustainable	Low	Ensure appropriateness in selection of livelihood options Devise livelihood models that are
	3.2 Dry Lateritic & Alluvial Landscape	extraction leading to deleterious impacts on forest ground cover		productive, profitable and does not impact the environment (to prevent
	3.2.1. Preparatory Activities with JFMCs (3 batches) including community mobilisation, micro planning,	,		agricultural expansion and deforestation)
	EPA/CDA) 3.2.2. Support for Income Generation			es for NTFPs/ / extraction to e
	3.2.3. Support for Community Well being (Traditional			environment sustainability and sustained production
	Healers) (Except in Deliaic Landscape) 3.2.4. Support for Community Mobilisation	Conflicts within the community institutions may become counter-	Low	Ensure cohesion among community institutions, immediate resolution of
	(Extension Worker)	productive anticipated Project activities		conflicts and redress of grievances, following ESAF procedures
	3.3 Deltaic Landscape			•
	3.3.1 Preparatory Activities with JFMCs (3 batches)			
	including community mobilisation, micro planning, EPA/ CDA)			
	3.3.2. Support for Income Generation			
	3.3.3. Support for Community Well being (Traditional Healers) (Except in Deltaic Landscape)			
	3.3.4. Support for Community Mobilisation			
	(Extension Worker)			

Component	Sub-Component Sub-Component	Potential Environmental	Scoping	Mitigations Measures/ Suggestions
		Concerns		
Component 4:	4.1 Strengthening Project Management	Construction of buildings (office) may lead to air, water and noise	Low	Water sprinklers may be used to settle dust and soil
Strengthening	4.1.1.1 Digitization of JFM Coundary including	pollution Water mixed with concrete oil		Properly serviced equipment to be
	outsourced digitisation of JFM boundaries, and	from construction equipment may		Ensure water mixed with concrete
	boundary pillar setting	contaminate nearby forest/ private		from mixers does not mix with run-off
	4.1.2 Mobility 4.1.3 Buildings	agricultural fields, plantations, etc.		on spillage of diesel, machine
	4.1.4 Project Contractual Staff	Construction worker's labour		lubricants, and other oils
	4.1.5 Digital Strengthening	camps may lead to deterioration of		water
		environment Lack of awareness/capacity of		construction site from run-off
	4,2 Capacity Development 4,2.1 Training Plan	relevant stakeholders on ESC may		Proper disposal of solid wastes from
	4.2.2 Training of Forest Officers (DCF & above	possibly lead to negative environmental impacts		Proper disposal of waste water from
	Ranks)	J J		labour camps
	4.2.3 Trainings of Forest Officers / Frontline staff			F.
	(Nauget & Uctow taliks)			
	4.2.5 Trainings for JFMC/ SHG members			project activities in compliance with
	,			Provision of the FSC relevant
	4,3 Monitoring & Evaluation			capacity development trainings to the
	4.3.1 Progress Monitoring			respective administrative stakeholders
	4.3.2 impact Evaluation 4.3.3 Andits			
	a) Creation of carbon estimation lab			
	b) Research studies based on the research plan			
	4.4 Strengthening Forest Research			
	4.5 Publicity and Publications			
	4.5.1 Website mannenance 4.5.2 Guidelines, manuals and annual reports			
	4.5.3 Small filems/ videos/ digital documentation			
	4.5.4 INIOWICESC Halerian Course Halerian			

Source: JICA Survey Team

Table 6 Potential Deleterious Social Impacts

		3		
Component	Sub-Component	Potential Social Concerns	Scoping	Mitigations Measures/ Suggestions
Component 1:	1.1 Hill & North Bengal Landscape	Limited access to customarily	Low	Ensure informed consultations and sharing
Ecosystem-	1.1.1 Production of Quality Planting Materials	held resources		of project related information to prepare the
based Climate	1.1.2 Improving Ouality of Forests			community for intended project activities
Change Actions	1 1 2 Exa DDD Astivities (Cail Water Concernation World in			Ensure participation of community in all
Cilding Actions	1.1.3 ECO DAIN ACUMIES (3011 Water Conscivation Works III Protected Areas)			aspects of planning, implementation and
	1 1 1 Choose I abountour Institution	-	,	monnoring of the project activities
		Embankment protection may	Low	Ensure all embankment protection
		result in loss of access to		development activities are restricted within
	1.2 Dry Lateritic & Alluvial Landscape	customarily held resources, or		forest areas
	1.2.1 Production of Ouality Planting Material	loss of incomes or loss of		Ensure access to customarily held resources
	1 2 2 Improxing Onality of Forests	agricultural production		is not limited or restricted due to
	1.2.2 miproving Cuanty of 1 closes			construction of embankments/ check dams
	CAT Dlang Soil and moisture concernation woulfg based	Conversion of cropping system	Low	Ensure conversion of cropping system is as
	CAT Plan)	on which people are dependent		so as to mitigate any risk of cron failure or
	1.2.4 Green Laboratory Initiatives	or loss of agricultural production		loss of production/ income to farmers
				Ensure access to customarily held resources
	1.3 Deltaic Landscape			is not limited or restricted due to
	1.3.1 Eco DRR activities (field validation of the mangrove			construction of bio-rencing
	forest restoration models and its replication)			
	1.3.2 Green Laboratory Initiative			
Component 2:	2.1 Hill & North Bengal Landscape	Wildlife movement in/ around	Low	Imparting education to community members
Biodiversity	2.1.1 Human-wildlife conflict	project areas may pose threat to		to drive away wildlife rather than hurt/
Conservation	2.1.2Species conservation programme	numan lite and property		Killed Wildlife
	2.1.3 Studies on wild animals and other behaviour			rencing and other similar arrangements to discourage wildlife can potentially destroy
	2 3 Dry I ateritic & Alluvial I andscane			plantations and agricultural fields
	2.2.1 Biodiversity conservation through people's			Veterinary Hospital/ Medicare for
	pation in protected area			immediate medical intervention in case of
	2.2.2 Biodiversity conservation through people's			animal induced injury neip in reducing risk
)			of mortancy.
	2.2.3 Human-wildlife conflict mitigation			
	2.2.4 Species conservation programme			
	2.2.3 Studies on Wild animals and their behaviour			
	2.3 Deltaic Landscape			
	2.3.1 Biodiversity conservation through people's			
	2.3.2 Human-Wilding conflict mitigation 7 3 3 Studies on wild animals and their behaviour			

Mitigations Measures/ Suggestions	Appropriate and representative selection of beneficiaries for livelihood options and income generation activities	Ensure cohesion among community institutions, immediate resolution of conflicts and redress of grievances	Identify specific activities for marginalized groups such as landless, poor households, female headed households, women, etc. Specify minimum quota for selection of women, SCs, STs, and other vulnerable	groups such as women, women headed households, landless, poor/ near poor, etc., as beneficiaries for livelihood development activities	There should not be any acquisition of land: ensure up-gradation of existing infrastructure or ensure alignments that do not require additional acquisition of land (If un-avoidable, encourage voluntary land	donation/acquisition on community initiatives)	Ensure the contractor follows all laid down guidelines for mitigating risk of air and water pollution Sprinkling of water in the construction sites and nearby areas to control dust Judicious use of water to control contaminated water from construction site from run-off into agricultural fields, water sources, etc.
Scoping	Low	Low	Low		Low		Low
Potential Social Concerns	Disparity in selection of beneficiaries on income generating activities, and livelihood opportunities	Conflicts within the community individuals and institutions may arise on benefit sharing	Exclusion of vulnerable groups from project activities and benefits		Small scale infrastructure development may result in acquisition of private lands, or loss of access to customarily held resources, or loss of	incomes or agricultural production	Construction of buildings may result in air, water pollution Construction work may pose a health risk for the workers and neighbourhood
Sub-Component	3.1 Hill & North Bengal Landscape 3.1.1 Preparatory Activities with JFMCs (3 batches) including community mobilisation, micro planning, EPA/CDA)	3.1.2. Support for Income Ceneration 3.1.3. Support for Community Well being (Traditional Healers) (Except in Deltaic Landscape)	3.1.4. Support for Community Mobilisation (Extension Worker) 3.2 Dry Lateritic & Alluvial Landscape	3.2.1. Preparatory Activities with JFIMCs (3 batches) including community mobilisation, micro planning, EPA/ CDA) 3.2.2. Support for Income Generation 3.2.3. Support for Community Well being (Traditional Healers)	S.z.s. Support for Community Mobilisation (Extension Worker) Worker)	 3.3 Deltaic Landscape 3.3.1 Preparatory Activities with JFMCs (3 batches) including community mobilisation, micro planning, EPA/ CDA) 3.3.2. Support for Income Generation 3.3.3. Support for Community Well being (Traditional Healers) (Except in Deltaic Landscape) 3.3.4. Support for Community Mobilisation (Extension 	Worker) 4.1 Strengthening Project Management 4.1.1 Demarcation of JFM boundary 4.1.1.1 Digitization of JFMC boundary including procurement of mouza sheet and GPS, and outsourced digitisation of JFM boundaries, and boundary pillar setting 4.1.2 Mobility 4.1.3 Buildings
Component	Component 3: Livelihood Improvement						Component 4: Institutional Strengthening

	Sub-Component	Potential Social Concerns	Scoping	Mitigations Measures/ Suggestions
7 7	4.1.4 Project Contractual Staff 4.1.5 Digital Strengthening	Lack of awareness/capacity of relevant stakeholders on ESC	Low	ESC expert under PMU would assist PMU/DMU/FMU to implement project
•	0	may possibly lead to negative		activities with compliance of ESAF
4,7	4,2 Capacity Development	social impacts such as loss of access to resources or loss of		Provision of the ESC relevant capacity development trainings to the respective
1 4	.2.1 Training Flan .2.2 Training of Forest Officers (DCF & above Ranks)			administrative stakeholders
4	4.2.3 Trainings of Forest Officers / Frontline staff (Ranger	resettlements,		Ensure active participation of beneficiary
~o ₹	& below ranks) 4.2.4 National Workshon (3 days)			baseline surveys and micro-planning
t 4	4.2.5 Trainings for JFMC/ SHG members	tenure arrangements.		activities, for selection of project areas, and
		Local community may get isolated or would merely act as		reduce conflicts Beneficiaries should be selected through a
4,3	4,3 Monitoring & Evaluation	target groups of project activity		transparent process to ensure equitable
4	4.3.1 Progress Monitoring	interventions		benefit-sharing
4.	4.3.2 Impact Evaluation			Fully ensure and consider active
4	4.3.3 Audits			participation of community in the Project
(B)	a) Creation of carbon estimation lab			following ESAF
` ک) Research studies based on the research plan	Incestuous relationships between	Low	Ensure medical check-up for laborers before
		local community and		commencing work in the construction sites,
4 4.	4.4 Strengthening Forest Research	construction workers resulting in		regular health check-ups thereafter
2.5	4.5 Publicity and Publications	diseases, AIDS/ HIV, etc.		
14,	4.5.1 Website mannehance			
7	4.5.5 Small filems/ videos/ digital documentation 4.5.4 Knowledge material/ course material			
	TOTA INDOMINATE OF THE PROPERTY OF THE PROPERT			

Source: JICA Survey Team

4.3 Consideration for Gender and Differently Abled

Generally, women in the remote areas, especially in rural and mountainous parts, are either excluded or not allowed to participate in natural resource planning and decision-making, more-so due to patriarchal land tenure systems, male-dominated society and cultural beliefs; despite the fact that women are typically more attached to forests and more knowledgeable about various aspects of forest management.

Gender equality and women's empowerment are crucial for sustainable development. In West Bengal many Women work in agriculture and forest produce collection. Their knowledge and skills related to resource use and management can make important contributions to sustainable management of forests. Women's voices and opinions are often overlooked in local discussions and decisions. Towards inclusive project implementation process, appropriate gender considerations shall be made in order to mainstream gender and to ensure equal rights, opportunities and benefits regardless of gender.

Table 7 Plan of Consideration for Gender

Activity	Monitoring Indicators of Consideration	Monitoring Method
rectivity	Measures/ Targets/ Measures for Consideration	ivionitoring iviction
Planning stage	Treasures Targets, Houstres for Constastation	
Consultation for site selection and identification of the target JFMCs	 30% of the participants in the consultation is women. If the women have difficulty in participation of the consultation meetings due to societal norms and other reasons, separate consultation for women group is to be held at their convenient time and venue where they feel secure. In selection of the target JFMCs, JFMCs with the following characteristics are prioritized: i)higher ratio of motivated or de-facto women headed households in their members and committee members; and ii)higher ratio of women-headed 	 FMUs prepare the lists of participants of the consultation, and report through the project MIS. FMUs evaluate the criteria during the JFMC selection.
Formulation/activation of JFMCs	households. <executive committee=""> At least 30% of the executive committee of new JFMCs to be formulated in the Project is women. At least 30 % of the executive committee of JFMCs newly elected for activation in the Project is women. Participation of women in the executive committee meeting shall be more than 50% of women executive members. (As per JFM Resolution 2017, 30 % of the executive committee of JFMC is women, while the actual ratio is less than 30%.) <member> Women's participation is more than 50% of the general body meetings. <governance></governance></member></executive>	- FMUs enters the data of the registered members in WBFD MIS, and report the ratio of women in the project MIS.

Activity	Monitoring Indicators of Consideration	Monitoring Method
·	Measures/ Targets/ Measures for Consideration	S
	- Information sharing mechanism among the JFMC members, especially for those who does not attend the meeting, is established in each JFMC. (Women members sometimes have difficulty in attending meetings due to their household work, weather conditions etc.)	
Development of micro plan of JFMCs (including planning of EPA/CDA)	 Focus group discussion is conducted as per the guidelines for micro plan preparation. At least 30 % of the participants shall be women. If mixed gender group does not facilitate discussion, gender segregated group discussion shall be conducted and their views shall be shared in plenary by facilitator women leader. They shall also be informed of how the needs/opinions confirmed in the group discussion are incorporated in the micro plan, and shall be given opportunity to give their feedback for finalization of the micro plan. 	 FMUs prepare the lists of participants of micro plan development consultations and report through the project MIS. DMU will monitor the implementation process and report observation to PMU.
Selection of NTFP species for plantation	- At least 30% of the NTFP species to be planted is the ones which women are commonly harvesting and selling to the market.	- FMUs report consultation results to DMUs, and DMUs reports the selected NTFPs with selected reasons to PMU.
Implementation stage		
Field work for forest development (nursery maintenance, afforestation, ANR), participatory biodiversity conservation, community infrastructure development etc.	- Equal pay for equal work - In order to provide the equal work opportunity for women, work environment/ conditions are created by various means. For example, gender-wise washroom is established in near the work sites including project units (PMU/ DMU/ FMU); Mobility from the community to the work site is to be provided for women; Short- time part work opportunity for those who have limited time for working is offered, etc. As a result, at least 30% of the labourers engaged by the project shall be women.	- FMUs reports the gender-wise benefit sharing and payment to JFMC members through the project MIS.
Trainings of JFMCs, SHGs	 Training venues and duration shall be determined depending on the gender based preference. When organising women's training, the duration shall be short and the venue shall be close to their residence. In case of training organised outside of the village, their spouses also need to be informed and consulted for their participation. Training duration and timing are proposed considering gender-wise timetable. Gender-wise washroom is prepared in the training facility/sites. Mobility of training 	- FMUs prepare the lists of participants of in the trainings and report through the project MIS.

Activity	Monitoring Indicators of Consideration	Monitoring Method
	Measures/ Targets/ Measures for Consideration	
	participation is provided for women groups if required. By means of such measures, more than 50 % of women JFMC members, attend the trainings on the activities which they participate.	
Project management	 At least 50 % of extension workers and personnel of the Technical Agencies engaged by the project are women. 50% of project officials/ staffs at PMU/DMU/FMU shall be women. All the PMU,DMU,FMU members responsible for ESAF/project monitoring are assigned and attend the trainings provided by PMC on ESAF including consideration for gender. To enhance utilization of grievance redressal mechanism by the women, at least 3 female members of FMUs/DMUs take part in the grievance committee from female stakeholders. 	- PMU supervises implementation of ESAF following the monitoring plan described in ESAF, and report to JICA.

The social inclusion of persons with disabilities denotes the process of improving their ability, opportunity, and dignity to take part in society. Design considerations and equal opportunities for deserving differently abled will go a long way in ensuring social inclusion and respectful life for the differently abled.

Table 8 Plan of Consideration for Differently Abled

Activity Monitoring Indicators of Consideration Monitoring Method				
Activity	Monitoring Indicators of Consideration	Monitoring Method		
	Measures/ Targets			
Planning stage				
Consultation for site	- As a part of the consultation/orientation	- FMUs prepare the		
selection and	meetings, focus group discussion or	lists of participants of		
identification of the	individual interview with the differently abled	the		
target JFMCs	people living inside/near forest area is	consultation/interview,		
	conducted to enhance their participation in	and report through the		
	the project activities and JFMCs.	project MIS.		
	- Necessary measures for consideration in	- FMUs evaluate the		
	communication with them is properly taken	criteria during the		
	by FMUs under the assistance of PMC of	JFMC selection.		
	ESC (writing communication, sign language			
	interpreter etc.). As a result, at least 20 % of			
	the differently abled people in the target area			
	participate in the consultation/ orientation.			
	- All the selected JFMCs, they should be			
	guided to make appropriate consideration for			
	differently abled JFMC members and ensure			
	their voices are reflected in the decisions			
	made.			
Formulation/activation	- Through the public consultation above, the	- FMUs enters the data		
of JFMCs	number of the JFMCs members of the	of the registered		
	differently abled people in the target area is	members in PMU		
	increased compared to the baseline (before	MIS, and report the		
	the project).	number of the		

Activity	Monitoring Indicators of Consideration	Monitoring Method
	Measures/ Targets Information sharing mechanism among the JFMC members, especially for those who are differently abled, to secure their access to the information.	members of the differently abled people in the project MIS.
Development of micro plan of JFMCs (including planning of EPA/CDA)	- Focus group discussion is conducted as per the guidelines for micro plan development. In this project, group discussion/individual interview with the differently abled people is conducted in each JFMC. Necessary measures for consideration in communication with them is properly taken by FMUs under the assistance from PMC of ESC. As a result, at .least 50 % of the differently abled members of JFMCs participate in the consultation for micro plan development.	- FMUs prepare the lists of participants of micro plan development consultations and report through the project MIS.
Implementation stage		
Field work/ Income generation	 Equal pay for equal work In order to promote participation of the differently abled people in JFMCs/SHGs work, various work conditions/work options of JFMCs/SHGs are proposed. (For instance, flexible work shift, larger work space, universal design in the work space, offer of various work types, etc.) As a result, more than 50% of the differently abled members of JFMCs/SHGs increase their annual earnings compared to the baseline. 	- FMUs record No. of the differently abled people participated as the workers, and payment/ benefit sharing to them.
Training for community organizations	 In order to provide the equal participation opportunity for the differently abled people to the trainings, various measures are to be taken. For instance, notice on the training is delivered in an appropriate manner to make sure that they have access to the information. Training method and materials shall be designed so that universally effective in delivering the contents. More than 50 % of differently abled JFMC and IGA activities participants, attend the trainings on the activities which they participate. 	- FMUs prepare the lists of participants of in the trainings and report through the project MIS.
Project management	 As for the public information disclosure of ESAF/ other notifications by the Project, not only public disclosure on the internet/ public billboard etc., necessary measures for consideration for the differently abled is properly taken under the technical advice from PMC of ESC such as explanatory meeting with sign language interpreter etc. All the PMU,DMU,FMU members responsible for ESAF/project monitoring are assigned and attend the trainings provided by PMC on ESAF including consideration for the differently abled. 	- PMU supervises implementation of ESAF following the monitoring plan described in ESAF, and report to JICA with technical assistance from PMC ESC.

Activity	Monitoring Indicators of Consideration Measures/ Targets	Monitoring Method
	 Following the Persons with Disabilities Act 1995, differently abled people are employed for the project implementation, and work condition accommodates them to ensure their performance at work places. Various methods of grievance redressal are prepared for the differently abled people. All the buildings and other public infrastructures to be constructed in the Project adapt the universal design (Braille labelled, elevator, voice alert/notice, slope access, etc.). 	

5 Environmental and Social Management Measures

ESAF has been prepared to ensure that potential adverse environmental and social impacts associated with the Project are either avoided or minimised in line with the JICA Guideline as well as India and policies, laws and regulations relevant to the state of West Bengal. ESAF targets at managing the potential unfavourable and deleterious impacts, with the help of simple procedures to expedite appropriate environmental and social management.

An EIA study would not be required for the entire Project; however, the Project may need to be evaluated from the environmental and social risk perspective before implementation of subprojects.

All the sub-projects will be screened and Category-A sub-projects would be excluded. Sub-projects categorised as B or C will be implemented and the criteria for classification under Category B, as per JICA Guideline is elaborated below:

Table 9 Definition of Category B & C

	Tuble > Definition of Euregoly B & C
Category B	Proposed projects are classified as Category B if the potential adverse
	impacts on the environment and society are less than those of Category A
	projects. Generally, these are site-specific, with few irreversible impacts, and
	can be addressed by general mitigation
	measures in most cases.
Category C	Proposed projects are classified as Category C if these are likely to have
	minimal or little adverse impacts on the environment and society.

Source: JICA Guideline on Environment and Social Consideration



Figure 7 Flow Diagramme of Important Procedures of ESAF

5.1 Screening and Selection of Sub-Projects

Generally, the guidelines for selection of sub-project reinforce the key objectives of the Project. Specific sub-projects will be selected based on the preferences of the communities/ needs of WBFD, thus the guidelines should not be too prescriptive in terms of defining what a given community/WBFD can and cannot do. At the same time, exclusion criteria should be clearly shown to eliminate sub-projects that may cause potentially significant adverse environmental impacts, resulting in the requirement of EIA.

The categorisation (Category B or C) of sub-project as per the JICA Guideline and exclusion criteria will be finalised by PMU prior to the commencement of the Project or at the early stage of the preparatory work. In accordance with the JICA Guidelines, the exclusion criteria have also been developed and are summarised in the Table 10. The sub-projects which might satisfy one of the criteria are excluded.

Table 10 Sub-Project Exclusion Criteria

Component	Exclusion Criteria for Sub-project
1. Overall	- divert forest land to other land use
	 require acquisition of private land
	 require involuntary resettlement
	 cannot demonstrate the broad community support
	 likely to have major adverse impacts on the environment
	- fall into "Category A ³ " as per the JICA Guideline

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³ Though sub-projects which fall into the "Category A" as per the JICA Guideline are not anticipated in the Project, the following scale of sub-projects are regarded as the "Category A".

Component	Exclusion Criteria for Sub-project
2. Forest and	- activities conducted inside protected areas, such as national parks/ wildlife
Natural	sanctuaries, will not contribute to environmental protection/ conservation of the
Environment	selected protected areas.
	- likely to cause damage to wildlife and their habitats
	- planting of non-native or invasive or exotic species of forest trees, shrubs or plants
	- felling of trees inside Reserved Forest or PA unless ancillary to conservation and management of forests and wildlife defined in the working plan (e.g. fire breaks, thinning etc.)
	- collection, processing and sale of NTFP species listed under CITES, India's Red
	List of threatened species of fauna and flora or scheduled under the Wildlife Act (1972)
	- use of fertilizers and pesticides banned by WHO (Classes IA, IB and II)
3.Social	- activities that promote child labour
Environment	- activities that could lead to the exploitation of women
	- activities that have adverse impact on ST/SCs/Vulnerable groups etc.
	- activities that require acquisition of private land and/or involuntary resettlement
	- activities that may cause damage to places of religious importance, historical
	monuments or cultural properties

5.2 Environmental and Social Assessments

Although, the Project is not anticipated to bring about deleterious environmental and social impacts, yet it is suggested to conduct Environmental Assessment (EA) and Social Assessment (SA) for specific sub-project classified as Category B, which shall be conducted after the screening and selection procedures. DMU under the guidance/direction of PMU shall determine the necessity of the assessments, considering the types of potential adverse impacts of the sub-projects. The assessment results will be utilised for the preparation of EMP/EMoP. The following sections describe the key tasks for the assessments and indicative contents of the reports.

(1) Environmental Assessment

The main purpose of EA is to help understand the issues and risks associated with environmental aspects, and its resultant impacts on the target population. Regular monitoring of environmental parameters such as air and water quality, noise levels, degradation of forests and land, soil erosion, solid waste disposal, disposal of sewage, etc., will enable the Project to understand the temporal changes in environmental conditions. Such monitoring activities would enable the Project to devise short/long-term, recommendations, strategies and mitigation measures to address the concerns and issues that affect environment.

EA plan will be prepared by IA, assisted by PMC ESC hired by PMU providing reasonable details outlining the objectives, contents, methods and schedule for its implementation. Table 11 specifies key tasks for EA.

Conversion or felling of more than 100 ha of forest

Construction of embankments/dams with water reservoir area of more than 100 ha

Development of more than 100 ha agricultural area

Table 11 Key Tasks for Environmental Assessment

No	Tasks Descriptions		
No.		Descriptions	
1	Describe	It will address the existing environmental setting, in terms of physiography and	
	Environmental	geology, land-use patterns, forest cover and dependence on forests, ambient air	
	Setting	quality, noise levels, water quality, areas prone to land slips and avalanches,	
		socio-economics, etc.	
2	Legal and	Provides an account of the existing legal and regulatory milieu, compliance	
	Regulatory	with multilateral funding agencies, such as World Bank, JICA, shortfalls, if	
	Environmental		
	Consideration	any, etc.	
3	Impacts Assessment	It will describe all the activities/ sub-projects that have potential to impact the	
	and Mitigation	environment in a deleterious manner, assess and analyse in-depth various	
	Measures	potential negative impacts related activities/ sub-projects, provide mitigation	
		measures environmental risk and vulnerabilities.	
4	Devise Strategies to	Provide strategies to manage and monitor potential environmental concerns	
	Manage and	and parameters. It will also provide roles and responsibilities of various key	
	Monitor	positions, institutions, bodies that will manage and monitor the control and	
	Environmental	protection of environmental aspects, conservation of resources, etc. It also	
	Concerns and	examines the opportunities for community involvement in project preparation	
	Parameters	and implementation, the existing and proposed framework for property rights/	
		access to resources, and sustainable management and monitoring of	
		environment.	
5	Recommendations	It reviews proposals for project design and provide guidance to the	
	for Project Design	implementing agency on participatory alternatives and institutional	
	and Implementation	strengthening measures appropriate to the environmental characteristics of the	
	Arrangements	project area(s). This will provide a basis for integrating the environmental	
	6	analysis of the core elements into proposals for implementation arrangements.	
C	· IICA Suman Taam		

Source: JICA Survey Team

EA report shall include at least the following contents.

Table 12 Indicative Contents of Environmental Assessment Report

No.	Chapter	Descriptions
1	Introduction	Define basic purposes for EA, its scope and a brief outline of report
		organisation.
2	Sub-Project	Provide an outline of the proposed sub-project, its rationale, objectives, area,
	Description	key activities, the proposed implementation schedule, etc.
3	Approach and	Describe the study approach and methodology adopted for carrying-out the
	Methodology	EA, including collation of quantitative data and information, describe tools
		for monitoring and management of environmental parameters
4	Environmental	Provide brief profiles of the target area, existing environmental conditions in
	Baseline	these areas, that will serve as a reference for future comparison and
		monitoring
5	Sub-Project Impacts	Describe sub-projects, its objectives and activities of the sub-projects,
		explains potential positive and negative impacts as a result of establishment
		of the sub-projects.
6	Public Consultation	Describe the results of public consultations, meetings and other interaction
	and Information	events with the communities.
	Disclosure	
7	Conclusion and	Provide overall conclusions and recommendations, describe precise measures
	Recommendations	to avoid, minimise and/or mitigate adverse impacts on the environment,
		communities and particularly vulnerable groups due to sub-project activities,
		environmental management mechanism and implementation arrangements
		and monitoring activities and implementation arrangements.

Source: JICA Survey Team

(2) Social Assessment (SA)

The main purpose of the Social Assessment (SA) is to help understand basic social issues and risks, and to determine social impacts on the target population of the proposed sub-projects. Analysis of the collected socio-economic information enables the Project to prioritise critical issues and means to address them, in consultation with other stakeholders.

The assessment will (i) establish baseline socio-economic situation of the target communities in the project area that will act as a reference for measuring project impacts in future, (ii) assess the access to and opportunities for getting benefits of basic social and economic services, (iii) stipulates a basis to identify appropriate interventions for community development and livelihoods under the Project, and (iv) determine short/ long-term, direct/ indirect, and positive/ negative impacts of the Project on the socio-cultural and economic status, especially for vulnerable groups.

SA shall be carried out by FMU with assistance/supervision by PMC ESC and the results would assist the executing agency in reaching-out to the vulnerable and the poor and thus ensures that the objectives of the Project are acceptable to the intended beneficiaries. Table 13 specifies key tasks for SA.

Table 13 Tasks for Social Assessment

No.	Tasks	Descriptions
1	Review	Gathering of baseline information on the demographic, social, cultural, and political
	baseline	characteristics of the VP, the land and territories that they have traditionally owned or
	information	customarily used or occupied, and the natural resources on which they depend.
		Review carefully the status of land use and FRA status of forest dwellers and forest
		village habitants of the target area of afforestation/natural assisted regeneration to
		identify the area under application of FRA or dispute.
2	Planning of	Elaborate a culturally appropriate process for consulting with VP at each stage of
	consultation	project preparation and implementation
	and FPIC	
3	Consultation	Conduct participatory assessment with VP, on the potential adverse and positive
		effects of the project based on free, prior, and informed consultation.
4	Examination	Identify measures necessary to avoid adverse effects, or if such measures are not
	of the	feasible, the identification of measures to minimize, mitigate, or compensate for such
	required	effects, and to ensure that VP receive culturally appropriate benefits under the project.
	mitigation	
	measures	
5	Development	The monitoring system needs to have local participation in the generation and
	of a	refinement of indicators over the project cycle in order for the affected communities to
	Monitoring	be involved in balancing their own interests in the management of resources for
	plan	conservation and productive purposes.

Source: JICA Survey Team based on Social Analysis Guidelines in Natural Resource Management (2005) and OP 4.10, Annex A - Social Assessment, World Bank

SA report shall include at least the following contents.

Table 14 Indicative Contents of Social Assessment Report

No.	Chapter	Descriptions
1	Introduction	Define basic purposes for Social Assessment, its scope and a brief outline of report organisation.
2	Sub-Project description	Provide brief outline of proposed sub-project, its rationale, objectives, area, key activities, the proposed implementation schedule etc.
3	Approach and methodology	Describe the study approach and methodology adopted for carrying-out the assessment, including quantitative and qualitative data and information collection
4	Socio-economic baselines	Provide brief profiles of the study (target) area, demography, social, cultural, and political characteristics; the land and territories that they have traditionally owned or customarily used or occupied.
5	Sub-project impacts	Describe sub-projects, its objectives and activities of the sub-projects, socio-economic and livelihoods assessment, explain potential positive and negative impacts of the sub-project.
6	Vulnerable groups	Describe about the identified VP (social group, socio-economic situation, cultural habitat, use of natural resources, potential impact on each subgroup)
7	Public consultation and information disclosure	Describe the results of public consultations, meetings and other interaction events with the communities.
8	Conclusion and recommendations	Provide overall conclusions and recommendations.
9	Mitigation measures	Describe precise measures to avoid, minimise and/or compensate for sub- project activities with adverse impacts on communities and particularly vulnerable groups, which will be integrated in the VPP.
10	Monitoring	Provide the developed monitoring plan including monitoring mechanism and monitoring implementation arrangements, which will be integrated in the VPP.

Source: JICA Survey Team

5.3 Preparation of Environmental Management Plan

Environmental Management Plan (EMP) shall consist and cover environmental mitigations and consideration measures which shall be taken-up during construction and operation phases, which shall examine description and assessment results of environmental, social, health and safety impacts. EMP shall be prepared only for "Category B" sub-projects. Though quantifications of impacts as well as concerned mitigation measures of sub-projects are yet to be determined, indicative EMP is described in Table 15. Any additional costs for the proposed mitigation measures shall be included in the construction cost.

Table 15 Indicative Environmental Management Plan

Table 13 indicative Environmental Management Fian			
Potential	Proposed Mitigation Measures	Responsibility	
Environmental			
Impact			
Construction Ph	ase		
Air Pollution/	- Ensure that dust and smoke is minimised with the help of dust control	IA/ Contractor	
generation of	measures and equipment		
dust and smoke	- Regular servicing of construction equipment and vehicles		
	- Sprinkling of water on dusty roads and construction sites		
	- Loaded and/or stockpiled construction materials to be covered from being		
	exposed to wind		
	- Prevent soils, sands, materials and dusts from scattering during		

Potential	. 0	
Environmental Impact		
_	transportation.	
	- Installation of air quality monitoring equipment for outdoor ambient air at	
Water Pollution	strategic locations in and around the construction site - Sewage from the labour camps may undergo a Primary treatment, in which	IA/ Contractor
water Foliution	sewage is temporarily held in a quiescent basin where heavy solids settle	IA/ Contractor
	to the bottom while oil, grease and lighter solids float to the surface; the	
	settled and floating materials are removed and the remaining liquid may	
	be discharged or subjected to secondary treatment.	
	- Mobile lavatories must be provided at each construction site depending on	
	the number of laborers; waste and wastewater from toilets be discharged	
	into holding tanks and thereafter removed from the site	
	- Temporary embankments to be created to restrict water mixed with	
	concrete and other construction materials do not run-off to contaminate	
Solid Waste	sources of water and water channels.	IA/ Contractor
Solid Waste	- Litter bins, waste collection bins and pits to be judiciously placed within the construction site/ work areas	IA/ Contractor
	- Contractor shall educate and ensure all laborers to segregate solid waste	
	into bio-degradable, non-bio-degradable and recyclable.	
	- No burning of refuse, or on-site burying or dumping of solid wastes.	
	- Reusable construction materials such as wooden plates for trench works,	
	steel, scaffolding materials, packaging material, etc. to be collected and	
	separated on-site from other waste sources for reuse, for use as fill, or for	
G1 ' 1	sale.	T. / G
Chemical or	- Designated areas to be properly lined, roofed, fenced and appropriately	IA/ Contractor
hazardous wastes	labelled, for storage of oils, lubricants, chemicals, etc. - Used oil, lubricants, cleaning materials shall be collected in holding tanks	
(Waste)	and removed from site.	
Soil Erosion	- All sites that include excavation, digging, shall ensure proper restoration	IA/ Contractor
and Restoration	after concerned activities, such as compaction and re-vegetation of dug-up	
of affected	areas, and proper disposal of dug-up muck.	
areas	- All excavations to be avoided during rainy season.	
	- All areas allocated and used for disposal of refuse, site facilities, workers'	
	camps, stockpiles areas, working platforms, any temporarily occupied	
	areas during construction of the project works to be restored using	
	landscaping, re-vegetation, with adequate drainage. - Trees and other soil binding shrubs, herbs and grass, such as vetiver could	
	be planted on exposed and sloping land to prevent or reduce land collapse	
	and stabilize the slopes. Vetiver has multipurpose utilities, such as herbal	
	skin care, soil and water conservation, run-off mitigation and water	
	conservation, crop protection and pest (incl. termite) repellent, animal	
	feed, food and flavouring, perfumery and aromatherapy, etc.	
Noise and	- All construction equipment to be regularly serviced, and installed with	IA/ Contractor
Vibrations	noise mufflers to control noise from construction equipment	
	- To be ensured that noise from construction equipment is within	
	permissible limits prescribed by Law - All vehicles must have appropriate "vehicle inspection certificate," and	
	"technical worthiness and safety protection certificate," and	
	- Permissions from local authorities should be obtained in case of night time	
	activities, if necessary.	
Disruption of	- Cutting of any tree shall be prohibited, unless authorized by a competent	IA/ Contractor
vegetative	authority.	
cover	- Temporary protective fence to be set up to protect preserved trees and	
and ecological	forest areas before commencement of any works.	
resources	- No hunting, trapping, shooting, poisoning of any fauna.	

Potential	Proposed Mitigation Measures	Responsibility
Environmental		
Impact		
(Ecosystems)	- Chemicals shall not be used to clear vegetation.	
Communication	- IA shall disseminate project information to communities/ groups/ entities	IA/ Contractor
with local	likely to be affected by the construction activities	
communities	- The contractor shall share project information with communities/ groups/	
(Resettlement)	entities likely to be affected by the construction activities through	
	community meetings before construction commencement.	
	- IA or Contractor may depute a Public Relations Officer (PRO) who will	
	provide project related information about on-site activities, status of	
	Project and implementation, construction and work schedules, interruption	
	of services, traffic detour routes, etc Information Banners and Boards to be installed at all construction sites	
	- Information Banners and Boards to be installed at all construction sites providing project related information.	
Worker and	- Training on Environment, Health and Safety (incl. occupational health and	IA/ Contractor
public Safety	safety) and Social Aspects to be mandatory for all on-site construction	IA/ Contractor
(Work	workers and staff.	
environment)	- It should be mandated that all construction workers are provided and wear	
	safety equipment (helmets, gloves, shoes, goggles, safety harness if	
	working above ground, etc.) and protective clothing.	
	- Pre-construction medical check-up and subsequent regular health check-	
	ups is mandated for all on-site workers and staff.	
	- Installation of boundary fences, barriers and barricades, Danger warning	
	sign boards, to be installed in and around the construction area.	
	- Depute flag personnel with lights to regulate traffic, traffic access routes	
	and construction areas to be installed with appropriate signs, directions,	
	safety advice, warnings, etc	
	- Emergency evacuation plan to be prepared and shared with all concerned.	
	Emergency evacuation route, assembly areas, to be marked with	
	appropriate signage.	
	- First-aid stations, safety equipment, and warning signals, for immediate	
	administration, fully equipped Ambulance and Fire Engine to be stationed	
	on-site for untoward eventuality.	
Operation Phase		T. / G
Air Quality	- Air quality monitoring is recommended under the guidance of SPCB	IA/ Contractor
Water Quality	- Judicious use of chemical fertilizers, insecticides/pesticides under	IA/ Contractor
	prescribed limits	
A	- Introduction and Use of bio-fertilizers and insecticides/pesticides	TA / C
Accidents	- Emergency evacuation plan to be prepared and shared with all concerned	IA/ Contractor
	and appropriate training imparted to all concerned.	
	- Emergency evacuation route, assembly areas, to be marked with appropriate signage.	
	equipment, and warning signals, fully equipped Ambulance and Fire	
	Engine on call, for untoward eventuality.	
	Engine on can, for untoward eventuality.	

5.4 Preparation of Environmental Monitoring Plan

Environmental Monitoring Plan (EMoP) provides monitoring plan to administer and scrutinize the implementation of proposed environmental mitigation measures and considerations and to regularly monitor the quality of surrounding environments during construction, and operation phases. The same as EMP, EMoP shall be prepared only for "Category B" sub-projects.

EMoP ensures that environmental and social safeguards adopted measures are bringing the desired

results. Therefore, indicators of environmental and social considerations are utilised to measure the quality environmental parameters and safeguard processes. Table 16 presents indicative monitoring items, their indicators, means of verification, frequency and responsible parties for measuring safeguards measures that have been implemented. However, these aspects need to be finalised in relation to EMP, in case, EMP are prepared for some specific sub-projects.

It shall be the responsibility of the designated DMU officers to implement, monitor, and report safeguards, as an integral part of the project implementation, and for the purpose of site-level planning and implementation, the designated DMU and FMU officers ensure the required monitoring activities are conducted. The compliance of environmental and social safeguards during implementation of sub-project must be also closely observed by FMUs, and relevant local stakeholders such as JFMC/EDC, SHGs, youth groups, etc. Periodic visits should also be carried out by the designated officers to confirm that mitigation measures for deleterious impacts are being carried out properly by the contractors.

Table 16 Indicative Environmental Monitoring Programme

Aspects	Parameters to be	Locations	Method	Frequency	Responsibility
monitored					
Air pollution	Dust, smoke, ambient air, are SPM, RPM, SO2 and NOx.	Sub- project areas	Site visits, visual checks,	Twice a year	IA, Environment Safeguard Officer/ Contractor
			High and low volume air sampler	Twice a week for 24 hours for twelve consecutive weeks	IA, Social Safeguards Officer/Contractor
Noise and Vibrations	Noise of equipment, complaints from local residents	Sub- project areas - Major sources of noise	Sound Level Meter	Once in three months	IA, Social Safeguards Officer/Contractor
Ground water quality Surface water quality	pH, Electrical conductivity, Turbidity, TDS, TSS, Total Hardness, Alkalinity, Carbonate, BOD, COD, Nitrates, Phosphates, Fluorides, Chlorides, Sulphates, Sodium, Potassium, Calcium, Magnesium, Oil & Grease, Iron, Manganese, Copper, Zinc, Phenolic Compounds, Colour, Cadmium, Chromium, Cyanides, Lead, Total Coliform	Sub- project areas and nearest villages - 5 location	Collected sample to be analysed from WBSPCB Laboratory	Once in three months	IA, Social Safeguards Officer/Contractor
Solid waste	Volume and kind of	Sub-	Site visits and	Once in	IA, Social

Aspects	Parameters to be monitored	Locations	Method	Frequency	Responsibility
(Waste)	construction wastes,	project areas	visual checks	three months	Safeguards Officer/Contractor
	Kitchen and other solid waste generated in labour camp	Sub- project areas	Site visits and visual checks	Once every month	IA, Social Safeguards Officer/Contractor
Chemical or hazardous	Oils, lubricants, cleaning agents, etc	Sub- project	Site visits and visual checks	Once in three months	IA, Social Safeguards Officer/Contractor
Drainage and sedimentation		sub- project areas	Site visits and visual checks	Once in three months	IA, Social Safeguards Officer/Contractor
Soil erosion	Visual inspection of rain water run-off	Sub- project areas	Site visits and visual checks	Twice in a Year	IA, Social Safeguards Officer/Contractor
Disturbance to ecological resources and vegetative cover	Illegal tree felling, wildlife hunting, illegal extraction of forest resources	Sub- project areas	Site visits and visual checks	Twice in a Year	IA, Social Safeguards Officer/Contractor
Interactions with local communities	Complaints and grievances, from local residents	Sub- project areas	Site visits and visual checks	Once in two months	IA, Social Safeguards Officer/Contractor
Resettlement (loss of income or loss of access)	Economic condition of households, process of selection of project areas	Sub- project areas	Interviews	Twice in a Year	IA, Social Safeguards Officer/Contractor
Impact of livelihoods	Direct or indirect impacts of livelihoods	Sub- project areas	Interviews	Twice in a Year	IA, Social Safeguards Officer/Contractor
Health and Safety	Training and health check-ups for workers, fencing, warning signs, emergency evacuation	Sub- project areas	Site visits and visual checks	Twice in a Year	IA, Environment Safeguards Officer/Contractor
Accidents and traffic management	Signage, regular maintenance	Sub- project areas	Site visits and visual checks, record of accidents and training	Twice in a Year	IA, Environment Safeguards Officer/Contractor
Operation Phase					
Ground water quality Surface water quality	pH, Electrical conductivity, Turbidity, TDS, TSS, Total Hardness, Alkalinity, Carbonate, BOD, COD, TN, TP, Total Coloform, Pesticides (to be specified)	Sub- project areas and nearest villages – 5 locations	Collected sample to be analysed from SPCB Laboratory	Once in six months	IA, Environment Safeguards Officer/Contractor
Ground water level	Water level of existing well nearby	Sub- project areas	Measurement	Once in three months	Contractor
Impact of livelihoods	Direct or indirect impacts of livelihoods	Sub- project areas	Interviews	Twice in a Year	IA, Social Safeguards Officer/Contractor
Accidents	Direct or indirect	Sub-	Site visits and	Twice in a	IA, Social

Aspects	Parameters to be	Locations	Method	Frequency	Responsibility
	monitored				
	impacts on livelihoods	project areas	visual checks, record of accidents and training	Year	Safeguards Officer/Contractor
Grievance mechanism	Grievance redress condition	Sub- project areas	Interviews	Twice in a Year	IA, Social Safeguards Officer/Contractor

5.5 Implementation and Monitoring of Sub-projects

As for the monitoring of the sub-projects categorised in Category B as per JICA Guideline, subcontractor would undertake monitoring using a sample monitoring format attached in **Appendix E (E-1).** FMU officer shall compile monitoring results submitted by the subcontractors and reviews regularly, thereafter, DMU shall compile them and report to PMU through the project MIS linked to web GIS. The sample reporting items from DMU to PMU are shown in **Appendix-E (E-2)**. The report contents will be analysed and shared to the concerned departments in the state government as well as JICA. A sample format for the monitoring report from PMU to JICA is described in **Appendix F**. These sample formats shall be revised/updated according to the types of sub-projects and prepared EMoP. A specialist hired by the PMU, and nodal ESC officer, identified in Section 7.1 below shall support PMU/ DMUs/ FMUs for the monitoring related activities which are in line with JICA Guideline.

6 Institutional Arrangement and Capacity Development for ESAF

6.1 Institutional Arrangement

Under the Project, most of the aspects related to environmental and social issues and protection are to be managed by the IA, i.e., West Bengal Forestry and Biodiversity Society (WBFBS) through the Executing Agency, i.e., West Bengal Forest Department along with the support from other departments such as the Department of Environment, West Bengal, West Bengal Biodiversity Board etc. The West Bengal Forest Department would be responsible for overall planned intervention in the Project, legal/policy development, ensuring adequate consultation and participation, inclusion of vulnerable groups such as SC/STs, small-scale and marginal farmers, women-headed households etc., in planning and implementation and the equitable distribution of benefits associated with site-level project interventions. The district administration is the designated agency responsible for land administration, land acquisition, disbursement of compensation and providing Resettlement and Rehabilitation (R&R) benefits to the project-affected families.

ESAF will be implemented through the institutional structure of the Project and a director/officer at each administrative level shall be appointed as focal persons for ESAF compliance. Table 17 highlights institutional structure for ESAF with key environmental and social management roles

and responsibilities.

Table 17 Institutional Structure for ESAF Implementation and Monitoring

		or ESAF Implementation and Monitoring
Institution	Role in Project	Role and/or Responsibility in ESAF
	Implementation	
High Power	- Decision-making body	- Overall supervision of the ESAF and its
Committee	- Lay down the broad policy	implementation and M&E
	framework for functioning	- Facilitation and coordination with various line
	of the society	departments such as WB Department of Environment,
	- Review the society's	Biodiversity Board and other agencies
	performance	- Provide directions/advice to the PMU and DMU to
	- All administrative and	ensure smooth/ efficient project operation on
	financial powers	environment and social consideration
	- Monitor utilization of	- Periodical checks and due diligence on safeguards
D : .	funds	reports and monitoring data.
Project	- Project implementation,	- Responsible for implementation of ESAF
Management	supervision and monitoring	- Report to the concerned departments in the state
Unit (PMU)	of all activities.	government as well as to JICA in relation to
	- Documentation and	environmental and social considerations
	reporting	- Disclose information.
		- Consultation and guidance to DMU, FMU, JFMCs,
		EDCs, SHG and field level officers on information
		disclosure and consultation - Technical guidelines on beneficiary selection,
		safeguard checks/ guidelines for particular activities
		(if required)
		- Development of planning/ monitoring forms, review
		of monitoring data, reporting, assistance with evaluations
		- Finalize criteria for categorization (Category B or C) as per JICA Guidelines as well as exclusion criteria
		- Review of participatory environmental and social
		assessments
		- Performance of due diligence follow-up
		- Guide, instruct, prepare guidelines, establish and
		operate M&E, disseminate project information, hand-
		holding support in the field for all project activities.
PD-Finance	- Support the PMU and	- Coordinate, monitor and supervise the ESC-relevant
(Environment	facilitate project	activities at state level, including the screening and
and social	implementation at state	selection of subprojects and determination of the
consideration)	level, and would extend all	required procedures for specific subprojects following
Consideration)	technical inputs and	the guidance/instruction of the PMU
	guidance to the DMU level	- Liaise with other line departments at the appropriate
	as and when required, and	level for inter-sector convergence
	through regular review	- Provide any specific support required for
	meetings, frequency of	implementation and monitoring of the Project
	which to be determined	
	during the preparatory	
	phase of the Project	
Divisional	- To act as the dedicated and	- Coordinate, monitor and supervise the ESC relevant
Management	extended wing of the PMU	activities at the division level
Unit (DMU)	for project implementation	- Conduct the screening and selection of subprojects
(-:)	at the division level and as	and determine the required procedures for specific
	a subordinate office of the	subprojects following the guidance/instruction of the
	autonomous society.	PMU
	- Facilitate project	- Liaise with other line departments at the appropriate
	implementation at the	level for inter-sectoral convergence
	division level, and would	- Provide any specific support required for
<u> </u>		1

Institution	Role in Project	Role and/or Responsibility in ESAF
	Implementation	
	extend all technical inputs and guidance to the Field Management Unit, JFMCs, EDCs, etc.)	implementation and monitoring of the Project - Coordinate with subject matter experts
Field Management Unit (FMU)	 To act as the dedicated and extended wing of the DMU for project implementation at the Range level and as a subordinate office of the autonomous society. Facilitate project implementation at the range level, and would extend all technical inputs and guidance to the JFMCs, EDCs, etc. 	 Coordinate, monitor and supervise the ESC relevant activities at the range level Conduct the screening and selection of subprojects and determine the required procedures for specific subprojects following the guidance/instruction of the PMU Liaise with other line departments at the appropriate level for inter-sectoral convergence Provide any specific support required for implementation and monitoring of the Project Coordinate with subject matter experts
Expert for Environmental and Social Consideration	- Support the PMU, DMUs and FMUs facilitate project implementation, through technical inputs and guidance.	 Assist PMU PD (Finance) supervise the ESC-relevant activities, including the screening and selection of subprojects and determination of the required procedures for specific subprojects following the national and state law/regulations and MOD with JICA. Finalize ESAF and Scheduled Tribe Planning/Development Framework with the stakeholders to be drafted under the preparatory survey, and assist PMU implement the project in accordance with the frameworks. Supervise the community level infrastructure development executed by the contractors in terms of compliance with the safeguard relevant law/regulations.
Joint Forest Management Committees (JFMC) including former EDC	- Participate in project activities such as microplanning, plantation and IGA.	 Assist in selecting target beneficiaries and clarify local needs and expectations on the Project in the planning Conceive and raise awareness among the local community with respect to environmental and social considerations. Provide support in micro planning activities at the subproject level Participate in environmental and social assessments Support public consultation, due diligence checks, and regular monitoring by the implementing agencies 'PMU,DMU,FMU) and PMC.

Since the WBFD does not have any dedicated units or personnel for the purpose of ESC, hence, one safeguard expert and the respective designated nodal officers will support the PMU, DMU, and FMU for the compliance of the environmental and social safeguards. The role of the safeguard expert is proposed as follows:

Expert for Environmental and Social Consideration: The IA would recruit ESC expert to support the PMU, DMU, FMU to review the project activities with a focus on the compliance on ESAF, provide guidance and technical advice to the PMU, DMU and FMU for required environmental

and social safeguard measures, as well as reporting to JICA to ensure smooth and efficient implementation of environmental and social safeguard measures.

PMU officers would be appointed from the department but for DMU and FMU, staff shall be engaged on contractual basis from the initial preparatory phase of the Project. This is to assist the DMU and FMU gain a head start with safeguard-related actions. Once the project implementation begins, the nodal officers shall maintain the continuity of the introduced processes/measures during the intermittent period when the Expert is not mobilized to the Project. The nodal officers will report to the Chief Project Director under PMU who would be holding the additional charge to ensure the compliance of ESC.

Nodal Officer – PD (Finance) cum Environmental safeguard at PMU: The role of the officer sill be as listed below.

- (i) To facilitate and coordinate with various implementation and line departments;
- (ii) To update and finalize ESAF;
- (iii) To develop appropriate training materials on environmental and social safeguards, following the requirements in ESAF;
- (iv) To provide training courses and capacity enhancement at the different levels of stakeholders who will be designated with the responsibilities to ensure implementation of environment and social safeguards; and
- (v) To supervise/ manage the project activities to ensure that the required procedures indicated in ESAF are followed properly. The experts may also be required to follow-up in the field, where particular issues are identified and report to PMU.

The institutional arrangement for safeguard monitoring system is more or less similar to the project component monitoring system. At the field level, monitoring and reviews will be conducted by the FMU level implementing organization and report to DMU. Then, the DMU Officer shall compile the monitoring results that need to be reviewed regularly and report to the PMU, which shall analyse the result and share to the concerned departments in the state government as well as in a form of annual report to JICA. The organization chart cum safeguard flow is shown in the following table.

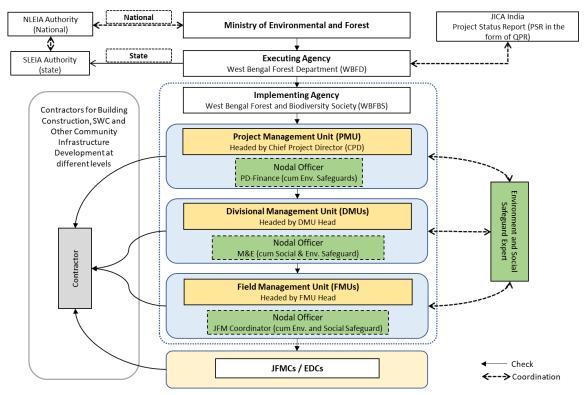


Figure 8 Organisation Chart cum Safeguard Flow

6.2 Capacity Development Programme

In order to ensure effective implementation of the proposed ESAF and associated safeguards procedures under the above proposed institutional arrangement, it would be obligatory to enhance capacity of various agencies and stakeholders. In this regard, capacity development programmes, supported by the above proposed specialist/experts will not only help addresses gaps in the existing environmental and social management system, but would also ensure that environmental and social safeguards are effectively operationalised.

The details of the training programme such as venue, time, date, frequency of the proposed trainings sessions should be further developed by hired specialist/experts with comments and clearance of PMU. An indicative capacity development programme has been devised and depicted in Table 18 as a reference to devise capacity enhancement training programmes.

Table 18 Indicative Capacity Development Programme for Environmental and Social Safeguards

Item	Descriptions	
Training 1	Programme for Management/ Administrative Level	
Key Participants	Designated officials of PMU, CCF Office	
Training	Topic 1: Orientation/Sensitization on Env. and Social Consideration	
Programme	Legal framework on environmental and social safeguards of India and JICA	
	Environmental and social impact assessment: overview & regulations	
Basic introductory concept of safeguard		
	Safeguard issues (vulnerable groups, SCs, STs, transhumance, Gender, etc.)	
	Free, Prior and Informed Consent (FPIC)	
	Topic 2: ESAF and its importance under the project	

Item	Descriptions
	Knowledge and skills necessary for undertaking environmental and social screening and
	appraisal as per the requirements of the ESAF
	Conduct ESA and preparation of management/ mitigation plans
	ESAF: steps and procedures with respect to the Project
	Topic 3: Monitoring and Evaluation for Environmental and Social Safeguard
	Concept of M&E
	M&E - Methods and reporting procedures
	Use of M&E Results and feedback
	Grievance Redressal Mechanism
	Experience sharing and learning
Duration	Two days training (once a year in the first four years at each district)
Training 2	Programme for Field/ Operational Level
Key Participants	Designated officials and staff of DMU, Division, Sub-Division office and FMU
Training	Topic 1: Orientation/Sensitization on Env. and Social Consideration
Programme	Legal framework on environmental and social safeguards of India and JICA
	Environmental and social impact assessment: overview & regulations
	Basic introductory concept of safeguard
	Safeguard issues (vulnerable groups, SCs, STs, transhumance, Gender, etc.) Process of community consultation and public participation
	Free, Prior and Informed Consent (FPIC)
	Topic 2: ESAF and its importance under the project
	Knowledge and skills necessary for undertaking environmental and social screening and
	appraisal as per the requirements of the ESAF
	ESAF: steps and procedures with respect to the Project
	PRA for data collection, analysis and report preparation
	Micro Planning and Participatory Land Use Planning
	Topic 3: Monitoring and Evaluation for Environmental and Social Safeguard
	Concept of M&E
	M&E - Methods and reporting procedures
	Environment Health Standards
	Use of M&E Results and feedback
	Grievance Redressal Mechanism
	Experience sharing and learning
Duration	Two days training (once a year in the first four years at each division)
Training 3	Community Facilitation and Environmental and Social Assessment for ESC
Key Participants	Designated field level officers from Beat, GP representatives, Village level implementing
m · ·	organisations-JFMC/EDC, Field Facilitators
Training	Topic 1: ESAF and its importance under the project
Programme	ESAF: steps and procedures with respect to the Project Project Activity Planning during Micro Planning and Participatory Land Use Planning
	Participatory ESA Procedures
	Working with Ethnic and Vulnerable Groups
	Mechanisms for addressing Gender Issues
	Conflict Resolution/Grievance Procedures
	Role of community level institutions in ESA
	Community Level Monitoring
Duration	One session as part of other community related trainings (Once a year mandatory or as
	decided by FMU based on the plan of community level trainings in the first four years)
Training 4	Specific Training for Specific Techniques/Tasks to be Required
4.1	Quality Planting Material
Key Participants	DMU, FMU officials
Training	Usage of prescribed quantity of chemical fertilizers/pesticides
Programme	Maximum usage of suitable Organic fertilizer/pesticides
Duration	Training sessions on these topics to be clubbed with training on Nursery/ Plantation
4.2	Eco-DRR activities to strengthen forestry operation
Key Participants	DMU, FMU officials in-charge of supervision of the contractor

Item	Descriptions		
Training	Safety standards for constructions [check dams]		
Programme			
Duration	Training sessions on these topics be clubbed with training on M&E		
4.3	Building		
Key Participants	DMU, FMU officials in-charge of supervision of the contractor		
Training	Safety standards for constructions		
Programme	Occupational Health and Safety		
Duration	Training sessions on these topics be clubbed with training on M&E and also Construction		
	contractors need to include a session on the same or their workers		

7 Stakeholder Involvement and Grievance Redressal Mechanism

7.1 Stakeholder Involvement

Public consultation and participation are some of the key regularity tools employed to improve transparency, efficiency and effectiveness of regulation, regulatory alternatives and improved accountability arrangements. It is a suitable process to provide information to community, project-affected persons and other stakeholders relevant to the proposed Project, so that they (i) are sufficiently educated about the project's objectives, activities, benefits and risks; (ii) have equal opportunities to participate in the Project; (iii) receive culturally appropriate benefits which are more suited to their interests, capabilities and priorities; these shall be identified during the course prior consultations, and such benefits are shared equitably; (iv) are not adversely affected by the Project or its associated activities; adverse impacts shall be mitigated appropriately; and (v) can raise project related grievances and required mechanism is in place.

Consultation and Participation provides an opportunity and platform for people to express and sharing their views and concerns, contribute to design and implementation of the programme activities, discussions on sensitive social mitigation measures, while at the same time creating a sense of ownership for the Project. In this regard, FPIC is an important process to minimise any negative impacts and for a broad community support. Summary of FPIC relevant activities is described in Table 19.

Table 19 Summary of FPIC Activities

Table 19 Summary of FFIC Activities			
Item	Descriptions		
Objective	To establishing a broad community support and willingness for implementation of the Project		
	Disclosure of basic project related information including area, location, purpose/objectives,		
Topic for	key activities, stakeholders involved, target beneficiaries.		
Consultation	Expected role and involvement of communities.		
Consultation	An overview of anticipated environmental and social risks.		
	Involuntary Resettlement Plan and Vulnerable People's Plan (if any)		
Dantiainanta	Target group of VPPF		
Participants	Other important key persons (e.g. Gram Panchayat President)		
	a) Before on-set of sub-project implementation, immediately following formations of		
Process	beneficiary groups, appropriate community meetings and consultations that are culturally		
	appropriate and in simple and understandable language		
	b) Encourage community's participation in discussions, meetings and consultations,		
	facilitate participation of women, elders and other vulnerable groups		
	c) Field level officers will participate in general community meeting to discuss concerns,		

Item	Descriptions		
	visit individuals who express doubt and/or criticism on any aspect of project		
	implementation.		
	d) Participants to be provided adequate time to assimilate information provided/ shared		
	e) Opportunity to decide if they do not wish to participate.		
	f) Discussion		
Material	Provision of simple/easy to read project brochures in local language		
Required	Consultation and Participation Monitoring Sheets		

The public consultation mechanism shall reduce conflicts between the affected and the management committees. This is particularly focused on ensuring that vulnerable groups, including the poor, landless, STs/SCs and other forest dependent groups, and women, are properly consulted during site-level project planning and that they are given the opportunities and encourage to participate in the Project. Moreover, public consultation processes can also enhance voluntary compliance for two reasons: (1) changes are announced in a timely manner and there is time to adjust to change, (2) the sense of legitimacy and shared ownership that gives consultation motivate affected parties to comply.

7.2 Information Disclosure

The project would apply the following method of information disclosure to the public and relevant stakeholders respectively to make the process of ESAF implementation transparent.

Table 20 Method of Information Disclosure

Method	Description	
Physical	Through simple and concise details in printed charts/ flip charts/ posters etc. pasted at	
Information	the community meeting centres [Info. about project objective, activities, area,	
Disclosure	beneficiaries, Social/Environmental survey reports, EIA reports, Social/Environmental	
	monitoring reports etc. must be shared in public domain on project website.]	
Digital	On the Project Website – All project docs related to the project objective, activities, area,	
Information	beneficiaries, social assessment report/ Environmental survey reports, EIA reports,	
Disclosure	social/Environmental monitoring reports etc. must be shared in public domain on project	
	website.	

Source: JICA Survey Team

7.3 Grievance Redress Mechanism

While there are the existing legal frameworks related to the Grievance Redress Mechanism (GRM) in the country⁴, a Project-level GRM for all the sub-projects is expected to be institutionalised, in which project-related grievances such as disputes over locations of forest development and

⁴ EIA Notification 2006 states that "Public Consultation and Public Hearing" which refers to "the process through which the concerns of local affected persons and others who have plausible stake in the environmental impacts of a project or activity are ascertained with a view to taking into account all the material concerns in the project or activity design as appropriate. All Category 'A' and Category 'B1' projects or activities shall undertake Public Consultation...". Further, the RFCTLARRA-2013, involves consultations and redress of concerns of affected persons at various stages. Besides, Department of Administrative Reforms & Public Grievances under the Ministry of Personnel, Public Grievances & Pensions, GoI, has issued a Compilation of Guidelines for Redress of Public Grievances and also operates a web-based portal (http://pgportal.gov.in/).

management and community development infrastructure, selection of beneficiaries, distribution of project benefits, behaviour of fellow community members, contractor and his workers, project-related staff or consultants, etc. can be reported directly to WB-FBCCCR.

In this regard, FMU officer, would be the first level of intervention, as FMU acts as the link for community liaison and forest management in general. Thus, all concerns of the community shall be recorded in a project grievance logbook on MIS. Individuals can raise their grievances in name or anonymously, or through traditional institutions according to culture and context, as appropriate, which shall be recorded in written form. A grievance redress format/ template could be devised for this purpose, which would depend on the type and context of the grievance.

FMU officers should resolve all concerns or grievances raised by the communities, beneficiaries, etc. and in case an anonymous grievance has been put-up, it shall be addressed through public consultation through a village meeting, retorting generally to the raised point(s) and minutes of the meeting and outcomes shall be recorded. The grievance redress or compliance response is sent to the applicant in written, after resolving the grievance/concerns.

However, in case the applicant (individual/ group) is not satisfied, s/he may approach to FMU for further redress, or in case of grievances that are more serious in nature, the FMU officers should forward such grievances to DMU. DMU officers shall be responsible to redress the grievance in consultation with the FMU officer, concerned applicants. All grievances should be addressed, redressed and resolved at this level.

In case of more serious grievances, then they should be dealt with through the project hierarchy as necessary and any complainant should be made aware of their legal rights according to the relevant legal documents. The flow of GRM is illustrated in the following figure.

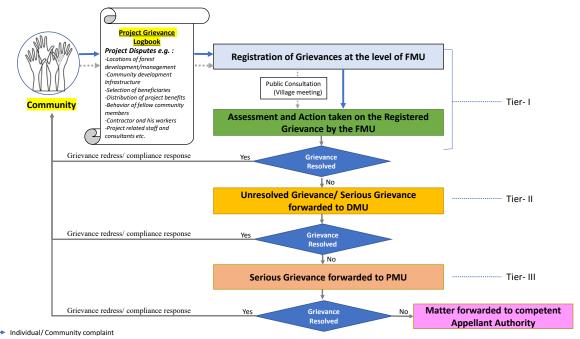


Figure 9 Grievance Redressal Mechanism

Source: JICA Survey Team

8 Cost Estimation and Budget Allocation

The cost estimate for implementation of ESAF and VPPF under this project is summarized in the following table.

Table 21 Cost Estimate for Implementation of ESAF and VPPF

(INR)

Cost item	Unit price	Quantity	Total	Remarks
PMC ESC	368,771	9 Man	3,318,939	Dec, 2023 – Mar, 2027
		Month		Estimated under Component
				5: PMC
Outsourcing work for	2,500,000	1 l.s.	2,500,000	Estimated under Component
baseline survey of socio-				4.3.2 2)
economic condition				,
Outsourcing work for	2,500,000	1 l.s.	2,500,000	Estimated under Component
baseline survey of the				4.3.2 2)
target area				·
Total			8,318,939	

Source: JICA Survey Team

Attachment 18

Vulnerable People's Planning Framework (VPPF)

Page No - (1-25)

Attachment 18 Vulnerable People's Planning Framework (VPPF)

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Abbreviations

CFR	Community Forest Rights
DMUs	District Management Units
EDC	Eco-Development Committee
EPA	Entry Point Activity
ESAF	Environmental and Social Assessment Framework
ESC	Environment and Social Consideration
Eco-DRR	Ecosystem-based disaster risk reduction
FDST	Forest Dwelling Scheduled Tribes
FMUs	Field Management Units
FPIC	Free, Prior and Informed Consent
FRA	Forest Rights Act
GRM	Grievance Redress Mechanism
HPC	High Powered Committee
IFR	Individual Forest Right
JFMC	Joint Forest Management Committee
JICA	Japan International Cooperation Agency
MoD	Minutes of Discussions
NTFP	Non-Timber Forest Produce
OBC	Other Backward Classe
OTFD	Other Traditional Forest Dwellers
PMC	Project Management Consultant
PMU	Project Management Unit
PVGT	Particularly Vulnerable Tribal Group
PVTGs	Particularly Vulnerable Tribal Groups
R&R	Rehabilitation and Resettlement
SA	Social Assessment
SC	Scheduled Caste
SHG	Self Help Group
ST	Scheduled Tribes
VP	Vulnerable People
VPP	Vulnerable People's Plan
VPPF	Vulnerable People's Planning Framework
WB-	The Project for Forest and Biodiversity Conservation for Climate Change Response in West
FBCCCR	Bengal
WBFD	West Bengal Forest Department

Draft Vulnerable People's Planning Framework (VPPF)

1 Overview

1.1 Objective of Vulnerable People's Planning Framework (VPPF)

Vulnerable People's Planning Framework (VPPF) is to be applied as an additional framework that works in concert with the Environmental and Social Assessment Framework (ESAF), the primary project safeguards document. The VPPF is applied only in situations where Scheduled Tribes (ST), including Particularly Vulnerable Tribal Group (PVTG), Scheduled Castes (SC), Other Backward Classes (OBC) minorities and Forest Dwellers are affected by project activities and provides guidance for specific measures which may be required in addition to the general provisions of the ESAF.

1.2 Structure of VPPF

The structure of VPPF is described below.

- i) <u>Project Summary Description</u> objectives and outline of the components/sub-projects, expected outcomes, and target areas;
- ii) <u>Potential Impacts on the Vulnerable People</u> definition of vulnerable people, potential positive and adverse impacts on the vulnerable people (VP);
- iii) <u>Plan of Social Assessment of Sub-projects</u> key project stakeholders, baseline information to be confirmed, method of assessment of impact on the vulnerable people;
- iv) Screening of the Sub-projects and Criteria for Selection of Target Area Method of screening of the community infrastructures in the long list considering the potential impact on the vulnerable people, the selection criteria of the project target area for each sub-project considering the potential impact on vulnerable people, and process of finalisation of the draft VPPF:
- v) <u>Institutional Arrangement and Capacity Building</u> proposed institutional arrangement, roles of the stakeholders such as the implementing units, PMC, JICA, and relevant government institutions in the process from preparation to approval of the EIA of the sub-projects, institutional structure of monitoring and reporting (including reporting to JICA), method of monitoring and reporting, proposed training outline of the implementing agencies;
- vi) <u>Framework for Disclosure of VPPF and Free, Prior, Informed Consent (FPIC), and Grievance Redressal Mechanism</u> Method of disclosure of VPPF, framework of consultation for FPIC, mechanism for grievance redressal mechanism;
- vii) Cost Estimation and Budget Allocation cost estimate to finalise and implement VPPF.

2 Target Social Groups under VPPF

2.1 Rationales for Identification of the Targeted Social Groups under VPPF

This section describes two important source documents which help to identify target social groups

under VPPF, namely (1) World Bank Safeguard Policy (Operational Policy 4.10) and (2) The Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act (FRA) 2006.

(1) World Bank Safeguard Policy (Operational Policy 4.10)

There is no widely accepted definition of indigenous peoples. World Bank's official position is that "because of the varied and changing contexts in which Indigenous Peoples live and because there is no universally accepted definition of Indigenous Peoples, this policy does not define the term". OP 4.10 describes "Indigenous People" in a generic sense to refer to a distinct, vulnerable, social and cultural group possessing the following characteristics in varying degrees;

- self-identification as members of a distinct indigenous cultural group and recognition of this identity by others,
- collective attachment to geographically distinct habitats or ancestral territories in the project area and to the natural resources in these habitats and territories,
- customary cultural, economic, social, or political institutions that are separate from those
 of the dominant society and culture, and
- ♦ an indigenous language, often different from the official language of the country or region. OP 4.10 also indicates that Indigenous Peoples may be referred to in different countries by such terms as 'indigenous ethnic minorities,' 'aboriginals,' 'hill tribes,' 'minority nationalities,' 'scheduled tribes,' or 'tribal groups'. And in the Indian context, the term of Scheduled Tribes (STs) appears to be in the line with the "Indigenous Peoples" described in the World Bank's generic definitions. Degrees of social, cultural, ethnical, linguistically, institutional and geographical distinctions fluctuate among STs.
- (2) The Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights)
 Act (FRA) 2006

The Forest (Recognition of Forest Rights) Act 2006 defines "the Forest Dwelling Scheduled Tribes (FDST) and the Other Traditional Forest Dwellers (OTFD)" as members or communities who primarily reside in and who depend on the forests or forest lands for bona fide livelihood needs (Section 2 Part c of the Act). The criteria and evidence required for a FDST and OTFD to claim rights under FRA are described in Table 1.

Table 1 Criteria for FDST and OTFD under the FRA

Types of Forest	Criteria to be Given the Certification
Dwellers	
FDST	1) Must be a Scheduled Tribe in the area where the right is claimed,
	2) Primarily resided in forest or forest land prior to 13-12-2005, and
	3) Depend on the forest or forests land for livelihood needs
OTFD	1) Primarily resided in forest or forests land for three generation (75 years) prior to
	13-12-2005, and
	2) Depend on the forest or forests land for livelihood needs

Source: JICA Survey Team based on The Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act (FRA) 2006

It is noteworthy to mention that the term "Forest Dweller" has a specific meaning in the context of Indian forest legislation. If a person is certified as a "Forest Dweller" legally, he/she has all right over the forestland. In West Bengal, 12 districts are identified as the target area for implementation of the provisions of the Forest Rights Act (FRA): Purulia, Bankura, Paschim Medinipur, Jalpaiguri, Burdwan, Cooch Behar, Hooghly, Birbhum, Darjeeling, Murshidabad and Nadia. As of June 2022, total claims received for Individual Forest Right (IFR) and Community Forest Rights (CFR) are 131,962 and 10,119 respectively, while 44,444 IFRs and 686 CFRs were titled, and about 68 % of the received claims were rejected. The total forest lands recognised with IFR and CFR are 8,498.24 ha and 404.68 ha.

2.2 Target Social Groups

Considering the Word Bank's OP 4.10, the FRA 2006 and actual socio-economic conditions in the state, two specific social groups, i.e. Scheduled Tribes (STs) and Forest Dwellers under the FRA with only focused on the individuals/communities who could be severely affected their daily lives by project activities are identified as the target social groups under the framework. The requirement of VPPF application for sub-projects shall be decided by DMU under the direction/guidance of PMU at the selection and screening procedures of sub-projects which is further explained in ESAF. Table 2 indicates the key groups for VPPF to address environmental and social considerations.

Table 2 Targeted Social Groups of VPPF

Table 2 Targeteu Social Groups of VIII			
Groups	Definition, Reasons, and Characteristics of the Group		
Inhabitants of forest villages	 Inhabitants of forest villages were people who were allowed to stay on in the reserved forests on the condition that the villagers work for the forest department in cutting and transporting trees. protecting the forest from fires. The project activities are expected to positively affect the inhabitants of forest villages in terms of focus on non-timber based Income Generation Activities and through awareness creation about Human Wildlife Conflict mitigation 		
Forest dwellers	 Forest dwellers are people residing in such forests for generations. The project activities are expected to positively affect the inhabitants of forest villages in terms of focus on non-timber based Income Generation Activities and through awareness creation about Human Wildlife Conflict mitigation 		
People/ Communities Recognised by Forest Right Act	- In West Bengal, 12 districts are identified as the target area for implementation of the provisions of the Forest Rights Act (FRA): Purulia, Bankura, Paschim Medinipur, Jalpaiguri, Burdwan, Cooch Behar, Hooghly, Birbhum, Darjeeling, Murshidabad and Nadia. As of June 2022, total claims received for Individual Forest Right (IFR) and Community Forest Rights (CFR) are 131,962 and 10,119 respectively, while 44,444 IFRs and 686 CFRs were titled, and about 68 % of the received claims were rejected. The total forest lands recognised with IFR and CFR are 8,498.24 ha and 404.68 ha.		
Members of JFMC/EDC	 Members of the forest fringe villages that jointly work with forest department on the basis of mutual trust and jointly define responsibilities for forest protection and development and form JFMC and EDC The project activities are expected to positively affect the inhabitants of forest villages through non timber based Income Generation Activities and awareness creation about Human Wildlife Conflict mitigation 		
Scheduled Tribes (STs)	 According to the Article 342 of the Constitution, STs are the tribes or tribal communities or part of or groups within these tribes and tribal communities which have been declared as such by the President through a public notification. The ST population of West Bengal is around 5.80% of the state's total population. Out of the total ST population, 92 % lives in rural area, representing 16.69% of the total rural population of the state. Higher concentration of Tribal population is found in the following districts: Darjeeling, Jalpaiguri, Alipurduar, Dakshin Dinajpur, Paschim Medinipur, Bankura and Purulia (based on 2011 Census Data) The project activities are expected to positively affect the inhabitants of forest villages through non timber based Income Generation Activities 		

Groups	Definition, Reasons, and Characteristics of the Group
Particularly Vulnerable Tribal Group (PVTG)	- PVTG is a sub-classification of Scheduled Tribe, who are most vulnerable in certain parameter than the other Scheduled Tribe community. In West Bengal, three tribal groups are categorised as vulnerable tribal groups that includes Birhor, Lodhas, and Totos.
Scheduled Castes (SC)	 Scheduled Caste also known as Dalits, are traditionally and socially marginalised, who faced injustice/discrimination based on their caste status. These communities were notified as the SCs as per provisions contained in Clause 1 of Articles 341 and 342/ Clause 24 of Article 366 under the Constitution of India which require special consideration for safeguarding their interests and to accelerate their socio-economic development. The total SC population of West Bengal is around 23.51% of the state's total population, which is about 4 times of ST population. SC population is mainly concentrated in the following districts: 24-Parganas South, 24-Parganas North, Burdwan, and Nadia (Census 2011) The project activities are expected to positively affect the inhabitants of forest villages through non timber based Income Generation Activities
Other Backward Classes (OBC)	- Other Backward Class (OBC) is a collective term used by the Government of India to classify castes which are socially and educationally disadvantaged according to Constitution of India. All tribal communities and castes deemed under article 341 and 342 of the constitution of India are considered backward classes and there are OBC, which are not scheduled. According to the Department of Social Justice and Empowerment and the Himachal Backward Classes Finance and Development Corporation, 48 communities belong to OBC. Social and educational backwardness has been identified as reasons due to which the OBCs also need special attention.

3 Project Summary Description

3.1 Project Objectives

The objective of the proposed Project is "to mitigate and adapt to climate change, improve ecosystems and improve livelihood through ecosystem-based climate change measures, biodiversity conservation and restoration, livelihood improvement activities and institutional strengthening, thereby contributing to sustainable socio-economic development in West Bengal".

3.2 Identified Project Area

The WBFD has proposed 23 territorial divisions, 6 wildlife divisions, and 5 functional divisions to be covered under the project. The list of divisions and the number of ranges and JFMCs that are covered under Phase 1 and proposed in Phase 2 are given in the table below. Under the Phase 1 of the project, 138 ranges are covered out of 190 ranges. Under the WB-FBCCCR, 90 ranges will be covered, which are mostly overlapping with Phase 1 ranges.

3.3 Proposed Project Components

The proposed project components are indicated in Figure 1 below. In total there are five Main Components but primarily main components, viz. Component-1: Ecosystem based Climate Change Measures, Component-2: Biodiversity Conservation and Restoration and Component-3: Livelihood are the regarded as the nucleus of the Project.

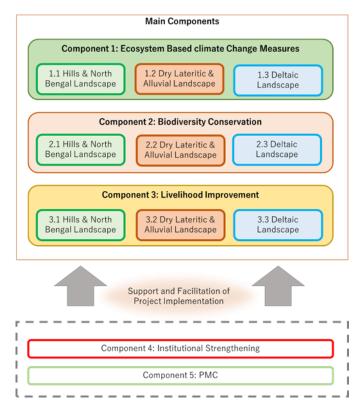


Figure 1 Framework of Project Components and Flow of the Phases

The sub-activities of each component is shown in the following table.

Table 3 Project Outline

Component/ Sub-	Project Activity		
component			
Component 1	Ecosystem Based Climate Change Measures		
1 1 11'11 0 N (1 D)	1.1.1Production of Quality Planting Materials		
1.1 Hills & North Bengal Landscape	1.1.2 Improving Quality of Forests		
Landscape	1.1.3 Eco DRR Activities (Soil Water Conservation Works in Protected Areas)		
	1.1.4 Green Laboratory Initiatives		
1 2 Dans I -4i4i - 8- Allersi -1	1.2.1 Production of Quality Planting Material		
1.2 Dry Lateritic & Alluvial Landscape	1.2.2 Improving Quality of Forests		
Landscape	1.2.3 Eco DRR Activities (including Preparation of GIS-based CAT Plans, Soil and		
	moisture conservation works based on CAT Plan)		
	1.2.4Green Laboratory Initiatives		
1.3 Deltaic Landscape	1.3.1 Eco DRR activities (field validation of the mangrove forest restoration models and its replication)		
	1.3.2 Green Laboratory Initiative		
Component 2	Biodiversity Conservation & Restoration		
2.1 Hills & North Bengal	2.1.1 Human-wildlife conflict		
Landscape	2.1.2 Species conservation programme		
	2.1.3Studies on wild animals and other behaviour		
2.2 Dry Lateritic & Alluvial	2.2.1 Biodiversity conservation through people's participation in protected area		
Landscape	2.2.2 Biodiversity conservation through people's participation for smaller mammals		
	2.2.3 Human-wildlife conflict mitigation		
	2.2.4 Species conservation programme		
	2.2.5 Studies on wild animals and their behaviour		

Component/ Sub- component	Project Activity			
2.3 Deltaic Landscape	2.3.1 Biodiversity conservation through people's participation in protected area			
	2.3.2 Human-wildlife conflict mitigation			
	2.3.3 Studies on wild animals and their behaviour			
Component 3	Livelihood Improvement			
3.0 Preparatory Works (All	i) Preparation of Manuals and Guidelines			
land scapes)	ii) Deployment of Technical Agency for IGA Support Fund Management			
	iii) Finalisation of Selection Criteria of JFMCs & Selection of JFMCs			
a) Hills & North Bengal Landscape	1. Preparatory Activities with JFMCs (3 batches) including community mobilisation, micro planning, EPA/ CDA)			
b) Dry Lateritic &	2. Support for Income Generation			
Alluvial c) Deltaic Landscape	3. Support for Community Well being (Traditional Healders) (Except in Deltaic Landscape)			
	4. Support for Community Mobilisation (Extension Worker)			
Component 4	Institutional Strengthening			
4.1 Strengthening Project	4.1.1 Demarcation of JFM boundary			
Management	4.1.1.1 Digitization of JFMC boundary including procurement of mouza sheet and GPS, and outsourced digitisation of JFM boundaries, and boundary pillar setting			
	4.1.2 Mobility			
	4.1.3 Buildings			
	4.1.4 Project Contractual Staff			
	4.1.5Digital Strengthening			
4.2 Capacity Development	4.2.1 Training Plan			
	4.2.2 Training of Forest Officers (DCF & above Ranks)			
	4.2.3 Trainings of Forest Officers /Frontline staff (Ranger & below ranks)			
	4.2.4 National Workshop (3 days)			
	4.2.5 Trainings for JFMC/ SHG members			
4.3 Monitoring &	4.3.1 Progress Monitoring			
Evaluation	4.3.2 Impact Evaluation			
	4.3.3 Audits			
4.4 Strengthening Forest	a) Creation of carbon estimation lab			
Research	b) Research studies based on the research plan			
4.5 Publicity and	4.5.1 Website maintenance			
Publication	4.5.2 Guidelines, manuals and annual reports			
	4.5.3 Small filems/ videos/ digital documentation			
	4.5.4 Knowledge material/ course material			
Component 5	PMC			

PMU will be supported by a group of specialists engaged under PMC. In total, nine person-months of international specialist and 91 person-months of national specialists for a duration of 41 calendar-months is proposed. Since the procurement of PMC requires time, PMU shall initiate the process at the earliest possible time. The proposed plan assumes PMC mobilisation in November 2023. The indicative TOR is attached as **Attachment 10.2.2.**

Source: JICA Survey Team

3.4 Project Implementation Structure

The Project is proposed to be implemented through an autonomous society, named West Bengal-Forest and Biodiversity Conservation for Climate Resilience Enhancement (WB-FBCCCR). The detailed implementation structure of the autonomous society is depicted in Figure 2.

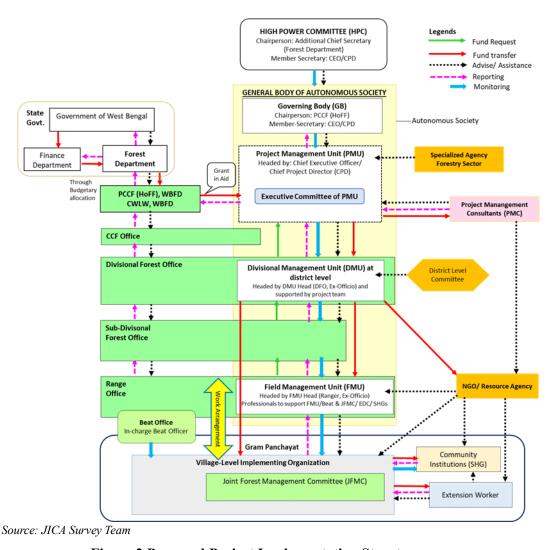


Figure 2 Proposed Project Implementation Structure

Project Management Unit (PMU) of the new project will continue to operate as an autonomous registered society within the WBFD, and be made responsible to manage, coordinate, implement and monitor the planned activities. All offices created for the new project will exclusively work to assist and facilitate implementation of the proposed activities following the project implementation schedule, annual plan of operations and envisaged processes adopting the Operational Manual.

The High-Power Committee (HPC) created for WB-FBCCCR will act as its highest decision-making body at the state government level and will not form a part of the autonomous society. To support project implementation at the field level, PMU will create and coordinate with a set of offices viz., District Management Units (DMUs) and Field Management Units (FMUs) which will work as extended arms for the PMU under the society. The Beat Office with its in-charge will work as a link office for FMU and contact between WB-FBCCCR and village level institutions such as JFMCs/ EDCs and SHGs. Under the project implementation structure, PD-Finance of PMU would also be the in charge of Environmental and Social Consideration to ensure smooth implementation, monitoring and compliance of ESAF. He/she would be the focal point to communicate with JICA on environmental and social safeguard matters.

3.5 Implementation Schedule of the Proposed Project

The followings are indicative description about the overall implementation schedule for the Project.

- ❖ The Project duration would be a total of eight years, starting from 2023 until 2030.
- The plantation activities and the livelihood improvement activities would be implemented in three batches during the course of the project considering the interdependency of one activity on the others. All plantation activities would start from site identification followed by survey and demarcation, advance work, plantation and maintenance one after another. Similarly, under Livelihood improvement component JFM based activities would start from community mobilisation followed by reorganisation and reconstruction of JFMC, micro planning, and so on.
- ❖ In case of the 1st Batch, the preparatory work would start from different period for different plantation model/species. The production work of Quality Planting material would start from Year-1 (Oct-2023) and would be different for different plantation model.
- ❖ The actual selection of JFMCs and their batches will be conducted by FMU in consultation/confirmation with the concerned JFMCs.

4 Potential Impact on VP

4.1 Potential Positive Impacts

In general, the Project is anticipated to bring-out mainly positive environmental and social impacts, although minor deleterious impacts by the Project cannot be ruled-out. Considering the fact that at the current stage, all sub-project type and their location are not precisely known, as they will be democratically identified by involving the local communities and suitability of terrain. Thus at this stage, all impacts cannot be anticipated with accuracy. Nevertheless, an attempt was made to assess the key benefits and positive environmental and social impacts on VP by the Project in reference to the indicative subprojects. The results of analysis are indicated in Table 4 below.

Table 4 Key Positive Impacts on VP by the Project

Type of Capital Benefit	Positive Impact
a. Forest / Natural and	- Enhanced awareness towards forest protection and conservation
Physical Capital Benefits	- Increase in forest covered area and density
	- Degraded areas to be brought under forest cover
	- Improvement in forest quality and quantity
	- Human-wildlife conflicts to be reduced
	- Increase NTFP production
	 Improved watershed protection, reduction of soil erosion, etc., resulting in improved ecosystem services from forests
	- EPA would ensure creation of prioritised common need-based infrastructure
	for the community
b. Social Capital Benefits	- Community institutions to be strengthened
or seems cupital Benefits	- Prudent utilization of land, water, forest resources, etc. due to the project
	interventions, thus safeguarding the environment
c. Financial Capital	- Income levels to be increased
Benefits	- Project activities/ interventions to create direct and indirect employment
	opportunities,
	- Diversification of sources of incomes
	- Reduced financial risk
	- Value addition and better marketing for their products

Type of Capital Benefit	Positive Impact		
	 Increased women participation in indirect employment opportunities as labour force (for nursery, plantation, construction) and SHG initiatives lead to their economic independence and empowerment 		
d. Human Capital	- Increase technical capacity for sustainable forest management and		
Benefits	 biodiversity conservation Improved entrepreneurial and business management capacity of JFMCs and SHGs Active participation towards community development planning and activities to increase Improved participation of local people in forest management and biodiversity 		
S. Water	conservation - Cohesion amongst community members, JFMCs, SHGs to improve - Active participation of vulnerable groups particularly forest dwellers, inhabitant of forest villages, ST and SC in decision making process of local institutions		

4.2 Potential Adverse Impacts

The Project does not foresee significant deleterious impacts on the targeted VP, although the Project might potentially cause adverse impacts on the environmental and social setting. Table 5 presents potential adverse risks and mitigation measures for them.

Table 5 Adverse Environmental / Social Risks and Possible Mitigation Measures

Activities	Potential Adverse Risks	Possible Mitigation Measures
Planning of JFMC	 Disempowerment of customary village forest management institutions Conflict among community members Micro planning could lead to conflicts over natural resources, due to formalization of previously fluid, flexible and informal agreements and practices 	Avoid major impacts through participatory procedures for screening of sub-projects Ensuring adequate consultations and participation of vulnerable groups for microplanning Promote best-practices of participatory approaches for forest management planning Prioritize vulnerable groups as beneficiaries
Sustainable Forest Management/ Biodiversity Conservation	Impacts from construction activities including air (dust), water (siltation of water bodies), soil (soil contamination, erosion, and loss), local fauna and flora, noise pollution, waste disposal etc. Possibility of loss of access to customary lands and resources Potential loss of customary/traditional knowledge as communities are trained in formal management approaches	 Participatory procedures for micro planning, screening of sub-projects and avoidance of major impacts Proper design and planning of activities to minimize environmental risks Community-based/participatory land/resource use planning Prioritization of vulnerable groups as beneficiaries Documentation and utilization of traditional knowledge/ practices Preparation of Local regulations
Community development activities	 Encroachments Loss of common property resources Loss of property, houses and other physical assets Loss of other customary land/resource access and use Disempowerment of customary institutions Construction activities related air, water, soil and noise pollution Possible damage to flora and fauna 	 Strict delineation and survey of forest boundaries Stringent action against encroachment Increased awareness programs Participatory procedures for screening of subprojects and avoidance of major impacts No use of private land or resettlement for community infrastructures Ensure members of the community participation in Gram Sabha Participatory procedures for screening of subprojects and avoidance of major impacts Proper design and planning of infrastructure activities to minimize environmental risks Community-based/participatory land/resource
Livelihood	- Denial of basic rights	use planning - Proper implementation and monitoring of

Activities	Potential Adverse Risks	Possible Mitigation Measures
support activities	 Increased dependency Loss of traditional livelihood Loss of traditional knowledge/skill Inequitable benefit sharing Resource use conflicts Gender issues 	ESAF, VPPF, including Social Assessment - Clear and equitable beneficiary selection and prioritizing VP. - Documentation and utilisation of traditional knowledge/ practices - Active bottom-up approach - Community involvement and employment in all aspects of construction, operation and maintenance - Corpus fund to ensure sustainability of investment - Selection of female beneficiaries with deliberate attempts to empower women

5 Procedures for Preparation of Vulnerable People's Plan

5.1 Overall Procedure for Preparation of VPP

The Vulnerable People's Plan (VPP) shall be prepared at the Gram Panchayat or JFMC level when adverse impacts are anticipated due to the Project on VP. It should be ensured that the contents of VPP should be incorporated in the micro-plan. VPP shall be prepared by FMU and Extension Workers in consultation and active participation of the concerned VP. Indicative steps for the preparation of VPP are described in Table 6.

Table 6 Processes for Preparation of VPP

	Table of Focesses for Frequencial of VII			
No.	Step	Safeguard Activity, Methods, Processes		
1	Screening and Basic Information Collection	 Collection of baseline socio-economic status on the village/ habitation in the target area by means of subcontract work to identify VP Examine potential VP and potential impacts of the each sub-project on VP. 		
2	Social Assessment including consultation	 Explanation on the project plan to VP Workshops and discussions with VP on identification of adverse impacts and devising mitigation measures and other support activities 		
3	Consultation on draft VPP with identified VP	- Consult with VP on the draft VPP, especially on the action plan, to receive VP's feedback for finalisation		
4	Finalisation and Approval	 Finalise the draft VP based on outcomes of workshop/discussion conducted Meeting at Gram Panchayat or/and JFMC level 		

Source: JICA Survey Team

VPP shall include at least the following indicative contents as indicated in Table 7.

Table 7 Indicative Contents of VPP

	Table / Indicative Contents of VII			
No.	Chapter	Descriptions		
1	Introduction	- Define the basic purpose of the plan, its scope and objectives, and outline of the report		
2	Sub-projects Description	- Result of screening, brief description of the sub-projects, rationale, objectives, location/area, key activities, the implementation schedule, etc.		
3	Socio-economic Baselines	 Brief profiles of the target area. Baseline information on the demographic, social, economic and cultural characteristics of all categories of VP Baseline information on natural resources, viz., land, water, forest, forest products, etc., utilized and managed by VP 		
4	Summary of the Social Assessment	 Identify and mapping of key project stakeholders Stakeholder engagements Consultations with the targeted social groups under VPP 		

No.	Chapter	Descriptions
	and Free, Prior and Informed Consultation	- Assess potential adverse and positive effects of the Project in a participatory manner with VP
5	Action Plan	 Define/identify vulnerable people based on the results of socio-economic baselines and social assessment Identify measures to avoiding potential adverse effects of the Project Identify mitigating measures for potential adverse effects of the Project Identify activities support the vulnerable people to participate in the Project (if any) Grievance redressal mechanism of the project
6	Public Consultation and Information Disclosure	Document and present results of public consultation with the communities
7	Cost Estimation and Financing Plan	- Provide activities-wise budget and possible sources of finance
8	Monitoring Plan	Provide details of concurrent and end of project monitoring mechanism for targeted groups under VPP

5.2 Screening of the Sub-Projects and Target Areas

The screening of sub-projects and target areas needs to be completed at the initial planning phase, while identification of the sub-project and target sites identification is undertaken. The broad screening criteria of the sub-project and target areas considering social impact on VPs and forest dwellers are summarized below. In case there is a "No" to one of the questions, the sub-projects/target areas are excluded.

Table 8 Screening Criteria for the Sub-projects and Target Areas

Table 8 Screening Criteria for the Sub-projects and Target Areas			
Component	Sub-Component	Screening Criteria	
Component 1:	1.1 Hill & North Bengal Landscape	- Information related to the affiliation,	
Ecosystem-	1.1.1 Production of Quality Planting Materials	ownership and land use status of the	
based	1.1.2 Improving Quality of Forests	sub-project site is available and	
Climate	1.1.3 Eco DRR Activities (Soil Water Conservation	verified? [The screening cannot be	
Change	Works in Protected Areas)	completed until this is available]	
Actions	1.1.4 Green Laboratory Initiatives	- The sub-project and the target areas	
	1.2 Dry Lateritic & Alluvial Landscape	have considerable VP and the project	
	1.2.1 Production of Quality Planting Material	activities will be beneficial for them.	
	1.2.2 Improving Quality of Forests	- Will the sub-project reduce VP's	
	1.2.3 Eco DRR Activities (including Preparation of	access to their economic resources,	
	GIS-based CAT Plans, Soil and moisture	such as land, pasture, water, public	
	conservation works based on CAT Plan)	services, sites of common public use	
	1.2.4 Green Laboratory Initiatives	or other resources that they depend	
	1.3 Deltaic Landscape	on?	
	1.3.1 Eco DRR activities (field validation of the	- Will the sub-project result in	
	mangrove forest restoration models and its	resettlement of VP or require the	
	replication)	acquisition of land (public or private,	
	1.3.2 Green Laboratory Initiative	temporarily or permanently) for its	
Component 2:	2.1 Hill & North Bengal Landscape	implementation?	
Biodiversity	2.1.1 Human-wildlife conflict	- Will the sub-project result in the	
Conservation	2.1.2 Species conservation programme 2.1.3 Studies on wild animals and other behaviour	temporary or permanent loss of crops,	
		fruit trees and household	
	2.2 Dry Lateritic & Alluvial Landscape 2.2.1 Biodiversity conservation through people's	infrastructure (such as fence, lawn,	
	participation in protected area	canal, granaries, etc.), and loss of	
	2.2.2 Biodiversity conservation through people's	places for ship anchorage?	

Component	Sub-Component	Screening Criteria
Component 3: Livelihood Improvement	participation for smaller mammals 2.2.3 Human-wildlife conflict mitigation 2.2.4 Species conservation programme 2.2.5 Studies on wild animals and their behaviour 2.3 Deltaic Landscape 2.3.1 Biodiversity conservation through people's participation in protected area 2.3.2 Human-wildlife conflict mitigation 2.3.3 Studies on wild animals and their behaviour 3.1 Hill & North Bengal Landscape 3.2 Dry Lateritic & Alluvial Landscape 3.3 Deltaic Landscape Below activities are commonly planned in all the subcomponents. i) Preparatory Activities with JFMCs (3 batches) including community mobilisation, micro planning, EPA/ CDA) ii) Support for Income Generation iii) Support for Community Well being (Traditional Healers) (Except in Deltaic	-Will the sub-project be implemented in the vicinity of a cultural heritage site? -Will the sub-project require excavation near any historical, archaeological or cultural heritage site?
	Landscape) iv) Support for Community Mobilisation	
	(Extension Worker)	
Component 4:	4.1 Strengthening Project Management	
Institutional	4,2 Capacity Development	
Strengthening	4,3 Monitoring & Evaluation	
	4.4 Strengthening Forest Research	
Sauraa, IICA Sur	4.5 Publicity and Publications	

For exclusion of the activities which require involuntary resettlement/ land acquisition, the screening checklist is as follows.

Table 9 Screening Checklist Form for Exclusion of Sub-projects entailing Involuntary
Resettlement/ Land Acquisition

Resettlement Effects	Yes	No	Extent of Impacts and Other Remarks
Does the sub-project include			
upgrading or rehabilitation of existing			
physical facilities?			
Does the sub-project include the			
construction of new physical			
facilities?			
Will it require permanent land			
acquisition?			
Is the ownership status and current			
usage of the land known?			
Are there any non-titled people who			
live or earn their livelihood on			
affected land?			
Will there be loss of housing? Will			
there be loss of agricultural plots?			
Will there be losses of crops, trees and			
fixed assets?			
Will there be loss of businesses or			
enterprises?			

Resettlement Effects	Yes	No	Extent of Impacts and Other Remarks
Will there be loss of incomes and			
livelihoods?			
Will people lose access to facilities,			
services, or natural resources?			
Will any social or economic activities			
be affected by land use-related			
changes?			

5.3 Social Assessment (SA)

The main purpose of the Social Assessment (SA) is to help understand basic social issues and risks, and to determine social impacts on the target population of the proposed sub-projects. Analysis of the collected socio-economic information enables the Project to prioritise critical issues and means to address them, in consultation with other stakeholders.

The assessment will (i) establish baseline socio-economic situation of the target communities in the project area that will act as a reference for measuring project impacts in future, (ii) assess the access to and opportunities for getting benefits of basic social and economic services, (iii) stipulates a basis to identify appropriate interventions for community development and livelihoods under the Project, and (iv) determine short/ long-term, direct/ indirect, and positive/ negative impacts of the Project on the socio-cultural and economic status, especially for vulnerable groups.

SA shall be carried out by FMU with assistance/supervision by PMC ESC and the results would assist the executing agency in reaching-out to the vulnerable and the poor and thus ensures that the objectives of the Project are acceptable to the intended beneficiaries. Table 10 specifies key tasks for SA.

Table 10 Tasks for Social Assessment

No.	Tasks	Descriptions
1	Review	Gathering of baseline information on the demographic, social, cultural, and political
	baseline	characteristics of the VP, the land and territories that they have traditionally owned or
	information	customarily used or occupied, and the natural resources on which they depend.
		Review carefully the status of land use and FRA status of forest dwellers and forest
		village habitants of the target area of afforestation/natural assisted regeneration to
		identify the area under application of FRA or dispute.
2	Planning of	Elaborate a culturally appropriate process for consulting with VP at each stage of
	consultation	project preparation and implementation
	and FPIC	
3	Consultation	Conduct participatory assessment with VP, on the potential adverse and positive
		effects of the project based on free, prior, and informed consultation.
4	Examination	Identify measures necessary to avoid adverse effects, or if such measures are not
	of the	feasible, the identification of measures to minimize, mitigate, or compensate for such
	required	effects, and to ensure that VP receive culturally appropriate benefits under the project.
	mitigation	
	measures	
5	Development	The monitoring system needs to have local participation in the generation and
	of a	refinement of indicators over the project cycle in order for the affected communities to

No.	Tasks	Descriptions
	Monitoring	be involved in balancing their own interests in the management of resources for
	plan	conservation and productive purposes.

Source: JICA Survey Team based on Social Analysis Guidelines in Natural Resource Management (2005) and OP 4.10, Annex A - Social Assessment, World Bank

SA report shall include at least the following indicative contents.

Table 11 Indicative Contents of Social Assessment Report

No.	Chapter	Descriptions
1	Introduction	Define basic purposes for Social Assessment, its scope and a brief outline
		of report organisation.
2	Sub-Project description	Provide brief outline of proposed sub-project, its rationale, objectives, area,
		key activities, the proposed implementation schedule etc.
3	Approach and	Describe the study approach and methodology adopted for carrying-out the
	methodology	assessment, including quantitative and qualitative data and information
		collection
4	Socio-economic	Provide brief profiles of the study (target) area, demography, social,
	baselines	cultural, and political characteristics; the land and territories that they have
		traditionally owned or customarily used or occupied.
5	Sub-project impacts	Describe sub-projects, its objectives and activities of the sub-projects,
		socio-economic and livelihoods assessment, explain potential positive and
		negative impacts of the sub-project.
6	Vulnerable groups	Describe about the identified VP (social group, socio-economic situation, cultural
		habitat, use of natural resources, potential impact on each sub-group)
7	Public consultation and	Describe the results of public consultations, meetings and other interaction
	information disclosure	events with the communities.
8	Conclusion and	Provide overall conclusions and recommendations.
	recommendations	
9	Mitigation measures	Describe precise measures to avoid, minimise and/or compensate for sub-
		project activities with adverse impacts on communities and particularly
		vulnerable groups, which will be integrated in the VPP.
10	Monitoring	Provide the developed monitoring plan including monitoring mechanism
		and monitoring implementation arrangements, which will be integrated in
		the VPP.

Source: JICA Survey Team

6 Institutional Arrangement and Capacity Development for VPPF

6.1 Institutional Arrangement

In the proposed Project, most of the environment and social issues and protection are managed through the institutions responsible for forest management i.e. WBFD, which is responsible for overall planned intervention in the proposed Project, legal/policy development, ensuring adequate consultation and participation in planning and implementation and the equitable distribution of benefits associated with site-level project interventions. Other stakeholders would also be involved in addressing the different environment and social safeguard aspects or issues. For instance, the District Administration is the designated agency responsible for land administration, land acquisition and disbursement of compensation and providing Resettlement and Rehabilitation (R&R) benefits to the project-affected families.

VPPF will be implemented through the institutional structure of the Project. Table 12 highlights

institutional structure for VPPF with key roles and responsibilities.

Table 12 Institutional Structure for VPPF Implementation and Monitoring

Table 12 Institutional Structure for VPPF Implementation and Monitoring				
Institution	Role in Project Implementation	Role and/or Responsibility in VPPF		
High Power	- Decision-making body	- Overall supervision of the ESAF including VPPF		
Committee	- Lay down the broad policy framework for functioning of	and its implementation and M&E - Periodical checks and due diligence on		
	the society	safeguards report and monitoring data.		
	- Review the society's			
	performance			
	- All administrative and financial powers			
	- Monitor utilization of funds			
Project	- Project implementation,	- Responsible for implementation of ESAF		
Management	supervision and monitoring of	including VPPF		
Unit (PMU)	all activities.	- Monitoring Report to the concerned departments		
, ,	- Documentation and reporting	in the state government as well as to JICA in relation to environmental and social		
		considerations		
		- Disclosure of information		
		- Consultation and guidance to DMU, FMU,		
		JFMCs, EDCs, SHG and field level officers on information disclosure and consultation		
		- Technical guidelines on beneficiary selection,		
		safeguard checks/ guidelines for particular		
		activities (if required) - Development of planning/ monitoring forms,		
		review of monitoring data, reporting, assistance		
		with evaluations		
		- Finalise criteria for categorisation (Category B or		
		C) as per JICA Guidelines as well as exclusion		
		criteria Review of participatory environmental and social		
		assessments		
		- Performance of due diligence follow-up		
		- Guide, instruct, prepare guidelines, establish and		
		operate M&E, disseminate project information, hand-holding support in the field for all project		
		activities.		
PD-Finance	- Support the PMU and facilitate	- Coordinate, monitor and supervise the ESC-		
(Environment	project implementation at state level, and would extend all	related activities at the state level, including the screening and selection of subprojects and		
and social	technical inputs and guidance to	determination of the required procedures for		
consideration)	the DMU level as and when	specific subprojects following the		
	required, and through regular	guidance/instruction of the PMU		
	review meetings, frequency of	Liaise with other line departments at the appropriate level for inter-sector convergence		
	which to be determined during the preparatory phase of the	- Provide any specific support required for		
	Project	implementation and monitoring of the Project		
Divisional	- To act as the dedicated and	- Coordinate, monitor and supervise the ESC		
Management	extended wing of the PMU for project implementation at the	relevant activities at the division level including adoption of VPPF		
Unit (DMU)	division level and as a	- Ensure timely submission of monitoring reports		
	subordinate office of the	from FMU to DMU and to PMU		
	autonomous society.	- Conduct the screening and selection of		
	- Facilitate project implementation at the division	subprojects and determine the required procedures for specific subprojects following the		
	level, and would extend all	guidance/instruction of the PMU		
	technical inputs and guidance to	-		
	the Field Management Unit,			
Field	JFMCs, EDCs, etc.) - To act as the dedicated and	- Coordinate, monitor and supervise the ESC		
Management	extended wing of the DMU for	relevant activities at the range level including		
Unit (FMU)	project implementation at the	implementation of VPPF		
	Range level and as a	- Conduct the screening and selection of		
	subordinate office of the autonomous society.	subprojects and determine the required procedures for specific subprojects following the		
	- Facilitate project	guidance/instruction of the PMU/ DMU		

Institution	Role in Project Implementation	Role and/or Responsibility in VPPF
	implementation at the range level, and would extend all technical inputs and guidance to the JFMCs, EDCs, etc.	Ensure regular reporting of monitoring results to DMU Regular monitoring of ESC related activities
PMC Environmental and Social Consideration Specialist	- Support the PMU, DMUs and FMUs facilitate project implementation, through technical inputs and guidance.	 Assist PMU PD (Finance) supervise the ESC-relevant activities, including the screening and selection of subprojects and determination of the required procedures for specific subprojects following the national and state law/regulations and MOD with JICA. Finalise ESAF and VPPF with the stakeholders to be drafted under the preparatory survey, and assist PMU implement the project in accordance with the frameworks. Supervise the community level infrastructure development executed by the contractors in terms of compliance with the safeguard relevant law/regulations.
Joint Forest Management Committees (JFMC) including former EDC	- Participate in project activities such as microplanning, plantation and livelihood support activities.	 Assist in selecting target beneficiaries and clarify local needs and expectations on the Project in the planning Conceive and raise awareness among the local community with respect to environmental and social considerations. Provide support in microplanning activities at the subproject level Participate in environmental and social assessments Support public consultation, due diligence checks, and regular monitoring by the implementing agencies PMU, DMU, FMU, and PMC.

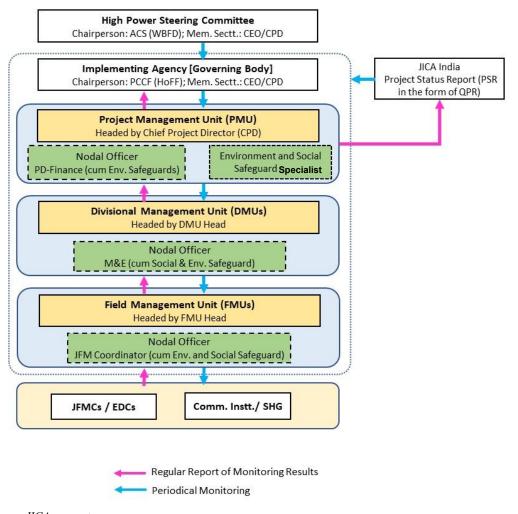
Since WBFD does not have any dedicated units or personnel to deal with ESC related matters, the respective designated nodal officers, who will be supported by the concerned PMC Environment and Social Consideration (ESC) specialist, will guide PMU, DMU, and FMU for the compliance of the environmental and social safeguards.

The nodal officer, PD (Finance) will report to the Chief Project Director under PMU and would be holding the additional charge to ensure the compliance of ESC including VPPF and ensuring timely periodical monitoring of the ESC activities and its regular reporting. The official would ensure development of appropriate training materials on environmental and social safeguards with support from PMC ESC specialist, following the requirements in ESAF and organising capacity enhancement programmes at different levels and ensure the required procedures indicated in ESAF are followed properly. The specialist shall also support PMU in site investigation when the particular issues that are identified or reported to PMU.

The role of PMC ESC specialist is primarily to support PMU, DMU, FMU in reviewing the project activities with a focus on the compliance of VPPF, provide guidance and technical advice to PMU, DMU and FMU for required environmental and social safeguard measures, as well as reporting to JICA to ensure smooth and efficient implementation of environmental and social safeguard measures and report of monitoring results.

The institutional arrangement for safeguard monitoring system is more or less similar to the project

monitoring system. At the field level, monitoring and reviews will be conducted by FMU and report to DMU. Then, DMU Officer shall compile the monitoring results that need to be reviewed regularly and report to PMU, which shall analyse the result and share to the concerned departments in the state government as well as in a form of annual report to JICA.



Source: JICA survey team

Figure 3 Flow of Report of Environmental and Social Monitoring Results

6.2 Capacity Development Programme

The capacity building programme designed for ESAF would also cover aspects related to VPPF as well. The capacity development programme covering VPPF would be supported by PMC ESC specialist, who will not only help addresses gaps in the VPPF, but would also ensure that the framework is effectively operationalised.

The details of the training programme such as venue, time, date, frequency of the proposed trainings sessions should be further developed by hired specialist/experts with comments and clearance of PMU. An indicative capacity development programme has been devised and depicted in Table 13 as a reference to devise capacity enhancement training programmes.

Table 13 Indicative Capacity Development Programme for Environmental and

Social Safeguards

	Social Safeguards
Item	Descriptions
Training 1	- Programme for Management/ Administrative Level
Key Participants	- Designated officials of PMU, CCF Office
Training	- Topic 1: Orientation/Sensitization on Env. and Social Consideration
Programme	- Legal framework on environmental and social safeguards of India and JICA
Trogramme	- Environmental and social impact assessment: overview & regulations
	- Basic introductory concept of safeguard
	- Safeguard issues (vulnerable groups, SCs, STs, transhumance, Gender, etc.)
	- Free, Prior and Informed Consent (FPIC)
	- Topic 2: ESAF and its importance under the project
	- Knowledge and skills necessary for undertaking environmental and social screening and appraisal as per the requirements of the ESAF (including VPPF)
	- Conduct ESA and preparation of management/ mitigation plans
	- ESAF: steps and procedures with respect to the Project
	- Topic 3: Monitoring and Evaluation for Environmental and Social Safeguard
	- Concept of M&E
	- M&E - Methods and reporting procedures
	- Use of M&E Results and feedback
	- Grievance Redressal Mechanism
	- Experience sharing and learning
Duration	Two days training (once a year in the first four years at each district)
Training 2	- Programme for Field/ Operational Level
Key Participants	- Designated officials and staff of DMU, Division, Sub-Division office and FMU
Training	- Topic 1: Orientation/Sensitization on Env. and Social Consideration
Programme	- Legal framework on environmental and social safeguards of India and JICA
	- Environmental and social impact assessment: overview & regulations
	- Basic introductory concept of safeguard
	- Safeguard issues (vulnerable groups, SCs, STs, transhumance, Gender, etc.)
	- Process of community consultation and public participation
	 Free, Prior and Informed Consent (FPIC) Topic 2: ESAF and its importance under the project
	- Knowledge and skills necessary for undertaking environmental and social screening
	and appraisal as per the requirements of the ESAF (including VPPF)
	- ESAF: steps and procedures with respect to the Project
	- PRA for data collection, analysis and report preparation
	- Micro Planning and Participatory Land Use Planning
	- Topic 3: Monitoring and Evaluation for Environmental and Social Safeguard
	- Concept of M&E
	- M&E - Methods and reporting procedures
	- Environment Health Standards
	- Use of M&E Results and feedback
	- Grievance Redressal Mechanism
D .:	 Experience sharing and learning Two days training (once a year in the first four years at each division)
Duration	
Training 3	- Community Facilitation and Environmental and Social Assessment for ESC
Key Participants	Designated field level officers from Beat, GP representatives, Village level implementing organisations-JFMC/EDC, Field Facilitators
Training	- Topic 1: ESAF and its importance under the project
Training	- ESAF: steps and procedures with respect to the Project
Programme	- Project Activity Planning during Micro Planning and Participatory Land Use
	Planning
	- Participatory ESA Procedures
	- Working with Ethnic and Vulnerable Groups
	- Mechanisms for addressing Gender Issues
	- Conflict Resolution/Grievance Procedures
	- Role of community level institutions in ESA
	- Community Level Monitoring
Duration	One session as part of other community related trainings (Once a year mandatory or as
	decided by FMU based on the plan of community level trainings in the first four years)
Source: JICA Survey	

Source: JICA Survey Team

7 Framework for Disclosure of VPPF and Free, Prior, Informed Consent (FPIC), and Grievance Redressal Mechanism

7.1 Free, Prior and Informed Consultation

Free, Prior and Information Consultations (FPIC) is done with the identified communities that could potentially be affected at each stage of the project, and particularly during the project preparation, to fully identify their views and ascertain their broad community support for the Project. FPIC is important to be carried-out with the target beneficiary population, including VP. At the initial stage, the locations where each of these communities live and derive livelihood will be mapped. Efforts have to be made to ensure that these communities are adequately represented during the preliminary information disclosure and in subsequent consultation meetings. During these disclosures/ consultations, information in the form of written materials and language of communication should be in the local language/ dialect, which are simple and comprehended by everyone. Furthermore, FMU and extension workers should be provided with visual presentations and necessary equipment to facilitate the understanding of participants. Also, sufficient opportunities and adequate facilities are to be provided to encourage participation of women, elders and other vulnerable.people

Consultation and Participation provides an opportunity and platform for people to express and share their views and concerns, contribute to design the implementation process of the project activities, discussions on sensitive social mitigation measures, while at the same time creating a sense of ownership for the Project. In this regard, FPIC is an important process to minimise any negative impacts and for a broad community support. Outline of FPIC is provided in Table 14.

Table 14 Outline of FPIC

Item	Descriptions
Objective	To establishing a broad VP community's support and willingness for implementation of the Project
Topic for Consultation:	 Disclosure of basic project related information including area, location, purpose/objectives, key activities, stakeholders involved, target beneficiaries. Expected role and involvement of communities. An overview of anticipated environmental and social risks and their effect on the VP Vulnerable People's Plan (if any)
Participants:	 Relevant members of VP Other important key persons (e.g. Gram Panchayat President)
Process:	 Before on-set of sub-project implementation, immediately following formations of beneficiary groups, appropriate community meetings and consultations that are culturally appropriate and in simple and understandable language Encourage community's participation in discussions, meetings and consultations, facilitate participation of women, elders and other vulnerable groups Adoption of appropriate consultation method as per socio-cultural values of local VP Field level officers will participate in general community meeting to discuss concerns, visit individuals who express doubt and/or criticism on any aspect of project implementation. Participants to be provided adequate time to assimilate information provided/ shared Opportunity to decide if they do not wish to participate. Discussion
Material	- Provision of simple/easy to read project brochures in local language.
Required:	- Consultation and Participation Monitoring Sheets

Source: JICA Survey Team

The public consultation mechanism is expected to reduce chances of conflicts between the affected VP and the management committees. This is particularly focused on ensuring that vulnerable

people and other forest dependent groups, and women, are properly consulted during site-level project planning and that they are given the opportunities and encouragement to participate in the Project.

7.2 Information Disclosure

The project would apply the following method of information disclosure to the public and relevant stakeholders respectively to make the process of VPPF implementation transparent.

Table 15 Method of Information Disclosure

Method	Description			
Physical	Through simple and concise details in printed charts/ flip charts/ posters etc. pasted at			
Information	the community meeting centres [Info. about project objective, activities, area,			
Disclosure	beneficiaries, Social/Environmental survey reports, EIA reports, Social/Environmental			
	monitoring reports etc. must be shared in public domain on project website.]			

Source: JICA Survey Team

7.3 Grievance Redress Mechanism

While there are the existing legal frameworks related to the Grievance Redress Mechanism (GRM) in the country¹, the Project-level GRM, which shall be applied to all sub-projects, is expected to be institutionalised to handle the project-specific grievances such as disputes over locations of forest development and management and community development infrastructure, selection of beneficiaries, distribution of project benefits, behaviour of fellow community members, contractor and his workers, project-related staff or consultants, etc. can be reported directly to WB-FBCCCR. In this regard, FMU officer, would be the first level of intervention, as FMU acts as the link for community liaison and forest management in general. Thus, all concerns of the community shall be recorded in a project grievance logbook. Individuals can raise their grievances in name or anonymously, or through traditional institutions according to culture and context, as appropriate, which shall be recorded in written form. A grievance redress format/ template could be devised for this purpose, which would depend on the type and context of the grievance.

FMU officer should resolve all concerns or grievances raised by the communities, beneficiaries, etc. and in case an anonymous grievance has been put-up, it shall be addressed through public consultation through a village meeting, retorting generally to the raised point(s) and minutes of the meeting and outcomes shall be recorded. The grievance redress or compliance response is sent to the applicant in written, after resolving the grievance/ concerns.

¹ EIA Notification 2006 states that "Public Consultation and Public Hearing" which refers to "the process through which the concerns of local affected persons and others who have plausible stake in the environmental impacts of a project or activity are ascertained with a view to taking into account all the material concerns in the project or activity design as appropriate. All Category 'A' and Category 'B1' projects or activities shall undertake Public Consultation...". Further, the RFCTLARRA-2013, involves consultations and redress of concerns of affected persons at various stages. Besides, Department of Administrative Reforms & Public Grievances under the Ministry of Personnel, Public Grievances & Pensions, GoI, has issued a Compilation of Guidelines for Redress of Public Grievances and also operates a web-based portal (http://pgportal.gov.in/).

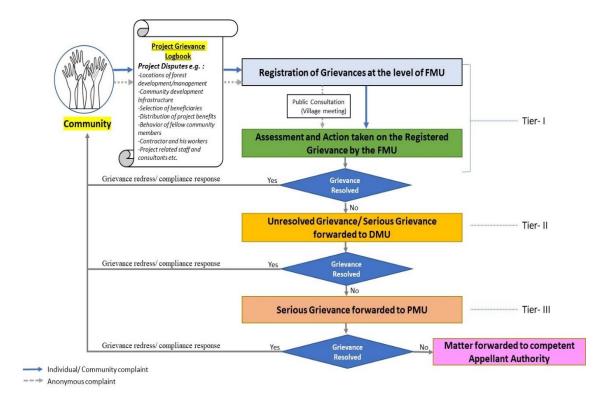


Figure 4 Grievance Redressal System

However, in case the applicant (individual/ group) is not satisfied, s/he may approach to DMU for further redress, or in case of grievances that are more serious in nature, FMU officers should forward such grievances to DMU. DMU officers shall be responsible to redress the grievance in consultation with FMU officer, concerned applicants. All grievances should be addressed, redressed and resolved at this level.

In case of more serious grievances, then they should be dealt with through the project hierarchy as necessary and any complainant should be made aware of their legal rights according to the relevant legal documents.

8 Cost Estimation and Budget Allocation

The cost estimate for implementation of ESAF and VPPF under this project is summarized in the following table.

Table 16 Cost Estimate for Implementation of ESAF and VPPF

1 MOTO TO COST ESTIMATO FOR THE STORMAN OF ESTIMATOR THE TEXT					
Cost item	Unit price	Quantity	Total	Remarks	
PMC ESC	368,771	9	3,318,939	Dec, 2023 – Mar, 2027	
		Man Month		Estimated under	
				Component 5: PMC	
Outsourcing work for	2,500,000	1 l.s.	2,500,000	Estimated under	
baseline survey of				Component 4.3.2 2)	
socio-economic					
condition					

Cost item	Unit price	Quantity	Total	Remarks
Outsourcing work for	2,500,000	1 l.s.	2,500,000	Estimated under
baseline survey of the				Component 4.3.2 2)
target area				
Total			8,318,939	

Attachment 19

Environmental and Social Compliance Monitoring Form

Page No - (1-10)

Attachment 19 Environmental and Social Compliance Monitoring Forms

Form-A: Environmental Monitoring (To be used during Construction)

Name of the Sub-Project:	
Sub Project ID:	
Period of reporting (Quarter/Month/Fortnight):	
Name and signature of the Reporting Officer:	
Date of reporting:	

1. Monitoring of environmental issues (Field observation)

(This shall be used in the sites, where significant environmental issue is expected. If the Environment Expert/ Monitoring Officer feels the need for testing of samples for environmental pollution then a separate Form – A1, appended to this form, may be used for data recording)

Date and time of site inspection	Subproject/ Location	Issues	Mitigation measures undertaken	Remark								
1.1	Air pollution											
1.2	Noise and Vibration											
1.3	Surface water											
1.4	Ground water											

1.5	Construction waste										
1.6	Kitchen and other wastes from labour camp										
1.7	Chemical or hazardous wastes										
1.0	Construction waste										
1.8	Construction	waste	1								
_											
1.9	Subsidence and sedimentation										
1.10	Soil erosion										
1.11	Disturbance to ecological resources and vegetative cover										

Form-A1: Environmental Monitoring (To be used during Construction)

Name of the Sub-Project:	
Sub-Project ID:	
Period of reporting (Quarter/Month/Fortnight):	
Name and signature of the Reporting Officer:	
Date of reporting:	

2. Monitoring of environmental issue

(Whenever the Environmental Expert or other Monitoring Officers feel the necessity for carrying out tests for environmental pollution during construction, this form may be used)

- (1) Surface water Quality
- a) Date of testing:
- b) Results:

Parameter	Unit	Measurement								Average	Limit	Remark		
		(Lake/ Reservoir/ Pond/ Tank/ Canal/ Stream/ River) 1 2 3 4 5 6 7 8 9 10								(E class				
mII.		1	2	3	4	3	6	/	8	9	10		water)	
pH EC														
Turbidity														
TDS TSS														
Hardness														
Alkalinity Carbonate														
BOD														
TN														
TP														
Fluorides														
Chlorides														
Sulphates														
Sodium														
Potassium														
Calcium														
Magnesium														
Oil&Grease														
Iron														
Manganese														
Copper														
Zinc														
Phenolic C														
Color														
Cadmium														
Chromium														
Cyanides														

Lead							
T Coliform							
Pesticides							

Note: Standards set by Central Pollution Control Board as well as BIS-IS:10500, 2012 may be referred.

(2) Groundwater Quality

a) Date of testing:

b) Results:

Parameter	Unit	Measurement (Well/ Tube well/ Dug-well/Handpump)									Average	Limit	Remark	
		1	2	Vell/1	Tube v	vell/ D	ug-we	HI/Har	dpum 8	p) 9	10		(E class water)	
pН		1		3	4	3	0	/	0	9	10		water)	
EC														
Turbidity														
TDS														
TSS														
Hardness														
Alkalinity														
Carbonate														
BOD														
TN														
TP														
Fluorides														
Chlorides														
Sulphates														
Sodium														
Potassium														
Calcium														
Magnesium														
Oil&Grease														
Iron														
Manganese														
Copper														
Zinc														
Phenolic C														
Color														
Cadmium														
Chromium														
Cyanides														
Lead														
T Coliform														
Pesticides														

Note: Standards set by Central Pollution Control Board as well as BIS-IS:2296, 1992 may be referred.

(3) Air Quality

a) Date of testing:

b) Results:

Parameter	Unit				N	Aeasu (S		Average	Limit (NAAQS)	Remark				
		1	2	3	4	5	6	7	8	9	10			
PM10														
PM2.5														
NO2														
SO2														
CO														
O3														
NH3														
Pb														
Ni														
As														
Benzo(a)pyrene		,	,	,		,		,	,					
Benzens														

Note: National Ambient Air Quality Standards (NAAQS) set by Central Pollution Control Board may be referred

(4) Noise and Vibration

a) Date of testing:

b) Results:

	Parameter	Unit				N	Лeasu	reme	nt				Average	Limit	Remark
				(Site)										(NANS)	
			1	2	3	4	5	6	7	8	9	10			
Ī	dB														

Note: National Ambient Noise Standards (NANS) set by Central Pollution Control Board may be referred

Social Monitoring Form – B (To be used during Construction)

Name of the Sub-Project:
Sub-Project ID:
Period of reporting (Quarter/Month/Fortnight):
Name and signature of the Reporting Officer:
Date of reporting:

1. Monitoring of social issue

Date and time of site inspection	Subproject/ Location	Issues	Mitigation measures undertaken	Remark
1.1	Interactions wi	th local communities		
1.2	Resettlement (loss of income or loss of a	ccess)	
1.3	Impact of livel	ihoods		
1.4	Health and safe	ety		
1.5	Accidents and	traffic management		
1.6	Labour manag	ement		

Form-C: Environmental and Social Monitoring (To be used during Operations and Maintenance)

Name of the Sub-Project:
Sub-Project ID:
Period of reporting (Quarter/Month/Fortnight):
Name and signature of the Reporting Officer:
Date of reporting:

1. Monitoring of environmental issue

- (1) Surface water Quality
- a) Date of testing:
- b) Results:

Parameter	Unit		Measurement									Average	Limit	Remark
						(W			(E class					
		1	2	3	4	5	6	7	8	9	10		water)	
pН														
EC														
Turbidity														
TDS														
TSS														
Hardness														
Alkalinity														
Carbonate														
BOD														
TN														
TP														
T Coliform														
Pesticides														

Note: Standards set by Central Pollution Control Board as well as BIS-IS:10500, 2012 may be referred.

- (2) Groundwater Quality
- a) Date of testing:
- b) Results:

Parameter	Unit				I	Measu		Average	Limit	Remark				
			(Site)										(E class	
		1	2	3	4	5	6	7	8	9	10		water)	
pН														
EC														
Turbidity														
TDS														
TSS														
Hardness														

Alkalinity							
Carbonate							
BOD							
TN							
TP							
T Coliform							
Pesticides							

Note: Standards set by Central Pollution Control Board as well as BIS-IS:2296, 1992 may be referred.

2. Monitoring of social issue

Date and time of site inspection	Subproject/ Location	Issues	Mitigation measures undertaken	Remark
1.1	Impact of livel	ihoods		
1.2	Accidents (inc	luding Man-Animal confli	ct)	
1.3	Voluntary Lan	d Donation		
1.4	Grievances (if	any)		

Appendix-E: E-2. Reporting Items from DMU to PMU for Environmental and Social Consideration of Sub-Projects of Category B

1. General information

Items	Descriptions
Name of DMU	
officer	
Date of submission	
Name/ID of sub-	
projects and its	
location	
Contractor	
undertaking	
environmental and	
social monitoring	

2. Monitoring environmental impact and possible mitigation measures of sub-projects for silviculture, soil and water conservation, infrastructure

Items	Environmental impact observed	Mitigation	Effectiveness of	Action to be
		measures applied	mitigation	taken for
		(Yes/No and	measures (1-5	improvement
		descriptions)	Scaling)	
Dust generation/ Air pollution (Dust and Smoke)				
Water Quality				
(Change				
in water quality)				
Drainage and sedimentation				
Solid waste (Waste				
from				
construction works (types and volume)				
Chemical or				
hazardous wastes				
(oil, lubricants,				
cleaning				
materials)				
Disruption of				
vegetative				

Items	Environmental impact observed	Mitigation	Effectiveness of	Action to be
		measures applied	mitigation	taken for
		(Yes/No and	measures (1-5	improvement
		descriptions)	Scaling)	
cover and ecological				
resources (Illegal tree				
clearing, wild animal				
hunting)				
Traffic management				
(Signs)				
Restoration of				
affected				
areas				
Soil erosion (Visible				
soil erosion and				
water				
runoff including				
rill/gully erosion)				
Worker and public				
Safety (Training for				
worker, fences,				
barriers				
warning signs)				
Communication with				
local communities				
(complaints from				
local				
residents about				
resettlement, loss of				
livelihoods, etc.)				

Attachment 20

JICA presentation material for Digital Transformation (DX)

Page No - (1-9)



Digital transformation

Detailed Fact Finding Mission on the WB-FBCCR Phase 2 Discussion Material with WBFD for Digital Transformation Components

November 24, 2022

JICA South Asia Division 1, India Office, and Office for STI&DX

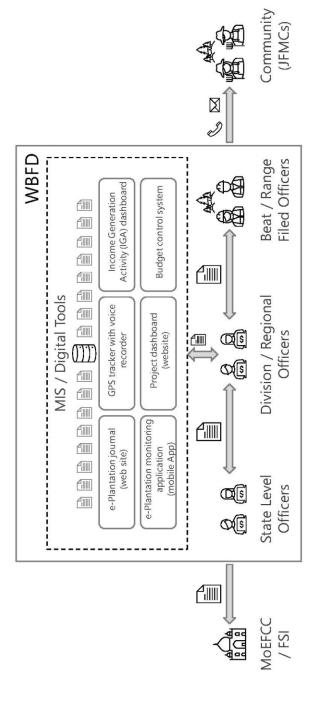
Digitization Achieved under the Phase



- Unified information management based on data files achieved.
- Forest management information such as plantation monitoring and working plan shared in a common database.
- WBFD officers manually process / input various information to create / handle the data files.

WB-FBCP (Phase 1 completed): File-Based Information Management

Efficient information collection and sharing has been achieved.



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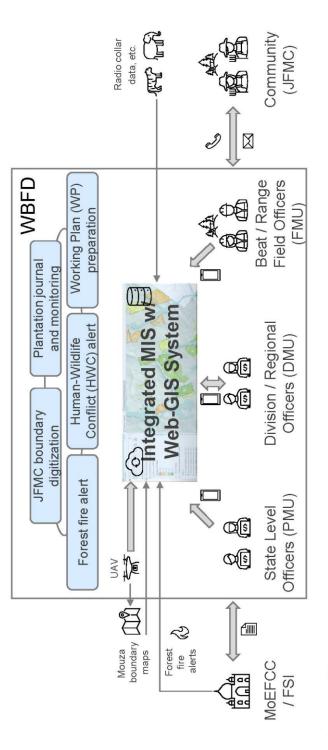
Digitalization Planned by WBFD under the Phase 2



- Integrate the forest management and other related information on Web-GIS.
- Facilitate WBFD officers including FMU to collect and store data for better monitoring and policy making.

WB-FBCCR (Phase 2 proposed by WBFD): Integrated MIS with Web-GIS System

Allowing more information collection and storage with strengthening of the capacity of field staffs.

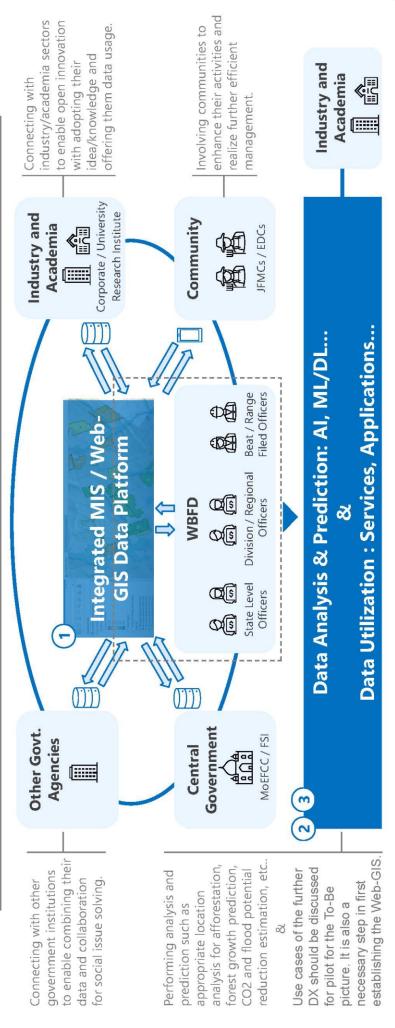


Digital Transformation to be Proposed for the Phase 2



- MIS/web-GIS system to connect external database and systems to become an integrated data platform.
- Data utilization to create new services and applications with AI, ML/DL etc.

JICA Proposal for Phase 2: Integrated Data Platform and Value Creation with Data



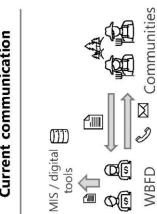
Example (1) Community Involvement with Integrated Database



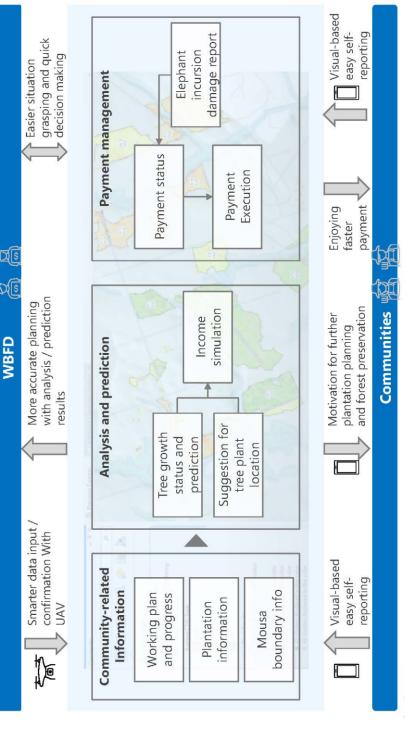
Getting the JFMC to use Web-GIS would enable efficient operations and providing further support for them.

Current communication

Enabling community data input and usage for efficient and smart cooperation



- processing and management Officers are burdened work with data from communities.
- Ways of data sharing with communities are limited.



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Example (2)(3) Advanced Social Problem-Solving Activities



Animal behavior

Reports from communities

Geography data

movement nistory data

Elephants

Radio collar / GPS Track

data

Elephant Coexistence System

m

analysis

7

C

Knowledge

Data/

Smart Reforestation Planning 7

Flood history data 4444 Plantation history data Data/

Reports field officers Geography data

economy Regional data

Flood study

hazardous

≪\$

(]]] Ş.Ş.

Knowledge

Economical

How the flood

Which area has

high potential

Prediction

Analysis /

of flood?

potential

forest growth? prevented by

and cause flood? situation would threat the forest

Analysis / Prediction

the elephants would To which direction go around?

damaged how much Farmers would be by the elephant's incursion?

> Provided Suggest-

> > risk area due to

deforestation

prediction

future

flood hazardous

area

High potential

Suggest-Provided

ions

Potential flood

Integrated MIS / Web-GIS Data Platform

Flood potential

Economical department

Disaster Dept.

> WBFD **@**

Communities

Possible

Actions

[**....**

Potential conflict area estimation

Loss estimation by

Integrated MIS / Web-GIS Data Platform

the elephant

incursion

Communities 4

Possible Actions

Planning integrated plantation plans with

Awareness for

flood risk

economy improvement / financing and

flood prevention

Ø[€]

Preservation planning / compensation estimation

Early warning

Academia

WBFD

Estimation updating model

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Ref 1: Smart Forest Conservation and Utilization with GIS



J.D. Irving, Limited (Canada)

Overview

- Analyzing data acquired from satellites, LiDAR, and analysis results with plotting them on the GIS data. other sources. Visualizing the information and
- Gaining a broad understanding of the forest growth, production/business information in one picture. environmental preservation status and

- business and plantation plans linking with prediction Realizing developing consistent and sustainable of forest growth and market.
- Balancing nature and wildlife conservation with business.

- Centralized management and sharing of information contributes smarter decision making.
- efficient management and decision-making for the surrounding forest conservation enables smart and Combining and analyzing data from areas entire forest-related business.







Satellite

Foresters / Surveyer



Web-GIS Based Forest and Production Management Platform





(Data processing and analysis

Optimum logistics

planning from

related harvesting

recommendation planning / area

Woodland path

Production plan-

forest side to paper mills

Volume / Health monitoring and prediction

Plantation support

Habitats analysis for wild animals

volume estimation

management /

with history

groundwater

- Forest Nurture and Inventory
- 0 damage detection
- 髭 Marketing analysis

Harvesting

Production



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Ref 2: Water Flood Simulation with GIS



Tokio Marine & Nichido Fire Insurance Co., Ltd. (Japan)

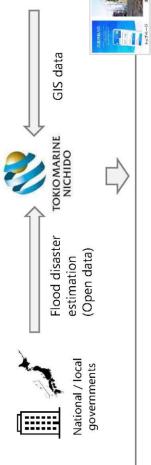
Overview

- nationally managed rivers collected from all over Japan are processed and optimized on GIS, and Mesh data of assumed inundation depths of linked to hazard map information.
- disasters based on the assumed scale of flooding Offering AR experience of simulation of flood announced by the national government

- Detailed risk calculation
- Raising residents' awareness for the disasters
- Supporting local governments in disaster prevention planning

Insight

- weather information enables a variety of simulations GIS combined with topographic, riverine, and
 - The Web-GIS could start as forest management tool, and to be evolved for area-wide planning and monitoring tool.



GIS Service

company

Water Disaster Simulation System

Unifying the information with hazard map information created by TOKYO MARINE NICHIDO and express it with 3D data case of hazardous heavy in AR system in selected possible water disaster Virtual experience of location of Japan, in Users select any location want to see the possible

of Japan where the user

water disaster.

avalanche and mudslide Simulation type flood, landslide,



awareness for the Raising residents' disasters

Supporting local govts in disaster prevention planning

Detailed risk calculation

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Going Forward: DX Acceleration Activities under the Phase 2



- The integrated MIS/web-GIS system developed under the Phase 2 will be designed to deploy beyond the project coverage.
- Developing the "WBFD Digital Transformation Strategy" if there is a ack of holistic policy for data utilization. 2
- 3. Incorporate a sub-component of executing the PoC activities for several digital technology / innovation trial with utilizing data.

Attachment 24

Terms and Conditions of Japanese ODA Loans

Page No - (1)

"Terms and Conditions of Japanese ODA Loans (Effective from October 1, 2022)"

For Low-Income LDCs, three-year transition period will be granted to recipient countries that will move from eriod, the terms and conditions for Low-Income LDCs will be applied to the projects of the countries.

Preferential Terms for High Specification will be applicable to projects promoting quality infrastructure. The applicability of the terms will be decided on a case-by

³ Preferential Terms are applied to the following sectors and fields to all countries (except Low-Income LDCs): (i) Issues on Global Environmental and Climate Change (ii) Health and Medical Care and Services (iii) Disaster Prevention, and Reduction (iv) Human Resource Development

ains constant over the life of the loan. If the base rate plus fixed spread is The base rate of floating rate is the value of the 6-month TORF, and the fixed spread renwer than 0.1%, the interest shall be 0.1%.

Special Terms for Economic Partnership (STEP) is extended to the projects for which Japanese technologies and know-how are substantially utilized, based on the ecipient countries' request to utilize and transfer excellent technologies of Japan. Countries (except LDCs), which are eligible for tied aid under Arrangement on Officially Supported Export Credits issued by OECD, are eligible for STEP terms. Irrespective of the income category, the term and condition of 0.01% interest rate and 40-year repayment period including 10-year grace period are applied to proassisting recoveries from disasters, including Stand-by Emergency Credit for Urgent Recovery (SECURE). For Stand-by Emergency Credit for Urgent Recovery (SECURE), the term and condition of 20-year repayment period including 6-year grace period, or 15-year repayment period including 6-year grace period are also available, in order to apply Currency Conversion Option.

⁷ For Contingent Credit Enhancement Facility for PPP Infrastructure Development (CCEF-PPP), only floating rate will be applied irrespective of income category. The terms on conditions are individually set within the following range of interest rate as well as repayment period (In the case of short term financial support, however, the repayment period is 10 years).

-Interest rate: TORF + 35 ∼55bp

-Repayment period: maximum 40-year(maximum 30-year drawdown period plus 10 year)

Notes

Under the EPSA (Enhanced Private Sector Assistance for Africa) initiative, the loan for projects co-financed with the AfDB are extended using "Preferential Terms," determined for each income category; in the case for Low-Income LDCs, the term and condition of 0.01% interest rate and 40-year repayment period including 10-year grace period are applied.

For countries complying with ongoing IMF-supported programs or receiving grants from IDA, it is possible to modify the terms and conditions of the ODA Loans so as to meet the IMF's concessionality criteria.

For General terms and Preferential terms, fixed rate for all countries (except Low-Income LDCs) will be revised on a regular basis so that its concessionality will be equal to that of floating rate.

ries, floating rate will be applied in prir

Attachment 25

Prepayment Premium in Japanese ODA loan scheme

Page No - (1-2)

Prepayment Premium in Japanese ODA Loan Scheme

1. Purpose of Prepayment Premium

The purpose of introduction of Prepayment Premium is to ensure financial stability of JICA as a financial institution as well as to sustain Japanese ODA loan scheme and its concessionality.

JICA would have gained interests from remaining balance of the loans without prepayments. In other words, prepayments may affect the financial stability of JICA, which leads to the negative impact on sustainability of Japanese ODA loan scheme itself and as a result, in the medium- and long-term, JICA may need to increase interest rate of Japanese ODA loans. In addition, due to prepayments from borrowers, JICA may need to prepay some of its borrowing funds from Government of Japan. In that case, Prepayment Premium is charged on JICA from Government of Japan.

By introducing Prepayment Premium in Japanese ODA loan scheme, JICA could neutralize the impact of non-accrued interests which may be brought about by prepayments, which in turn enables JICA to maintain its financial soundness and to keep providing concessional loans to the borrowers.

2. Timing of introduction of Prepayment Premium in Japanese ODA loan scheme

Prepayment Premium will be introduced in Japanese ODA loan scheme from Loan Agreements to be signed on and after April 1st, 2011.

3. Calculation method of Prepayment Premium

Prepayment Premium is charged if discounted amount of sum of original principle and interest is larger than actual prepayment amount. Please refer to Appendix I for its concept.

4. Procedural change due to the introduction of Prepayment Premium

Currently, as stipulated in Section 3.02(3) of General Terms and Conditions for Japanese ODA loans, March 2009, a written notice of Prepayment needs to be made thirty (30) days before actual prepayment is made. This necessary procedure period of thirty (30) days will be changed to forty (40) days due to additional procedures such as calculation of Prepayment Premium and communication between borrowers and JICA.

5. Other donors' policy on prepayment premium

Multilateral development banks such as World Bank(IBRD), Asian Development Bank(ADB), Inter-American Development Bank(IBD) as well as other bilateral development banks such as KfW(Germany), AFD(France) have already introduced Prepayment Premium in their loan scheme (even though it may not be called as "Prepayment Premium", they have a similar system in their loan scheme). Since their main products are mainly floating-rate loans, actual calculation method of prepayment premium may be different from that of JICA. Nevertheless, the concept and purpose of Prepayment Premium is the same across all development banks including JICA.

Calculation of Prepayment Premium

1. Assumption

- The Prepayment Premium shall be equal to the amount calculated by deducting the amount of the prepayment from the net present value of the amount of cash flow which JICA would have received if it were not for the prepayment.
 - n: The number of times of amortization which would have remained after the prepayment date if it were not for the prepayment.
 - P_i: Nominal principal repayment amount which JICA would have received in the ith amortization after prepayment
 - R_i: Nominal interest amount which JICA would have received in the ith amortization after prepayment¹
 - Y_i: Remaining Period (the period from but excluding the prepayment date to and including the scheduled date of repayment of principal) in the ith amortization after prepayment. In case of exisitence of a fraction of one (1) month it shall be rounded up to one (1) month. For example, if the exact period is 1year 2monthes and 13days, the Remaining Period shall be 1.25year(1year and 3 monthes)
 - r_i: Applicable zero-coupon yield rate of Japanese Government bond² obtained from financial information provider such as Bloomberg, as of 40 days before the prepayment date, whose term period is no more than, and the nearest to applicable Remaining Period (Y_i). It is utilized as the Discount Rate to calculate the net present value of the amount of cash flow which JICA would have received if it were not for the prepayment.
- Amortization Schedule before Prepayment is as follows; ³

Amortization after Prepayment (times)	1	2	3	•••	n
Remaining Period (year)	Y1	Y2	Y3	•••	Yn
Nominal Principal Repayment Amount	P1	P2	P3	•••	Pn
Nominal Interest Payment Amount	R1	R2	R3	•••	Rn

2. Calculation

• Based on the abovementioned assumption, the amount prepayment premium is calculated in the following manner;

Prepayment Premium = $\underbrace{\left[\frac{(P_1 + I_1)}{(1 + r_1)^{Y_1}} + \frac{(P_2 + I_2)}{(1 + r_2)^{Y_2}} + \dots + \frac{(P_n + I_n)}{(1 + r_2)^{Y_n}} \right] - (P_1 + P_2 + \dots + P_n) }_{}$

If the result of the calculation becomes zero or negative, no Prepayment Premium shall be charged.

Total net present value of the amount of cash flow which JICA would have received if it were not for the prepayment Total nominal principal repayment amount which JICA would have received if it were not for the prepayment, which is equal to the amount to be prepaid.

- When i=1, R₁ only covers the interest amount which would have accrued during the period from but excluding the prepayment date to and including the 1st amortization after the prepayment, which means that R₁ does not include the interest amount which accrues during the period from but excluding the last amortization before the prepayment to and including the prepayment date.
- The term period of the Japanese government bond is either of the following; 3month, 6month, 1 year, 2 year, 3year, 4year, 5year, 6year, 7year, 8year, 10year, 15year, 20year and 30year.
- ³ This is simplified example in order to explain the content of Prepayment Premium.

Attachment 27

Brochure on Reimbursement Procedure for Japanese ODA Loans

Page No - (1-7)

JAPAN INTERNATIONAL COOPERATION AGENCY

Brochure on Reimbursement Procedure for Japanese ODA Loans

November 2019

Brochure on Reimbursement Procedure for Japanese ODA Loans November 2019

Section 1. Introduction

- 1.01. Unless otherwise defined in this brochure, the capitalized words not defined herein have the same meanings as defined in the Loan Agreement and/or the General Terms and Conditions to which this brochure applies.
- 1.02. If any provision of this brochure is inconsistent with any provision of the Loan Agreement, of which this brochure constitutes an integral part, such provision of the Loan Agreement shall govern.
- 1.03. Headings of Sections herein are inserted for convenient reference only, are not part of this brochure and do not affect the construction of, or be taken into consideration in interpreting this brochure.

Section 2. Procedure

- 2.01. This brochure is to be followed in cases where expenditures, eligible for JICA's financing, have already been incurred. The Borrower shall request JICA to make reimbursement for a sum not exceeding the amount actually paid to the suppliers, contractors or consultants (hereinafter collectively referred to as the "Supplier(s)") by sending to JICA a Request for Reimbursement in accordance with the attached Form RFD(R). Each Request for Reimbursement shall be accompanied by the following documents:
 - (a) Summary Sheet of Payments made substantially as per Form SSP(T/R); and
 - (b) supporting documents evidencing each payment and its usage, as stipulated in the Loan Agreement.
- 2.02. When JICA finds the Request for Reimbursement in order and in conformity with the relevant provisions of the Loan Agreement,

JICA shall make reimbursement in Japanese Yen. Reimbursement will be made, in principle, within fifteen (15) business days from the date of receipt of the Request for Reimbursement by paying into the non-resident Yen account (hereinafter referred to as the "Loan Account"), which shall be opened, in accordance with the relevant laws and regulations of Japan, in advance with a bank in Tokyo (hereinafter referred to as the "Paying Bank"), as stipulated in the Loan Agreement.

- 2.03. The amount stated in the Request for Reimbursement shall be either in Japanese Yen or in an internationally traded currency acceptable to JICA. When the currency used for the actual payment to the Supplier(s) is different from the currency used in the Request for Reimbursement, the amount stated in the Request for Reimbursement shall be calculated using the telegraphic transfer buying (TTB) rate quoted by a foreign exchange bank authorized as such by the authority in the territories of the Borrower, one (1) business day prior to the date on which the Request for Reimbursement is made. The amount paid to the Supplier(s) and exchange rate used for conversion to Japanese Yen or other internationally traded currency acceptable to JICA, shall be described in the Summary Sheet of Payments as per Form SSP(T/R) and submitted together with the evidence of such conversion rate. If the amount stated in the Request for Reimbursement is in a currency other than Japanese Yen, the amount of disbursement in Japanese Yen shall be calculated at the telegraphic transfer selling (TTS) rate quoted by the Paying Bank two (2) business days before the date on which the disbursement is made.
- 2.04. The Borrower shall make the request mentioned in Section 2.01 above so that JICA can receive the necessary documents, in principle, not less than fifteen (15) business days prior to (i) the expiration date of the Disbursement Period and (ii) the date that the Borrower requests JICA to make disbursement, only if so requested.

Section 3. Banking Arrangement

- 3.01. The Borrower shall designate a foreign exchange bank in the territories of the Borrower (hereinafter referred to as the "Agent Bank"), as stipulated in the Loan Agreement, as its agent for the purposes of taking any action or entering into any arrangement or agreement, on behalf of the Borrower, required or permitted under this brochure.
- 3.02. Any action taken or arrangement or agreement entered into by the Agent Bank pursuant to the authority conferred on the Agent Bank shall be fully binding on the Borrower and shall have the same force and effect as if such action was taken or such arrangement or agreement was entered into by the Borrower. The Borrower may revoke or modify the authority conferred on the Agent Bank if consent of JICA is obtained.
- 3.03. The Borrower shall cause the Agent Bank to make necessary arrangement with the Paying Bank, including, but not limited to, the following for this brochure:
 - (a) to open a Loan Account on behalf of the Borrower with the Paying Bank; and
 - (b) to confirm necessary arrangements for transaction of funds after the proceeds of the Loan is credited to the Loan Account.

Section 4. Foreign Exchange Risk

4.01. The Borrower shall bear all risks associated with foreign exchange fluctuations arising from disbursement and JICA shall not be liable therefor.

Request for Reimbursement

Date: Loan Agreement No.: Application Serial No.:

To:	: JAPAN INTERNATIONAL COOPERATION AGENCY
	[Name of the Department or JICA Office in charge]
	Attention:

1.	Pursuant to the Loan Agreement No.	dated	between	the JAPAN
	INTERNATIONAL COOPERATION AC	GENCY (hereinafter	referred to as	"JICA") and
	(the Borrower) (hereinafter referred to as	s the "Loan Agreemer	nt"), the undersi	gned hereby
	requests for reimbursement under the L	oan Agreement, of tl	he sum of	_(say)
	in reimbursement of expenditures as of	described in the att	ached Summary	Sheet(s) of
	Payments.			

- 2. The undersigned has not previously requested for reimbursement of any amounts under the Loan Agreement for the purpose of reimbursing or of meeting the expenditures described in the attached Summary Sheet(s) of Payments. The undersigned has not obtained nor will obtain funds for such purpose out of the proceeds of any other loan, credit or grant available to the undersigned except short-term loans or credits, if any, established in anticipation of the reimbursement requested for herein and to be repaid pro-tanto with the funds reimbursed hereunder and any charges, commission or interest paid or payable under such anticipatory short-term credits are not included in the amount herein requested to be reimbursed.
- 3. The undersigned certifies that:
 - a) the expenditures, hereby sought to be reimbursed, were made for the purposes specified in the Loan Agreement;
 - b) the goods and services purchased with these expenditures have been procured in accordance with the applicable procurement procedures agreed with JICA pursuant to the Loan Agreement and the cost and terms of purchase thereof are reasonable;
 - c) the said goods and services were or will be supplied by the Supplier(s) specified in the attached Summary Sheet(s) of Payments and were or will be procured in (or, in the case of services, supplied from) the eligible source country(ies) for the Loan Agreement; and
 - d) the amount requesting above does not include any amount payable to non-eligible items for JICA's finance described in the schedule 2 of the Loan Agreement, namely, general administration expenses, taxes and duties, purchase of land and other real property, compensation or other indirect items.
- 4. Please reimburse the amount requested herein by paying into the Loan Account of (<u>Agent Bank of the Borrower</u>) with (<u>Paying Bank</u>), Tokyo, Japan.
- 5. Summary Sheet(s) of Payments and other required documents attached to this request shall form an integral part hereof.

	very truly yours,
For:	(Name of the Borrower)
By :_	
	(Authorized Person's
	Signature, Name & Title)

Vory truly yours

(Authorized Person's Signature, Name & Title)

	m	7	Summary	Sheet of Pay	<u>ments</u>		
_	Transfer Pro Reimbursen	ocedure nent Procedure					
		ioni i roccaare				Date:	
L/A No.:		Application Seri	Application Serial No.		L/A Category Name :		rence No.:
						Contract No.:	
		•			(A)	(B)	$(C)=(A)\times(B)$
Item No.	Supplier	Contract Concurrence Amount (or Contract Amount)	Date of Payment (Reimbursement Procedure only)	Description	Payable/Paid Amount and Currency (without Tax)	Disbursement Ratio	Amount for JICA Financing and Currency
1.							
2.							
3.							
				Total (A)		<u></u>	Total (C)
_		ey is different from (X7 X7X7X7 (C+1) (E)	
Excn	ange rate as	of Date/Month/\		Y = XXX (name) int and Curre		ncy) (E)	
		I Ne	-	mt and Curre	incy (D)		
disb teleg	ursement in graphic trans	ne Paying Bank) the applicable cu fer selling rate (T	urrency to tl TS) quoted (he account of two (2) busine	the Supplier ss days befor	(s) calculated a	t the relevant nich the actual

Reference:

[Transfer Procedure / Reimbursement Procedure] Tick the procedure applied to this request

[Category]: Category Name described in Section 1 of Schedule 2 of the Loan Agreement

[Contract Concurrence Amount or Contract Amount]: Concurrence amount by JICA. If not applicable, contract amount

[Description]: Description of service/goods, & details of payment (i.e. down payment, an installment payment or the final payment, invoice no., monthly payment, etc).

[Amount Paid/Payable]: Amount in the currency claimed by/paid to the Supplier(s). (A) \geq Eligible amount on the Claims for Payment/or amount on the Receipt

[Disbursement Ratio]: Ratio to derive the Amount for JICA Financing against Amount Payable/Paid.

[Amount for JICA Financing]: Amount applicable for JICA financing in the currency claimed by/paid to the Supplier(s). If the currency for the final requested amount to JICA is different from (C), indicate the Exchange rate (E) (TTB rate 1 business day prior to the date on the Request for Disbursement/Reimbursement) quoted in accordance with the Brochure on Transfer/Reimbursement Procedure and relevant provision(s) of the Loan Agreement, to calculate the Request Amount (D).

If the Request for Disbursement/Reimbursement includes payments for more than 1 Category/Concurrence no., prepare the Summary Sheet for each.

Attachment 28

Brochure on Commitment Procedure for Japanese ODA Loans

Page No - (1-15)

JAPAN INTERNATIONAL COOPERATION AGENCY

Brochure on Commitment Procedure for Japanese ODA Loans

November 2019

Brochure on Commitment Procedure for Japanese ODA Loans November 2019

Section 1. Introduction

- 1.01. Unless otherwise defined in this brochure, the capitalized words not defined herein have the same meanings as defined in the relevant Loan Agreement and/or the General Terms and Conditions to which this brochure applies.
- 1.02. If any provision of this brochure is inconsistent with any provision of the Loan Agreement, of which this brochure constitutes an integral part, such provision of the Loan Agreement shall govern.
- 1.03. Headings of Sections herein are inserted for convenient reference only, are not part of this brochure and do not affect the construction of, or be taken into consideration in interpreting this brochure.

Section 2. Letter of Credit

2.01. In foreign trade transactions, payment for import of goods and services are often arranged under a commercial letter of credit (hereinafter referred to as "L/C"), which is issued by a commercial bank, on behalf of a purchaser, to guarantee the payment by credit. A commercial bank operating in a supplier's country i) makes payment to the supplier against documents specified in the L/C and then, reimburses itself from funds made available by the purchaser through its bank or ii) collects the funds from the purchaser through its bank by sending documents specified in the L/C and then, makes payment to the supplier.

Section 3. Procedure

- This brochure is to be followed in cases where payment for L/C is 3.01. applied from the proceeds of the Loan. When the Borrower, its designated authority or any other purchaser in the territories of the Borrower chooses to issue an irrevocable L/C for a payment to the suppliers, contractors or consultants (hereinafter collectively referred to as the "Supplier(s)"), which is eligible for financing under the Loan, such party who becomes a purchaser (hereinafter collectively referred to as the "Applicant") may instruct a designated foreign exchange bank issuing the L/C (hereinafter referred to as the "Issuing Bank"), to provide in the L/C that the bank of the Supplier(s) (hereinafter referred to as the "Supplier's Bank") will reimburse itself from a bank in Tokyo (hereinafter referred to as the "Paying Bank"), as stipulated in the Loan Agreement, in order to use the proceeds of the Loan for such The Issuing Bank may be the same bank as the Paying Bank.
- 3.02. The Paying Bank shall obtain the funds for reimbursement from JICA under the assurance by JICA. Such assurance, whenever provided, takes the form of a letter of commitment from JICA to the Paying Bank (such assurance hereinafter being referred to as the "L/COM") whereby JICA undertakes to disburse, based on the conditions set forth in the L/C and the relevant provisions of the Loan Agreement, the amount to be paid by the Paying Bank under and in accordance with the specified L/C.

Section 4. Procedure for issuing the L/C and the L/COM

- 4.01. The Applicant will request the Issuing Bank to issue an L/C.

 The Borrower shall confirm and warrant, by submitting or having any Applicant submit the Application for Irrevocable Letter of Credit to the Paying Bank, that:
 - (a) the amount of the Application for Irrevocable Letter of Credit represents expenditures to be made for the purpose specified in the Loan Agreement;

- (b) the Borrower has not previously applied for disbursement under the Loan Agreement for the purpose of meeting such expenditures and has not obtained nor will obtain funds for such purpose out of the proceeds of any other loan, credit or grant available to the Borrower;
- (c) the concerned goods and services have been procured in accordance with the applicable procurement procedures agreed with JICA pursuant to the Loan Agreement and the cost and terms of purchase thereof are reasonable;
- (d) the said goods and services are to be supplied by the Supplier(s) and have been or are to be produced in the country eligible for JICA's loan;
- (e) the amount of the Application for Irrevocable Letter of Credit does not include any amount payable to non-eligible items for JICA's finance described in the schedule 2 of the Loan Agreement, namely, general administration expenses, taxes and duties, purchase of land and other real property, compensation or other indirect items; and
- (f) as of the date of the Application for Irrevocable Letter of Credit, there is no existing default under the Loan Agreement, nor, to the best of the Borrower's knowledge and belief, under the Guarantee, if any.
- 4.02. The Issuing Bank shall issue an L/C, on behalf of and under authorization of the Borrower, in favour of the Supplier substantially as per Form LC attached hereto, and shall simultaneously send the L/C to the Paying Bank. The Paying Bank shall send a copy of the L/C to JICA in order to obtain the L/COM from JICA.
- 4.03. When JICA finds such L/C in order and in conformity with the terms of the relevant contract between the Borrower and the Supplier, and the provisions of the Loan Agreement between JICA and the Borrower, JICA shall issue an L/COM to the Paying Bank as per Form LCOM attached hereto.
- 4.04. Upon acknowledgement of receipt of the L/COM by the Paying

Bank, the L/C shall become effective and the Paying Bank shall send the L/C to the Supplier through the Supplier's Bank. The Paying Bank shall simultaneously send a copy of the L/COM to the Issuing Bank when the Issuing Bank is different from the Paying Bank, or send a copy of the L/C and L/COM directly to the Applicant when the Issuing Bank is identical to the Paying Bank.

Section 5. Procedure for Disbursement

- 5.01. The Supplier's Bank shall i) make payment to the Supplier pursuant to the said L/C and then, request the Paying Bank to reimburse the funds by sending documents specified in the L/C, or ii) collect the funds from the Paying Bank by sending documents specified in the L/C and then, make payment to the Supplier pursuant to the said L/C.
- 5.02. Upon receipt of such documents, once the Paying Bank finds that the submitted documents are in order, the Paying Bank shall present to JICA the Request for Disbursement in accordance with the attached Form RFD(C).
- 5.03. JICA shall, in principle, within fifteen (15) business days from the date of receipt of the Request for Disbursement, make disbursement in Japanese Yen of the requested amount to the Paying Bank under the provisions of L/COM. Accordingly, the Paying Bank shall make payment to the Supplier's Bank.
- 5.04. Immediately after disbursement, the Paying Bank shall send the submitted documents to the Applicant through the Issuing Bank.

Section 6. Contract in a Currency Other than Japanese Yen

6.01. The L/COM amount shall be in Japanese Yen equivalent to the amount in the relevant currency of the L/C, converted at the

telegraphic transfer selling (TTS) rate quoted by the Paying Bank two (2) business days before the date on which the L/COM is issued.

- 6.02. The amount stated in the Request for Disbursement shall be the equivalent in Japanese Yen, converted at the TTS rate of the Paying Bank two (2) business days before the date on which the disbursement is made.
- 6.03. When the amount of the Request for Disbursement for the L/C is not fully covered by the amount of the L/COM owing to exchange rate fluctuation, the L/COM may be amended by JICA to fully cover the amount of the Request for Disbursement for the L/C within the limit of the Loan Category. In the event that the amount of the Request for Disbursement for the L/C cannot be fully covered by this method, the Borrower shall bear the amount not covered by the L/COM.

Section 7. Others

- 7.01. The Borrower shall cause the Issuing Bank, the Applicant or the Applicant's bank, whichever applicable for this brochure, to take necessary action or enter into necessary arrangement and/or agreement with the Paying Bank, immediately after the signing of the Loan Agreement.
- 7.02. JICA shall not be liable for any banking charges or fees accrued in connection with the aforementioned transactions.
- 7.03. The Borrower shall bear all risks associated with foreign exchange fluctuations arising from disbursement and JICA shall not be liable therefor.
- 7.04. Claims or disputes in connection with the aforementioned L/C shall be settled among the parties concerned and such claims or

disputes shall not exempt the Borrower from any obligation incurred under the Loan Agreement concerned.

Irrevocable Letter of Credit (Example)

L/C No.:

Date of Issue:

Date of Expiry:
Amount: JPY(Say Japanese Yen)
This Letter of Credit has been issued pursuant to Loan Agreement No. [XXX]
dated [Month Day, Year] between [Name of the Borrower] and the JAPAN
INTERNATIONAL COOPERATION AGENCY, Tokyo, Japan (hereinafter referred to as the "Loan Agreement").
referred to de the Boar rigidement /.
To. (Name of Address of the Advising Bank)
Dear Sirs,
We request you to advise [the beneficiary] that we have opened our
irrevocable credit No. [XXX] in their favour for account of [the applicant]
available by the beneficiary's drafts at sight for full invoice value drawn on
[Name of the Paying Bank], in accordance the following conditions:
a) Applicable Rules: <u>UCP Latest Version</u>
b) Beneficiary: (Name)
(Address)
c) Accountee: (Name)
(Address)
d) Amount: (Currency and figures)
e) Credit available withBy: (<u>Any Bank or Nominated Bank (BIC)) By</u>
negotiation
f) Draft at: sight
g) Drawee: the Paying Bank
h) Date and Place of Expiry:
i) Latest date of Shipment*:
j) Partial shipments*: Permitted / Prohibited
k) Transshipment*: <u>Permitted / Prohibited</u>
Place of Taking in Charge/Dispatch from/Place of Receipt*:

m) Port of Loading/Airport of Departure*:
n) Port of Discharge/Airport of destination*:
o) Place of Final Destination/For Transportation to/Place of Delivery*:
p) Trade Terms*:
q) Description of Goods and/or Services:
r) Contract No.:
s) Contract date:
t) Payment Terms**:
u) Additional Conditions(If any):
v) Period for Presentation*:
w) Confirmation Instructions***: <u>Without</u>
x) Advising bank****: (BIC)
y) Advise the L/C by****: <u>SWIFT / Mail</u>
z) Charges (Regres of charges)

*** Confirmation Instruction is always indicated as "Without" since we shall obtain the funds for reimbursement from JICA under the assurance by JICA(I.E: a Letter of Commitment) and upon receipt of a Letter of Commitment, JICA undertakes to disburse, based on the conditions set forth in the L/C and the relevant provisions of the Loan Agreement, the amount to be paid by ourselves under and in accordance with the specified L/C.

**** Please fill in only when beneficiary is outside Japan.

SAMPLE FORM

- t) Sample form of Payment Terms/Goods:
- I. On Shipment: (CURRENCY "hereinafter referred to as "CCY")AMOUNT Payable against presentation of:
- 1. Beneficiary's Signed Invoice (In triplicate)
- 2. Clean on Board ocean bills of lading (In Full Set)*
 *Please always indicate the number of issued.
- 3. Packing List (In 1 original)

^{*} Please fill in only when there is shipment.

^{**} Please refer to the following page for sample form.

- 4. Insurance Policy / Insurance Certificate(In duplicate)**Please always indicate the number of issued in case of insurance policy
- II. On Acceptance: (CCY) AMOUNT Payable against presentation of:
- 1. Beneficiary's Signed Invoice(In 1 original)
- 2. Accountee's Acceptance certificate(In 1 original)
- t) Sample form of Payment Terms/Services
- I. Advance Payment: (CCY) AMOUNT Payable against presentation of:
- 1. Beneficiary's signed invoice(In triplicate)
- 2. Photocopy of bank guarantee (In 1 fold)
- II. Interim Payment: (CCY) AMOUNT Payable against presentation of:
- 1. Beneficiary's signed invoice(In 1 original)
- 2. Accountee's statement of performance (In duplicate)
- 3. Photocopy of Engineer's interim payment certificate approved by the Accountee (In 3 folds)
- III. Final Payment: (CCY)AMOUNT Payable against presentation of:
- 1. Beneficiary's signed invoice(In 1 original)
- 2. Accountee's final acceptance certificate(In triplicate)

All drafts and documents under this credit must be marked "Drawn under

[Name of the Issuing Bank] irrevocable credit No.[XXX] dated [Month Day, Year], and Import Reference No(s).[XXX] (if any)".

Draft must be endorsed and marked

- Letter of credit no. and date
- Drawn under [Name of the Issuing Bank]

Letter of credit number must be marked on all documents except for bank guarantee.

Draft and all documents must be presented only through a nominated bank. If presented other than a nominated bank,

- -We will not examine draft and all documents.
- -We will return draft and all documents to the presenter without any responsibility on our part.

This credit is not transferable.

All documents must be issued in English language.

We hereby undertake that all drafts drawn under and in compliance with the terms of this credit shall be duly honored on due presentation and delivery of documents to the [Name of the Paying Bank].

This credit is subject to "Uniform Customs and Practice for Documentary Credits Latest Version".

Special Instruction to the negotiating bank:

- 1. This credit shall become effective when Name of the Paying Banklacknowledges receipt of the Letter of Commitment from the JAPAN INTERNATIONAL COOPERATION AGENCY under the aforementioned Loan Agreement.
 - After obtaining the reimbursement from the JAPAN INTERNATIONAL COOPERATION AGENCY in accordance with the provisions of the Letter of Commitment, [Name of the Paying Bank] undertakes to remit the amount of the drafts in accordance with instructions issued by you.
- 2. You must forward the drafts and one complete set of documents to [Name of the Paying Bank].

Yours faithfully,
[Authorized Signature]
[Name of the Issuing Bank

Statement of Performance

Date:
Ref. No.:
To: [Name and address of the Supplier]
L/C No.:
Date of Issue:
Date of Expiry:
Amount: JPY(Say Japanese Yen)
I, the undersigned, representing Name of the Borrower, hereby issue a Statement of Performance to entitle to receive the sum of \(\frac{\frac{1}{2}}{2}\) (YenOnly) from the JAPAN INTERNATIONAL COOPERATION AGENCY in accordance with the
Payment Terms stipulated in the Contract No, dated
betweenand
[Authorized Signature]
[Name of the Borrower]

(Form LCOM)

	Date:
	Commitment No.:
[Name of Issuing Bank]:	
LETTER OF COMMITMENT	
Reference: Letter of Credit No for	
in favour of	
not exceeding \underline{Y}	lertake to reimburse you for a sum or sums _ against the Request for Disbursement, afts drawn by the beneficiary, in principle, of our receipt of the Request.
This Letter of Commitment shall	l expire on [Month Day, Year]
Letter of Commitment, we shall acts or omissions of the issuing k and/or any other parties concern	that in reimbursing you pursuant to this in no way be liable or responsible for the bank, the negotiating bank, the beneficiary ned with the captioned Letter of Credit in egotiation, payments thereof or any other
	Very truly yours,
	[Authorized Signature] Japan International Cooperation Agency

Request for Disbursement

Date: Ref. No.:
To: JAPAN INTERNATIONAL COOPERATION AGENCY
Attn:
Re: Your Loan Agreement NoCountry: Letter of Commitment No Our Letter of Credit No
Gentlemen: We have received the documents concerning the supply of [quantity and description of goods and services according to the L/C] and found them in order and in conformity with the terms of the said Letter of Credit.
Pursuant to the above Letter of Commitment we hereby request you to disburse us from the above Loan with the following particulars:
a) Amount of Disbursement: ¥(Say Yen)
b) Amount of the Draft:
Very truly yours,
[Authorized Signature] [Name of the Paying Bank] Enclosed:

Attachment 29

SOE Procedure for Japanese ODA loans

Page No - (1-26)

JAPAN INTERNATIONAL COOPERATION AGENCY

SOE Procedure for Japanese ODA Loans

Guidance for Borrowers

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SOE Procedure

1. What is the SOE Procedure?

"SOE" stands for "Statement of Expenditures" which simplifies the supporting documents for requesting disbursements (The Standard SOE form is as per ANNEX 1). The SOE Procedure is not a distinct method of loan disbursement (disbursement procedures). It is used in conjunction with disbursement procedures such as the Special Account Procedure, or the Reimbursement Procedure and requires no submission of supporting documents (details of "supporting documents" are as per footnote 4 on page4).

2. When is the SOE Procedure applied?

SOE Procedure is applied when it is expected that there will be many expenditures and the amount of each payment will be small, resulting in the frequent adherence to laborious formalities, i.e. lots of invoices and payments receipts.

Normally, the Borrower submits all supporting documents for each payment, such as the receipt of payments and invoices, to JICA when requesting a loan disbursement. JICA checks the eligibility of each expenditure by checking the contents of the supporting documents submitted every time before disbursing the loan.

However, when using the SOE Procedure, individual loan disbursements are made on the basis of a summary of payments (Statement of Expenditures: SOE) which simplifies the supporting documents, without invoices and payment of receipts. The eligibility of the expenditures is confirmed once a year by an independent auditor. Thus, timely disbursement of the loan in accordance with the schedule for the implementation of the project becomes possible.

3. How to apply and implement the SOE Procedure?

(For easy reference, ANNEX 2 shows the required action by the Borrower at each stage of the project cycle when adopting the SOE Procedure)

(1) Application of the SOE Procedure

When the Borrower/Executing Agency wishes to apply the SOE Procedure, or when the adoption of the SOE Procedure is considered appropriate due to the nature of the project, JICA normally examines the use of the SOE Procedure at the time of Appraisal.

The main points to be confirmed when adopting the SOE Procedure are given below (See ANNEX 3 for details):

- <u>Possibility of an independent audit</u>: Whether an audit of the expenditure under Project by an independent and competent auditor is possible.
- Adequate fund management structure: Whether adequate accounting and the internal management capabilities of the Borrower and the Executing Agency are assured, the flow of funds related to payments for the project is clear, and the fund administration system has been established.

(2) Selection of an Auditor

When it is determined that the adoption of the SOE Procedure is appropriate, JICA requests the borrower to select an auditor and submit information about the auditor. In the meantime, JICA studies the adequacy of accounting and internal management capabilities of the Borrower and the Executing Agency.

Two types of auditors can be selected for an audit of SOE. One is a government auditing organization such as the Board of Audit, and the other is a private sector auditing organization that primarily conducts audits of financial statements. In both cases, the main criteria for determining eligibility for selection of an auditor are described in the three points below (See ANNEX 4. for details):

- <u>Independence</u>: The auditor is required to be independent from the organization being audited (the Borrower or the Executing agency) and the body selecting the auditor. In particular, when the auditor is a government auditing organization, JICA has to study the audit system in the country and confirm its legal and organizational independence.
- <u>Expertise</u>: In order to achieve the objectives of the audit, the capacity of the auditor to conduct the audit effectively and efficiently from an expert perspective is critical. This is determined on the basis of the size, reliability, experience with similar audits, and level of training of the auditing organization.
- Auditing Standards: In order to ensure the reliability of the audit, audits must be

conducted on the basis of Generally Accepted Auditing Standards (GAAS)¹. In addition to GAAS, an audit that complies with the International Standards on Auditing (ISA)² for a private sector audit firm or the International Organization of Supreme Audit Institutions (INTOSAI) Auditing Standards for government auditing organizations is also acceptable.

As mentioned above, selection of a competent auditor is an essential factor in ensuring appropriate disbursement operations under the SOE Procedure. It is, therefore, preferable that an agreement be concluded by JICA and the Borrower regarding the auditor to be assigned by the time of the L/A³. In this respect, the L/A requires the Borrower to furnish JICA as soon as possible with an Engagement Letter signed by the authorized person of the selected auditor in which the auditor agrees to audit the records and accounts related to the applicable expenditures financed from the Loan and to submit to the Borrower a certified copy of the report of such an audit (example of an Engagement Letter as per ANNEX 5).

(3) Maintenance of records and accounts

The Borrower or the Executing Agency should maintain or cause to be maintained records and accounts that are adequate to reflect, in accordance with consistently maintained sound accounting practices, the expenditures financed from the proceeds of the Loan.

JICA may inspect the Borrower or the Executing Agency's status of such custody from time to time.

(4) Coverage of the SOE audits and the Auditor's Terms of Reference (TOR)

The objective of an SOE audit is ex post facto confirmation of the eligibility and conformity of the expenditure (or in case where a Special Account Procedure is applied, withdrawals from the special account) stated in the SOE prepared by the Borrower or the Executing Agency, and its compliance with the provisions and objectives of the Loan Agreement by an expert, independent third party auditor. In other words, the objective of an SOE audit is, by using an auditor, to confirm whether the expenditures entered in the relevant SOE (and special account

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¹ GAAS is a general term that includes international auditing standards and the auditing standards of the relevant country. Specifically, the auditing standards commonly used in the relevant country are included in addition to the International Standards on Auditing (ISA), and the International Organization of Supreme Audit Institutions (INTOSAI) Auditing Standards.

² International Standards on Auditing (ISA): Auditing standards for public accounting established by the International Federation of Accountants (IFAC).

³ In cases where reference to the name of the auditor in the L/A is not applicable, (e.g. selection of the auditor every year is required), it could be substituted by, for example, "an auditor acceptable to JICA" in the L/A.

withdrawals) are eligible for financing under the Loan Agreement and backed by necessary and sufficient supporting documents. In order for the auditor to understand the coverage of the SOE audit and the auditor's TOR, the Borrower is required to explain the objectives of any SOE audit as well as the objectives of the Loan Agreement, including non-eligible items for JICA's financing, to the auditor before conducting the audit. Especially for countries adapting the SOE Procedure for the first time, this consultation between the Borrower and the auditor is importantly necessary.

In this respect, the audit shall cover, but not limited to, the following points;

- <u>Statement of Expenditures (SOE)</u>: The auditor is required to audit whether expenditures stated in the SOE, according to which the Borrower or the Executing Agency has requested disbursement, are eligible for financing under the Japanese ODA Loans and were used for the objectives of the Loan Agreement.
- Withdrawals from the special account: When the Special Account Procedure is used as the method of loan disbursement, the auditor is required to audit whether any withdrawal from the special account is eligible for financing under the Japanese ODA Loans and was used for the objectives of the Loan Agreement.
- <u>Custody of supporting documents</u>⁴: The auditor is required to confirm whether necessary and sufficient supporting documents for the SOE are being maintained by the Borrower or the Executing Agency or not.

In order to confirm that the audit of SOE has been promptly implemented, the Borrower or the Executing Agency is required to use the Standard Audit Report as per ANNEX 6.

(5) Required Action in response to the Auditor's opinion

In response to the Auditor's opinion other than an Unqualified Opinion, the Borrower or the Executing Agency is required to take appropriate action before submitting the Audit Report to JICA, as described in the following paragraph (6). The details of each audit opinion and the necessary action required of the Borrower and the Executing Agency are as per ANNEX 8.

⁴ Supporting documents are as follows:

Supporting documents (1) Documents that prove the receipt of the funds by the contractor or consultants in exchange for the provision of goods or services

Acceptable examples (i) Bill of Exchange, (ii) Receipt, (iii) Cancelled Demand Draft (2) Documents that can confirm the use of the funds

Invoices

(6) Submission of an Audit Report to JICA

The Borrower or the Executing Agency is required to furnish JICA with a certified copy of the Audit Report by the auditor, as soon as it is available, and no later than 6 to 9 months from the end of each fiscal year in accordance with the stipulation of the Loan Agreement. The cases that the Audit Report shall be submitted are as follows.

[The Audit Report for the S/A Procedure]

Before the initial disbursement	no need to be submitted
After the initial disbursement, when there	no need to be submitted
are no loan disbursement in that year and	
no withdrawals from the S/A account	
(confirmed by evidenced documents)	
After the initial disbursement, when there	must be submitted (*)
are no loan disbursements in that year but	
withdrawals from the S/A account	

^(*)As the SOE is not yet applied to JICA from the Borrower or the Executing Agency, the S/A account management shall be confirmed.

[The Audit Report for the Reimbursement Procedure]

When the contract between the Borrower	no need to be submitted
or the Executing Agency and the	
Supplier(s) is unconcluded	

(7) Expenditures related to the Audit

When additional expenses arise due to the conduct of an audit, JICA usually considers including such expenses in the project costs as a part of the local currency portion (or the foreign currency portion if the auditor is not from the Borrower's country).

If there is a request from the Borrower, JICA also examines the possibility of making these expenses eligible for JICA's financing. Expenses are only made eligible for financing when the relevant additional expenses can be clearly distinguished from general administration expenses (For example, such a distinction would be difficult if the Board of Audit has been assigned as the auditor).

(8) Adjustment

In the event that the use of a specified amount of the Loan is not justified⁵ according to the certified copy of the audit report, the Borrower is required to refund this

⁵ Examples of an unjustified payment: no supporting documents were maintained or the payment was made for non-eligible items

amount to JICA or JICA will deduct this amount from the next disbursement⁶. If the Borrower, in the opinion of JICA, has failed to perform its obligations related to the SOE Procedure, most of which are stated in 3. (2)~(6) above, JICA may, by giving notice to the Borrower, suspend in whole or in part the rights of the Borrower under the Loan Agreement until JICA has determined that such a failure has been fully remedied.

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⁶ See the Standard L/A text for SOE Procedure (ANNEX 9). "(i) in the event that the use of a specified amount of the Loan is not justified according to the certified copy of the report of the audit referred to in paragraph (c) above, refund to JICA, upon the request of JICA, the unjustified amount."

ANNEX 1 Standard SOE format

STATEMENT OF EXPENDITURES

Date:

Serial No.:

1.	2.	3.	4	5.	9	7.	∞	9.	10.	11.	12.	13.
			*					*	* * *	* * * *		
Trans-	Purchaser	Supplier	Nationality	Description	Origin	Contract Date of	Date of	Amount	Category	Method of	Amount	Disburse-
action			of the	of the goods		Amount	Payment	Jo	Jo	Procurement	Applied	ment
			Supplier	and/or				Payment Payment	Payment		for	Ratio
				services							Financing	
		•	••••••	••••••	:	''···			• • • • • • • •	•••••••••••••••••••••••••••••••••••••••	• • • • • • • • • •	•
		. T	his SOE forma	ut is to be attac	thed to the	he Schedule	es for the	Reimbursen	nent Proced	This SOE format is to be attached to the Schedules for the Reimbursement Procedure or the Special Account	ecial Accour	•••
2.			rocedure of the	Loan Agreem	ent and s	ubstitute fo	r the Sum	nary Sheet	of Paymen	Procedure of the Loan Agreement and substitute for the Summary Sheet of Payment for the respective payment	ctive paymer	t
		ıd •	procedures attached to the brochures	ned to the brock	nures.							• • •
3.		. ·	This form can be modified according to the nature of the project, subject to the concurrence of JICA.	modified acco	rding to t	he nature of	the project	t, subject to	the concur	rence of JICA.		• •
•		Š	OE (Statement	of Expenditure	s) and S	SP (Summa	rry Sheet o	f Payments) do not di	SOE (Statement of Expenditures) and SSP (Summary Sheet of Payments) do not differ in format. However, the	However, th	• •
•		 អ	functions differ since the SOE can substitute for the supporting documents.	ince the SOE c	an substit	tute for the	supporting	documents.				•••
Total		•			•			•		•	•	•

The undersigned certifies that the Supplier(s) and goods and/or services stated above are eligible under the Loan Agreement.

Nationality of the Supplier: Country in which the Supplier(s) is incorporated and registered. Note for 4 Note for 9 & 12

Amount of Payment: If not in Japanese Yen, state both the amount in the currency in which the Payment was made

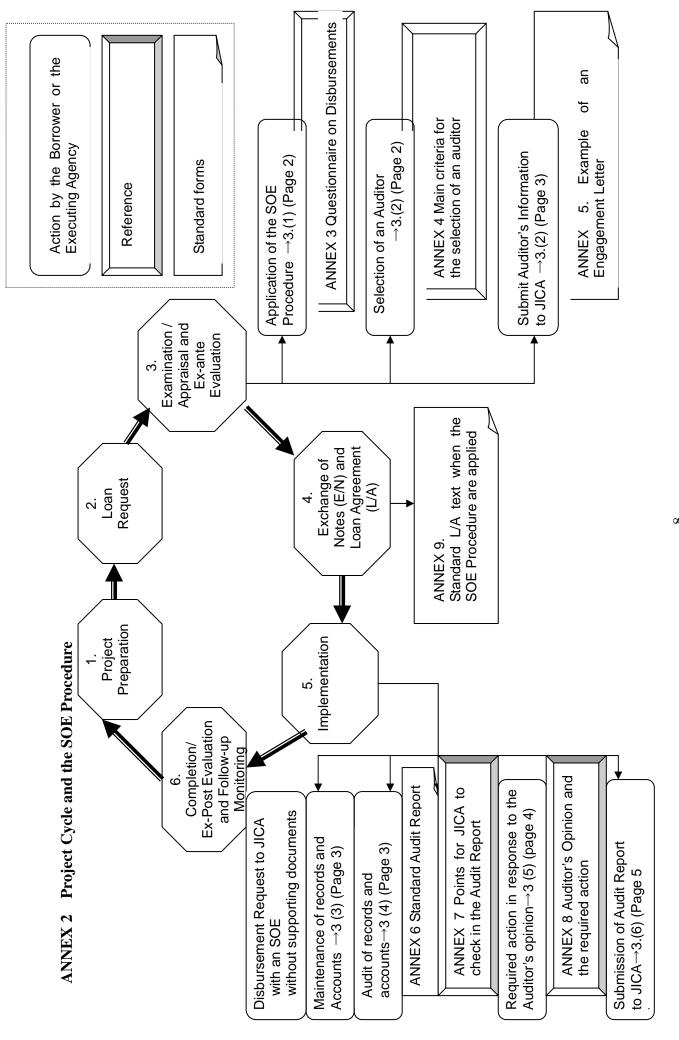
to the Supplier(s), and the converted amount(s) calculated in accordance with the Loan Agreement.

Category of Payment: Advance payment, monthly payment or the final payment, etc. Note for 10

* * *

Method of Procurement: State the reason for the choice where this is other than international competitive bidding.

Authorized Signature



This questionnaire shows the criteria for the application of the SOE Procedure. JICA requires the answers to the following questions from the Borrower or the Executing Agency when the Borrower or the Executing Agency wishes to apply the SOE Procedure.

ANNEX 3 Questionnaire on Disbursements

Questionnaire on Disbursements Addressed to the Borrower or the Executing Agency

1. Procedure for payment

Please briefly explain the following:

- (1) function of the organizations concerned (executing agency, bank, etc.) with regard to the payment to the suppliers as well as to the request for disbursement to Japan International Cooperation Agency (hereinafter referred to as "JICA")
- (2) procedural flows (approval system) required in each organization concerned in order to make payment to the suppliers, including how to discriminate non-eligible items
- (3) procedural flows (approval system) required in each organization concerned in order to make a request for disbursement to JICA
- (4) storage system of payment records, including evidence as well as the period of storage
- (5) training system for the staff in charge of accounting, payments, etc., in the Executing Agency

2. Special Account (In case of applying Special Account Procedure only)

Please briefly describe the following:

- (1) procedural flows required for approving each withdrawal from the Special Account(s)
- (2) financial flows from the Special Account(s) (Is there any intermediate financial institution between the Special Account and the end-users?)
- (3) procedural flows required for the administration of the Special Account (how to keep account of each withdrawal)
- (4) (in the case of the opening of multiple Special Accounts) the reasons for opening multiple accounts as well as the procedural flows required to administer the multiple Special Accounts

3. Audit and Statement of Expenditures (SOE) Procedure

Please briefly describe the following:

- (1) procedural flows required for employing an Auditor
- (2) law or legislation with regard to the employment of Auditors, if any (Is there any law or legislation that requires the employment of a specific Auditor?)
- (3) coordination and communication scheme with the Auditor after employment
- (4) (In cases where it is necessary to employ a private audit firm as your auditor) Is this acceptable? (Are there any requirements or restrictions other than the above-mentioned law or legislation on the employment of a private audit firm) If not, what would be the problems?
- (5) (In cases where it is necessary to employ a private audit firm as your auditor) Do you wish to include the auditor's costs in the project costs, so that part or all of the auditor's costs can be financed by JICA loan?
- (6) Do you have any experience of applying the SOE Procedures? If yes, please briefly describe the following:
- name of the project as well as the sector related to the project
- · procedures that you followed
- any problems that arose, if any, under these procedures
- (7) (In cases where the Auditor has already been chosen) Will your Auditor agree to conduct an audit on the SOEs? If not, please specify the reasons.

ANNEX 4 Main criteria for the selection of an auditor

1. For private external audit firms

(1) Independence

- The internal regulations of the audit firm concerned shall require the partners to be independent.
- More than half of the audit firm concerned shall not consist of full-time partners and / or employees of the Borrower and the Executing Agency, beneficiaries or other parties related to the project.
- The Borrower and the Executing Agency (or their employees), beneficiaries or other parties related to the project shall not have the right to make important decisions, such as the right to appoint the full-time directors of the audit firm concerned or the right to determine personnel management.
- The audit firm concerned, or any employees of the audit firm concerned, shall not have any specific relationship to the project covered by the audit.
- The employees of the audit firm concerned shall not have any other relationship with the Borrower or the Executing Agency, beneficiaries or any other party that could give rise to any economic or political benefit.

(2) Expertise

- Previous auditing track record (SOE auditing experience, auditing experience of similar projects, auditing experience of projects by the World Bank, etc.).
- The number and experience of current specialist staff at the audit firm concerned, number of staff to ensure implementation of the auditing of this project.
- Current work volume of the relevant audit firm (Is it possible to complete the audit and submit the audit report by the deadline?).
- If the audit firm concerned is a subsidiary, branch or affiliate of an internationally renowned audit firm, such as one of the so-called BIG 4¹⁶, is there a substantial relationship with the relevant BIG 4 firm?

(3) Auditing Standards

It is required that ar

It is required that an audit be conducted in accordance with either of the auditing standards below.

- Generally Accepted Auditing Standards (GAAS) (auditing standards that are generally accepted in the relevant country).
- International Standards on Auditing (ISA): Auditing standards on public accounting

¹⁶ BIG 4: A general term that refers to the four large international accountancy firms of PriceWaterhouse Coopers, KPMG, Deloitte Touche Tohmatsu, and Ernst & Young.

established by the International Federation of Accountants (IFAC).

2. Official (Legislature or Government) control agencies

(1) Independence

- The existence of laws that guarantee the independence of the relevant auditing agency.
- The Borrower or the Executing Agency (or their employees), beneficiaries or other parties related to the relevant project shall not own more than half of the issued shares in the auditing agency (if shares have been issued).
- More than half of the audit firm concerned shall not consist of full-time partners and / or employees of the Borrower or the Executing Agency, beneficiaries or other parties related to the project
- The Borrower or the Executing Agency (or their employees), beneficiaries or other parties related to the relevant project shall not have the right to make important decisions, such as the right to appoint the full-time directors of the relevant auditing agency or the right to determine personnel management.
- The employees of the relevant auditing agency shall not have any other relationship with the Borrower or the Executing Agency, beneficiaries or any other party that could give rise to any economic or political benefit
- If the relevant auditing agency is a local government auditing agency, the local government shall not control over half of the issued shares, over half of the full-time employees or have the right to make important decisions, such as the right to appoint the full-time directors or the right to determine personnel management.

(2) Expertise

- Existence of legal restrictions on the activities of the relevant auditing agency (implementation of the SOE audit and the expression of an audit opinion is not recognized, no legal jurisdiction over the Borrower or the Executing Agency, etc.).
- Previous audit track record of the relevant auditing agency (SOE auditing experience, auditing experience of similar projects, auditing experience of projects by the World Bank, etc.).
- The number and experience of current specialist staff at the relevant auditing agency, the number of staff to ensure implementation of the audit of this project.
- Current work volume of the relevant auditing agency (Is it possible to complete the audit and submit the audit report by the deadline?).

(3) Auditing Standards

It is required that the audit be conducted in accordance with either of the audit standards below.

- Generally Accepted Auditing Standards (GAAS) (auditing standards that are generally accepted in the relevant country).
- Auditing Standards of the International Organization of Supreme Audit Institutions (INTOSAI).

ANNEX 5 Example of an Engagement Letter

Engagement Letter

To:	[The Borrower] [Date:]
Re:	Statement of Expenditures Audit for the Loan Agreement No. []
[The	Auditor] has hereby agreed with [the Borrower] to:
	nudit the records and accounts related to the applicable expenditures financed out of the loan under the Loan Agreement No. [], dated [], between ICA and [the Borrower], within [] months after the end of each fiscal year in the Borrower's country], in accordance with generally accepted auditing standards, and
	ubmit to the Borrower a certified copy of the report of such an audit, whose format hall be substantially similar to the attached sample format.
	he case of government auditors only) The authorized person(s) to certify such an report are [name, title]
	[Name of the Auditor] [Title of the Auditor] [Name and Address of the Audit firm]

ANNEX 6 Standard Audit Report

AUDIT REPORT

(Unqualified Opinion)

To: [The Demoyver]	A: Add	dressee and Submiss	ion deadline		
To: [The Borrower]			Date: []
	B: In	troductory Paragrap	h]		
We have Audited the [(Project Name)] Proje the year(s) []. or the Executing Age opinion on the SOEs be	ct financeon The SOluncy)]'s m	d under the Loan Es are the respon anagement. Ou	Agreement (lasibility of [(N	L/A) No. [Jame of the Bor] for rower
	C: Sco	pe Paragraph]			
[or relevant national st and perform the audit free of material misst	to obtain a	reasonable assu		•	•
accounting records, sup or the goods and service basis for our opinion.	oporting do	ocuments, and ph	ysical inspect	ion of the work	done,
accounting records, sup or the goods and service	oporting do	ocuments, and ph	ysical inspect	ion of the work	done,
accounting records, sup or the goods and service	TD: O	pinion Paragraph] ne SOEs, adequa	ysical inspects hat our audit p te supporting eimbursement	documents has	done, onable s been
accounting records, support the goods and service basis for our opinion. In our opinion, with remaintained to support incurred; and which	TD: O	pinion Paragraph] ne SOEs, adequa	ysical inspects hat our audit p te supporting	documents has	done, onable s been

EXAMPLES OF AUDIT REPORTS OTHER THAN THOSE WITH AN UNQUALIFIED OPINION

Qualified Opinion:
Separate paragraph required after the Scope Paragraph
·
·
Revised Opinion Paragraph
In our Opinion, with regard to the SOEs, except for the items as described in the
preceding paragraph, adequate supporting documents has been maintained to
support the claims to JICA for reimbursement of the expenditures incurred; and
which expenditures are eligible for financing under the Loan Agreement.
Adverse Opinion:
Separate paragraphs required after the Scope Paragraph
·
•
Revised Opinion Paragraph
In our opinion, with regard to the SOEs, subject to the matter discussed in the
preceding paragraph, adequate supporting documents has not been maintained to
support claims to JICA for reimbursement of the expenditures incurred; or which
expenditures are not eligible for financing under the Loan Agreement.
Disclaimer of Opinion:
Revised Introductory Paragraph
We were engaged to audit the accompanying Statements of Expenditures (SOEs)
for the years []. The SOEs are the responsibility of []'s
management. (Omit the sentence stating the responsibility of the auditor.)
(Scope paragraph would either be omitted or amended according to the
circumstances.)
Revised Opinion Paragraph
Because of the significance of the matters discussed in the preceding paragraph,
we do not express an opinion on the SOEs.

ANNEX 7 Points for JICA to check in the Audit Report

[A: Submission deadline and addressee]

- (1) Was the audit report submitted by the submission deadline stipulated in the L/A?
- (2) Is the addressee the appropriate organization, such as the Borrower or the Executing Agency, as stated in the Engagement Letter?

If the items above have not been observed, JICA asks for correction to the Borrower or the Executing Agency.

[B: Items stated in the Introductory Paragraph]

In an SOE audit, there must be a clear demarcation between the responsibility for preparing the SOE (and in addition, responsibility for the account management in case of the Special Account Procedure) and the responsibility for auditing the SOE and the special account. Moreover, it is necessary to specify the coverage of the audit and limit the scope of responsibility of the auditor. Consequently, the audit report must specify the SOEs covered by the audit. Checking of the items below specifies the coverage of the audit as well as clarifying the separation of responsibility.

- (1) Are the project name and L/A number stated?
- (2) Is the period covered by the audit stated, and does the audit cover all SOEs for the period¹¹?
- (3) Is the separation between the responsibility for preparing SOEs (Borrower or Executing Agency) and the responsibility for expressing an opinion (auditor) noted?
- (4) Are the SOEs covered by the audit attached to the audit report?
- (5) If a number of reports are submitted for a single L/A, are the numbers and names provided to enable identification?

If (1) through (3) above have not been stated and the coverage of the audit cannot be identified, the relevant audit report is returned to the auditor via the Borrower or the Executing Agency and resubmission of an amended report with the correct descriptions is required.

If the items in (4) above have not been attached, the auditor is requested to submit them via the Borrower or the Executing Agency.

If the items in (5) above have not been noted, making identification impossible, the auditor is requested to provide confirmation via the Borrower or the Executing Agency.

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¹¹ Although all the SOEs for the target period are covered by the audit, a sample check is made of the corresponding supporting documents. The auditor determines the coverage ratio of the supporting documents and where to place the focus of the sample check at the audit plan formulation stage prior to beginning the audit. This is based on factors that include the details of the project, the management system of the Executing Agency, the results of the audit of a similar project in the previous fiscal year or of the same Executing Agency, and the current capacity of the Executing Agency (including the capacity of its local offices). When necessary, JICA obtains the audit plan from the auditor via the Borrower or the Executing Agency and reviews the supporting documents coverage ratio and the focus of the sample check.

[C: Items stated in the Scope Paragraph]

Unless the audit is conducted using an appropriate audit approach, it is ineffective. JICA checks the appropriateness of the auditing approach according to the items below.

- (1) Is there a description to the effect that the audit was conducted in accordance with Generally Accepted Auditing Standards (GAAS)? An audit that conforms to International Standards on Auditing (ISA) for a private sector audit firm or the International Organization of Supreme Audit Institutions (INTOSAI) Auditing Standards for public auditing organizations is also acceptable.
- (2) Is there a note to the effect that the audit plan was formulated and implemented in order to obtain sufficient corroborating evidence for the formation of an audit opinion on the SOEs?
- (3) Is there a note on the audit procedures implemented to examine the soundness of the SOEs, and are the procedures appropriate?
- (4) Is there a description indicating that sufficient corroborating evidence was obtained in order to form an audit opinion?

If there is no description related to (1) through (4) above, and it is not possible to confirm whether or not the audit was conducted and the opinion formed in accordance with GAAS, JICA obtains confirmation from the auditor via the Borrower or the Executing Agency. If it is still not possible to obtain confirmation, the relevant audit report is returned, and an amended report must be resubmitted.

[D: Items stated in the Opinion Paragraph]

The audit is conducted in order to achieve the audit objectives, and the audit opinion must be expressed in accordance with the audit objectives. If, as a result of checking the audit opinion section, the audit opinion is not clearly expressed, JICA requests the auditor to provide an audit opinion via the Borrower or the Executing Agency and requires that the audit report be resubmitted.

E: Auditor

An audit can only be effective when conducted by an independent and competent auditor. JICA checks whether the auditor who conducted the audit differs from the auditor selected following the initial determination of competence according to the following items.

- (1) Is the name of the auditing organization the same as that stated in the L/A, and is the auditor selected on the basis of the prescribed procedures and approved by JICA?
- (2) Is the auditor's name and signature present?
- (3) Is the date of the auditor's signature within the deadline determined by the L/A?
- If (1) above has not been observed, JICA returns the relevant audit report to the Borrower or the Executing Agency, and it is required to resubmit a report from the correct auditor.
- If (2) above has not been observed, JICA returns the relevant report to the auditor via the Borrower or the Executing Agency, and the resubmission of an amended report with the correct entries is required.

If there are no entries relating to (3) above, JICA recommends correction by the auditor

via the Borrower or the Executing Agency.

ANNEX 8 Auditor's Opinion and the required action

[Unqualified Opinion]

<u>Definition</u>: An Unqualified Opinion is expressed when there are no important qualifications and the SOE covering expenditures is sound. In this case, the Borrower or the Executing Agency can send the Audit Report in accordance with 3 (6) on page 4.

[Qualified Opinion]

<u>Definition</u>: A Qualified Opinion is expressed when there are important qualifications regarding deviation from the criteria (L/A), or the scope limitation of the audit, or both, but the overall influence is not sufficiently important to express an Adverse Opinion or to withhold an audit opinion (Disclaimer regarding the Opinion).

Action required of the Borrower

When a Qualified Opinion is expressed, the Borrower or the Executing Agency takes the following measures in phased steps.

Step (1): Obtainment and Confirmation of a Settlement Certificate

The Borrower or the Executing Agency obtains a Settlement Certificate for the qualifications noted in the audit report that indicates that the auditor has confirmed the settlement of the relevant qualifications. If the details noted in the Settlement Certificate are unclear, the Borrower or the Executing Agency requires the auditor to provide additional explanation according to JICA's instructions.

Disbursements through the SOE Procedure can be suspended, depending on the importance of the qualifications, until a Settlement Certificate with sufficient details can be obtained.

Reference

On confirmation that the qualifications have been settled, JICA checks whether the decision on the settlement of the qualifications and the basis for the decision are appropriate.

Example:

- For qualifications based on the eligibility of expenditures for financing: JICA confirms whether the decision to recognize the relevant expenditures as eligible for financing in the Settlement Certificate and the basis for that decision are appropriate.
- For qualifications due to insufficient presentation of the supporting documents: JICA confirms whether the additional corresponding supporting documents are presented and whether the details of the supporting documents are sound.

Step (2): If a Settlement Certificate cannot be obtained, or if there are qualifications that are not stated on the obtained Settlement Certificate

The Borrower or the Executing Agency provides JICA with information regarding the details of the qualifications, the reasons why a Settlement Certificate has not yet been obtained, and the possibility of and schedule for obtaining it in the future.

Step (3): If there are qualifications for which a Settlement Certificate dannnot be obtained even after a reasonable period

After discussions with JICA, the Borrower or the Executing Agency is required to refund the corresponding amount. (If a subsequent disbursement is scheduled, adjustment of the amount of the subsequent disbursement is also possible.) In addition, it is necessary to decide whether to continue the SOE Procedure in subsequent disbursements or whether to change to procedures that do not use an SOE (submission of all supporting documents).

[Adverse Opinions and Disclaimer regarding the Opinion]

<u>Definition</u>: An Adverse Opinion is expressed when the effect of the important qualifications regarding deviation from the criteria of the L/A is significant, and the overall SOE is considered unsound. A Disclaimer regarding the Opinion is expressed when the effect of important qualifications related to the restrictions of an audit is significant, and an opinion cannot be expressed on the soundness of the SOE.

A specific example of an adverse opinion is expressed when expenditures that are ineligible for JICA financing are recorded in the SOE. A specific example of a disclaimer regarding an opinion is when the supporting documents for determining the appropriateness of expenditures has not been submitted.

When an adverse opinion is expressed or a disclaimer regarding an opinion is recorded, disbursement by the SOE Procedure is temporarily suspended until the qualifications that led to the opinion are settled. Moreover, in projects in which the same auditor conducts audits of a number of special accounts regarding which an adverse opinion has been expressed for some of the special accounts or a disclaimer regarding the opinion has been recorded, disbursements for the other special accounts audited by the same auditor are also temporarily suspended.

Action required of the Borrower

The specific measures for when an adverse opinion is expressed or a disclaimer regarding the opinion is recorded are as below, and JICA responds as noted in phased steps.

Step (1) Request for correction of the relevant SOE and resubmission of the audit report. The Borrower or the Executing Agency is required to correct the relevant SOE and to submit a new audit report.

→ When a corrected SOE and audit report are resubmitted

JICA continues disbursement using the SOE if the resubmitted audit report gives an unqualified opinion or a qualified opinion and a Settlement Certificate for the qualifications can be obtained.

Step (2): If a corrected SOE and audit report are not submitted

In this situation, major flaws are frequently apparent in the internal administration system (department and personnel systems and compliance, etc.) that the Borrower or the Executing Agency was required to establish in the first place in order to prepare sound SOE. As a result, JICA surveys the establishment and operational status of the internal administration system for preparing SOE within the Borrower or the Executing Agency, if the corrected SOE and audit report are not resubmitted despite a request from JICA.

→ If JICA finds, as a result of the survey, that the internal management system of the Borrower or the Executing Agency has been adequately established

The Borrower or the Executing Agency is required to correct the relevant SOE and submit a corresponding audit report. JICA continues disbursement using SOE if the resubmitted audit report gives an Unqualified Opinion or a Qualified Opinion with a Settlement Certificate for the qualifications can be obtained.

Step (3): If JICA finds, as a result of the survey, that the internal management system of the Borrower or the Executing Agency has been inadequately established

Based on the survey results, JICA provides guidance to improve the establishment and operation of the internal management system of the Borrower or the Executing Agency to a level that is adequate for the continuation of the SOE Procedure.

Step (4): If JICA finds, as a result of the survey, that the internal management system of the Borrower or the Executing Agency cannot be improved.

The borrower is requested to repay the corresponding amount. In addition, the disbursement procedures will be changed to a method that does not use the SOE Procedure (submission of all supporting documents will be required).

ANNEX 9 Standard L/A Text when the SOE Procedure is applied

Section 4 Administration of Loan

(X) The Borrower shall:

- (a) furnish JICA as soon as possible, with an engagement letter signed by authorized person of [Auditor's name (i)], in which the said auditor agrees to audit the records and accounts related to the applicable expenditures financed out of the Loan and to submit the Borrower a certified copy of the report of such audit;
- (b) maintain, or cause to be maintained, records and accounts adequate to reflect, in accordance with consistently maintained sound accounting practices, the expenditures financed out of the proceeds of the Loan;
- (c) have the records and accounts referred to in paragraph (a) above for each fiscal year audited, in accordance with appropriate auditing principles consistently applied by the said auditor;
- (d) furnish JICA as soon as available, but in any case not later than [due date of the audit report submission (ii)] months after the end of each such year, with a certified copy of the report of such an audit by the said auditor, of such scope and in such detail as JICA may reasonably request;
- (e) furnish JICA with such other information concerning said records and accounts, and the audit thereof, as JICA may from time to time reasonably request;
- (f) retain, until at least five (5) years after the Completion Date, all records (contracts, orders, invoices, bills, receipts and other documents) evidencing such expenditures;
- (g) enable JICA's representatives to examine such records;
- (h) ensure that such records and accounts are included in the annual audits referred to in paragraph (c) above and that the report of such audit contains a separate opinion by the said auditor as to whether the statements of expenditures submitted during the relevant fiscal year, together with the procedures and internal controls involved in their preparation, can be relied upon to support the related

disbursements; and,

- (i) in the event that the use of a specified amount of the Loan is not justifiable according to a certified copy of the report of such audit referred to in paragraph (c) above, refund to JICA, upon request of JICA, such unjustifiable amount.
- (Y) When the Borrower, in the opinion of JICA, fails to perform its obligations stated in any of the paragraphs of the sub-section (X) above, JICA may, by notice to the Borrower, suspend in whole or in part the rights of the Borrower under the Loan Agreement until JICA determines that such failure has been fully remedied. However, this stipulation does not impair JICA's further exercise of the rights stated in the Section 6.01 of the General Terms and Conditions.
- (i) The specific name of the auditor shall be selected and agreed upon. If this agreement has not been made at the time of the L/A, "an auditor acceptable to JICA" shall be substituted for the auditor's name. When, according to the regulations of the Borrower's country, the Auditor employed by the Borrower obligatorily conducts the audit, this article is omissible.
- (ii) Any number between 6 to 9 months shall be inserted. See P5, 3. (6) of this Guidance.

Risk Management Framework

Page No - (1-6)

Risk Management Framework

1. Key Assumptions

The overall design of the project focuses on the following key goals which are to mitigate and adapt to climate change, improve ecosystems, and improve livelihood through ecosystem-based climate change measures, biodiversity conservation and restoration, livelihood improvement activities, and institutional strengthening, thereby contributing to sustainable socio-economic development in West Bengal. The project area considers landscapes, viz., Hills and dry lateritic and deltaic North Bengal, to address specific issues identified as flood/ landslides, human-elephant conflict, drought and erosion, and cyclones and salinity of water.

The Risk Management Framework is a template and guideline used by stakeholders to identify, eliminate, and minimise risks during the project implementation. The framework has been evolved around the institutional arrangements that have been proposed for the project management to deliver the envisaged results. However, the key results of the project are expected under certain assumptions. The key assumptions considered for the project are:

- 1) Willingness of the state government, with the necessary budget and support for human resources and other administrative and operational costs;
- 2) No political instability during the project implementation, and project is continued to be supported both by state and central governments;
- 3) Funds are timely allocated, and PMU proactively submits regular claims for disbursement during the implementation;
- 4) All envisaged procurements are approved without delays by the key decision-making authorities like the High-Power Committee (HPC) and the Governing Body (GB) of the project;
- 5) There are no major changes in strategies, policies, plans, and organisational structures in the forest sector, that may adversely impact on the project results;
- 6) Project receiving cooperation and support from relevant line departments at all level of operations;
- 7) There are no legal and critical social conflicts or disputes occurring in the target divisions, and selected project areas prior to initiating interventions; and
- 8) The project implementation is not severely impacted from any drastic economic recession in the national and regional economy and natural disasters.

2. Possible Key Risks

No project can be isolated from external and unforeseen risks. In West Bengal, natural disasters like droughts, cyclones, and floods are common every year. Further, climate change has led to the exacerbating of disasters, both in numbers and complexity, in the lower Gangetic basin of Bengal. In recent years, the state has witnessed two of the deadliest cyclones in West Bengal's history, Cyclone Amphan (2020) and Cyclone Yaas (2021), which wreaked havoc in the Sundarbans (South 24 Parganas district) and its adjacent districts. The geographical location of West Bengal also makes it vulnerable to year-round flooding from the Teesta, Damodar, Kangsabati, and Subarnarekha river systems. By this, it is evident that the project is going to be implemented in a context where the project needs to adopt strategic and adoptive approach to its management.

Some of the key risks that are identified / perceived at the project formulation stage are:

- 1) The envisaged human resources are not deployed by WBFD/ state government, and the project is managed mostly through outsourcing and/ or contracts;
- 2) Post-project sustainability is not well addressed in the absence of O&M processes and adequate allocation of funds;
- 3) The capacity of WBFD/ project staff and other key stakeholders is not effectively built to undertake the desired processes. Such situation may adversely impact on the project results;

- 4) West Bengal gets adversely impacted by cyclones, floods, and landslides, that gravely results in huge loss of life and property. Thus, there may be risk of unforeseen large-scale natural disasters, such as cyclones, forest fire, landslides, severe flooding, or any climate change adversaries; and
- 5) Global political conditions are favourable and stable, and India's geo-political situation do not pose threats for the smooth implementation of the project.

The project risks are further analysed in the table below.

Table 1 Risk Management Framework

1460	Die 1 lusk Management 1 lamework											
Project Name:	The Proje	The Project for Forest and Biodiversity Conservation for Climate Change										
	Response	in West Bengal (WB-FB	CCCR)									
Country:	The Repu	The Republic of India										
Sector:	Forestry											
Responsible Agency:	West Bengal Forest Department (WBFD), Government of West Bengal											
Officers In-Charge:	Contact:	Amitabh Vibhakar	Title:	APCCF Chief Project								
		Mishra		Director, West Bengal								
	Forest & Biodiversit											
				Conservation Project								
	Mobile:	+91-9831252896	Email:	wbfbcp@gmail.com								
		+91-										
Operational Staff	To be nam	ned	•									
Engineering Staff	To be nam	ned	•									
Country Office Staff	To be nam	ned										

Assessment

KEY RISKS AND MITIGATION MEASURES

Potential Project Risks

1 Ctal alcalda D'alc	D 1 1 11/4 TT/OT/T
1. Stakeholder Risk	Probability: H/M/L
(Description of risk)	Impact: H/M/L
The West Bengal Assembly elections were concluded in the	Analysis of probability and impact:
year 2021, and it is expected that the current government	Moderate risk is estimated. The regular forest field staff may
will complete its full term of five years. The next state	not proactively participate in the project works and may view
assembly elections schedule will come sometime on or	the project as additional tasks under regular departmental
before March-April 2026 when the project will be in its	function. However, through notifications, regular follows-ups
fourth year (mid-term) of operations.	and capacity building to achieve the desired support will be
It is expected that the current government will make a	ensured.
gradual success that lies in the economic progression of the	Initial challenge with the project will generate interest amongst
state and the well-being of the majority of people. Reports	the community for participation in the project. Continuous
indicate a marginal improvement of agriculture and rural	handholding support, awareness, IEC, and engagement of
people, relying on the delivery of welfare schemes at the	NGOs/ Resource Organisations will minimise such risks.
cost of overall growth (including industrial and service	Mitigation measures:
sectors). This approach may lead towards dependency of	The mitigation measures to the risks are identified as follows:
low-income people on limited resources.	(a) strengthening the training and IEC support to stakeholders
Even if there is a change in political situations and	to help enhance the understanding of the project processes and
governance models as well as priorities, it is expected that	benefits; (b) enhancing information disclosure and quick
the commitments and priorities related to the forest sector	grievance redressal by the state as well as by the WBFD; (c)
will remain the same and no significant changes are	continuous guidance and supervision, including capacity
assumed.	building initiatives; and (d) intersectoral coordination with the
For project implementation, the existing structure, and	line departments and planning with the local/ district/ block
human resource of WBFD will be utilised. During the	administration will ensure support sectoral convergence in
project period, it may happen that WBFD officials	project-supported villages/ sites.
responsible for project implementation may either get	Action during the implementation:
elevated and transferred to new positions or may be	Not required
superannuated. Thus, continued capacity development	Contingency plan (if applicable):

Potential Project Risks	Assessment
initiatives need to be in place to support the project	Not applicable
implementation.	The application
The JFMCs and SHGs will receive continued guidance and	
handholding support and are sufficiently capacitated to	
manage and/or generate or arrange funds for post project	
sustainability of assets and institutions.	
2. Executing Agency Risk	
2.1. Capacity Risk	Probability: H/M/L
(Description of risk)	Impact: H/\overline{M}/L
WBFD and other key stakeholders will get exposed to new	Analysis of probability and impact:
approaches, processes, and technical know-how particularly	Moderate risk is estimated. There may be some difficulties for
for the ecosystem management, climate change mitigation	the project stakeholders to fully understand the project
and adaptation measures, landscape monitoring, use of MIS/	processes and implement the project in the initial years. The
GIS applications and drone technology for planning and	capacities of the project staff deployed or engaged will be
monitoring, engineering structures, private/ CSR	critical to the project success.
partnerships, etc.	
Thus, acquiring required skills and expertise for the planned	
interventions will be critical given the vacancy positions in WBFD and the limited institutional capacity in new areas	Mitigation measures:
introduced under the project for planning, management,	The proposed mitigation measures to the risks that could be
monitoring, and efficient delivery of services.	adopted are as follows: (a) the project will focus on strengthening the institutional capacity. The project will
The society for project implementation created during the	implement capacity development strategy and annual training
previous JICA-assisted project will continue to function and	calendar for the project staff. If required, the project may
manage the project, and WBFD/ the project staff will	acquire necessary skills and expertise from the market; (b)
quickly learn about the requirements of project operation	Project Operation Manual and Accounting Rules/ guidelines
and management under society-mode.	will be developed and adopted during the first year of
	operation.
	Action during the implementation:
	PMU with technical assistance from the PMC will i) prepare
	the project implementation guidelines, ii) organise orientation and guidance workshops/ seminars for information
	dissemination amongst stakeholders, iii) provide training to the
	project staff to enable them to operate and manage the project
	as envisaged, and iv) continuously provide technical and
	managerial support.
	Contingency plan (if applicable):
	Not applicable
2.2. Governance Risk	Probability: H/\@/L
(Description of risk)	Impact: H/\overline{M}/L
The High-Power Committee (HPC), Governing Body (GB),	Analysis of probability and impact:
PMU and other institutions are established for overall	Moderate risk is estimated. The society mode project
decisions making, coordination, and implementation of the	management and establishing the envisaged institutions will
project. The role of PMU and the Member-Secretary to GB	minimise the operational, coordination, and management risks.
and HPC will be critical to use such institutions for	
accelerating project implementation as well as seeking	Mitigation measures:
guidance and support for efficient management, including	HPC led by Additional Chief Secretary, and PMU led by full-
conflict resolution and inter-sectoral convergence.	time cadre officer on deputation to manage the project should
Sufficient authorities to be delegated to PMU for day-to-day	be established at the respective levels. For intra-departmental
decision making, and adequate funds to be allocated to execute annual plans in an efficient manner.	coordination and project management, GB is chaired by the Head of Forest Force (HoFF); WBFD will play an efficient
execute aimuai pians in an emercial manner.	role. For the convergence, more linkages at district and blocks
	(under the district) by the project level offices (DMUs/FMUs)
	is envisaged.
	Action during the implementation:

Potential Project Risks	Assessment
<u> </u>	Same as above.
	Contingency plan (if applicable):
	Not applicable
2.3. Fraud & Corruption Risk	Probability: H/M/♥
(Description of risk)	Impact: H/M/ℂ
Absence of robust financial control and procurement	Analysis of probability and impact:
systems may increase risks for malpractices, frauds, and corruptions. Procurement protocols for goods and services must be in place. The international competitive bidding has well laid-out procedures and prior concurrence is required from JICA at each stage of selection, whereas for local/national bidding, existing procedures and state procurement rules	Low risk is estimated. There is less probability that any fraud, misappropriation, or issues on financial management will take place. There is only the possibility that some inappropriate sub-projects, which may not necessarily benefit the local people who participate in the project activities, might be selected and implemented.
will be adopted by PMU.	Mitigation measures:
Some lack of understanding on the procurement procedures and capacities to develop the Terms of Reference (TOR) may sometime dilute or leave some gaps in the procurement of goods and services. The project staff may also lack orientation on the mercantile accounting system that may be adopted for project accounting and reporting. Thus, the key staff needs to be trained both on procurement as well as accounting procedures.	Under the managerial features of the institutional arrangements there are provisions of establishing computerised accounting system and for conducting independent CA audits, CAG audits, as well as system of undertaking concurrent audits. Under the Monitoring & Evaluation, system of Grievance Redressal as well as RTI could bring in more transparency as well as accountability. For procurement of Goods & Services, a well-defined procurement guideline will be in place at the state level and the key staff will be sufficiently trained. Also, prior concurrence will be required from JICA on the implementation of key sub-projects and services. Action during the implementation: At the start of the project implementation, financial management and accounting rules and regulations for the project will be developed and will form part of the Operation Manual. PMU, with technical assistance from PMC, will monitor the project implementation. PMC with also provide guidance and advice for proper and transparent management on a regular basis over the course of the project. Contingency plan (if applicable):
	Not applicable
3. Project Risk	
3.1. Design Risk	Probability: H/M/L
(Description of risk)	Impact: H/M/L
Activities planned under the project for climate change	Analysis of probability and impact:
mitigation and adaptation, ecosystem management, and landscape management – coastal, lateritic plains, North Bengal Hills, grasslands, degraded forests, and protected areas are diverse and big in scope. Thus, substantial time and effort is required to collect and compile basic data required for robust planning. Further, to capture the features of various landscapes, detailed survey and mapping	Moderate risk is estimated. It might be difficult for PMU to quickly identify qualified contractors/ facilitators capable to implement the envisaged processes at the state/ field level. In case no eligible individuals or organisations could be identified at the state level, PMU will try to procure at the national or regional level. The project divisions and ranges will need managerial and
requirements will be necessary, which will require substantial time and resource. Furthermore, the identified project areas are scattered all	technical support from PMU for planning, data collection, monitoring, and reporting.
1 and and a security of the security of the security of the	Mitigation measures:

D	
Potential Project Risks	Assessment
over the state and many of the component activities would require very rigorous and intense efforts. Thus, adequate capacities among the project implementation units at all levels of the project need to be built.	The proposed mitigation measures for the risks are identified as follows: (a) the provision of technical support in the form of PMC to PMU/ WBFD during preparatory phase, and hiring resource organisations/ NGOs; (b) the lessons learnt by WBFD from the past project will help in mitigating the risk; and (c) planning for phase out strategy prior to closure of the project will ensure systematic transfer of assets and responsibilities for proper O&M.
	Action during the implementation:
	Same as above.
	Contingency plan (if applicable):
2.4 B 9 D D'.I	Not applicable
3.2. Program & Donor Risk (Description of risk)	Probability: H/M/© Impact: H/M/©
	Analysis of probability and impact:
The project design has been aligned with the state's sector strategies and policies. The design also considers the priorities set for the sector at the national level, as well as priorities with WBFD. It is assumed that the policies may remain unchanged during the implementation period, and project will help to achieve the aims and objectives spelt out in policies and acts and rules, for the forestry sector.	Low risk is estimated. West Bengal is situated in eastern India and shares its borders with Jharkhand, Bihar, Odisha, Sikkim, and Assam. The state also shares international borders with Bangladesh, Bhutan, and Nepal. The Bay of Bengal is in the south of West Bengal. The state has abundant natural resources of minerals and suitable agro-climatic conditions for agriculture, horticulture, and fisheries. West Bengal offers wide topographic diversity and intricate drainage network of the Ganga, the Brahmaputra, and the Subarnarekha River basins. West Bengal boasts a biosphere rich in flora and fauna. Being highly diversified in history, culture, and nature, the state has flourished as one of the major eco-tourism destinations in India. With its broad network of river channels and geographical features, the deltaic region in South Bengal is renowned for exhibiting the largest mangrove forest in the world. Thus, there is a good rationale for designing a project following the landscape approach. Mitigation measures:
	Commitment from the state government to extend annual budgetary support to the forestry sector project.
	Action during the implementation:
	PMU proactively approaches the state government to secure the annual fund for the project implementation.
	Contingency plan (if applicable):
	Not applicable
3.3. Delivery Quality Risk	Probability: H/M/L
(Description of risk)	Impact: H/M/L
It is necessary to develop a robust project management	Analysis of probability and impact:

Potential Project Risks

system and introduce a mechanism for quality delivery of processes to achieve the envisaged results, and O&M during post project period. A system also needs to be developed for utilising latest technologies for survey and mapping as well as for planning and monitoring purposes. Thus, identification of project areas along with rationale may pose some challenges and may have to deal with the local political priorities.

It is expected that the project beneficiaries or local communities who participate in the project will be engaged for consultations and planning and implementation/ maintenance for project interventions.

4. Other Risk - Financial Capacity and Arrangements

(Description of risk)

WBFD has been managing budgets around 850 Cr. annually as a department, and the size of the subsequent JICA project is estimated around INR 650 Cr. Thus, WBFD may require efforts and strategies to demonstrate financial capacities, particularly when vacancies at the field level varies between 47% ~ 65%.

It is assumed that the state government will consider the forestry sector as priority sector for making investments and will proactively allocate annual budgets as per the annual fund requirements of the new project. With the enhanced capacities of WBFD through JICA-assisted projects in the past, it is likely that WBFD will be able to deliver a project that may cost around INR 650 Cr. in a span of eight years.

Assessment

Moderate risk is estimated. There is probability that PMU will face some difficulties in gathering/collecting necessary data and information in timely manner for planning and monitoring of the operation and effect indicators, particularly for landscape level data.

In case collaborative management system is not well developed during the initial phase, the project sustainability and project results may be impacted. Also, may be due to some ignorance or carelessness, the equitable distribution of benefits may not happen properly.

Mitigation measures:

The initial orientations and capacity building of the stakeholders will help to develop sound understanding on project processes. GIS tools and techniques along with MIS will help to identify and prioritise the project intervention areas. Guidelines and manual will also help to uniformly disseminate the project information.

Action during the implementation:

Same as above.

Contingency plan (if applicable):

Not applicable.

Probability: H/M/L Impact: H/M/L

Analysis of probability and impact:

Moderate risk is estimated. The state government allocates the required annual funds right at the start of the fiscal year without delay. WBFD allocates dedicated staff for the project. PMU is well-equipped to manage and extend funds at the implementation level and be able to guide and handhold the field operations and implementation efficiently.

Mitigation measures:

Annual budgetary flows for the project to be ensured by the state government under the Loan Agreement. If the annual budget releases are not possible, the government may consider providing upfront revolving fund to the project.

Action during the implementation:

PMU/ WBFD proactively approach the state government for release of budgets on time every year and must obtain timely approval of the annual budgets and annual plans from HPC and GB prior to the start of each fiscal year.

Contingency plan (if applicable):

Not applicable.

Probability: H/M/L

Impact: H/M/L

(Overall comments)

5. Overall Risk Rating

The overall risk is estimated as Moderate. The project faces significant risks in (a) institutional capacity for implementation and sustainability, particularly for O&M of the project assets and human resources; (b) technical design of the project that may require to acquire skill sets and build capacities of the stakeholders; (c) delivery quality adopting the envisaged procedures and rules; (d) financial capacities and arrangements for timely availability of adequate funds; and (e) stakeholders to willingly participate and receive benefits out of the project. The key risks, which may impair the effective implementation of the project, are related to the new processes and participatory approach for implementing and managing activities, the institutional capacity, and ongoing human resource constraints faced by WBFD.

Estimated Annual Greenhouse Gas Emissions Reduction

Page No - (1)

Attachment 33: Estimated Annual Greenhouse Gas Emissions Reduction

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12	50		,		100 300	116,53			500	194,228	8 4,52			291,34) 4:	5 17		750 1:	66 1,000	, , , , ,				,	466,147		1,600	,	1,864,589	9 43,800	250	750 291,3		80	45 45	17,481		10,562	4,103
13	50		7,691		100 300	116,53		250	500	194,228	8 5,02			291,34					750 1	4 1,000		776,91		400	- ,	466,147		1,600		1,864,589	9 48,600	250	750 291,3		30	45 45	17,481	450	10,562	4,103
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19	50	200 7	7,691	3,160	100 300	116,53	7 4,830	250	500	194,228	8 8,02	20 250	750	291,34	2 12,030) 4:	5 17	7 6,	750 21	78 1,000	2,000	776,91	2 33,000	400	1,200	466,147	19,500	1,600	4,800	1,864,589	77,400	250	750 291,3	12,0	30	45 45	17,101	720	10,562	4,103
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23	50		,	- ,	100 300	116,53		250	500	194,228	8 9,52 8 10.02			291,34 291,34) 4:	- 1		750 3	8 1.000	-,		,	400		466,147	,	1,600		1,864,589	, ,,,,,,,,	250	750 291,. 750 291.		30	45 45	17,481		10,562	4,103
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25	50	200 7	7,691	4,360	100 300	116,53	7 6,630	250	500	194,228	8 11,02	20 250	750	291,34	2 16,530) 4:	5 17	7 6,	750 38	32 1,000	2,000	776,91	2 45,000	400	1,200	466,147	26,700	1,600	4,800	1,864,589	9 106,200	250	750 291,3	42 16,5	30	45 45	17,481	990	10,562	4,103
26	50		,,,,,		100 300	116,53		220	500	194,228	8 11,52		750	291,34) 4:	5 17		750 40	1,000	2,000			400	1,200	466,147		1,600		1,864,589	111,000	250	750 291,3	12 17,2	30	45 45	17,481	-,	10,562	4,103
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28	50				100 300 100 300	116,53 116,53		220	500	194,228 194,228	8 12,52 8 13,02			291,34 291,34) 4:	11		750 43 750 43	7 1,000	-,		2 51,000 2 53,000	400 400		466,147 466,147		1,600 1,600		1,864,589	,	250	750 291,3 750 291,3		30	45 45	5 17,481 5 17,481	1,125	10,562	4,103
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34	50		,		100 300	116,53 116,53	,	250	500	194,228 194,228	8 15,52 8 16,02			291,34 291,34) 4:	5 17		750 53 750 55	1,000 66 1,000	2,000		2 63,000 2 65,000	400 400		466,147 466,147		1,600 1,600	.,	1,864,589	9 149,400	250	750 291,3 750 291.3		30	45 45	5 17,481 5 17,481	1,395 1,440	10,562	4,103
36	50		,	- ,	100 300	116,53		220	500	194,228			750	291,34) 4:	5 13		750 5°	73 1.000			,		-,	466,147		1,600	.,	1,864,589		250	750 291,. 750 291		30	45 45 45 45	17,481		10,562	4,103
37	50		,		100 300			220	500	194,228	8 17,02		,	291,34) 4:	5 17		750 59	1,000				400		466,147		1,600		1,864,589	,	250	750 291,3		30	45 45			10,562	4,103
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39	50			1,5200	100 300	116,53		250	500	194,228	8 18,02	200		291,34		'			750 62	7,000	_, _,		10,000		1,=00	466,147	10,000	1,600	1,000	1,864,589	2,0,00	250	750 291,3		,,,	45 45	17,101	-,	10,562	4,103
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42	50		7,691		100 300	116,53		250	500	194,228	8 19,02		750 750	291,34) 4:	5 13		750 60				2 79,000			466,147		1,600		1,864,589	9 187 800	250	750 291,. 750 291		80	45 45	17,481	1,710	10,362	4,103
43	50		7,691	.,	100 300			0 250	500	194,228	8 20,02		750	291,34) 4:	5 17		750 69	0 1,000			,	400	- 3	466,147	,	1,600		1,864,589	9 192,600	250	750 291,3	12 27,2	30	45 45		1,800	10,562	4,103
44	50	200 7	7,691	8,160	100 300	116,53	7 12,330	250	500	194,228	8 20,52	20 250	750	291,34	2 30,780) 4:	5 17	7 6,	750 7	2 1,000	2,000	776,91	2 83,000	400	1,200	466,147	49,500	1,600	4,800	1,864,589	9 197,400	250	750 291,	42 30,7	30	45 45	17,481	1,845	10,562	4,103
45	50		,0,1	-,	100 300	116,53	, , , , , ,	250	500	194,228	8 21,02	200	750	291,34) 4:	- 17		750 73	1,000	2,000				1,200	466,147	,	1,600	.,	1,864,589	202,200	250	750 291,3	12 51,5.	30	45 45	17,701	-,	10,562	4,103
46	50	200	,0,1		100 300	116,53		250	500	194,228	8 21,52			291,34) 4:			750 74 750 76	7 1,000 5 1,000	-,			400		466,147		1,600	.,	1,864,589	207,000	250	750 291,3 750 291	,-	80	45 45	5 17,481 5 17,481		10,562	4,103
48	50		,000	0,700	100 300	116,53 116.53	,	250	500	194,228 194,228	8 22,02 8 22,52			291,34 291,34		'	- 17		750 76 750 78	1,000			2 89,000 2 91.000	400 400	- 3	466,147 466,147	,	1,600 1,600	4,800 4,800	1,864,58		250	750 291,3 750 291.3		80	45 45 45 45	17,481		10,562	4,103
49	50		,	9,160		,	,	220	500	194,228	8 23,02			291,34		, .,		7 6,		9 1,000			2 93,000			466,147	0.,000	1,600		1,864,58		250	750 291,	,.	30	45 45	,	-,	10,562	4,103
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Total	Ç	9,360 3,63:	5,948		14,130	5,488,88	3		23,520	9,136,485	5		35,280	13,704,72	8		817	7 317,	232		95,000	36,903,32	0		56,700	22,025,455	·		226,200	87,868,74	7	35	5,280 13,704,	28		2,115	821,584		498,402	193,607

Covid Mitigation Measures Matrix

Page No - (1-2)

			-	
S.No.	A. Measure at the Ongoing Projects	<u>By whom</u>	<u>By when</u>	Action taken
Immedia	Immediate Action at Site			
1	Indian (Namaste) and or Japanese type greetings should be followed in place of handshake or hugs, while meeting.	JICA/EA/PMC/Contractor	Immediately	
2	Hand washing at all levels before and after the activity should be promoted and strictly implied in order to ensure good health and hygiene, effectiveness of the prevention measures.	EA/PMC/Contractor	Immediately	
ĸ	Thermal screening (mapping of body temperature) should be made mandatory at all work stations/offices to ensure healthy and non-fearing environment around the work places.	EA / PMC / Contractor	Immediately	
4	Display of the pandemic prevention measures to be taken at all the construction sites including the promotion of social distancing. Sufficient PPE (personnel protective equipment such as mask, gloves, sanitizers, soaps, etc.) and essentials are required for the countermeasures at all the offices/buildings/sites under the project.	EA /PMC/ Contractor	Immediately	
ī	Provisions of the sufficeint transportation arrangements for the construction workers, supervisory staff, project staff and others should be provided in view of social distancing norms.	EA/PMC/Contractor	Immediately	
9	Issuance of the necessary ID and Passes to the project personnel of Consultants/Contractors for smooth access to office and project sites considering the essential services.	EA/Government	Immediately	
7	Consider allowing construction work in multiple shifts/extended hours with necessary permissions to counter the productivity gap with social distancing norms.	EA/PMC	Immediately	
∞	Preparation of the project specific Standard Operating Procedure (SoP) for construction activities during the ongoing pandemic situation.	EA/PMC/Contractor	Immediately	
6	Eatablishment of the Monitoring Committee (or a Task Force) to monitor the pandemic/disaster situation and compliance of SoP on daily basis.	EA/PMC/Contractor	Immediately	
10	Development of project specific website to be viewed by relevant people for monitoring the progress and input of NGOs on a routine basis including steps taken for safeguarding safety of people and contractors.	EA/PMC	Progressively	
11	Assessment of the disruption in supply chain, delay in procurement of equipment due to restrictions on inter-state migration of workers, the work plans/project schedules should be taken up and brought up for the resolve.	EA/PMC/Contractor	Immediately	
12	Remote communications for the project monitoring, supervision or coordination should be preferred/practiced.	EA / JICA / Government	Progressively	
Contract	Contract and Payment			
13	Necessary budgeting exercise within the project for the COVID-19 mitigation measures should be taken up.	EA	Immediately	
14	Upon request from EA, utilization of contingencies through L/A Amendments (reallocation) should be promptly reviewed and approved by the Line Ministries and DEA, in order to provide sufficient provision of funds for pandemic mitigation measures.	EA/Line Ministry/DEA	As and when necessary	
15	COVID-19 (or severe disasters) should be treated as an extraordinary situation. All records of the manpower, machines and materials affected by the pandemic situation must be recorded jointly and acceded. Consequent time period extension, compensation, price variation or other contingent requirements as claimed by consultant/contractors should be dealt based on contract stipulations including application of Force Majeure.	EA	Immediately	
16	Prompt release of due payments to the contractors/consultants should be considered. For example, 80% of the due paymennts to be released on adhoc basis within 7 working days period, while the remaining payments (20%) should be finally settled and released within 28 days of the receipt of invoices.	EA	Regularly	
17	Payment release to the contractors/consultants for the regular office operation & maintenances costs (e.g. office rent, utility charges, support staff etc.) during the pandemic/lockdown period in the same manner as in the normal times should be made. Likewise, payment for manpower at work places (or near the construction site), who could not work due to pandemic restrictions imposed by the Government or lock down, shall be treated appropriately irrespective of the work output.	EA	Immediately	
Public Awareness	vareness			
18	All the Public Outreach Programs (POP) or public participation and public awareness programs within the projects should be redifined by including the pandemic/disaster prevention measures and implemented.	EA/PMC	Progressively	
19	Appointment of suitable NGOs with hygiene/medical background to take up the POP should be promoted.	EA/PMC	Regularly	
Water Se	Water Sector Related Considerations			

Immediately																		
EA/Operator	By whom	EA	EA	EA	EA	EA	EA	EA	EA	<u>By whom</u>	EA	EA/PMC	EA/Contractor	EA/PMC	EA/PMC/Contractor	EA/PMC/Contractor	БА	EA
Due to longer sustenance of virus in sewage/household waste, the full use of PPE for the operators must be enforced by developing the training module for appropriate disinfection process to be adopted (with compulsion) for healthy and hygienic conditions especially in a wastewater treatment plants since the virus can be traced in the fecal matter and it can sustain in wastewater plants. The operator should be directed to develop bacteria and virus assessment, monitor in the plant lab to determine presence of COVID-19 virus status and or any other future viruses that might be present in wastewater—influent and effluent.	B. Measures to be considered at the Project Preparation Stage	Taking clues from the present pandemic situation, mitigation measures action plan should be a part of the project scope and necessary budgeting required to be provisioned.	Procurement of prevention implements (gloves, face mask, sanitizers, etc.) should be provided within the project. Safety, security and disaster management prevention measures should be clearly defined with necessary costing structure. It includes thermal screening of all the personnel and appropriate hand-washing facilities as well.	The protocols (SOP) for practicing during the disaster times and the prevention measures of the disease should be clearly defined, which should be followed under the project.	Public Outreach Program (POP) comprising of public participation and awareness campaign, and the development of prevention and awareness action plans should be kept mandatory in all the JICA-assisted Loan Projects. The detailed action plan shall cover Project impact, behavioral changes, conservation of resources, optimal utilization of service deliveries, disaster prevention/protection measures, campaigns, visibility for all segments of the beneficiaries/society, etc.	Budget provision for POP @Rs. 3 cr per year (tentative) during the project implementation should be included in all JICA-assisted Loan Projects. It should start from the beginning of the Project and continue until completion involving all the stakeholders concerned including beneficiaries. POP should ideally cover the public in whole of the city and region as well.	For effective implementation of POP, the involvement of NGO, CBOs, associations, societies and other entities should be ascertained. The restructuring of POP during the implementation based on implemented feedback/results should be promoted.	While preparing the action plans, the coordination with other international agencies, other programs run by the EAs/State Governments should also be taken in to consideration.	Other measures as indicated above at "Measures at the Ongoing Projects" should be considered and included.	C. Measures to be considered during the Project Execution Phase	All the measures as indicated above at "Measure at the Ongoing Projects" should be considered and included.	Safety and security to fight with disasters/exigencies arising during the project implementation should be well defined and documented by PMCs. The display of such protocols from the beginning of the project start should be practiced.	EAs should keep provision of providing the accommodation to all construction workers including the project staff near the workplace with sufficient health and hygiene provisions.	The general training, awareness, behavioral changes advocacy with mitigation implements and publicity material should be used during the project implementation stage.	Necessary provisions for vaccination of the project concerned people, promotion of hygiene practices and disaster mitigation training should be ensured.	Contractors/ Consultants must ensure Health Insurance for the employees and workers. Relevant clauses in the General Conditions of JICA Standard Documents shall be stricky followed.	Allowing consultants to work from home during design and development of the documents and its approvals excluding Team Leader / Deputy Team Leader, and few specialists to provide better management of the team during pandemics/disasters.	Online Project monitoring/tracking systems shall be developed by EAs.
20	<u>S.No.</u>	H	2	ю	4	Z	9	7	8	S. No.	1	2	æ	4	2	9	7	∞

The Comments of the Ministry

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Annexure- I

The Project for Forest & Biodiversity Conservation for Climate Resilience Enhancement in West Bengal Phase II for JICA ODA Loan.

The comments on DPR of West Bengal Project- Phase II from ICFRE are as follow:

- 1. In the project objective, "To provide Nature based Solutions for Biodiversity Conservation and Management", it is suggested that Ecosystem based Approach (EbA) may be considered in place of Nature based Solutions (NbS) as EbA is the integrated management of land, water, and living resources that promotes conservation and sustainable use in an equitable way.
- 2. Standard operating procedures on selection, seed collection and processing, nursery techniques and plantation along with post plantation operation may be developed for the concerned major economic species and Rare Endangered and Threaten species (RET) and lesser known indigenous species which have been depleted from the forest area.
- 3. Some specific comments also has been given by the Institute i.e. in Page 6 Section (3.d.vi) Study on species composition diversity index and regeneration of forest in different sensitive wildlife sanctuary specially Senchal wildlife sanctuary to better understand the problem of climate change. In Page 10 Section 1 (1.2.2) Creation of New Seed Production Areas & Maintenance and Identification of Candidate Plus Trees and Plus Trees.
- 4. One suggestion is also given by ICFRE on DPR i.e. the development of Agro-forestry models in combination with *Khaya antotheca* and *Swietiena macrophylla* and trials on clonal development of *Melia dubia* for Agro-forestry models will boost the tree outside forest but will also help in increasing the farmer income.

The comments on DPR from Forest Survey of India (FSI) are given below:

- 1. Improvement well-being of (Forest Fringe village) FFVs in that para FSI has given the some comments that the FSI has also published a study report on ascertaining the dependence of FFVs (living up to 5km buffer of RFA) with respect to their dependence on forests for fuel wood, fodder, small timber and bamboo in the year 2020. The finding of the report along with sampling methodologies used for the study cab be useful. therefore, the report may be utilized for planning such study.
- 2. Some more important comments for MIS/ GIS based data should be arranged in a relational database such as Oracle, MySQL, MSSQL, PostgreSQL etc.
- 3. For afforestation activities, help of Satellite Imageries in Google Earth platform can be taken to monitor the growth of Plantation. Decision support system (DSS) portal can be used identify the Open Forest and Scrub areas for afforestation activities. polygon can be created which can be seen on Google Earth platform for precise identification of new afforestation area and their subsequent monitoring.

