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*Safeguarding Rural Communities and their physical  
assets from climate induced disasters in **Timor-Leste***

## **Safeguarding Rural Communities and their Physical Assets from Climate Induced Disasters in Timor-Leste**

# Draft ESIA and ESMP for Rural Roads Rehabilitation Projects

Revised and updated: February 2023  
Project Management Unit (PMU), GCF SCR Project

# Notice

**Public Consultation/Disclosure Notice<sup>1</sup>**

Date: **XXXX**

The United Nations Development Programme (UNDP) is requesting feedback on the attached draft Environmental and Social Impact Assessment and associated Management Plan for this project. Comments and questions can be sent to the following address:  
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This document and its contents have been prepared and are intended for UNDP’s and GCF’s information and use in relation to the project Safeguarding Rural Communities and their Physical Assets from Climate Induced Disasters in Timor-Leste. The report was prepared by the Project Management Unit and reviewed by the Accredited Entity in line with the Environmental and Social Management Framework for the “FP109 Safeguarding Rural Communities and their Physical Assets from Climate Induced Disasters in Timor-Leste” project approved by the GCF.

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Rural Road Rehabilitation Projects

**Project Proponent:**

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**National Stakeholders/Institution**

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## ACRONYMS & ABBREVIATIONS

<b>Abbreviation</b>	<b>Meaning</b>
AE	Accredited Entity
ANLA	National Environmental Licensing Agency (Agência Nacional de Licenciamento Ambiental)
BOQ	Bill of Quantity
CCAP	Climate Change Adaptation Planning
CFP	Chance Find Procedure
CRIM	Climate Resilient Infrastructure Methods
DRBFC	Directorate for Roads, Bridges and Flood Control Ministry of Public Works
EIA	Environmental Impact Assessment
ELL	Environmental Licensing Law
EMP	Environmental Management Plan
ESIA	Environmental and Social Impact Assessment
ESMF	Environmental and Social Management Framework
ESMP	Environmental and Social Management Plan
FAA	Funded Activity Agreement
FP	Funding Proposal
FPIC	Free Prior and Informed Consent
GAP	Gender Action Plan
GBV	Gender Based Violence
GCF	Green Climate Fund
GCF-SRC	Green Climate Fund - Safeguarding Rural Communities Project
GoTL	Government of Timor-Leste
GRM	Grievance Redress Mechanism
IP	Implementing Partner
IPP	Indigenous Peoples Plan
MAF	Ministry of Agriculture and Fisheries
MS	Method Statement
MoPW	Ministry of Public Works
MSA	Ministry of State Administration
NIM	National Implementation Modality
OHSMP	Occupational Health and Safety Management Plan
PD	Project Document

PDIM	Programa Dezenvolvimentu Integradu Municipal (Integrated Municipality Development Program)
PMU	Project Management Unit
PNDS	Programa Nasional Dezenvolvimentu Suku (National Village Development Program)
SEA	Secretary of State for the Environment
SEP	Stakeholders Engagement Plan
SES	Social and Environmental Safeguards
SESP	Social and Environmental Screening Procedure
SSCP	Secretary of State for Civil Protection
UNDP	United Nations Development Programme

## DEFINITIONS OF NATIVE TERMS

Administrative Post: sub-district within the municipality

<i>aldeias:</i>	sub-village
<i>lia nain:</i>	keepers of the customary knowledge or traditional cultural leaders in sucos/villages in Timor-Leste
<i>lulik:</i>	refers to the non-human realm containing the divine creator and the spirits of the ancestors
<i>suco:</i>	village
<i>tara bandu:</i>	traditional and sacred regulations that dictate relationships between people, people and nature, and people and non-human dimensions
uma kbi'it laek:	building constructed for people in vulnerable households

## LIST OF NOMENCLATURE

%	:	Percentage
°C	:	Degree Celsius
mm	:	Millimeter
Ch	:	Chainage
cm	:	Centimeter
m	:	Meter
Km	:	Kilometer
US\$	:	United States Dollar
m <sup>2</sup>	:	Square Meter
m <sup>3</sup>	:	Cubic Meter
No.	:	Number



# 1 Executive Summary

## 1.1 Introduction

The Environmental and Social Impact Assessment (ESIA) and Environment and Social Management Plan (ESMP) were prepared for rural roads sub-projects under the GCF Project FP109 Safeguarding Rural Communities and their Physical Assets from Climate Induced Disasters in Timor-Leste (GCF SCR project).

The GCF SRC project is rated moderate as per UNDP SES Standards and, as such, an ESMF was developed to support the Funding Proposal (FP), which was approved by the GCF Board in July 2019, and to further guide the project's implementation.

The project includes 130 construction works, divided into 4 types: flood protection, rural road construction/rehabilitation, irrigation systems, and water supply infrastructures, under activity 2.2.4 ESIA/ESMP are hence developed to cover the 4 types of infrastructure. The present ESIA/ESMP covers the 46 rural road sub-projects (31 GCF funded and 15 Co-financed by the Government). The list does not include the sub-project L-RR-06 (Road rehabilitation in Kaigeremeta) which was approved by the GCF in November 2022. The list below provides the tentative implementation timelines for GCF funded projects. For the Co-financed schemes the planning is done on yearly basis and at this stage the implementation timelines for the duration of the project are not available. Please See Annex 1 for fully list and scope of 46 sub-project works.

*Table 0-1: List of GCF funded Rural Roads projects*

Project Code	Project Title	Municipality	Tentative Implementation Year
A-RR-05	Lahae - Eralolo Road Rehabilitation	Aileu	2023
A-RR-07	Caikasa-Fatubesi Road Rehabilitation	Aileu	2024
A-RR-10	Construction of new road from Laklo to Liksala	Aileu	Implemented by Government in 2021. Replacement road to be identified. Proposed for implementation for 2025
A-RR-12	Construction of new road from Tohumeta to akadiru	Aileu	2023
A-RR-13	Construction of new road from Ladeia Manufoni to Aldeia Lismori	Aileu	2023
A-RR-15	Road rehabilitation from Halalmeta to Tabulasi suku Selo Kraik	Aileu	2024
B-RR-02	Construction of new Road from suco Afaca to Suco Guruca	Baucau	Implemented by Government in 2022. Replacement road to be identified. Proposed for implementation for 2025
B-RR-03	Road rehabilitation from suco Laisorulai to Suco Lelalai	Baucau	Implemented by Government in 2022. Replacement road to be identified. Proposed for implementation for 2024
B-RR-05	Construction of new road from suco Uacala to aldeia Baiburu and Baiafa	Baucau	2025
B-RR-06	Road rehabilitation from suco Lavateri to Aldeia Onor Tibalari	Baucau	2023
B-RR-07	Road Rehabilitation from Uatabo to Seical	Baucau	2024
E-RR-01	Road rehabilitation to aldeia Tidibesi	Ermera	2024
E-RR-02	Rehabilitation of road and drains from Lauala to Talikotu	Ermera	2024
E-RR-06	Road rehabilitation and Construction of drains and Culverts in Batumanu	Ermera	2023
E-RR-07	Road rehabilitation from Manusae to Fatubolu	Ermera	2025

E-RR-08	Road rehabilitation from Poetali to Assi	Ermera	2025
E-RR-09	Road rehabilitation from Katrai Kraik to Dukurai	Ermera	2023
La-RR-02	Road Rehabilitation from Warique to Baniria	Lautem	2023
La-RR-03	Road Rehabilitation from Osoira to Alira	Lautem	2024
La-RR-04	Road Rehabilitation from Bauro to Nanafoe	Lautem	2023
La-RR-05	Road rehabilitation from Pairara to Muro	Lautem	Implemented by Government in 2017. Replacement road to be identified. Proposed for implementation for 2024
La-RR-06	Road rehabilitation from Barikava to Osuvasu	Lautem	Implemented by Government in 2022. Replacement road to be identified. Proposed for implementation for 2024
L-RR-01	Road rehabilitation of Lika	Liquica	2023
L-RR-04	Road rehabilitation in Pobua	Liquica	2024
L-RR-08	Drainage rehabilitation in Vaviquina	Liquica	2023
L-RR-09	Road rehabilitation from Lubsalara to Hatuquesi	Liquica	Implemented by Government in 2021. Replacement road to be identified. Proposed for implementation for 2025
V-RR-01	Road rehabilitation from bahalarawain to uma uain kraik	Viqueque	Implemented by Government in 2020. Replacement road to be identified. Proposed for implementation for 2025
V-RR-02	Road rehabilitation from Osorua to Nahareka uaibo	Viqueque	2025
V-RR-03	Road rehabilitation from Ahic desiloe to laline raikuak	Viqueque	2025
V-RR-04	Road rehabilitation from Uatulari atas to Iraler matahoi	Viqueque	2024
V-RR-05	Road rehabilitation from Haeoli to Loi Ulo	Viqueque	2025

As detailed in Annex 1, and summarised in Section 1.2 below, the rural roads sub-projects have very similar project design elements and activities. The generic ESMP encompasses all expected variations on the design scope of the rural road units.

Each unit will also be subject to the development of feasibility studies as per national law in Timor Leste for ANLA licencing. These feasibility studies will complement the ESMP with site-specific implementation measures in line with the present document. They will be designed throughout project implementation, as the construction works are starting one after the other. It should be note that the site-specific ESIA and ESMP for sub-project *L-RR-06 Road rehabilitation in Kaigeremeta* which was submitted to GCF for approval priority this document, is fully aligned with this generic ESMP. GCF recommendations of the L-RR-06 review are incorporated into this document.

The ESIA and ESMP are also compliant with the UNDP SES, and form the basis for preparation of sub-project site-specific screening, classification, feasibility and detailed design, and details the Environmental and Social Risk Management Plan for pre-construction, construction, and post-construction phases of all sub-projects and complies with the national Environment Licensing Law (ELL) of Timor Leste.

The project contributes to reducing the impact of climate change induced disasters on local communities and their infrastructure assets and will result in many positive benefits to rural communities in Timor-Leste which is consistent with the National Strategic Development Plan 2030.

The ESIA and ESMP were prepared by the GCF Project Implementation Unit and reviewed by UNDP BRH and HQ.

## 1.2 Project Description

The Government of Timor Leste with support from UNDP, is implementing the project “*Safeguarding Rural Communities and their Physical Assets from Climate Induced Disasters in Timor-Leste*” (SRC project hereafter) on adaptation to climate change impacts from extreme natural hazard events with funding from the GCF. The project is seeking to improve the resilience of vulnerable communities and their assets to climate change-induced hazards to which Timor Leste is prone.

The rural roads sub-projects have been prioritized and proposed for climate resilient rehabilitation by the GCF-SRC project through the Municipality Integrated Development Planning (PDIM) framework. The sub-projects being implemented are all rehabilitations of existing roads, which in general involve the following design elements, which is based on climate proofing measures to address flood, erosion and landslide risks, as well as detailed socio-economics assessment of likely benefits to local communities from the rehabilitation and climate proofing of the roads.

- 1) *Road Works*: such as site preparation works, levelling, cambering, road compaction and earthworks.
- 2) *Pavement and surfacing works* which include the application of plum concrete surface and reinforced concrete in risk exposed areas and gravel surfacing.
- 3) *Structural works*: cross drainage structures, masonry lined drains, stone masonry retaining walls, reinforced concrete box culvert, low water crossing, causeway and gabion installation
- 4) *Soil stabilization and bio-engineering* approaches: which involve the revegetation and tree planting in the hazard prone and vulnerable sections within the catchment under consideration.

The prevalence of landslide and erosion hazards within this area along the road corridor will be addressed through the climate risk reduction measures such as soil bioengineering and complementary catchment management interventions.

The construction-related short-term impacts to the environment such as dust pollution, vibration, and noise that will result from the construction phase are predictable and manageable with appropriate mitigation measures proposed. No negative impacts on cultural or heritage sites are foreseen from clearance or excavation works. However, a Chance Find Procedure has been developed in case any unknown object or site of cultural significance is discovered during the construction works. To ensure that these mitigation measures are implemented, and that negative impacts are avoided, measures will be included in the BOQ for the works and specifications. Although the sub-projects will have minimal negative impacts, these will be carefully monitored and mitigated during implementation. The project will ensure full compliance with the Environmental and Social Management Plan (ESMP). Regular and consistent monitoring and timely interventions to mitigate and prevent the potential negative impacts will be undertaken by the project team.

## 1.3 Project Proponent

The proponent for this project is the Ministry of State Administration (MSA), through its senior representative, the Director General for Rural Development (DGRD). MSA is one of the main Responsible Parties (RP) for the project with specific responsibilities for the implementation of the infrastructure units under activity 2.2 of Output 2 of the GCF SRC project.

## 1.4 Legal and institutional framework

The National Environmental Licensing Agency (ANLA) within the Secretary of State for Environment (SSE) has the exclusive right to classify the rural roads project. This Environmental and Social Impact Assessment (ESIA) study is in conformance with category C requirements and fulfilment of the stipulated requirements of the national ELL.

The ESIA study was undertaken to identify the risks and impacts, and the ESMP was developed with the mitigative and associated management measures in conformance with UNDP SES Policy. The management of the environmental and social risks and impacts arising from the project also complies with the recommendations, requirements and procedures set forth in the ESMF, which complies with UNDP SES Policy, and was provided by UNDP to the GCF part of the approved GCF proposal.

## 1.5 Potential Environmental and Social Impacts

During the ESIA and consultation process of the rural roads sub-projects, the observations from field visits and the perspectives of the host communities, local authorities and other stakeholders were assessed and considered in the ESMP. Based on the evaluation of the risks/impacts that will result from the road rehabilitation sub-projects it can be concluded that the risks and impacts are minor and limited in scale and time. The main risks/impacts that have been identified such as dust and noise pollution will be temporary and the mitigative measures will result in minimal disturbance. Other risks such as the impacts on the natural environment will be either avoided or reversed. Throughout the sub-project cycles the risks/impacts will be monitored and managed as detailed in the ESMP.

Overall, the positive/beneficial impacts of the project far outweigh the temporary and short term environmental and social impacts that will result. Benefits that the project will bring include:

- **Employment:** Temporary employment for community members during the construction phase by the project directly and indirectly through employment opportunities through the provision of services to the construction teams which will include women (minimum 30%). Increase in the movement of business concerns/economic activity to areas along the corridor, will enhance the employment possibilities of inhabitants.
- **Income Generation:** The improved accessibility will lead to better transport services, hence increasing income of operators in transport services. The location of businesses along the corridor due to accessibility could also change the income levels of the community members due to increased employment possibilities
- **Improved all weather access and ease of road transport in the area:** The rehabilitation of the proposed road will improve transport and communication between surrounding rural communities and connect rural communities with urban communities, markets and services. The climate resilient road will make transportation of goods, commodities, and access to basic services within the area faster and easier all year round and not just in the dry season.
- **Reduced Transportation and Vehicle Maintenance Costs:** The rehabilitation of the existing road and surfacing will result in reduced transportation costs and increased number of vehicles plying the route. The motorable nature of the road will reduce instances of vehicle break down and vehicle maintenance. This will lead to an increment in the lifespan of vehicles that ply the route.
- **Reduced Road Maintenance Costs:** The rehabilitation of the existing road and surfacing will result in reduced cost of road maintenance and frequency of required road repairs. Thus reducing the maintenance costs to the municipality in the long-term.
- **Increased Investments:** Reduced transportation costs of goods and services and increased accessibility along the road corridor may increase the frequency of private entities locating their businesses in the area, hence increasing overall investment along the road corridor. The road will also enhance access to nearby markets.
- **Stimulation of Development:** Increased access will result in development of other social amenities, such as building of health centers, schools, etc and may attract development projects. This will also enable the facilitation of other economic activities in the settlement areas. For example, improved access to market for agricultural produce through a reliable, transportation network, will result in long-term increased household income and will enable re-investment back into agricultural activities.
- **Improved Access to and Delivery of Healthcare and Education:** The project when completed will enhance access to schools and health facilities. It will also reduce the time spent

to get to school and health centres. Additionally, improved ambulance services for communities along the project corridor could result.

- **Community resilience and adaptation to climate change:** Rural access is challenged because of the prevalence of landslides and erosion hazards along the road corridor, especially during the rainy season. The project will contribute to enhanced resilience of the community to climate induced disasters through the application of the climate risk reduction measures such as soil bioengineering and complementary catchment management interventions. These climate risk reduction features have been included in the designs to safeguard the infrastructure unit from the potential climate hazards.
- **Improve social-economic conditions and improved living standards:** Improved all-weather access will contribute to improvement of the living conditions of population living along the road and particularly for the residents of the communities who are considered as direct beneficiaries. The major improvement is access to social services and being able to transport their products (such as agricultural produce) to markets in a timely manner and at less cost. The catchment management interventions and soil bioengineering activities that will complement the road structure will also contribute to improvement in the livelihood of the community. Both men and women agreed that the road rehabilitation will result in improvement in their livelihood.
- **Empowerment of Women and Girls:** The present condition of the road makes it difficult for people in the community to travel. Women and children have to walk long distances and it takes very long time for them to reach markets, schools, hospitals and to access public facilities and other social services. Women are considerably affected because of the constraint in accessing local markets, both for getting their agricultural products to the market and buying other items needed in the household. The road condition in the rainy season makes it inaccessible by regular vehicles. The cost for transportation, including to transport coffee harvested and other products, is very high due to the few transport options available. Access is further compromised by hazards posed by changes in weather and climatic conditions. The proposed road rehabilitation will result in positive changes to these situation, thus empowering women and girls in these communities.
- Increase in **land value** within the project area, due to accessibility to a reliable transportation link/network.
- **Community project governance.** The proposed project will involve the community and the local stakeholders throughout the project cycle equipping them with management skills in implementation and management of road rehabilitation projects. The project will present the local stakeholders with a learning opportunity.

## 1.6 Environmental and Social Management Plan (ESMP)

The Environmental and Social Management Plan (ESMP) aim to address the environmental and social safeguards issues arising during the pre-construction, implementation of the project and the post-construction maintenance period. The ESMP is essentially a guidance document to be continually referred to during the pre-construction, construction, maintenance and operation phases of the project. The summary of the main environmental and social safeguard issues and mitigation measures is presented in Table 0-2.

*Table 0-2: Summary of the main SES issues to be addressed*

Environmental and Social Issues	Anticipated Risk/Impact	Probability of Impact and Impact	Mitigation Measures
Social Management	Lack of Stakeholders Engagement	Prob: 4, Impact: 1 Risk: Low	Prepare and Implement the Stakeholders Engagement Plan (SEP).
	Limited participation and involvement of women, youth, people with disabilities (PWD) and other vulnerable people	Prob: 3, Impact: 2 Risk: Medium	Prepare and implement a robust Gender Action Plan (GAP)

	Involuntary resettlement, relocation or households or associated impacts	Prob: 1, Impact: 4 Risk: Low	Screening of sub-project using UNDP SES Screening Form and ensure that the sub-project does not result in involuntary resettlement or associated impacts.
<b>Cultural Heritage</b>	Project is likely to be near to an important Archaeological and/or Cultural Heritage	Prob: 3, Impact: 1 Risk: Low	Undertake screening of sub-project using UNDP SES Screening Form. Works to avoid known cultural heritage sites. Prepare and adopt a Chance-Find Procedure (CFP) in case unknown artifacts discovered during works
<b>Indigenous Peoples</b>	Project is likely to be within lands and territories claimed by indigenous peoples (IP)	Prob: 5, Impact: 1 Risk: Medium	Screening of sub-project using UNDP SESP template. Prepare and implement a robust IP Plan (IPP), undertake FPIC process.
<b>Air Quality</b>	Increase in dust generation and spread of dust	Prob: 4, Impact: 3 Risk: Medium	Regular damping of unpaved roads or exposed soils/ground to control dust/particulate matter and keep it down. Limit active construction activities to not more than a total of 500 meters at a time on a 2.0 km road length section to minimize dust. Locate material stockpile areas as far as practicable away from sensitive receptors.
	Increase in emission of air pollutants from vehicles, plant and equipment, machinery	Prob: 3, Impact: 3 Risk: Medium	Ensure vehicles/machines are switched off when not in use. Ensure only vehicles required to undertake works are operated on-site. Ensure all construction vehicles, plant and machinery are well maintained and in full operating condition.
<b>Waste Management</b>	Oil and other potential contaminants are not properly collected, managed and/or disposed	Prob: 3, Impact: 3 Risk: Medium	Proper storage, transport and disposal of hazardous wastes (oily wastes, used batteries, fuel drums) in the designated areas by the national authorities
	Construction waste and solid waste generated are not properly managed or disposed	Prob: 3, Impact: 3 Risk: Medium	Recyclable waste (including oil and some construction waste) collected separately and disposed of correctly and/or approved facility as per the Government of Timor-Leste requirements
<b>Noise and Vibration</b>	Public nuisance caused by construction/operation activities	Prob: 4, Impact: 3 Risk: Medium	Install noise reduction devices such as silencers and mufflers as appropriate to mobile plant and equipment. Limit the active construction site to not more than 500 meters per 2.0 km lengths. Limit work to daylight hours. Schedule noisy construction activities during specific times in the day especially near the sensitive receptors. Identify and avoid the adjacent highly sensitive receptors to vibrations. Through implementation of SEP, ensure nearby communities are given advance notice on timing of works, as well as details of the GRM in the event of issues.

<b>Flora and Fauna</b>	New flora and weed species introduced	Prob: 3, Impact: 3 Risk: Medium	Ensure that any manure or soil applied are free of seeds, and that the seeds used for the catchment rehabilitation are weed free
	Disturbance of fauna and their habitat	Prob: 2, Impact: 2 Risk: Low	Construction activities (such as operation of concrete mixing plants) and use of equipment and in daylight hours
<b>Land</b>	Blockages of drains and waterways due to construction activities	Prob: 3 Impact: 3 Risk: Medium	Proper stockpiling of construction materials, spoils (on flat areas and away from drainage routes)
	Erosion and sedimentation caused by construction works	Prob: 3, Impact: 3 Risk: Medium	Silt fences, grassed buffer strips and bioengineering measures installed to reduce water velocity. Avoid long exposure of opened excavated/cut areas
	Borrow pits within road easement located near to community and left exposed	Prob: 3, Impact: 3 Risk: Medium	Quarry materials (such as the stones and gravel required for the road works) will be sources outside the village/suco from designated nationally approved quarries/suppliers. Project engineer to be advised of selection of suppliers in advance.  Engineer and the local authorities to be advised in advance of areas with road reserve to be excavated for materials  All works sites, particularly excavations, to be appropriately signed and made safe in terms of community.
<b>Social Management</b>	Lack of employment for local community due to imported workers	Prob: 3, Impact: 3 Risk: Medium	Ensure that the contractor hire local labour (especially unskilled labour) from the host community
	Lack of involvement of women, youths and other vulnerable people	Prob: 3, Impact: 3 Risk: Medium	Gender and Action Plan developed and implemented Compliance with the GRM
<b>Health, safety and security</b>	Health and safety of road users and community	Prob: 3, Impact: 3 Risk: Medium	Training provided to construction workers, adequate signage and warnings to road users to be in place. Adequate information provided to the host community about the safety measures and emergency protocols
	Prevalence and spread of COVID-19	Prob: 3, Impact: 3 Risk: Medium	Ensure that Contractor's workers are fully vaccinated, COVID awareness and precautionary measures among workers and community Ensure construction workers observe Covid-19 prevention measures such as always wearing masks, regularly washing hands, etc.

	Risk of increased SEAH and GBV particularly due to influx of workers	Prob:1, Impact: 3 Risk: Low	Local workforces will be engaged – in line with Government PIDM requirements.  Implementation of GAP Code of Conduct to include SEAH and GBV prevention UNDP will request that contractors, suppliers and partners adhere to zero tolerance for SEAH and GBV and commit to taking adequate action if faced with SEAH allegations Contractual arrangements can be terminated if breaches confirmed.
	Given the level of GBV that already exists in Timor-Leste, there is a risk that any shifts in power balances that the project might cause might exacerbate GBV	Prob: 2, Impact: 3 Risk: Medium	Gender issues have been included in the ESIA/ESMP Implementation of GAP Code of Conduct to include SEAH and GBV prevention UNDP will request that contractors, suppliers and partners adhere to zero tolerance for SEAH and GBV and commit to taking adequate action if faced with SEAH allegations.
<b>Labour and working conditions</b>	Poor working conditions and workers health, work related incidents and injuries	Prob: 3, Impact: 3 Risk: Medium	Prepare and implement the OHSMP Train all staff in emergency preparedness and response. Keep a First Aid Kit on site and ensure that drinking water is provided. Personal Protection Equipment (PPEs) are provided to workers

## 1.7 Implementation

The ESIA study identifies some minor negative social and environmental impacts of the project but also socio- economic benefits to the communities. The potential negative impacts will be minimized through the implementation and rigid monitoring of the recommendations as set out in the ESMP. In addition, the sub-project ESMPs will fully take into consideration the finding and recommendations from GCF.

The Contracting Authority and PMU shall ensure that the contractor implements the recommendations given in the ESMP and carry out schedule monitoring to ensure proper implementation of the environmental measures. Monitoring of the ESMP will be done by the PMU Field Coordinator and the Environment Officer to ensure compliance with the requirements.

The Grievance Redress Mechanism (GRM) consultations with municipalities and local authorities have been/will be held, and the GRM committee established and adopted as part of the pre-construction phase of each sub-project. The GRM provides not only a structure for stakeholders to make complaints or raise issues that may arise during implementation but also a mechanism to address them in a timely and effective manner. The GRM at local level will be complemented by wider project based GRM to capture and address broader issues.

## 1.8 Mitigation Measures

The mitigation measures are detailed in the ESMP. Most of the mitigation measures are required during the implementation and execution of the construction works on site. Therefore, mitigative measures such as water for dampening the road surface and management of noise have been included in the contract specifications and BOQ and will be part the contractor’s responsibility. The relevant Environmental and Social Standards according to the national law and international standards such as Labour and Working conditions, Resource Efficiency and Pollution will be attached to the contract and the contractor will be



trained to fully understand and compliance. In addition, the contractor's is required to submit a detailed Method Statement, which follows the ESMP, prior to mobilization on the construction site. The general specifications that are part of the contract documents also establish specific requirements to comply with these measures.

## 1.9 Environmental and Social Monitoring Plan

To ensure compliance with the ESMP and that all the mitigation actions are completed accordingly, monitoring will be done by the project engineer, environment officer and field coordinator. Monitoring of the ESMP implementation includes site inspections, reporting and photographic documentation designed to assess and record the contractor's compliance with the ESMP and other applicable regulations. It is also anticipated that additional inspections would be required in response to complaints and issues raised by local communities.

The costs for monitoring during the construction works include the salaries of the Project Engineer, Field Coordinator and Environment Officer's and cost to travel to the site with motorbike and vehicle, mobile communication, and camera.

## 1.10 Stakeholders' Consultations

For each sub-project extensive consultations are being held with a wide range of stakeholders in the pre-construction stages to gather information about the selected project site. The involvement of a wide range of stakeholders helps to identify the key issues in the early stages of project planning, concerns about the project implementation and development of mitigative measures to address the issues identified.

Stakeholders consultation with the host community and local authorities involves the PMU, MSA, and Ministry of Public Works and the communities with appropriate representation of men and women. The views expressed are being incorporated into the ESIA and the project design.

### **Key Summary Findings of the Consultations**

During the consultation processes of 9 rural roads projects in different geographical locations the following information and views were gathered<sup>2</sup>: which will equally apply to other roads. All the consultation documents are stored at Project Management Unit (PMU) and can be made available upon request by contacting the Project Manager (Jehangir.khan@ UNDP.org):

- Local authorities and residents fully support the implementation of the project and are aware of the positive social, economic and health benefits that the road rehabilitation will bring to their community as well as the temporary and minor potential negative impacts.
- The widening of the existing road alignment does not involve the relocation or destruction of any house or physical asset.
- Local community agreed that no compensation is required. The formal declaration has been provided to this effect.
- Local community members did not express dissatisfaction with the issues that will arise during the construction works such as the noise from equipment and dust.
- As is customary in Timorese culture, before the project starts the physical construction works on the ground, a cultural ceremony needs to be done.

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<sup>2</sup> Consultation documentations available from the PMU on request. Please see Table 2.3 for project proponent details.

## 2 Introduction

### 2.1 Background and context

The Government of Timor Leste with support from UNDP, is implementing the project “Safeguarding Rural Communities and their Physical Assets from Climate Induced Disasters in Timor-Leste” (SRC project hereafter) on adaptation to climate change impacts from extreme natural hazard events with funding from the GCF. The project is seeking to improve the resilience of vulnerable communities and their assets to climate change-induced hazards to which Timor Leste is prone.

The GCF SRC project is rated moderate as per UNDP SES Standards and, as such, an ESMF was developed to support the Funding Proposal (FP), which was approved by the GCF Board in July 2019, and to further guide the project’s implementation.

The project includes 130 construction works, divided into 4 types: flood protection, rural road construction/rehabilitation, irrigation systems, and water supply infrastructures, under activity 2.2.4 ESIA/ESMP are hence developed to cover the 4 types of infrastructure. The present ESIA/ESMP covers the 46 rural road sub-projects (31 GCF funded and 15 Co-financed by the Government). The list does not include the sub-project L-RR-06 (Road rehabilitation in Kaigeremeta) which was approved by the GCF in November 2022. The list below provides the tentative implementation timelines for GCF funded projects. For the Co-financed schemes, the planning is done on yearly basis and at this stage the implementation timelines for the duration of the project are not available. Please See Annex 1 for fully list and scope of 46 sub-project works.

Table 0-3: List of Rural Roads projects

Project Code	Project Title	Municipality	Tentative Implementation Year
A-RR-05	Lahae - Eralolo Road Rehabilitation	Aileu	2023
A-RR-07	Caikasa-Fatubesi Road Rehabilitation	Aileu	2024
A-RR-10	Construction of new road from Laklo to Liksala	Aileu	Implemented by Government in 2021. Replacement road to be identified. Proposed for implementation for 2025
A-RR-12	Construction of new road from Tohumeta to akadiru	Aileu	2023
A-RR-13	Construction of new road from Ladeia Manufoni to Aldeia Lismori	Aileu	2023
A-RR-15	Road rehabilitation from Halalmeta to Tabulasi suku Selo Kraik	Aileu	2024
B-RR-02	Construction of new Road from suco Afaca to Suco Guruca	Baucau	Implemented by Government in 2022. Replacement road to be identified. Proposed for implementation for 2025
B-RR-03	Road rehabilitation from suco Laisorulai to Suco Lelalai	Baucau	Implemented by Government in 2022. Replacement road to be identified. Proposed for implementation for 2024
B-RR-05	Construction of new road from suco Uacala to aldeia Baiburu and Baiafa	Baucau	2025
B-RR-06	Road rehabilitation from suco Lavateri to Aldeia Onor Tibalari	Baucau	2023

B-RR-07	Road Rehabilitation from Uatabo to Seical	Baucau	2024
E-RR-01	Road rehabilitation to aldeia Tidibesi	Ermera	2024
E-RR-02	Rehabilitation of road and drains from Lauala to Talikotu	Ermera	2024
E-RR-06	Road rehabilitation and Construction of drains and Culverts in Batumanu	Ermera	2023
E-RR-07	Road rehabilitation from Manusae to Fatubolu	Ermera	2025
E-RR-08	Road rehabilitation from Poetali to Assi	Ermera	2025
E-RR-09	Road rehabilitation from Katrai Kraik to Dukurai	Ermera	2023
La-RR-02	Road Rehabilitation from Warique to Baniria	Lautem	2023
La-RR-03	Road Rehabilitation from Osoira to Alira	Lautem	2024
La-RR-04	Road Rehabilitation from Bauro to Nanafoe	Lautem	2023
La-RR-05	Road rehabilitation from Pairara to Muro	Lautem	Implemented by Government in 2017. Replacement road to be identified. Proposed for implementation for 2024
La-RR-06	Road rehabilitation from Barikava to Osuvasu	Lautem	Implemented by Government in 2022. Replacement road to be identified. Proposed for implementation for 2024
L-RR-01	Road rehabilitation of Lika	Liquica	2023
L-RR-04	Road rehabilitation in Pobua	Liquica	2024
L-RR-08	Drainage rehabilitation in Vaviquina	Liquica	2023
L-RR-09	Road rehabilitation from Lubsalara to Hatuquesi	Liquica	Implemented by Government in 2021. Replacement road to be identified. Proposed for implementation for 2025
V-RR-01	Road rehabilitation from bahalarawain to uma uain kraik	Viqueque	Implemented by Government in 2020. Replacement road to be identified. Proposed for implementation for 2025
V-RR-02	Road rehabilitation from Osorua to Nahareka uaibo	Viqueque	2025
V-RR-03	Road rehabilitation from Ahic desiloe to laline raikuak	Viqueque	2025
V-RR-04	Road rehabilitation from Uatulari atas to Iraler matahoi	Viqueque	2024
V-RR-05	Road rehabilitation from Haeoli to Loi Ulo	Viqueque	2025

Each unit will also be subject to the development of feasibility studies as per national law in Timor Leste. These feasibility studies will complement the ESMP with site-specific implementation measures in line with the present document. They will be designed throughout project implementation, as the construction works are starting one after the other. It should be note that the ESIA and ESMP for sub-project *L-RR-06 Road rehabilitation in Kaigeremeta* is already developed and has already been submitted to GCF for approval. It is fully aligned with this generic ESIA and ESMP.

The ESIA and ESMP are compliant with the UNDP SES, and form the basis for preparation of sub-project site-specific screening, classification, feasibility and detailed design, and details the Environmental and Social Risk Management Plan for pre-construction, construction, and post-construction phases of all sub-projects and complies with the national Environment Licensing Law (ELL) of Timor Leste.

The project contributes to reducing the impact of climate change induced disasters on local communities and their infrastructure assets and will result in many positive benefits to rural communities in Timor-Leste

which is consistent with the National Strategic Development Plan 2030.

### 2.1.1 Geophysical and Climate change context

Timor Leste occupies the eastern half of the island of Timor and is characterised by steeply sloping terrain overlain by shallow alkaline rocky soils that are fast draining, easily eroded and not particularly fertile. Timor Leste is prone to a number of climate-induced hazards including floods, landslides, soil erosion and drought which are increasing in frequency and intensity and result in frequent loss of lives and livelihoods.

Increasing climatic variability and unpredictability, particularly in relation to rainfall and extreme weather events, presents a significant risk to the lives, livelihoods and infrastructure assets of rural communities in Timor Leste. In addition, poor agricultural practices such as slash and burn farming on steep slopes are resulting in changes to physical, hydrological and ecological processes that control floods, drought, soil erosion and landslides at the catchment scale and impacting on the frequency, intensity and spatial distribution of natural hazards, which is resulting in the accelerated deterioration of already limited physical infrastructure and impacting the livelihoods of rural agricultural communities.

Rural populations of Timor Leste are highly exposed to a number of hazards including flash floods, landslides, soil erosion, coastal flooding and drought, due to unfavourable terrain, socio-economic factors and intensification of these climate-induced hazards over time. In addition, anthropogenic factors such as poor, non-climate-resilient design and application of infrastructure construction standards and the limited investment in operation and maintenance, are exacerbating exposure and resulting in the failure of small-scale rural infrastructure, which is essential to the development of rural communities. Impacts include isolation of communities when roads and bridges are damaged by localized extreme events, contamination of unprotected water sources, reduction in yield of water supply sources due to droughts, flooding of communities due to inadequate or failing flood defences. In addition, the institutional and financial capacity of Local Administrations and communities to adapt to the situation is weak. This includes the ability of municipality planning officials, engineers and decision makers to identify areas that are critically vulnerable to climate hazards, to draw the links between ecosystems management and infrastructure development, and to identify, appraise, prioritize, design, cost and 'budget in' greater resilience measures. There is also a weak ability to understand and address gender and climate change related development and equity issues at local level.

Rural Infrastructure Investment under the PDIM and PNDS planning which prioritises investments in small scale rural infrastructure through the government budgetary allocations do not currently systematically take account of climate risks and therefore do not include climate-proofing unless implemented by specific International Development Banks or donor implemented projects. This is due to a lack of norms, guidelines and methods for implementation of such measures, as well as a perceived higher cost of climate proofing.

The project is safeguarding communities and their social and economic assets from climate through the improvement of the knowledge, skills and capacity to secure functional longevity of the infrastructure under the conditions of changing climate.

### 2.1.2 Socio-economic and development context

Timor Leste gained independence only in 2002, following its 1999 vote for independence after extended conflict with Indonesia. It is therefore among the youngest countries in the world. It is a least developed country, a post-conflict society with a fast-growing population that remains dependent upon subsistence agriculture. Approximately 70 percent of Timor-Leste's 1.06 million people live in badly serviced rural areas. Low agricultural production combined with a lack of access to markets and inputs contributes to high food insecurity, particularly in rural areas. 74 percent of the rural population suffers moderate and severe food insecurity. Annual food deficits also contribute to malnutrition rates, especially for children and women, which have been among the highest in the world. From an economic standpoint, inflation remains high and

with an estimated 61.5 percent of the population under the age of 25, lack of viable employment and income generation opportunities continues to present a challenge and risk for the youth population.

Since gaining independence in 1999, Timor-Leste has faced great challenges in rebuilding its infrastructure, strengthening the civil administration, and generating jobs for young people entering the work force. This pervasive infrastructure deficit keeps the rural population in isolation, lacking access to basic public services and deprived of mobility and economic opportunities. A network infrastructure is crucial for the functioning of today's economy and society, notably infrastructure for energy (e.g., grids, power stations, pipelines), transport related fixed assets, such as roads and bridges and water supply (such as, water supply pipelines, reservoirs, wastewater treatment facilities and irrigation canals). They are sets of interconnected networks of physical infrastructure which facilitate the production and distribution of goods and economic services and form the basis for the provision of basic social services. There are considerable gaps in this network infrastructure in Timor Leste, hindering service delivery, growth and economic development. In fact, many country assessments for Timor Leste recognised a direct correlation between the high incidents of poverty and significant gaps in infrastructure. It therefore comes as no surprise that the government's priority investments are directed towards addressing the current infrastructure deficit that is considered the major binding constraint for socio-economic development. It is critical however that climate change impacts are duly addressed to ensure that these foundational investments and associated services are durable in support of local development and long-term resilience.

### 2.1.3 Programme Description and Main Activities

The project will:

- strengthen capacities of mandated institutions to assess and manage the risks of climate induced physical damages and economic losses. GCF funds will be used to embed new technical skills, improve availability of risk information and create effective response mechanisms.
- invest in small-scale rural infrastructure to ensure their resilience to climate change induced hazards. GCF funds will be used to improve engineering skills and practices for climate proofing of rural infrastructure: roads and bridges; water supply and irrigation; and drainage and flood protection. These infrastructure units will be established as the means to address adaptation deficit where the social vulnerabilities and exposure to climate risks are particularly high.
- invest in livelihoods and land use management that is conducive to a long-term resilience of the target communities and their physical and economic assets. The project will enable land use and livelihoods that benefit from agro-forestry and forest products and contribute to forest rehabilitation and maintenance.

The following complementary outputs will be delivered:

- **Output 1:** Policies and institutions strengthened to enable climate resilient small-scale rural infrastructure development and climate risk reduction in the particularly vulnerable communities.
- **Output 2:** Climate resilient small-scale rural infrastructure deployed to benefit 175,840 people across six priority districts.

It is expected that the proposed project adaptation interventions, will provide essential climate resilient infrastructure to the most vulnerable, enable them to participate more effectively in a productive society and provide access to essential clean water (through water supply infrastructure), transportation (through road and bridge construction and rehabilitation), increased and socio-economic development and protection of people, property and community assets from floods, landslide and erosion risks. In addition, farmers, by adopting climate-resilient production practices through agro-forestry will engage in diversified and integrated farming systems while addressing land degradation and thus protecting infrastructure. Support will be dedicated to addressing land degradation in infrastructure sub-catchments, to restore critical

ecosystem services and increase overall long-term resilience of infrastructure and people against climate-induced hazards.

The objective of the project is to safeguard vulnerable communities and their physical assets from climate change-induced disasters. The project targets 175,840 direct beneficiaries, an estimated 15% of the total population and will bring about many positive benefits for the local community and contributes to reducing the impact of climate change induced disasters on and their infrastructure assets. Benefits include increased climate resilience for small-scale infrastructure as well as 300 ha of reforested and rehabilitated land to buffer against climate-induced disasters.

## 2.2 Rational and objectives of the ESIA and ESMP

The ESMF which was developed for the overall project provides the guiding framework for the site specific Environmental and Social Impact Assessment (ESIA) study and the Environmental and Social Management Plan (ESMP) in conformance with UNDP’s SES Policy and accordingly the project level standards.

This ESIA and ESMP was prepared in line with the requirements of the national Environment Licensing Law of Timor-Leste and UNDP SES Policy considering the anticipated impacts associated with the proposed project, such as air pollution from dust particles, emissions, noise pollution among other effects.

The ESIA study for rural road rehabilitation project and the Environmental and Social Management Plan (ESMP) will guide the project implementation and ensure that adequate measures are taken to protect and minimize any potential adverse environmental and social impacts associated with the proposed construction works. Also, this process is in line with Article 61 of the constitution of Timor-Leste that everyone has a duty to conserve and protect the environment in the interest of future generations.

This ESMP provides the actions required to be taken for managing and keeping the negative impacts and risks of the proposed road rehabilitation project at minimum while enhancing the significant positive and beneficial impacts.

Specific objectives are:

- To ensure that every project operation complies with relevant national environmental and social regulations and international best practices in management and coordination of environmental and social issues during construction.
- To identify likely environmental, social and safety risks and impacts that may emerge as consequences of project activities during implementation and post construction period.
- To propose remedial or mitigative measures to address risks and negative impacts that have been envisaged throughout projects life cycle including post-construction operation and maintenance phase.
- Propose institutional arrangements, relevant regulations, roles and responsibilities of various stakeholders that will be critical in implementation and monitoring of the ESMP.

The objectives of the ESIA and ESMP are summarised below in Table 0-4.

*Table 0-4: ESIA and ESMP objectives*

Process	Objectives
ESIA	<p>The preparation of an ESIA to inform the design of the Subprojects to ensure and to:</p> <p>i. effectively identify environmental and social risks and impacts that may arise as a result of project activities during implementation and post construction period.</p>

	<ul style="list-style-type: none"> <li>ii. ensure possible adverse effects can be avoided and/or minimized</li> <li>iii. inform and consult with the public concerning the ongoing projects and their potential impacts on the environment and social systems</li> <li>iv. promote sustainable use and conservation of the natural resources and ecosystems in the Subproject area.</li> </ul>
ESMP	<p>Preparing, monitoring and reporting on an ESMP for Subprojects to:</p> <ul style="list-style-type: none"> <li>i. define and propose remedial measures which avoid, manage and mitigate negative environmental and social impacts and enhance benefits of the proposed developments throughout projects life cycle including post-construction operation and maintenance phase.</li> <li>ii. To ensure that the project operation complies with relevant national environmental and social regulations and international best practices in management and coordination of environmental and social issues during construction.</li> <li>iii. Propose institutional arrangements, relevant regulations, roles and responsibilities of various stakeholders that will be critical in implementation and monitoring of the ESMP.</li> <li>iv. guide the ongoing process of monitoring and reporting on implementation of Subprojects</li> <li>v. enhance the benefits of use and conservation of the natural resources and ecosystems in the project area</li> </ul>

**2.2.1 ESIA and ESMP approach and methodology**

*2.2.1.1 Project Screening and ESIA scoping*

The overall “Safeguarding Rural Communities and their Physical Assets from Climate Induced Disaster in Timor Leste” project was screened using the UNDP SESP as part of the project development and ESMF preparation phase. As required, each individual sub-project has been re-screened to ensure that no unacceptable risks are identified and to inform the mitigation measures that will be required. Following screening, the scope of studies to understand the issues and types of risk analysis required for each risk and impact area e.g., water, erosion, noise etc. were determined, and data availability identified.

In accordance with the requirements of the national ELL for project screening, technical, socio-economic, and environmental aspects of the project are assessed and considered, and the documentation required by ANLA prepared. ANLA, as the responsible national authority, conduct their own site visits and project screening in accordance with the ELL to verify the information that is prepared prior to classification and granting approval to proceed with the implementation of the project.

*2.2.1.2 ESIA approach*

The purpose of conducting the Environmental & Social Impact Assessment is to ensure that the project is environmentally and socially sound and fits well with the community/ beneficiaries needs and aspirations. The study therefore describes and quantifies the potential impacts on the biophysical environment, and the beneficiary and neighbouring populations prior to, during, and on completion of the project. Mitigation measures

are proposed for any negative impacts identified and an environmental and social management and monitoring plan has been developed covering each phase of the project (pre-construction, construction and operation). In order to achieve the objectives of the Environmental & Social Impact Assessment, the following strategies were adopted:

- Qualitative assessments of the state of the environment in the project area
- Prediction and evaluation of positive and negative environmental and social impacts
- Identification of the mitigation measures for the adverse environmental and social impacts, and
- Formulation of an Environmental and Social Management Plan (ESMP)

The ESIA activities consist of desk studies, fieldwork, baseline studies/surveys (flora and fauna, water quality, socio-economic surveys, gender surveys etc.), participatory interviews, focus group discussions, and questionnaires among others, leading to the preparation of this report and is conducted by UNDP SRC PMU and project Team, and project Implementing partners. Specifically, the following activities are undertaken during the study.

A desk study to review the available reports, development plans and maps in order to compile relevant biophysical and socio-economic information about the study area is conducted. The following documents are reviewed for each rural road sub-project and inform the ESIA and ESMP:

- 1) Project documents fully characterising all aspects of the sub-projects
- 2) All stakeholder consultation meeting notes (FGD meeting notes, KII meeting notes, GRM meeting notes, Gender mainstreaming meetings, FPIC meeting notes etc.) and participants list
- 3) Declaration Letter (if applicable) – Right to Withdrawal
- 4) Maps and photos of the Project site and the area that may be affected by the project's direct, indirect, and cumulative impacts (i.e. area of influence including benefit area).
- 5) All baseline surveys conducted (flora and fauna, water quality, socio-economic surveys, gender surveys etc.)
- 6) Gender Action Plan
- 7) Indigenous People's Plan
- 8) Technical design documents

Targeted, focused analysis and assessment specific to the adverse risks and impacts identified during the screening and scoping processes, are undertaken. All sub-projects are identified as **Moderate** Risk projects due to the limited spatial and temporal adverse social and environmental risks and impacts. Hence targeted assessment of the potential social and environmental risks and impacts have been developed to avoid, mitigate, and manage the risk based on the mitigation hierarchy (avoid, minimize, mitigate, offset).

### *2.2.1.3 Preparation of the ESMP*

Based on the findings of the ESIA, the ESMP was prepared. The ESMP was developed to define social and environmental impact mitigation actions/measures per the mitigation hierarchy. It details social and environmental monitoring to be conducted during project implementation and provides a plan to assess and build capacity to implement the environmental and social management plan and other project environmental and social components.

Based on screening and consultations, most of the potential adverse social and environmental risks and impacts were found to be well understood, clearly circumscribed, and can be easily avoided or mitigated. The analysis of social and environmental risks and impacts and recommended management actions were



identified based on the following targeted focused assessments which were undertaken to inform the ESMP and Monitoring plan:

- a. Environmental and Social Audit
- b. Hazard or Risk Assessment
- c. Social baseline studies
- d. Gender baseline and risk assessment
- e. Water quality Assessment
- f. Indigenous People assessment

Proposed management measures/plans will be incorporated into the project budget, risk log, and monitoring framework for the project.

ESIA/ESMP's will be publicly disclosed and public consultations conducted, with project affected stakeholders and a plan developed to communicate progress with implementation and effectiveness of the environmental and social management plan. The documents shall be disclosed in line with the stakeholder engagement plan developed for the project. All comments/suggestions and questions will be processed and together with feedback incorporated in the final version of the ESIA/ESMP and captured in the minutes of the meeting.

The ESMP has been prepared prior to the bidding of works and the PMU is responsible to integrate the final version into tender documents for the selected sub-projects and in the contracts for their execution to be signed with the selected works contractor. The Contract agreements shall impose the Contractors' obligation to comply with the requirements specified in the ESMP. The Contractors will be required to demonstrate that all mitigation measures have been accounted for to ensure sub-project implementation in environmentally and socially acceptable manner.

Implementation of mitigation measures and environmental and social monitoring is an obligation of the Contractors compliant to the ESMP. The Supervision Consultant for the works engaged by PMU, alongside other routine activities, shall supervise the Contractor's environmental and social performance and verify compliance with ESMP.

## 2.3 Intended users

The aim of this document is to communicate to the key stakeholders (including the project team, contractor, sub-contractors, national and local authorities, and safeguards team), about the potential environmental and social issues associated with the proposed sub-projects, the procedures and mitigation measures that are required to be implemented.

The ESMP shall be the guiding document for implementation of all rural road sub-projects during construction, defects liability, operation and maintenance phases of each project component. The project team will utilize this ESMP during project execution to achieve effective, appropriate environmental and social management. Compliance with the UNDP SES is required for UNDP projects and as a condition of UNDP's accreditation with GCF. The ESMP is to be submitted for approval by UNDP and GCF prior to the commencement of the construction works.

## 2.4 Details of the project proponent

The proponent for this project is the Ministry of State Administration (MSA), through its senior representative, the Director General for Rural Development (DGRD). MSA is one of the main Responsible Parties (RP) for the project with specific responsibilities for the implementation of the infrastructure units under Activity 2.1 and 2.2 of Output 2 of the project.

Table 0-5: Project Proponent Details

Address	República Democrática de Timor-Leste Ministério Administração Estatal Direcção Geral Do Desenvolvimento Rural Rua Jacinto Candido Dili, Timor-Leste, Telf. +670 3339077
Name of Director General	Mr. Rosito Guterres Director General Rural Development Ministry State of Administration (MSA)
Telephone	+ 670-77120725
Email	<a href="mailto:dqdrtimorleste@gmail.com">dqdrtimorleste@gmail.com</a>
Name of Project Director	Mr. Augusto Pinto National Director of Climate Change and GCF Project Director (+670 78427259) & <a href="mailto:ano.pinto@gmail.com">ano.pinto@gmail.com</a>
Name of PMU-UNDP	Mr. Jehangir Khan Project Manager (+670-77729826) & ( <a href="mailto:jehangir.khan@undp.org">jehangir.khan@undp.org</a> )

A total of 130 infrastructure units comprising **47 rural roads and bridges**, 20 flood protection units, 38 water supply systems and 25 irrigation schemes have been selected for implementation over the implementation period of the project. Sixty-six units are funded directly from GCF grants while the other 64 units are from GoTL/MSA's co-financing and will be implemented following the PDIM and PNDS processes.

The relevant Municipal Administration is the Contracting Authority and will be responsible for the implementation of the rural roads rehabilitation sub-projects within the local development PDIM framework. During the project technical assessment and preparation stage, technical staff from the Municipality, Administrative Post and local authorities in municipality are fully engaged and involved.

The ESMP, also referred to as 'Project Document' according to ELL, was submitted by the project proponent to ANLA in accordance with Decree Law 05/2011 on Environmental Licensing. The details of the proponent are provided in Table 0-5.

## 3 POLICY, LEGAL AND INSTITUTIONAL FRAMEWORK

### 3.1 Key relevant components of the legal framework

#### 3.1.1 Legislation, policies and regulations relevant to the project

The hierarchy of laws in Timor-Leste is as follows:

- The Constitution of Timor-Leste
- The Civil Code
- Laws passed by the National Parliament or by the government exercising its powers under Section 96 of the Constitution of Timor-Leste
- United Nations Transitional Administration in East Timor (UNTAET) Regulations
- Indonesian Law (applied before 25 October 1999)
- Customary Law

### 3.2 National Policies and Legal Framework

Based on the National Environmental Licensing Law, Decree Law 5/2011 and the Environmental Basic Law, Decree Law 26/2012 article 1 and article 2 which state that the regulation applies to all proposed projects in accordance with Environment Licensing Law.

1. **Decree-Law No. 5/2011 on the Environmental Licensing System** - this Decree-Law, consisting of 13 Chapters, establishes the requirements to be satisfied to request the environmental license. It creates the environmental licensing system to perform any public or private project which may negatively affect the environment. The Environmental Licensing System is based on the potential environmental impact assessment of any project taking into consideration its dimension, technical characteristics, and location.
2. **Decree Law No. 3/2012 on the legal authorization for Environmental Basic Legislation.** - This Law, consisting of 5 articles, establishes the legal authorization to produce the Environmental Basic Legislation. It specifies terms and conditions to be observed to regulate the sustainable use of environmental sector, to protect and preserve the local ecosystems, to preserve and use in a national natural resource in a sustainable way. This authorization aims at: establishing a set of definitions and requirements related to the environmental sector.
3. **Decree-Law No. 26/2012 establishing the Environmental Basic Legislation.** This Decree-Law, consisting of 10 Chapters, establishes the Environmental Basic Legislation. It specifies the policy on environment and wildlife protection, including the basic principles for conservation, preservation, and sustainable use of natural resources to improve the quality of life of the local populations. This Decree-Law applies for all the National territory, for the land surface, internal waters, territorial sea, airspace, as well as for underground waters.
4. **Law No. 6/2017 on Basic Law of Land Use Planning** - This Law, consisting of 34 articles divided into four Chapters, approves the Basic Legislation of Land Use Planning. Land use planning is subject to the following general principles: Coordination of the various public interventions with a territorial impact and a fair balance between public and private interests; Sustainability of the solutions contained in the instruments of territorial planning, in the economic, social, cultural and environmental dimensions; Subsidiarity, and coordinating the processes.
5. **Law No. 9/2016 establishing rules for the organization, competence and functioning of the Sucos.** This Law, consisting of 98 articles divided into ten Chapters, establishes rules for the

organization, competence and functioning of Sucos. Chapter II specifies the duties of Sucos, such as: contributing to the cohesion of the community members and national unity; ensuring peace and social harmony in the community; promoting the resolution of disputes arising within the community or between Suco's Villages; promoting and ensuring the traditional practices and customs of the community, etc.

6. **Governmental Decree No. 14/2017 establishing the Procedures for submitting a Proposal for the Classification of Protected Area.** This Decree, consisting of 10 articles, establishes the applicable procedures for submitting a proposal for the classification of protected areas in the terms set forth in paragraph 4 of article 16 of Decree-Law no. 5/2016, of 16 March. It establishes the requirements to be satisfied to request a proposal for protected area.
7. **DL 6/2020 Legal Regime for Protection and Conservation of Biodiversity.** This decree-law was enacted by GoTL on 6 February 2020, identifying 44 terrestrial and two marine protected areas and superseding the UNTAET Regulation No. 2000/19 stipulated by the United Nations in 2000.
8. **Decree-Law No. 8/2016 approving the State Secretariat for the Socio-Economic Support and Promotion of Women.** This Decree-Law, consisting of 20 articles divided into five Chapters, approves the State Secretariat for the Socio-Economic Support and Promotion of Women (SEM).
9. **Decree Law No. 5/2016 creating the National System of Protected Areas** - This Decree-Law, consisting of 55 articles divided into nine Chapters and one Annex, establishes the legal regime applicable to the creation and management of the National System of Protected Areas (SNAP). The legal regime established in this Decree-law is applicable to all national territory and waters under national jurisdiction, subject to the application of special regimes, regulated by international legislation.
10. **Decree-Law No. 15/2019 Organic law for the State Secretary for Environment** establishing the Secretary of State for Environment under the VIII Constitutional Government of Timor-Leste.
11. **Decree of Law No. 6/2020 on Legal Regime for Protection of Biodiversity** - intended to provide an overarching framework for action on the ground, legal regimes and instruments provide the interpretation and protection services necessary for ensuring that policy and regulatory regimes on biodiversity including habitat destruction, overexploitation, the spreading of invasive alien species, climate change and population pressure.
12. **Decree Law No. 33/2017 of 6 September, the Legal Law of Cultural Heritage** - to create the condition for inventorying, preserving, protection and valuing the Timorese cultural heritage; It is also highlighted the citizen responsibility in guaranteeing the cultural diversity, contributing to the protection and dissemination in many sorts of cultural heritages.
13. **Decree-Law No. 5/2004 on Community Authorities in East Timor** - This Decree-Law, composed of nine Sections, rules on Community Authorities. Community Authorities shall be the suco chiefs and the members of suco councils elected under the terms of Law No. 2/2004 of 18 February 2004. Community Authorities shall perform their functions and exercise their competencies with due respect for the Constitution and laws regarding State property, especially renewable and non-renewable natural resources.
14. **Decree-Law No. 4/2004 on water supply for public consumption.** This Decree-Law, composed of 32 articles divided in seven Chapters, rules on water supply for public consumption. Potable water is defined as an exhaustible and vulnerable resource, essential to the sustenance of life and to the development of the environment and bears an economic value in all its concurrent uses. It is therefore constitutionally incumbent upon the State to preserve and to enhance such economic value.
15. **Law No. 8/2017 on Land Expropriation for Public Utility.** This Law, consisting of 69 articles divided into five Chapters, defines the regime applicable to the expropriation of immovable property and establishes rules and procedures for cases in which the State, with a view to the pursuit of a public purpose, is impelled, in the absence of other viable alternative solutions, to call upon itself the ownership of immovable property in the private domain. It specifies the cases in which expropriation is allowed.
16. **Regulation No. 9/2007 approving the National Policy for the Forestry sector.** This Regulation, consisting of 5 Chapters, establishes the requirements to be met in order to perform activities in the forestry sector. It specifies forest protection measures and forest and land management criteria. Forest

protection, including water basin conservation, contributes to improve the sustainable development of the agricultural sector and the food security of poor rural households.

17. **Law No. 14/2017 Establishing the General Forestry Regime.** This diploma defines the fundamental principles and norms related to the management, protection, conservation and sustainable use of forest resources and river basins, within the framework of a rational and integrated administration, to meet the needs of the communities that use forests for their livelihood and prosperity, as well as pro-mote sustainable development.
18. **Decree-Law No. 08/2013 on the National Development Program of rural villages 'Sucos' (PNDS).** This Decree-Law, consisting of six Chapters divided in 30 articles, establishes the National Development Program of rural villages, called 'Sucos' (PNDS). It defines the general framework of PNDS, setting out its guiding principles and implementation arrangements. PNDS primarily aims to improve the standard of living in Sucos by the introduction of a community development mechanism that complements other programs.
19. **The Decree-Law No. 36/2012 on Ozone Protection.** This decree-law consists of five chapters regulating import and export of any hazardous substance which may damage the ozone layer. It establishes the requirements to be satisfied to benefit from an authorization to import or export any substances which may damage the ozone layer, according to the Vienna Convention on the Ozone Layer Protection.
20. **Ministerial Order No.16/2017 Establishing the formal Recognition of Traditional Suco and indigenous Villages**

### 3.3 Environmental Institutions and National Licensing Procedures

Environmental assessment is required under the Environmental Licensing Law (ELL) Decree Law 5/2011 of Timor-Leste. The National Environmental Licensing Agency (ANLA) under the Secretary of State for the Environment is the Authority that has the mandate for reviewing applications and carrying out the environmental screening process to verify the information and project documentation which is submitted by the project proponent for screening and granting of the Environmental License. The current organizational structure of SSE showing ANLA is shown in the figure below.

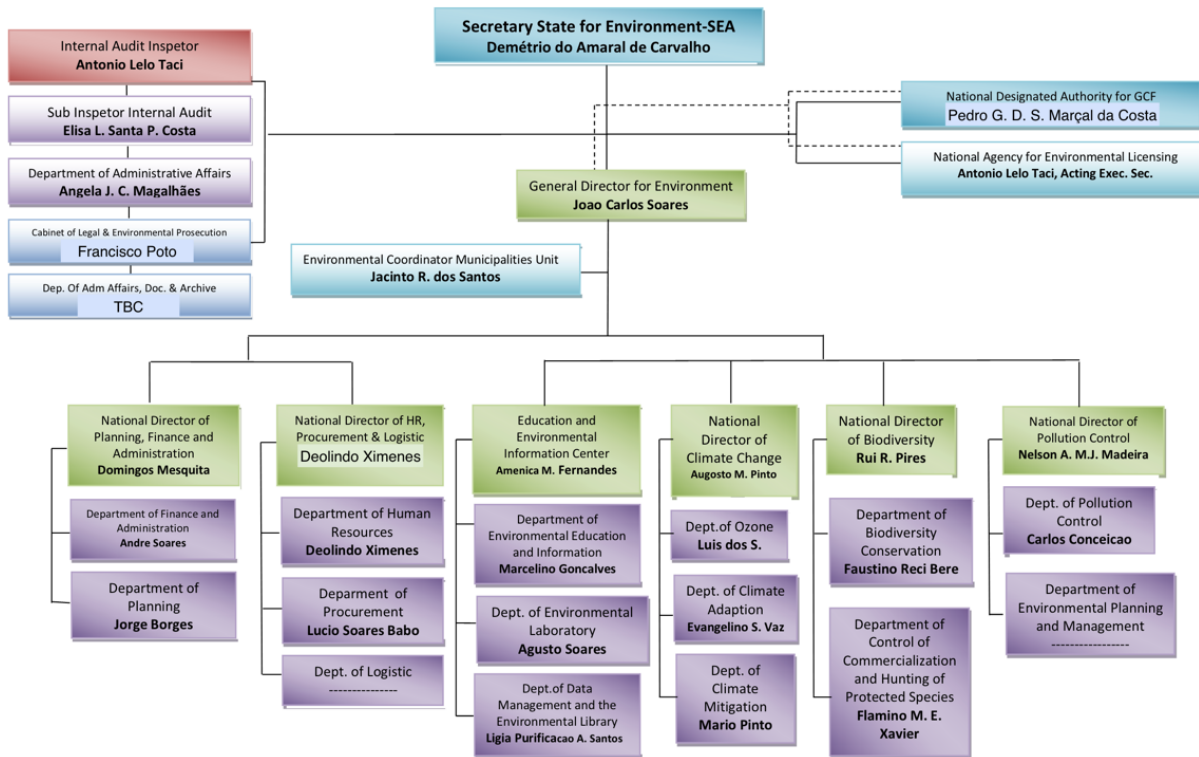


Figure 0-1: Organizational Structure of SSE

Decree Law 5/2011 Environmental Licensing Law establishes the system for screening (classification) of proposed public and private projects likely to produce environmental and social impacts on the environment. Chapter 2 of the ELL sets out the procedures and requirements for screening and environmental licensing. Every project proponent shall submit the project’s Environmental and Social Management Plan which shall provide sufficient information for the environmental Authority to decide on the classification of the proposed project (Category A, B or C).

Article 4 of the ELL sets out the 3 different categories of proposed projects: A, B and C. Category C projects are not required to go through any environmental assessment procedure (other than classification).

Table 0-6: Categories of proposed project as per ELL

Category	Description of requirement as per ELL
A	EIA for Category A sub-projects: an environmental impact statement (EIS) and environmental management plan (EMP) is required
B	IEE for Category B sub-projects: a simplified environmental impact statement (SEIS) and environmental management plan (EMP) required
C	Category C projects are not required to go through any environmental assessment procedure (other than classification)

The classification of projects is done mainly by reference to the categories of activities set out in Annexes 1 and 2 of the ELL. Articles 5 and 6 of the ELL set out the basic procedure for classification of projects.

The Implementing Partner (IP), Responsible Parties (RPs) and AE are expected to undertake and/or put in place any adequate measures to ensure that the management of the environmental and social risks and impacts arising from the Funded Activity always complies with the recommendations, requirements and procedures set forth in the ESMF, which was provided by the Accredited Entity to the Fund before the Approval Decision.

The Implementing Partner for this project is the Secretary of State for Environment (SSE) under the NIM, and Ministry of State Administration as the Responsible Party and are responsible for the overall management of the project. In accordance with the national environmental requirements, the project document for the sub-project has been submitted for classification as per Annex 1 of the ELL and the environmental license issued accordingly as per Annex 11 of this document. Prior to submission to ANLA/SSE the sub-project safeguard documents were reviewed and approved by UNDP.

### 3.4 Environmental Applications relative to the Road Sector

The current Government Policy in the rural road sector is mainly related to the Rural Roads Master Plan 2012 which was updated in 2018. The following projects and programs are involved in the development and maintenance of rural roads in Timor-Leste and applicable to environmental and social risk management and mitigation.

- The Rural Roads for Development (R4D/MOPW) with the aim to improve the rural roads access and livelihood for the rural population and reduce rural isolation. The R4D project will bring social and economic benefits to women and men in rural Timor-Leste by carrying out rehabilitation and maintenance of rural road networks.
- The PFSA-ERA Agroforestry Project implemented by ILO and the MoPW aims at contributing to a peaceful, inclusive, and sustainable development in Timor-Leste, through improved rural access, the creation of employment, economic and domestic revenue opportunities through agro-forestry development, and a durable reduction in food insecurity and malnutrition in rural areas.
- The GCF SRC Project, ‘Safeguarding Rural Communities and their Physical Assets from Climate Induced Disasters in Timor-Leste’ is intended to strengthen the capacities of the mandated institutions for disaster risk management and resilience-building and to address the gaps in policy, regulations, and institutional capacity to mitigate and adapt to climate change induced disasters, deliver climate resilient small-scale rural infrastructure and the provision of timely and adequate protection and support services to citizens affected by climate induced disasters.
- Ministry of State Administration local development (PDIM and PNDS) planning frameworks. The Government of Timor-Leste established the PDIM and PNDS as part of its commitment to support local development and community-driven development at the village (suco) and municipality levels. In line with the PDIM decentralized planning framework, the previous GEF funded project ‘Strengthening the Resilience of Small-Scale Rural Infrastructure and Local Government Systems to Climatic Variability and Risk’ by the Ministry of State Administration conducted EIAs and submitted the documents to the national licensing authority.

### 3.5 GoTL relevant policy and strategies for the rural infrastructure development

#### 3.5.1 Strategic Development Plan 2011-2030 (SDP)

The SDP emphasizes infrastructure development and recognizes infrastructure as one of the three pillars of the strategic and sustainable development vision of the country. Though there is no explicit mention of climate proofing the infrastructures, the SDP highlights the need to build infrastructure such as roads and bridges which have better designs and engineering considerations that can withstand the impacts of

landslides and erosions. SDP also highlights the need to cut down on the maintenance costs, particularly emergency repair costs.

### 3.5.2 Strategy for infrastructure development in TL

A central pillar of the GoTL's Strategic Development Plan (2011-2030) is the building and maintenance of core and productive infrastructure to enable Timor-Leste to develop economically and socially. The scale and cost of addressing the infrastructure deficit however, is large. The SDP (2011-2030) has the following strategy for roads in Timor Leste.

#### **GoTL Strategy and Actions for roads and bridges**

Timor-Leste has an extensive system of national, regional and rural roads that provide access to the rural areas where 70% of the population lives. The network is generally constructed to the Indonesian pavement standard of 4.5 metres width (narrow by international standards) with lined masonry drains and two lane steel truss bridges. The Timor- Leste road network should comprise of 1,426 km of national roads that link districts to each other, 869 of district roads that link district centres with 3,025 km of sub-district and **rural roads that provide access to villages and the more remote areas**. The national road network comprises two coastal roads along the north and south coasts and five roads crossing the country and connecting with the two coastal roads. There are around 456 bridges in the road network.

Due to a lack of maintenance, the road network is deteriorating, with around 90% of national roads in poor or very poor condition with only 10% in fair condition, and over 90% of district roads in poor condition. Road construction and maintenance in the interior of Timor-Leste is particularly challenging due to mountainous terrain and because of high levels of mud and water as well as several natural hazards such as floods and landslides, resulting in many parts of the country being regularly isolated when roads and bridges become impassable, blocked or are completely washed away. Lack of investment in road maintenance often results in the need for emergency repairs, which is an expensive method of managing a road network. The poor state of the roads is increasing transport costs and impeding economic growth and the reduction of poverty at national, regional and local levels. Regional agriculture and industrial development are particularly affected by the state of our roads. Poor roads also result in very poor safety for all road users.

Given the extent and state of the road infrastructure, the GoTL's priority is to rehabilitate and repair existing roads to maintainable standards to secure the road network currently in place. As the economy expands, investment in new roads will be required.

According to the SDP 2011-2030, Timor-Leste will undertake substantial and long-term investment to provide a road network which supports equity in national development, facilitates the transport of goods at a reasonable price, allows for the delivery of government services and promote agriculture and the growth of the private sector. This would be achieved through:

1. Delivery of a comprehensive roads **maintenance program**
2. Rehabilitation of all existing road to an **international standard** by 2020
3. Construction of 3,200 linear metres of **new bridges to provide all-weather access** on major routes within five years and the remainder of national and district roads by 2030.
4. **Rehabilitate all rural roads to a minimum standard by 2015 (surfacing works using asphaltic material and minor shoulder works, drainage and slope protection)**
5. Building the road infrastructure required to support the development of the south coast
6. Establishment of national ring road standards and establish a ring road to these standards by 2030.

The SDP prioritizes national and district roads and bridges and its programme of rehabilitation and construction is heavily supported by development partners. Rural roads rehabilitation is undertaken via the PDIM and PNDS systems.



### **PDIM and PNDS - Expenditure on Infrastructure**

In Timor-Leste, expenditure on infrastructure is implemented through three windows, these being line ministries' Consolidated Fund of Timor-Leste (CFTL) budgets; the Infrastructure Fund; and the District Integrated Development Plan (PDID), a district development program which includes the construction of small-scale infrastructure projects. The funding and implementation of rural infrastructure such as rural roads and bridges, is done via the Planning and Implementation of District Development Investment Plan (formerly PDID now PDIM) and covers projects that are less than \$500,000. The main goal of the PDID is to develop the domestic private sector, with its secondary goals being to create an increased number of employment opportunities in rural areas and to provide high quality infrastructure demanded by the local population in these areas.

## **3.6 UNDP Social and Environmental Standards (SES)**

UNDP's Social and Environmental Standards (SES) underpin the commitment to mainstream social and environmental sustainability in our programmes and projects to support sustainable development. The SES objectives are to:

- Strengthen the quality of programming by ensuring a principled approach
- Maximize social and environmental opportunities and benefits
- Avoid adverse impacts to people and the environment
- Minimize, mitigate, and manage adverse impacts where avoidance is not possible
- Strengthen UNDP and partner capacities for managing social and environmental risks
- Ensure full and effective stakeholder engagement, including through a mechanism to respond to complaints from project-affected people.

The SES are an integral component of UNDP's quality assurance and risk management approach to programming. This includes the project-level Social and Environmental Screening Procedure (SESP). Screening and categorization of projects is one of the key requirements of the Social and Environmental Standards (SES). The key elements of UNDP's Social and Environmental Standards (SES) are shown in the figure below.

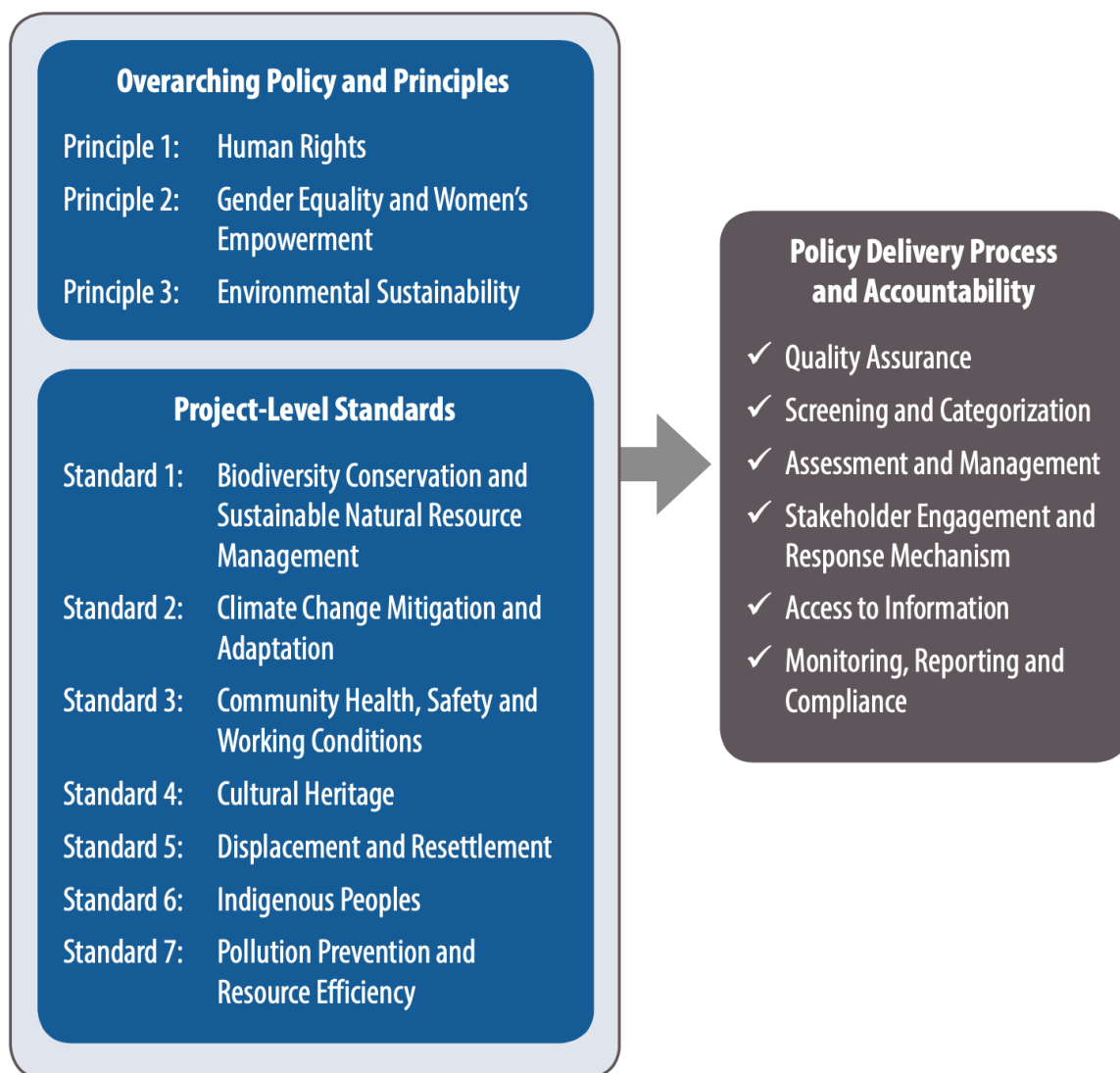


Figure 0-2: Key elements of UNDP's Social and Environmental Standards (SES), UNDP 2015<sup>3</sup>

The objectives of UNDP's Social and Environmental Screening Procedure (SESP) are to:

- Integrate the SES Programming Principles to maximize social and environmental opportunities and benefits and strengthen social and environmental sustainability.
- Identify potential social and environmental risks and their significance.
- Determine the project's risk category (Low, Moderate, Substantial, High); and,
- Determine the level of social and environmental assessment and management required to address potential risks and impacts.

All sub-projects are screened against UNDP's Social and Environmental Standards Procedure. The impact risk assessment is undertaken using the UNDP Social and Environmental Screening Procedure to assess

<sup>3</sup> <https://www1.undp.org/content/dam/undp/library/corporate/Social-and-Environmental-Policies-and-Procedures/UNDPs-Social-and-Environmental-Standards-ENGLISH.pdf>

the probability (expected, highly likely, moderately likely, not likely) and the impact of the risk (critical, severe, moderate, minor, negligible). From this, a significance value is attributed to the potential impact (negligible, low, medium, high and extreme). The project and all sub-projects were deemed to be moderate risk projects. Discussions on the impact assessment are provided in the Social and Environmental Screening template and UNDP's SESP which provided the rationale for the project being classified as a moderate risk.

*Table 0-7: UNDP's Safeguard Standards Triggered in Rural Roads Rehabilitation sub-projects*

Project Level Standard		Applicability	Notes
PS1	Biodiversity Conservation and Sustainable Natural Resources Management	Yes	The project is not within or near to any protected area. However, there is the potential disturbance/loss of vegetation at the project site during construction works. The sub-project works involve agroforestry and soil-bioengineering activities with the which may use non-invasive non-native species of trees.
PS2	Climate Change and Disaster Risks	Yes	The project will not exacerbate climate change nor increase vulnerability. However, the risk of the sub-project works being affected by extreme rainfall during construction and/or defects-liability period during the rainfall season remains.
PS3	Community Health, Safety and Working Conditions	Yes	Health and safety measures are reflected in the ESMP. Occupational Health and Safety (OHS) Management Plan established
PS4	Cultural Heritage	Yes	Project is not within archaeological or heritage site. Unknown cultural heritage items could be discovered during construction activities, therefore a Chance Find Procedure has been developed (Annex 9 All activities are in conformance with and respect traditional and local knowledge and customs in both administrative and customary affairs
PS5	Displacement and Resettlement	No	The project will not result in displacement or resettlement to community or households. No potential conflict associated with land tenure.
PS6	Indigenous Peoples	Yes	Indigenous Peoples Plan developed, FPIC appraisal/screening checklist applied.
PS7	Pollution Prevention and Resource Efficiency	Yes	Public nuisance during construction e.g., noise, vibration, dust, fumes. Potential contamination during construction. Pollution Prevention measures are reflected in the ESMP.

The GCF funded project "Safeguarding Rural Communities and Their Physical Assets from Climate Induced Disaster in Timor-Leste" is one of the main climate change projects that is being implemented in Timor-Leste with duration of 6 years between the period March 2020 to March 2026.

Prior to the approval of the project proposal and funding by the GCF Board, UNDP prepared an Environmental and Social Management Framework ("ESMF") which provides the guiding framework for the

overall project and the respective sub-projects. The ESMF also provides the guiding framework for the preparation and implementation of the generic infrastructure ESMPs which form the basis for the detailed site specific ESMPs for the infrastructure sub-projects in compliance with UNDP's SES policy and procedures.

Prior to commencing any construction works or activities for the implementation of the project, UNDP shall submit, to the GCF Secretariat, the generic Environmental and Social Management Plan related to the relevant construction works or activities to be executed per infrastructure type. The Environmental and Social Impact Assessment (ESIA) is one of the main requirements that should be conducted to analyze whether the planned construction and/or rehabilitation works for the selected rural infrastructure projects will have any potential environment and socio-economic impacts and proposed adequate mitigative measures and interventions. Given that the GCF funds are channelled through UNDP as the AE to the GCF, UNDP must ensure the quality of its support which includes application and implementation of the SES as part of its quality assurance responsibilities.

The scope of works and the expected minor environmental and social impacts of the project allow classifying the project as moderate under UNDP's Social and Environmental Safeguards Standards.

The Environmental and Social Impact Assessment considers the natural environment (air, water, and land); human health and safety; and social aspects (displacement and resettlement, cultural heritage, indigenous peoples, etc.) in addition to trans-boundary and global environmental aspects.

Useful guidelines and manuals that were considered during the ESMP phase of the project include:

- UNDP Social and Environmental Safeguard Policy
- Social and Environmental Screening Procedure, UNDP 2015 and 2021
- Stakeholder Response Mechanism: Overview and Guidance, UNDP

### 3.6.1 SES Requirements per Standard

#### 3.6.1.1 *PS1 - Biodiversity Conservation and Sustainable Natural Resources Management*

Conserving biodiversity, maintaining ecosystem services, and sustainably managing natural resources are fundamental to sustainable development. Biodiversity and healthy ecosystems strengthen our resilience to address environmental and social changes and shocks, including climate change impacts and disaster risks. UNDP seeks to maintain and enhance the goods and services provided by biodiversity and ecosystems in order to secure livelihoods, food, water and health, enhance resilience, conserve threatened species and their habitats, and increase carbon storage and sequestration.

UNDP is committed to integrating biodiversity and ecosystem management into development planning and production sector activities, strengthening protected areas systems, and managing and rehabilitating ecosystems for adaptation to and mitigation of climate change. UNDP seeks to strengthen effective governance and decision-making systems affecting biodiversity and ecosystems, including strengthening the rights of affected populations including women, indigenous peoples and local communities to sustainable use of resources.

This Standard reflects the objectives of the Convention on Biological Diversity — including the conservation of biological diversity, the sustainable use of its components and the fair and equitable sharing of the benefits arising out of the use of genetic resources—and other international conventions and agreements. UNDP promotes an ecosystem approach to biodiversity conservation and sustainable management of natural resources.

The key objectives set out in Standard 1 are the following:

- To conserve biodiversity and maintain ecosystems
- To maintain and enhance the benefits of ecosystem goods and services
- To promote sustainable management and use of renewable natural resources
- To ensure the fair and equitable sharing of the benefits from the utilization of genetic resources
- To respect, preserve, maintain and encourage knowledge, innovations and practices of indigenous peoples and local communities relevant for the conservation and sustainable use of biodiversity and their customary use of biological resources.

Standard 1 is focused on avoiding, and if avoidance is not possible, minimizing and mitigating potential adverse social and environmental impacts on biodiversity, ecosystems and ecosystem services associated with project-related activities. Requirements of Standard 1 address risks and impacts to biodiversity and ecosystem types, with increasing stringency depending on risk levels and biodiversity values of project areas. Biodiversity and ecosystem services are especially relevant to sectors that develop living natural resources as commodities, such as agriculture, forests, fisheries, and livestock, and Standard 1 includes requirements regarding sustainable management practices for such activities.

### **PS1 Summary Requirements**

Requirements of Standard 1 have been considered and addressed in an integrated manner (e.g. together with risks and impacts associated with other SES Standards) during the screening process, the social and environmental assessment, and in the development and implementation of this ESMP. UNDP Social and Environmental Standards (SES) Guidance note - Standard 1: Biodiversity Conservation and Sustainable Natural Resource Management provides as detailed discussion of the requirements for this standard. The high-level summary of Standard 1 requirements is as follows:

- **Precautionary approach:** Apply a precautionary approach to use, development, management of habitats, their ecosystem services, and production of living natural resources
- **Assess risks to biodiversity and ecosystem services:** For Moderate, Substantial and High Risk projects, assess potential direct, indirect, and cumulative impacts on biodiversity and ecosystems, including consideration of habitat loss and degradation, fragmentation, invasive alien species, overexploitation, hydrological changes, nutrient loading, pollution (e.g. chemical, organic, plastics, POPs, etc.), pesticides, incidental take, potential climate change impacts and differing values attached to biodiversity and ecosystem services by affected communities. Consider impacts across landscapes/seascapes.
- **Use of experts:** For projects with potential adverse impacts on biodiversity and ecosystems, use qualified professionals in assessment and design of mitigation/management plans Siting preference: Locate projects with potential adverse impacts on lands already converted
- **Mitigation hierarchy:** Risk reduction measures to follow mitigation hierarchy that favours avoidance of potential adverse impacts over minimization, mitigation where residual adverse impacts remain, and as a last resort, application of offset and compensation measures. Mitigation measures seek to achieve no net loss and preferably a net gain of biodiversity (net gains required for impacts on critical habitats)
- **Habitats:**
  - **Modified habitats:** Minimize unwarranted conversion/degradation/fragmentation of modified habitat
  - **Natural habitats:** If adverse impacts on natural habitats, proceed only if no viable alternatives and appropriate conservation and mitigation measures/plans are in place that describe the conservation outcomes, implementation actions, and monitoring and evaluation arrangements (e.g. a Biodiversity Action Plan)

- **Critical habitats:** No project activities to be conducted in critical habitats unless (a) there are no measurable adverse impacts on the area's biodiversity values and supporting ecological processes, (b) no reduction in Vulnerable, Endangered, or Critically Endangered species, (c) any lesser impacts are appropriately mitigated, and (d) a Biodiversity Action Plan is in place to achieve net gains of relevant biodiversity values
- **Use of offsets:** Biodiversity offsets to be utilized only as a last resort and must be designed to achieve measurable conservation outcomes that result in no net loss and preferably a net gain in biodiversity. For impacts on critical habitats, offsets to be considered only in exceptional circumstances, with net gain in biodiversity required. "Like-for-like or better" principle and use of external experts required
- **Illegal trade:** Measures will be adopted to ensure that supported activities do not increase the risk of illegal trade of protected species
- **Protected areas:** For activities in protected areas, ensure critical habitats requirements are followed, and ensure that activities are consistent with area management plans (if exist) and area sponsors and stakeholders are appropriately consulted. Activities to enhance conservation and management of area should be incorporated into project, as appropriate
- **Management of ecosystem services:** Avoid adverse impacts on ecosystem services of relevance to affected communities; if avoidance is not possible, then mitigation and management measures aim to maintain their value and functionality
- **Invasive species:** No introduction of known invasive species. No introduction of any alien species without risk assessment. Possibility of accidental introduction of invasive alien species to be considered and managed Biosafety and genetic resources: If project involves transfer, handling and/or use of genetically modified organisms/living modified organisms (GMOs/LMOs), conduct risk assessment per Cartagena Protocol
- **Forests:** Ensure that project activities (a) conserve natural forests and biodiversity, avoiding conversion of natural forests; (b) incentivize protection and conservation of natural forests and their ecosystem services and other social and environmental benefits; (c) enhance sustainable management of forests (including certification of industrial logging); (d) that restoration projects maintain or enhance biodiversity and ecosystem functionality; (e) ensure plantations are environmentally appropriate, socially beneficial, economically viable, utilizing native species. Give preference to small-scale community-level forest management approaches
- **Water resources:** Promote integrated water resources management, avoid significantly altering flow regimes and undertake risk assessments, environmental flow analysis and management to extent feasible in context of river basin planning.
- **Sustainable Management of Renewable Natural Resources:** Manage living natural resources in sustainable manner, including safeguarding biodiversity and life-supporting capacity of ecosystem services. Apply industry-specific best management practices including certification systems where possible and appropriate. Adopt appropriate measures, where relevant, to promote animal welfare, control for potential invasiveness or escape of production species, and minimization of antimicrobial resistance. Support small-scale resource owners/producers to harvest/produce sustainably. Ensure fair and equitable benefit sharing in utilization of genetic resources (consistent with the Nagoya Protocol).
- **Soil management:** avoid, and where avoidance is not possible, minimize adverse impacts on soils, their biodiversity, organic content, productivity, structure, water-retention capacity.
- **Primary Suppliers:** When purchasing natural resource commodities, limit procurement to primary suppliers that can demonstrate that they are not contributing to significant conversion or degradation of natural or critical habitats and shift suppliers where they cannot. Encourage use of Environmental Product Descriptions.

### 3.6.1.2 PS2 Climate Change and Disaster Risks

The key climate change and disaster risk reduction objectives set out in Standard 2 are the following:

- To ensure that UNDP projects are sensitive to climate change and disaster risks in order to achieve sustainable development outcomes
- To reduce project-related greenhouse-gas (GHG) emissions and intensity (S2)

As an integral part of the social and environmental assessment process, UNDP ensures that proposed activities are screened and assessed for climate change and disaster risks and their impacts to project activities and outputs as well as the possibility that project activities could increase exposure to such risks. UNDP ensures that the status and adequacy and applicability of relevant climatic and disaster risk information is identified. If significant potential risks are identified, then further scoping and assessment of vulnerability, potential impacts, and avoidance and mitigation measures, including consideration of alternatives to reduce potential risks, will be required. mitigation co-benefits (e.g. reduction in GHG emissions) where possible and exploiting potentially beneficial changes in climatic or environmental conditions to deliver developmental benefits.

#### PS2 Summary Requirements

The applicability of this Standard was established during the social and environmental screening and categorization process and will be further examined during preparation of site-specific feasibility studies per project. Requirements of this Standard apply to all projects that (i) have development outcomes that may be threatened by climate change or disaster risks; (ii) may contribute to increased exposure and/or vulnerability to climate change or disaster risks; or (iii) may produce significant GHG emissions. UNDP Social and Environmental Standards (SES) Guidance note - Standard 2: Climate Change and Disaster Risks provides a detailed discussion of the requirements for this standard. The high-level summary of Standard 2 requirements is as follows:

- **Screen Projects for Climate Change Impacts and Disaster Risks**
  - Utilize Social and Environmental Screening Procedure (SESP) to identify and categorize potential risks and impacts regarding climate change and disasters
- **Climate Change and Disaster Risk Analysis, Planning and Implementation**
  - Evaluate risks from climate change impacts and disasters as part of project social and environmental assessment process. Where significant risks are identified, undertake additional scoping and climate change and disaster risk assessment
  - Ensure projects are sensitive to and informed by analysis of risks and impacts of climate change and hazards (both natural and human-made) through the following key measures:
    - Identify relevant and up-to-date risk information (based on existing studies and sources)
    - Examine exposure and sensitivity of relevant communities, ecosystems, and critical infrastructure.
    - Analyse physical, social, economic and environmental factors which increase susceptibility and vulnerability—with a particular focus on marginalized and disadvantaged groups and individuals
    - Examine viability or longer-term sustainability of project outcomes due to potential climate change impacts and disaster risks
    - Assess whether activities may increase exposure or exacerbate vulnerability of communities to the impacts of climate change or disasters and avoid activities that may exacerbate such exposure

- Ensure that appropriate climate and disaster risk management plans are in place, including but not limited to emergency preparedness and response plans and ensure appropriate monitoring
  - Integrate, where relevant, climate change adaptation and disaster risk reduction considerations and seek opportunities for reducing exposure and vulnerabilities to strengthen resilience
  - Where possible, integrate disaster risk reduction measures into the recovery of infrastructure and societal systems to “build back better” after a disaster to increase the resiliency of communities.
- **GHG Emissions**
  - Identify and seek to minimize and avoid unwarranted increases in GHG emissions or other drivers of climate change from project activities
  - Ensure options are considered to reduce or avoid project-related GHG emissions
  - For projects expected to produce significant GHG emissions, characterize (direct vs. indirect GHG emissions) and estimate and report emissions (i.e. above 25,000 tonnes CO2e/year and/or per country regulations)
- **Infrastructure Safety and Emergency Preparedness (see Standard 3)**
  - Ensure that project-affected communities are protected from natural and human-made hazards associated with project design, construction, operation, and decommissioning (e.g. collapse of project’s structural elements, impact of project-induced land use changes on vulnerability or hazards) through:
    - Applying relevant national building and safety codes and good international practice (e.g. engineering, life and fire safety, seismic codes, etc.). Ensure infrastructure is designed, constructed, operated and decommissioned by competent authorities and professionals
    - Avoiding or minimizing community exposure to water-/vector borne diseases, communicable and noncommunicable diseases that could result from project activities
    - Ensuring that projects take into account differences in risk exposure and sensitivity of women and men as well as marginalized and disadvantaged groups, including children, older persons, persons with disabilities, indigenous peoples
    - Ensuring that exposure to hazardous materials from natural hazard-triggered accidents is considered and addressed
    - Supporting appropriate emergency preparedness and response plans to accidents and emergency situations
    - Preparing business continuity plans for key infrastructure

### 3.6.1.3 PS3 Community Health, Safety and Working conditions

The Community Health and Safety Standard recognizes that project activities, equipment, and infrastructure can increase community exposure to risks and impacts. Potential negative impacts affecting health and safety may arise from a broad range of supported activities, including from infrastructure development and construction activities, changes in the nature and volume of traffic and transportation, water and sanitation issues, use and management of hazardous materials and chemicals, impacts on natural resources and ecosystems, the influx of project labour, and potential abuses by security personnel. This Standard addresses the need to avoid or minimize the risks and impacts to community health, safety



and security that may arise from project-related activities, with particular attention given to disadvantaged and marginalized groups.

The pursuit of inclusive and sustainable economic growth, full and productive employment and decent work for all requires the protection of workers' fundamental rights, their fair treatment, and the provision of safe and healthy working conditions. Project activities seek to enhance employment promotion benefits, development outcomes and sustainability by ensuring sound worker-management relationships and cooperation in their design and implementation. The SES requirements have been guided by a number of international conventions and instruments, including those of the International Labour Organization (ILO) and the United Nations (UN)

The objectives of this standard are:

#### *Community Health, Safety and Security*

- To anticipate and avoid adverse impacts on the health and safety of affected communities during the project life cycle from both routine and non-routine circumstances
- To ensure quality and safety in the design and construction of project-related infrastructure, preventing and minimizing potential safety risks and accidents
- To avoid or minimize community exposure to disaster risks, diseases and hazardous materials associated with project activities
- To ensure that the safeguarding of personnel and property minimizes risks to communities and is carried out in accordance with international human rights standards and principles
- To have in place effective measures to address emergency events, whether human-made or natural hazards

#### *Working Conditions*

- To promote, respect and realize fundamental principles and rights at work through:
  - Supporting freedom of association and the effective recognition of the right to collective bargaining
  - Preventing the use of child labour and forced labour
  - Preventing discrimination and promoting equal opportunity of workers.
- To protect and promote the safety and health of workers.
- To ensure applicable parties comply with employment and labour laws, applicable rules and regulations and international commitments.
- To leave no one behind by protecting and supporting workers in disadvantaged and vulnerable situations, including a special focus, as appropriate, on women workers, young workers, migrant workers and workers with disabilities.

### **PS3 Summary Requirements – Community Health, Safety and Security**

UNDP Social and Environmental Standards (SES) Guidance notes - Standard 3: Community Health, Safety and Security and Labour and Working Conditions provide a detailed discussion of the requirements for this standard. The high-level summary of Standard 2 requirements is as follows:

- Adopt measures to avoid and minimize **community exposure to health risks** (e.g. pollution, contaminated areas/resources) and diseases that could result from or be exacerbated by programming activities, including water-related<sup>3</sup> and vector-borne diseases, and communicable and noncommunicable diseases, injuries, nutritional disorders, mental health and well-being that could result from project activities, taking into consideration the

differentiated exposure to and higher sensitivity of marginalized groups, including communities living in voluntary isolation (S3, 6).

- Where **endemic diseases** exist in project areas (e.g. malaria), explore ways to improve environmental conditions that could minimize the incidence of such diseases (S3, 6).
- Where projects involve the provision of health services and/or use of antibiotics, incorporate **antimicrobial stewardship** (S3, 6).
- **Infrastructure design and safety**: Ensure structural elements and services are designed, constructed, operated and decommissioned in accordance with national legal requirements, good international practice, and any relevant international obligations and standards by competent professionals and certified or approved by competent authorities or professionals (i.e. by qualified engineers and professionals; independent certification and approval; appropriate plans for supervision, quality assurance, operation and maintenance, and emergency preparedness; periodic safety inspections and monitoring (S3, 7).
- Ensure **construction site safety**, including appropriate control of access (e.g. fencing, security), use of appropriate personal protective equipment, safely designed work platforms, appropriate engineering and administrative controls (e.g. detours, traffic calming, signs), and safety barriers (S3, 7).
- Where relevant, potential **traffic and road safety**<sup>4</sup> risks associated with project activities will be identified, evaluated and monitored (S3, 8).
- Wherever feasible, ensure that the concept of **universal access**<sup>5</sup> is applied in the design and construction of facilities and services open to or provided to the public on an equal basis with others (S3, 9).
- Where avoidance is not possible, minimize potential community exposure to **hazardous materials and substances** that may be utilized in or released by project activities (including use, storage, handling, transport, disposal). Consider the need for Hazardous Materials Management Plan (S3, 10).
- Ensure that the implementing partner, in collaboration with appropriate and relevant authorities and third parties, is prepared to respond to accidental and **emergency situations** in a manner appropriate to prevent and mitigate any harm to people and/or the environment in the context of project activities and areas. Consider the need for Emergency Response Plans (S3, 11).
- Ensure that appropriate measures are taken, including by project contractors, to avoid, mitigate and manage the risks and potential adverse impacts on health and safety of communities arising from the **influx of project-related workers** into project areas (e.g. transmission of communicable diseases, sexual violence and harassment, crime and public safety, environmental impacts and pressure on limited resources. Consider need for labour influx management plan and codes of conduct (S3, 12).
- Where project activities may adversely impact **ecosystem services** despite avoidance and minimization measures, adopt appropriate mitigation measures that aim to maintain the value and functionality of ecosystem services of relevance to local communities, paying special attention to avoid causing or exacerbating potential adverse impacts on marginalized and disadvantaged groups (S3,13).

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<sup>4</sup> Note that the implementing partner needs to promptly notify UNDP and stakeholders of any incident or accident related to the project activities that has had (or is likely to have) significant adverse impacts on people or the environment. Immediate measures are to be undertaken by the responsible partner to address and remedy the incident or accident, and to prevent any recurrence. See SES Guidance Note on E&S Assessment and Management (Section 5.3) and UNDP Construction Works Policy (paras. 85-86).

<sup>5</sup> Note that UNDP's Construction Works Policy further requires that newly constructed Works, structural additions, or major renovations must be planned, designed and constructed so as to be accessible to persons with disabilities, including incorporating building codes that meet international and local standards for universal access, wherever possible (para. 31). In addition, necessary supporting provisions are to be incorporated in the design and procurement of Works (para. 32) and newly constructed Works must be planned, designed and constructed to be gender responsive to the different needs and constraints of women and men. The design must remove barriers to access and the use of Works and related services by women, as well as enhance women's safe access and use.

- Ensure that potential risks posed by **security arrangements** to those within and outside the project area have been assessed and that those providing security are appropriately vetted, trained and supervised, and that security arrangements are appropriately monitored and reported (S3, 14).

### PS3 Summary Requirements – Working Conditions

- **Terms and Conditions of employment** - There is a range of requirements regarding the terms and conditions of employment for project workers, including but not limited to the following:
  - Written labour management procedures are established that set out the conditions in which project workers will be employed or engaged and managed, in accordance with the requirements herein and applicable labour laws, rules and regulations. The procedures are appropriate to the size, locations and workforce of project activities.
  - Project workers are provided information and documentation that is clear and understandable regarding their terms and conditions of employment, including information that sets out their rights under applicable labour laws, rules and regulations (including any applicable collective agreements), and their rights related to hours of work, wages, overtime, compensation and benefits, occupational safety and health and the requirements herein. This information and documentation is provided at the beginning of the working relationship and when any material changes to the terms or conditions of employment or engagement occur.
  - Project workers are paid on a regular basis as required by applicable labour laws, rules and regulations. Deductions from payment of wages are only made as allowed by human resources management policies and applicable labour laws, rules and regulations. Project workers are informed of the conditions under which such deductions will be made. Project workers are provided with adequate periods of rest per week, annual holiday and sick, maternity and family leave, as required by applicable labour laws, rules and regulations.
  - Project workers receive written notice of termination of employment and details of severance payments in a timely manner as required by applicable labour laws, rules and regulations. All wages that have been earned, social security benefits, pension contributions and any other entitlements are paid, either directly to the project workers or, where appropriate, for the benefit of the project workers, with evidence of such payment.
- **Non-discrimination and equal opportunity**
  - Decisions relating to the employment or treatment of project workers are not made on the basis of personal characteristics unrelated to inherent job requirements. The employment of project workers is based on the principle of equality of opportunity and treatment, and there shall be no discrimination with respect to any aspects of the employment relationship, such as recruitment and hiring, compensation (including wages and benefits), working conditions and terms of employment, access to training, job assignment, promotion, termination of employment or retirement, or disciplinary practices. Women and men shall receive equal remuneration for work of equal value. The labour management procedures shall set out measures to prevent and address violence, harassment, intimidation and/or exploitation. Where applicable labour laws, rules and regulations are inconsistent with this paragraph, activities are carried out in a manner that is consistent with these requirements to the extent possible.
  - Neither special measures of protection and assistance to remedy discrimination nor selection for a particular job based on the inherent requirements of the job are not deemed as discrimination.

- Appropriate measures of protection and assistance are provided to address the vulnerabilities of project workers, including specific groups of workers, such as women, persons with disabilities, migrant workers and young workers.
- Appropriate measures will be taken to prevent and address any form of violence and harassment, bullying, intimidation and/or exploitation, including any form of gender-based violence (GBV).
- **Workers organizations:** In countries where national law recognizes workers' rights to form and to join workers' organizations of their choosing and to bargain collectively without interference, the applicable parties subject to national law who have engaged project workers must comply. In such circumstances, the role of legally established workers' organizations and legitimate workers' representatives is respected and they will be provided with information needed for meaningful negotiation in a timely manner. Where national law restricts workers' organizations, the applicable parties subject to national law shall not restrict project workers from developing alternative mechanisms to express their grievances and protect their rights regarding working conditions and terms of employment and shall not seek to influence or control these alternative mechanisms. The applicable parties shall not discriminate or retaliate against project workers who participate, or seek to participate, in such workers' organizations and collective bargaining or alternative mechanisms.
- **Forced labour:** Forced labour, which consists of any work or service not voluntarily performed that is exacted from an individual under threat of force or penalty, shall not be used in connection with the project. This prohibition covers any kind of involuntary or compulsory labour, such as indentured labour, bonded labour, or similar labour-contracting arrangements. No trafficked persons may be employed in connection with the project activities. Where cases of forced labour are identified, immediate steps must be taken by the applicable parties to correct and remedy them.
- **Child labour:** Child labour, which consists of employment of children below the minimum age of employment as defined by the ILO Minimum Age Convention, 1973 (No. 138) and ILO Worst Forms of Child Labour Convention, 1999 (No. 182), may not be used in connection with or arising from the project activities.
  - A minimum age for employment shall be specified in connection with the project activities, as determined by national law for applicable parties subject to national law and consistent with the ILO Convention No. 138.15
  - Notwithstanding the above, a child under the age of 18 may not perform work in connection with or arising from the project activities which, by its nature or the circumstances in which it is carried out, is likely to harm his/her health, safety or morals. Such work is determined by national laws or regulations or by the competent authority and commonly specified in national lists of hazardous work prohibited to children. In the absence of such regulations, guidance on hazardous work to be prohibited in connection with the project should derive from the relevant ILO instruments. In addition, a child under the age of 18 may not, in connection with project activities, perform work that is likely to interfere with his/her compulsory education or be harmful to his/her physical, mental, spiritual, moral or social development.
  - Where cases of child labour are identified, immediate steps shall be taken by applicable parties to correct and remedy them, including the rehabilitation and social integration of the child where necessary.

**Occupational safety and health (OSH):** Necessary processes and measures that address the safety and health of project workers shall be in place to support project design, planning and implementation. These processes and measures may be encompassed and implemented through the applicable party's occupational safety and health management system or processes and shall address:

- Identification and assessment of potential hazards and risks, particularly those that could result in serious injury, ill health or death and those identified through worker health surveillance;

- Elimination of hazards and minimization of risks through implementation of preventive and protective measures in the following order of priority: elimination or substitution, engineering and organizational controls, administrative controls, and where residual hazards and risks cannot be controlled through these collective measures, provision of personal protective equipment at no cost to the worker;
- Safety and health training, including on the proper use and maintenance of personal protective equipment, at no cost to workers conducted by competent persons and the maintenance of training records;
- Recording and notification of occupational accidents and incidents and any resulting injuries, ill health or death;
- Emergency prevention and preparedness and response arrangements to emergency situations; and
- Employment injury benefits and/or remedies for adverse impacts such as occupational injuries, disability, ill health or disease and death

***Workplace grievance mechanism:***

- A workplace grievance mechanism (distinct from any general project-level grievance mechanism) is provided for all project workers (and, where relevant, their organizations) to raise workplace concerns (including potential violations of existing rights and entitlements as provided for in legislation, collective agreements, employment contracts and human resources policies). The mechanism will be easily accessible to project workers who are to be informed of the grievance mechanism at the time of recruitment and the measures to protect them against any reprisal for its use.
- The grievance mechanism shall be designed to address workers' concerns promptly, using an understandable, transparent process that provides timely feedback to those concerned in a language they understand, without any retribution, and shall operate in an independent and objective manner. The grievance mechanism may utilize existing grievance mechanisms, providing that they meet the above criteria. Existing grievance mechanisms may be supplemented as needed with project-specific arrangements.
- The grievance mechanism shall not impede access to other judicial or administrative remedies that might be available under applicable laws, regulations or rules or through existing arbitration procedures, or substitute for grievance mechanisms provided through collective agreements, if applicable. The mechanism ensures workers' rights to be present and to participate directly in the proceedings and to be represented by a trade union, if applicable, or person of their choosing.

***Contractor/Third Party Workers:***

- Due diligence is conducted to ascertain that third parties who engage project workers are legitimate and reliable entities and have in place appropriate policies, processes and systems that allow them to operate in accordance with the minimum requirements herein.
- Procedures are established for managing and monitoring the performance of such third parties in relation to the minimum requirements herein, including incorporation of the minimum requirements into contractual agreements with such third parties, together with appropriate noncompliance remedies. In the case of subcontracting, third parties are required to include equivalent requirements and remedies in their contractual agreements with subcontractors.
- Contractor workers shall have access to a grievance mechanism. Where the third party employing or engaging the workers is not able to provide an easily accessible grievance mechanism, the grievance mechanism provided to direct project workers shall be made available.

### **Primary Supplier Workers:**

- Potential risks of violations of primary supplier workers' fundamental rights and safety and health issues which may arise in relation to primary suppliers (at a minimum) are to be identified. Roles and responsibilities for monitoring primary suppliers are established. If child labour or forced labour cases or breaches of other fundamental rights are identified, the applicable party will require the primary supplier to take appropriate steps to remedy them.
- Additionally, where primary supplier workers are exposed to hazards that present a risk of serious injury, ill health or death, the relevant primary supplier is required to have procedures in place to address such safety and health issues. Such procedures and mitigation measures shall be reviewed periodically to ascertain their effectiveness.
- The ability to address these risks shall depend upon the applicable party's level of control or influence over its primary suppliers. Where prevention and remedy are not possible, shift the project's primary suppliers to suppliers that can demonstrate that they are meeting the relevant requirements herein. Where there is imminent danger of serious injury, ill health or death to workers, the applicable party shall exercise its control or influence to stop the operation concerned until such time as the primary supplier can demonstrate that it can control the hazard in a manner consistent with the minimum requirements herein.

#### **3.6.1.4 PS4 Cultural Heritage**

UNDP recognizes that Cultural Heritage is central to individual and collective identity and memory, providing continuity between the past, present and future. Cultural Heritage reflects and expresses people's constantly evolving values, beliefs, knowledge, traditions and practices. Cultural Heritage also serves a crucial role within the sustainable development process through enhancing social cohesion, diversity, well-being and the quality of life; supporting cultural rights by protecting the heritage of minority and indigenous groups; fostering socio-economic regeneration; enhancing the appeal and creativity of cities and regions; boosting long-term tourism benefits; and enhancing sustainable practices. Cultural Heritage resources are often unique and irreplaceable, and may be particularly fragile due to neglect, exploitation, or even destruction given their symbolism.

#### **PS4 Summary requirements**

Requirements for PS4 include but are not limited to the following:

- **Avoidance, assessment and mitigation of adverse impacts:** UNDP projects seek to avoid supporting activities that may lead to significant adverse impacts to Cultural Heritage. UNDP considers potential direct, indirect, irreversible and cumulative risks and impacts to Cultural Heritage from project activities. Relevant projects implement globally recognized practices for field-study, inventorying, documentation, and protection of Cultural Heritage, including where appropriate a Heritage Impact Assessment.<sup>4</sup> Where avoidance is not possible—ensuring that all viable and feasible alternatives have been explored—UNDP minimizes potential impacts per the mitigation hierarchy and adopts appropriate mitigation measures (e.g. relocating or modifying the footprint of supported activities, in situ conservation and rehabilitation). Where potential adverse impacts may be significant, a Cultural Heritage Management Plan should be developed as part of the overall Environmental and Social Management Plan (ESMP). The impacts on Cultural Heritage resulting from project activities, including mitigating measures, may not contravene the country's national legislation, or its obligations under relevant international treaties and agreements
- Ensure **chance find procedures** are included in plans and contracts regarding project-related construction which specify how unanticipated discoveries will be managed. A chance finds procedure is not a substitute for preconstruction surveys and analyses. UNDP projects ensure that chance find procedures are included in all plans and contracts regarding project-related construction, including excavations, demolitions, movement of earth, flooding, or other changes in the physical environment; such procedures establish how chance finds of tangible Cultural Heritage shall be managed, including notification of relevant authorities and

stakeholders, avoidance of further disturbance or damage, protection, documentation and assessment of found objects by relevant experts.

- **Community participation, stakeholder consultations and use of experts:** For projects with potential adverse impacts, qualified and experienced Cultural Heritage experts and relevant stakeholders assist in the identification, documentation and appropriate management (e.g. protection) of potentially affected Cultural Heritage. Ensure meaningful, effective stakeholder consultations are undertaken, including with local and national regulatory authorities entrusted with the protection of Cultural Heritage; local, national or international Cultural Heritage experts and organizations; and affected-parties, including individuals and communities who develop, have developed, use or have used the potentially affected Cultural Heritage within living memory. Where the Cultural Heritage of indigenous peoples may be affected by project activities, ensure that the requirements of the Standard 6: Indigenous Peoples are followed.
- **Avoid restricting access** to Cultural Heritage; where this is not possible, ensure continued access, subject to overriding safety and security considerations. For example, if construction blocks a path to a worship site, a different access route and/or specified access times should be incorporated (S4, 10). UNDP projects avoid restricting access to Cultural Heritage sites and to the instruments, objects, artefacts, cultural and natural spaces and places of memory necessary for expressing intangible Cultural Heritage. However, where this is not possible, projects ensure continued access based on stakeholder consultations and alternative routes are provided if access is blocked, subject to overriding safety and security considerations.
- **Withhold sensitive information** regarding Cultural Heritage if disclosure would compromise or jeopardize its safety or integrity or endanger sources of information. If project-affected communities hold the location, characteristics or traditional use of Cultural Heritage in secret, then support measures to maintain confidentiality and to respect customary practices (e.g. may require withholding from project documentation maps identifying sensitive areas or information that would reveal the location or nature of the Cultural Heritage or the identity of the stakeholder (S4, 11). Together with stakeholders UNDP projects determine whether disclosure of information regarding Cultural Heritage would compromise or jeopardize its safety or integrity or endanger sources of information. In such cases, sensitive information may be withheld from public disclosure. If communities affected by project activities hold the location, characteristics or traditional use of Cultural Heritage in secret, then the project will support measures to maintain confidentiality and to respect customary practices of communities that limit access to specific aspects of their Cultural Heritage.
- Where a project proposes to **integrate and/or utilize** Cultural Heritage (tangible and intangible), engage in meaningful consultations and inform affected communities of their rights, the scope and nature of the proposed development, and the potential consequences of such integration and utilization (S4, 12).
- At times projects may seek to facilitate **commercial activities** involving Cultural Heritage. Examples of commercial use of tangible Cultural Heritage may include tourism projects that bring tourists to visit sites such as castles, churches, and temples. Commercial use of intangible Cultural Heritage may include use of traditional medicinal knowledge or other sacred or traditional techniques for processing plants, fibers, or metals. In such cases, the activities will not proceed without meaningful, effective participation of affected communities and unless good faith negotiations with affected communities result in a documented outcome that provides for fair and equitable sharing of benefits from such commercial use and appropriate mitigation and safeguarding measures (S4, 13).
- Where projects involve or affect **intangible Cultural Heritage**, ensure meaningful participation of concerned parties in identifying risks and impacts to their intangible Cultural Heritage—including its decontextualization, commodification and misrepresentation—and in determining appropriate mitigation and safeguarding measures (including identification, inventorying, documentation, research, preservation, protection, promotion, enhancement, transmission, and revitalization of the various aspects of such heritage ) (S4, 14).

- Avoid adverse impacts to **legally protected Cultural Heritage**<sup>6</sup> areas; comply with national or local Cultural Heritage regulations and area management plans; consult area sponsors and managers, local communities, local and national heritage authorities and other key stakeholders; and implement additional programs, as appropriate, to enhance conservation aims of those areas (S4, 15).
- Where there is evidence or high probability of past human activity in the project area, undertake desk-based research and field surveys to document, map and investigate **archaeological sites and materials** and provide documentation to Cultural Heritage authorities and, with guidance on due obligations, to relevant authorities undertaking project activities. Key requirements include the following (S4, 16):
  - Determine with Cultural Heritage experts whether discovered material requires (a) documentation only, (b) excavation and documentation, or (c) conservation in place (most archaeological features are best protected by preservation in situ).
  - Any transfer of the Cultural Heritage to another location is to be conducted in consultation with and agreement of project-affected people and appropriate national partners, per good international practice.
  - Determine ownership and custodial responsibility for discovered material and until custody is transferred, ensure identification, conservation, labeling, secure storage and accessibility for study and analysis.
- Include appropriate mitigation measures for potential impacts on **built heritage** (noting that most built heritage features are best protected by preservation in situ). Ensure any transfer of Cultural Heritage to another location is conducted in consultation with and agreement of project-affected people, in accordance with good international practice. Ensure any rehabilitation maintains authenticity of form, construction materials and techniques of structures (S4, 17).
- Preserve physical and visual integrity of **landscapes and natural features**<sup>7</sup> with cultural significance. Examples include sacred hills, mountains, landscapes, streams, rivers, waterfalls, caves, and rocks; sacred trees or plants, groves and forests; carvings or paintings on exposed rock faces or in caves; and paleontological deposits of early human, animal, or fossilized remains. The significance of such heritage may be localized in small community groups or minority populations (S4, 18).
- Include measures to guard against the theft and illegal trafficking of moveable Cultural Heritage (e.g. books, paintings, sculptures, costumes, jewellery) (S4, 19).

### 3.6.1.5 PS5 Displacement and resettlement

The objective of Standard 5 is to ensure that UNDP does not support forced evictions, seeks to avoid other physical and economic displacement, and supports such displacement only in exceptional circumstances and in a manner consistent with national and international standards and informed risk management.

More specifically, objectives listed in Standard 5 include:

- To recognize and respect the prohibition on forced evictions
- To anticipate and avoid, or, when avoidance is not possible, minimize adverse social and economic impacts from land or resource acquisition or restrictions on land or resource use

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<sup>6</sup> It is important to consider national legislation, regulations, and practices relating to the identification and management of Cultural Heritage, and any registers or lists of Cultural Heritage that are protected, including dedicated World Heritage sites. In some countries, registers are compiled and maintained at different levels of government—national, subnational, and local—with specific legal and administrative provisions.

<sup>7</sup> Note that such landscapes and natural features often can only be protected by preservation in situ. In cases where natural features can physically be relocated and cannot be preserved in situ, their transfer to another location is conducted with participation and agreement of project-affected people that enables continuation of traditional practices associated with landscape elements and natural features.



- To enhance and restore the livelihoods of all displaced persons, and to improve the standards of living and overall socioeconomic status of displaced poor and other displaced groups and to support efforts to progressively realize the rights to adequate housing and adequate standards of living for displaced populations
- To ensure that resettlement activities are planned and implemented collaboratively with the meaningful and informed participation of those affected

The applicability of this Standard is established during the social and environmental screening and categorization process. It applies to all UNDP activities that may involve physical displacement (i.e. relocation or loss of shelter), whether full or partial and permanent or temporary, or economic and occupational displacement (i.e. loss of assets or access to assets that leads to loss of income sources or means of livelihood) as a result of project-related land or resource acquisition or restrictions on land use or access to resources (including through project externalities such as pollution and impacts to biodiversity or ecosystem services) that people depend on for physical, economic, social, cultural, or spiritual well-being.

This Standard also applies to displacement activities occurring for associated facilities, displacement activities significantly related to the project, and displacement activities that have occurred in anticipation of a UNDP project.

The Standard does not apply to voluntary, legally recorded market transactions in which the seller is fully informed about available choices and has the genuine right to retain the land and refuse to sell it.<sup>2</sup> However, if the sale may displace people other than the seller, who occupy, use, or claim rights to the land in question, then these requirements shall apply. The Standard also does not apply to restrictions of access to natural resources under community-based natural resource management arrangements (e.g. the establishment of a community conserved area) where the relevant community decides to restrict its own access to these resources based on an appropriate community-decision making process that reflects voluntary, informed consensus.

For displacement and resettlement activities that may impact indigenous peoples, Standard 6: Indigenous Peoples shall also apply. This Standard shall be interpreted in a manner to be consistent with Standard 6.

### **PS5 Summary Requirements**

Prohibit forced evictions, allowing evictions in exceptional circumstances only: Prohibit forced evictions in all supported activities. Forced eviction is defined here as the permanent or temporary removal against their will of individuals, families or communities from the homes and/or land which they occupy, without the provision of, and access to, appropriate forms of legal or other protection. Forced evictions constitute gross violations of a range of internationally recognized human rights.<sup>3</sup> Any evictions that may be associated with project activities shall occur only in exceptional circumstances and be carried out lawfully with full justification and meet all of the following criteria: authorized by national law; carried out in full accordance with relevant provisions of international human rights and humanitarian law; (c) undertaken solely for the purpose of promoting the general welfare; (d) are reasonable and proportional, and (e) follow due process standards and are regulated so as to ensure full and fair compensation and rehabilitation. The protection provided by the requirements herein applies to all affected persons and groups, irrespective of whether they hold title to home and property under domestic law.

***Avoid, minimize and mitigate physical and economic displacement:*** UNDP projects seek to avoid physical and economic displacement, and minimize and mitigate displacement impacts and inherent risks when displacement cannot be avoided. To this end, projects that may involve displacement<sup>4</sup> include the following measures and others identified as necessary:

- As part of the social and environmental assessment, consider all feasible project alternatives and measures to avoid displacement. Where a comprehensive options assessment, including the "no action" option, indicates that displacement is unavoidable, minimize its potential scale and demonstrate that any project-related land acquisition and/or restrictions on land use are limited to direct project requirements.

- Where displacement cannot be avoided, utilize experienced professionals in establishing baseline information, designing displacement activities and assessing potential risks and impacts. Identify potentially affected persons, lands, and assets through census, socio-economic surveys and evaluations, and asset inventories, including claims of affected groups not present as part of census (e.g. seasonal resource users). Clarify the tenure rights and relationships of potentially affected persons to affected lands and resources, including recognition of customary rights and collective or communal forms of land tenure.
- Where potential displacement may be significant undertake an Environmental and Social Impact Assessment (ESIA) to assess potential environmental and social impacts of the proposed land acquisition and/or restrictions on land and/or resource use and potential impacts on host communities. Pay particular attention to the needs of directly-affected persons who are marginalized and disadvantaged. Risks posed by natural and human-made hazards should be considered and minimized in the selection of any potential resettlement sites or alternative livelihood areas. Where potential displacement may be minimal, an ESIA may not be required and negotiated settlements may be reached that provide fair and just compensation for lost assets in accordance with the requirements herein.
- Public dissemination in accessible form and language of a written justification for the displacement activity and public disclosure of an action plan (e.g. Resettlement Action Plan, Livelihood Action Plan) sufficiently in advance of displacement activities.<sup>5</sup>
- Access to effective remedies and to timely and affordable expertise, including legal counsel, to provide an understanding of rights and options.
- Effective and informed consultations with affected populations and good faith efforts to secure negotiated settlements, even when expropriation options are available.
- Ex-post evaluation of livelihood levels to examine if objectives of this Standard were met.

***Develop plans for displacement:*** When physical displacement or economic displacement is unavoidable, UNDP integrates into the project documentation an action plan that has been developed transparently with the individuals and communities to be displaced, and meets the objectives and requirements of this Standard.

- Action plans to address displacement impacts are proportionate to the risks and impacts associated with project activities. The degree of potential impacts is largely determined by the scope of physical and economic displacement and the vulnerability of affected persons.
- A Resettlement Action Plan will typically be developed for physical displacement and a Livelihood Action Plan for economic displacement (noting that a combined plan may also be required). Displacement activities may also at times be conceptualized as a community development plan. Where the specific locations and magnitude of potential land acquisition and restrictions of land use are not fully known during preparation of project activities, a Resettlement or and/or Livelihood planning framework is required that specifies how further specific action plans will be developed once project components are defined and assessed. In all cases, action plans addressing project-related displacement impacts are to address the requirements of this Standard.
- Where impacts on the entire displaced population are minor, an abbreviated action plan may be developed that establishes eligibility criteria for affected persons; compensation procedures and standards at full replacement cost designed at a minimum to restore affected persons assets and livelihoods; and arrangement for participation and collaboration of affected persons. Impacts are considered "minor" if affected persons are not physically displaced, are relatively few in number, and if activities involve minor land acquisition (affecting less than 10 percent of productive assets) and do not have significant livelihood impacts.
- Action plans for activities involving physical displacement or economic displacement with significant social and economic impacts on affected persons are to provide sufficient resources and opportunities to enable displaced persons to benefit directly from programming activities with the aim to improve affected persons livelihoods and living standards in real terms compared to pre-displacement levels or to levels prevailing prior to the start of implementation, whichever is higher. Such plans will at a minimum address the following relevant elements, taking into account the full social and economic costs to displaced persons:

- Establish eligibility criteria, cutoff dates, and entitlements for all categories of affected persons;
- Provide (a) fair and just compensation at full replacement cost (based where relevant on the cost of replacement at resettled sites and locations) prior to displacement for any losses of personal, real or other property or goods, noting that compensation and support may be collective in nature; (b) transitional support (both financial and in-kind) based on reasonable estimates of the time required to restore and improve income-earning capacity, production levels, and standards of living; and (c) development assistance such as land development, credit facilities, direct benefits, training or employment opportunities, and provision of expertise, as appropriate. The combination of compensation, transitional support and development assistance will seek to improve pre-displacement productive capacity and earning potential of displaced persons;
- Provide to displaced individuals and communities secure access to necessary services, shelter, food, water, energy, and sanitation, as applicable;
- Consider gender aspects, recognizing women and men as co-beneficiaries and providing single women with their own compensation; and
- Ensure impoverished individuals and marginalized or disadvantaged persons and groups are provided equal access to programming benefits and resources.

**Physical displacement:** Where project activities involve physical displacement, the action plan shall address the following additional elements:

- Specify the resettlement options chosen by displaced persons, respecting preferences to relocate in pre-existing communities wherever possible, and document all transactions;
- Provide a choice of replacement property with secure tenure<sup>6</sup> of higher value and better characteristics wherever possible<sup>7</sup> for affected persons or communities with formal land rights or recognizable claims.<sup>8</sup> Land-based resettlement strategies are utilized when affected livelihoods are land-based or where land is collectively owned;<sup>9</sup>
- Ensure resettlement sites provide adequate housing with improved living conditions, necessary civic infrastructure and services. For housing to be adequate, it must, at a minimum, meet the following criteria: providing security of tenure; availability of services, materials, facilities and infrastructure; affordability; habitability; accessibility; location; and cultural adequacy;<sup>10</sup>
- For affected persons without formal land rights or recognizable claims, compensate for loss of assets other than land (e.g. dwellings, other improvements) at full replacement costs, provide resettlement assistance in lieu of compensation for land sufficient to restore living standards at an adequate alternative site, and provide arrangements to allow them to obtain adequate housing with security of tenure so they can resettle without facing the risk of forced eviction;
- Stipulate that compensation is not required for encroachers after the established cut-off date, provided that the date has been well publicized.

**Economic displacement:** Where project activities involve economic displacement with significant social and economic impacts, the action plan shall address the following additional elements:

- Access to effective remedies and to timely and affordable expertise, including legal counsel, to provide an understanding of rights and options.
- Ensure compensation covers all commercial losses (including costs of transfer and re-establishing commercial activity, lost net income during transition, lost employee wages) and for other assets such as crops, irrigation infrastructure or other improvements to affected areas;
- Provide replacement property of improved value where legitimate tenure rights (both formal and informal) are restricted. Provide replacement agricultural sites of superior productive potential wherever possible, including through investments in increasing productivity. If it is clearly demonstrated that replacement land and resources are unavailable, offer cash compensation at full replacement cost and options and support for alternative income earning with evidence of mutual agreement;
- Compensate economically displaced persons who are without legally recognizable claims to land for lost assets other than land (e.g. crops, irrigation infrastructure, other improvements made to the land), at full replacement cost;

- Where displaced livelihoods are natural resource based, offer replacement land and access to alternative resources with a combination of productive potential, locational advantage, and other factors with improved livelihood-earning potential and accessibility, wherever feasible. Provide alternative income earning opportunities and support if it is demonstrably not possible to provide replacement land and resources;
- If the programming activities restrict access to resources in legally designated parks or protected areas or other common property resources, establish a collaborative process with affected persons and communities to negotiate and determine appropriate restrictions and mitigation measures to improve affected livelihoods while maintaining the sustainability of the park or protected area.

**Addressing prior displacement:** When displacement has occurred in anticipation of a UNDP project, requirements of this Standard apply. When an unoccupied site from which prior residents were displaced is provided for a project, but not in anticipation of a project, UNDP shall determine if requirements of this Standard were met and, if not, if corrective action is feasible. If corrective action is feasible and would improve the standard of living of the displaced persons, UNDP ensures that corrective measures are pursued prior to, or if not feasible, then during implementation of the project.

**Monitoring and completion analysis:** UNDP projects with significant displacement impacts provide for independent monitoring by qualified experts of implementation of any action plans. Directly-affected persons are consulted on implementation of plans and collaborative monitoring with affected persons and communities is considered. Projects with significant displacement impacts prepare periodic monitoring reports and inform affected persons about monitoring results. A long-term monitoring plan is developed to assess impacts on standards of living of displaced persons and whether objectives of action plans have been achieved, taking into account baseline conditions. Project activities involving displacement are not considered complete until adverse impacts are addressed and plans are fully implemented. Utilizing experienced independent experts, undertake a completion analysis of whether livelihoods and living standards of affected persons were improved or at least restored, and where necessary, propose corrective actions.

### 3.6.1.6 PS6 Indigenous Peoples

Indigenous peoples, as distinct people, are equal to all other peoples. Indigenous individuals and indigenous peoples or communities are entitled to enjoy and exercise their human rights without discrimination. Indigenous peoples possess collective human rights which are indispensable for their existence, well-being and development as peoples. The special relationship that indigenous peoples have with their lands, territories, resources, and Cultural Heritage is integral to their physical, spiritual and cultural survival.

The promotion and protection of the rights of indigenous peoples, especially concerning their lands, territories, resources, traditional livelihoods, tangible and intangible Cultural Heritage, are necessary to achieve UNDP's goals of advancing human rights, respecting indigenous peoples identities and improving their well-being.

The objectives of Standard 6 are:

- To recognize and foster full respect for indigenous peoples' human rights as recognized under Applicable Law, including but not limited to their rights to self-determination, their lands, resources and territories, traditional livelihoods and cultures.
- To support countries in their promotion and protection of indigenous peoples' rights, through implementation of domestic laws, policies, and project activities consistent with the State's human rights obligations.
- To ensure that UNDP projects that may impact indigenous peoples are designed in a spirit of partnership with them, with their full and effective participation, with the objective of securing their free, prior, and informed consent (FPIC) where their rights, lands, territories, resources, traditional livelihoods may be affected.

- To promote greater control and management by indigenous peoples over developments affecting them, including their lands, resources and territories, ensuring alignment of projects with indigenous peoples' distinct vision and self-identified development priorities.
- To avoid adverse impacts on the rights of indigenous peoples, their lands, territories, resources, to mitigate and remedy residual impacts, and to ensure provision of just and equitable benefits and opportunities for indigenous peoples in a culturally appropriate manner.

## PS6 Summary of Requirements

- **Respect for domestic and international law:** Ensure respect for domestic and international law regarding rights of indigenous peoples. Do not participate in a project that violates the human rights of indigenous peoples as affirmed by Applicable Law and the UN Declaration on the Rights of Indigenous Peoples (UNDRIP) (Para. 4)
- **Identification of indigenous peoples:** Identify indigenous peoples who may be affected by project activities utilizing range of criteria (Para. 5). There is no one universally accepted definition of indigenous peoples. For purposes of this Standard, "indigenous peoples" refers to distinct collectives, regardless of the local, national and regional terms applied to them,<sup>2</sup> who satisfy any of the more commonly accepted definitions of indigenous peoples.<sup>3</sup> These definitions include, among other factors, consideration of whether the collective: has pursued its own concept and way of human development in a given socio-economic, political and historical context; has tried to maintain its distinct group identity, languages, traditional beliefs, customs, laws and institutions, worldviews and ways of life; has exercised control and management of the lands, territories and natural resources that it has historically used and occupied, with which it has a special connection, and upon which its physical and cultural survival as indigenous peoples typically depends; self-identifies as indigenous peoples; and/or pre-dates those who colonized the lands within which the collective was originally found or of which it was then dispossessed. When considering the factors above, no single one shall be dispositive. Indigenous peoples include those indigenous peoples who have lost access to lands, territories or resources because of forced severance, conflict, government resettlement, dispossession, natural disasters, or incorporation of lands into urban areas, but that still maintain collective attachment to those lands, territories and/or resources (regardless of their present physical location).
- **Land, territory and resources:** Recognize collective rights of indigenous peoples to lands, territories and resources. Include measures to promote such recognition when necessary for project activities (Para. 6). UNDP projects recognize that indigenous peoples have collective rights to own, use, and develop and control the lands, resources and territories that they have traditionally owned, occupied or otherwise used or acquired, including lands and territories for which they do not yet possess title. Project activities that may undermine or inadvertently weaken such rights are avoided. If the project involves activities that are contingent on establishing legally recognized rights to lands, resources, or territories that indigenous peoples have traditionally owned, occupied or otherwise used or acquired, then an action plan is developed to outline the steps and timetable for achieving legal recognition of such ownership, occupation, or usage (see paragraph 16 below).<sup>4</sup> In such cases, UNDP, with the consent of the relevant authority or implementing partner, supports such activities aimed at delimiting, demarcating and titling such lands, resources, and territories with due respect to the customs, traditions and land tenure systems of the indigenous peoples concerned.
- **Legal personality:** Recognize rights of indigenous peoples to legal personality. Include measures to promote such recognition when necessary for project activities (Para. 7). UNDP recognizes that indigenous peoples' right to legal personality is critical to the protection, respect and fulfilment of their human rights. If a UNDP project involves activities that are contingent on the recognition of such legal personality, and such legal personality is not provided for in national laws consistent with the norms, values and customary laws of the peoples concerned, the action plan (see paragraph 16 below) outlines the steps and timetables for securing such recognition. In such cases, UNDP, with the consent of the relevant agency or implementing partner, supports such activities aimed at achieving such recognition.

- **Involuntary resettlement:** Prohibit forcible removal of indigenous peoples from lands and territories and ensure no relocation without FPIC (Paras. 8, 9). No project supported by UNDP will result in the forcible removal of indigenous peoples from their lands and territories. No relocation of indigenous peoples will take place without the free, prior and informed consent (FPIC) of the indigenous peoples concerned and only after agreement on just and fair compensation and, where possible, with the option of return. Without prejudice to this requirement, for further guidance see the Standard 5: Displacement and Resettlement.
- **Full, effective and meaningful participation:** Ensure full, effective meaningful participation of affected indigenous peoples throughout project cycle and seek FPIC on any matters that may affect rights and interests, lands, territories, resources, and traditional livelihoods (Para. 10) (also relocation and appropriation of cultural heritage). At the earliest stage of project conceptualization and design, and iteratively throughout implementation and closure, mechanisms are identified and implemented to guarantee the meaningful, effective and informed participation of indigenous peoples on all matters. Culturally appropriate consultation are carried out with the objective of achieving agreement and FPIC is ensured on any matters that may affect—positively or negatively—the indigenous peoples’ rights and interests, lands, territories (whether titled or untitled to the people in question), resources, traditional livelihoods, and/or tangible and intangible Cultural Heritage. This includes any potential relocation and activities proposing the development, utilization or exploitation of mineral, forest, water or other resources on lands and territories traditionally owned, occupied or otherwise used or acquired by indigenous peoples, including lands and territories for which they do not yet possess title. Project activities that may adversely affect the existence, value, use or enjoyment of indigenous lands, resources or territories are not conducted unless agreement has been achieved through the FPIC process
- **Documentation:** Ensure documentation of engagement processes, including (a) mutually accepted process, (b) outcomes of good faith negotiations, and (c) efforts to accommodate IPs interests and concerns (Para.11).
- **Prior social and environmental assessment:** Ensure prior social and environmental impact review/assessment if project may affect rights, lands, territories and resources of indigenous peoples (Para. 12). All projects that may impact the rights, lands, resources and territories of indigenous peoples require prior review and/or assessment of potential impacts and benefits.<sup>9</sup> Such reviews and assessments will be conducted transparently and with the full, effective and meaningful participation of the indigenous peoples concerned. The perspective of the indigenous peoples concerned is a critical starting point for impact assessment and the indigenous peoples concerned will have ample opportunities as early as possible to participate in the assessment and development of avoidance and mitigation measures. Indigenous and traditional knowledge is a valuable resource for identifying and addressing potential risks, including hazards and disaster risks, and should be incorporated throughout the project cycle. Projects with potentially significant adverse impacts require a full social and environmental assessment conducted by an independent and capable entity.<sup>10</sup> Assess all potential direct, indirect, social, cultural, spiritual environmental impacts on indigenous peoples, including potential impacts on their rights, lands, territories, and resources.<sup>11</sup> Review of all substantive rights, property interests, tenorial arrangements, and traditional resource usage may be required. Avoid adverse impacts on indigenous peoples to the maximum extent possible, including exploration of alternative programming strategies, designs and locations or consideration of not proceeding with the activities. Where avoidance of adverse impacts is not possible, minimize and mitigate residual impacts in a culturally appropriate manner per the mitigation hierarchy.
- **Appropriate benefits:** Ensure equitable sharing of benefits in culturally appropriate manner (Para. 13). UNDP ensures that arrangements, evidenced in a documented outcome, are concluded with indigenous peoples for the equitable sharing of benefits to be derived by the project in a manner that is culturally appropriate and inclusive giving full consideration to options preferred by the indigenous peoples concerned. The provision of compensation and benefits takes into account the institutions, rules, and customs of affected indigenous peoples

and may occur on a collective basis with mechanisms for effective distribution of benefits to all members of affected groups, as far as practical. Indigenous peoples affected by project activities should share equitably in benefits derived from any commercial development of indigenous peoples' lands, territories or resources or from the use or development of indigenous peoples' Cultural Heritage

- **Support rights implementation:** Support countries to implement their human rights duties and obligations regarding the rights of indigenous peoples (Para. 14). UNDP projects are conducted in a manner consistent with UNDP's commitment to support countries to implement their duties and obligations under domestic and international law regarding the rights of indigenous peoples, including relevant treaty obligations. Without prejudice to paragraphs 6 and 7 above, whenever possible, and at the request of the relevant government, projects will include activities that support legal reform of domestic laws to strengthen compliance with the country's duties and obligations under international law with respect to the rights of indigenous peoples, and these steps and timetable are included in the Indigenous Peoples Plan.
- **Special considerations:** Pay particular attention to rights and special needs of women and girls and marginalized indigenous peoples; respect, protect and promote rights of uncontacted or voluntarily isolated peoples; respect, protect, and conserve cultural heritage of indigenous peoples and ensure FPIC before use or appropriation (Para. 15).
  - **Gender:** While respecting the norms, values and customs of the indigenous peoples and communities concerned, UNDP ensures that projects which may affect or involve indigenous peoples pay particular attention to the rights and special needs of women and girls, do not discriminate against women and girls and ensure that women and girls have equal opportunities to participate and benefit.
  - **Vulnerable and marginalized indigenous peoples:** Particular attention is paid to the rights and special needs of indigenous elders, youth, children, persons with disabilities, including consideration of special measures to improve their participation in decision-making and their general well-being.
  - **Uncontacted and voluntarily isolated indigenous peoples:** Where projects may directly or indirectly impact uncontacted or voluntarily isolated indigenous peoples, their lands, resources, territories or their way of life, this Standard requires that such projects respect and protect the right of these peoples to remain in isolation and to live freely in that condition according to their culture. Such projects include the appropriate necessary measures to (i) safeguard the collective and individual physical, territorial, and cultural integrity of these peoples, (ii) recognize, respect and protect their lands and territories, environment, health and culture, and (iii) prohibit and therefore avoid contact with them as a direct or indirect consequence of the project. Where relevant, UNDP supports countries to regularize the lands and territories of these peoples and establish buffer zones, to limit access to such territories, and to develop monitoring and emergency response measures, making avoidance of contact a priority.
  - **Cultural Heritage:** UNDP respects, protects, conserves and does not take or appropriate the cultural, intellectual, religious and spiritual property of indigenous peoples without their free, prior and informed consent. If indigenous peoples affected by project activities hold the location, characteristics or traditional use of Cultural Heritage in secret, measures to maintain confidentiality are put in place.<sup>12</sup> Without prejudice to this requirement, Standard 4: Cultural Heritage applies where Cultural Heritage of indigenous peoples may be affected by a project.
- **Indigenous Peoples Plan:** Develop IPP/IPPf for projects that may affect rights, lands, territories and resources of indigenous peoples. Plan summarizes potential impacts and documents culturally appropriate mitigation measures (Para. 16). If it is determined that the proposed project may affect the rights, lands, resources or territories of indigenous peoples, an "Indigenous Peoples Plan" (IPP) or "Indigenous Peoples Plan Framework" is elaborated and included in the project documentation.<sup>13</sup> This plan is developed in accordance with the effective and meaningful participation of indigenous peoples and in accordance with UNDP

Guidelines.<sup>14</sup> The IPP is integrated into the design and implementation of the project. It must have a level of detail proportional to the complexity of the nature and scale of the proposed project and its potential impacts on indigenous peoples and their lands, territories, resources, traditional livelihoods, and/or Cultural Heritage. The IPP identifies potential risks and impacts, risk avoidance and mitigation measures, and specifies measures for provision of culturally appropriate benefits, continued consultation and participation processes, grievance procedures, monitoring and evaluation procedures, and a budget and financial plan for implementing agreed measures. Where programming activities are designed solely to benefit indigenous peoples, a separate action plan may not be required, provided that programming documentation addresses the above elements. In no case shall project activities that may adversely affect indigenous peoples, including the existence, value, use or enjoyment of their lands, resources or territories take place before the action plan is carried out.

- **Monitoring:** Ensure participatory approach to verifying project designed in manner consistent with Standard 6 and ensure arrangements for participatory joint monitoring of project implementation with indigenous peoples (Para. 17). With the meaningful collaboration and contributions of indigenous peoples, methods are developed and implemented for verifying and reporting that the project has been designed and implemented in a manner consistent with this Standard. Transparent participatory monitoring arrangements are put in place wherein indigenous peoples will jointly monitor project implementation with the implementing partner.

### 3.6.1.7 PS7 Pollution prevention and resource efficiency

The Pollution Prevention and Resource Efficiency Standard recognizes that increased industrial activity, urbanization, and intensive agricultural development often generate increased levels of pollution to air, water, and land, and consume finite resources in a manner that may threaten people and the environment at the local, regional, and global level. Pollution prevention and resource efficiency are core elements of a sustainable development agenda and UNDP projects must meet good international practice in this regard.

This Standard outlines a project-level approach to pollution prevention and resource efficiency. Reduction of greenhouse gas emissions that contribute to climate change is addressed in Standard 2: Climate Change and Disaster Risks.

The objectives of the standard are:

- To avoid or minimize adverse impacts on human health and the environment by avoiding or minimizing pollution from project activities.
- To promote more sustainable use of resources, including energy, land and water.
- To avoid or minimize programming-related emissions of short and long-lived climate pollutants<sup>2</sup> and ozone-depleting substances.
- To avoid or minimize generation of hazardous and non-hazardous substances and wastes, and promote a human rights-based approach to the management and disposal of hazardous substances and wastes.
- To promote safe, effective, environmentally sound pest management.

#### PS 7 Summary Requirements

**Pollution prevention:** UNDP ensures that projects avoid the release of pollutants, and when avoidance is not feasible, minimize and/or control the intensity and mass flow of their release. This applies to the release of pollutants to air, water, and land due to routine, non-routine, and accidental circumstances.<sup>5</sup> UNDP projects ensure that pollution prevention and control technologies and practices are applied during the project life cycle, utilizing performance levels and measures specified in national law or in good international good practice,<sup>6</sup> whichever is more stringent. If less stringent measures (as compared to good international practice) are appropriate, the project will fully justify the chosen alternative through the assessment process, demonstrating that the alternative is consistent with these requirements. The technologies and practices applied will be tailored to the hazards and risks associated with the nature of the project. Upon request,



UNDP will support countries to strengthen management and systems for improved pollution prevention, waste reduction, and chemicals management.

**Ambient considerations:** To address adverse impacts on existing ambient conditions (such as air, surface water, groundwater, and soils), a number of factors will be considered, including the finite assimilative capacity of the environment,<sup>8</sup> existing and planned land use, existing ambient conditions, the project's proximity to ecologically sensitive or protected areas (see Standard 1), the potential for cumulative impacts with uncertain and irreversible consequences, and strategies for avoiding and minimizing the release of pollutants. If the project activities will generate significant pollutants in already degraded/polluted areas, adopt measures that avoid and minimize potential negative effects, including potential alternative locations. The project will control runoff of contaminated water from project sites and ensure polluted wastewater is treated.

**Wastes:** UNDP ensures that projects avoid the generation of hazardous and non-hazardous waste materials. Where waste generation cannot be avoided, projects reduce the generation of waste—including plastics—and recover and reuse waste in a manner that is safe for human health and the environment. Where waste cannot be recovered or reused, it is treated, destroyed, or disposed of in an environmentally sound manner that includes the appropriate control of emissions and residues resulting from the handling and processing of the waste material. UNDP projects develop waste management plans where waste generation and handling may be significant.

If the generated waste is considered hazardous,<sup>9</sup> reasonable alternatives for its environmentally sound disposal will be adopted while adhering to the limitations applicable to its transboundary movement.<sup>10</sup> When hazardous waste disposal is conducted by third parties, UNDP will ensure the use of contractors that are reputable and legitimate enterprises licensed by the relevant government regulatory agencies and that chain of custody documentation to the final destination is obtained. UNDP projects will ascertain if licensed disposal sites are being operated to acceptable standards; if this is not the case, the project will minimize waste sent to such sites and consider alternative disposal options.

**Hazardous materials:** UNDP projects will avoid or, when avoidance is not feasible, minimize and control release and exposure to hazardous materials resulting from their production, transportation, handling, storage and use. Where avoidance is not possible, the health risks—including potential differentiated effects on men, women and children—of the potential use of hazardous materials will be addressed in the social and environmental assessment. UNDP projects will consider the special vulnerabilities faced by workers as well as low-income communities, peoples with disabilities, indigenous peoples and minorities to hazardous materials. The project will develop hazardous materials management and safety measures/plans per good international practice.<sup>11</sup> UNDP projects will consider the use of less hazardous substitutes for such chemicals and materials and will avoid supporting the manufacture, trade, and use of chemicals and hazardous materials subject to international bans, restrictions or phase-outs due to their high toxicity to living organisms, environmental persistence, potential for bioaccumulation, or potential for depletion of the ozone layer, unless for acceptable purposes as defined by the conventions or protocols (e.g. the Montreal Protocol, Minamata Convention, Basel Convention, Rotterdam Convention, Stockholm Convention).

**Pesticide use and management:** UNDP seeks to avoid use of pesticides in supported activities. Integrated Pest Management (IPM) and Integrated Vector Management (IVM) approaches are to be utilized that entail coordinated use of pest and environmental information along with available pest/vector control methods, including cultural practices, biological, genetic and, as a last resort, chemical means to prevent unacceptable levels of pest damage. If after having considered such approaches recourse to pesticide use is deemed necessary, adopt safe, effective and environmentally sound pest management in accordance with the WHO/FAO International Code of Conduct on Pesticide Management<sup>13</sup> for the safe labelling, packaging, handling, storage, application and disposal of pesticides. Hazards of pesticide use are to be carefully considered and the least toxic pesticides selected that are known to be effective, have minimal effects on non-target species and the environment, and minimize risks associated with development of resistance in pests and vectors. A Pest Management Plan is developed where use of a significant volume

of pesticides is foreseen to demonstrate how IPM will be promoted to reduce reliance on pesticides and describes measures to minimize risks of pesticide use.

UNDP projects do not supply or use pesticides that contain active ingredients that are banned or restricted under applicable international treaties and agreements, or meet the criteria of carcinogenicity, mutagenicity, or reproductive toxicity as set forth by relevant international agencies.<sup>14</sup> Users of any pesticides shall be trained to handle pesticides in a proper and responsible manner and utilize appropriate application equipment and adequate personal protective equipment.

**Resource efficiency:** UNDP projects are designed and implemented in a manner that promotes the efficient use and consumption of land/soils, energy, water, and other resources and material inputs.<sup>15</sup> Technically and financially feasible and cost-effective efficiency measures are implemented.<sup>16</sup> Such measures integrate the principles of cleaner production into product design and production processes with the objective of conserving raw materials, energy, and water. For resource intensive projects, benchmarking data are utilized to establish the relative level of efficiency. Principles of green design, circular economy, sustainable infrastructure and sustainable procurement are considered where feasible.

**Water usage:** For projects with high water demand (generally greater than 5,000 m<sup>3</sup>/day in non-arid climates), in addition to applying the resource efficiency requirements of this Standard, measures are adopted that avoid or reduce water usage so that the project's water consumption does not have significant adverse impacts on communities, other users or on the environment and ecosystems (see Standard 1 on conserving ecosystems). Cumulative impacts of water use are assessed and appropriate mitigation measures implemented, such as water demand management, efficiency measures, benchmarking usage, alternative supplies, resource contamination avoidance, mitigation of impacts on downstream users, and water use offsets. Good international practice for water conservation and efficiency is applied, including for irrigation activities and wastewater usage.

### 3.6.2 SES disclosure requirements

As part of the stakeholder engagement process, UNDP's SES require that project stakeholders have access to relevant information. Specifically, the SES (SES, Policy Delivery Process, para. 21) stipulates that, among other disclosures specified by UNDP's policies and procedures, UNDP will ensure that the following information be made available:

- Information on a project's purpose, nature and scale, duration, and potential risks and impacts
- Stakeholder engagement plans and summary reports of stakeholder consultations
- Social and environmental screening reports with project documentation
- Draft social and environmental assessments, including any draft management plans
- Final social and environmental assessments and associated management plans
- Any required social and environmental monitoring reports. As outlined in the SES and UNDP's Social and Environmental Screening Procedure (SESP), the type and timing of assessments and management plans vary depending of the level of the social and environmental risks and impacts associated with a project as well as timing of the social and environmental assessment. The Table below outlines various scenarios for disclosing both draft and final screenings, assessments and management plans.

Table 0-8: SES/SESP disclosure guidance

WHAT to Disclose	WHEN to Disclose	HOW to Disclose	
<b>Draft Social and Environmental Screening Procedure (SESP)</b>	<ul style="list-style-type: none"> <li>During project design stage stakeholder consultations, gathering input to SESP</li> <li>If assessment takes place during project design, then the SESP can also be shared and consulted as part of scoping process for assessment</li> </ul>	<ul style="list-style-type: none"> <li>Appended to Project Concept Note and/or draft Project Document and distributed to project stakeholders</li> </ul>	
<b>Final (and Revised) Social and Environmental Screening Procedure (SESP)</b>	<ul style="list-style-type: none"> <li>Post PAC, when Project Document disclosed (SESP included as an Annex)</li> <li>During project implementation when SESP revised due to substantive changes to project or context</li> </ul>	<ul style="list-style-type: none"> <li>As an Annex to the Project Document, the SESP will be disclosed on open.undp.org once it is uploaded in the Corporate Planning System.</li> <li>If revised during implementation, share with Project Board/PAC and upload to CPS</li> </ul>	
<b>Draft social and environmental assessment reports, including any draft management plans/frameworks</b>			
<ul style="list-style-type: none"> <li>Moderate Risk Project with <u>no</u> stand-alone assessment</li> </ul>	When no separate assessment is needed, <sup>2</sup> a summary of the analysis contained in the SESP and ProDoc, together with the documents and proposed management measures, should be shared with project-affected stakeholders	<ul style="list-style-type: none"> <li>At least 30 days prior to PAC</li> <li>Part of stakeholder consultations</li> </ul>	<ul style="list-style-type: none"> <li>Summary should be translated in local language and distributed locally</li> <li>Disclose draft ProDoc</li> <li>Posted on UNDP unit (e.g. CO) website<sup>3</sup></li> </ul>
<ul style="list-style-type: none"> <li>Moderate Risk Project with stand-alone assessment and management plan</li> </ul>	Drafts of any stand-alone targeted assessments and management plans	<ul style="list-style-type: none"> <li>At least 30 days prior to PAC if assessment conducted as part of project preparation</li> <li>If undertaken as part of project implementation, must be disclosed and consulted on at least 30 days <u>prior</u> to implementation of any activities that may cause adverse social and environmental impacts</li> </ul>	<ul style="list-style-type: none"> <li>At a minimum, ensure that a summary report of the draft assessment and management plan is translated into local languages and made available in an accessible location together with the draft assessment and management plan</li> <li>Disclose draft ProDoc</li> <li>Posted on UNDP unit (e.g. CO) website</li> </ul>
<ul style="list-style-type: none"> <li>Substantial Risk and High Risk Project</li> </ul>	Disclose draft ESIA or SESAs including any draft management plans. ESIA and SESAs also require that a summary report be prepared in order to provide an adequate, accurate and impartial evaluation and presentation of the issues and conclusions of the technical assessment. This report must be presented in an understandable format and in an appropriate language(s), including a non-technical summation that can be understood by many stakeholders in order to facilitate and encourage comments.	<ul style="list-style-type: none"> <li>At least 120 days prior to PAC if assessment conducted as part of project preparation</li> <li>If undertaken as part of project, must be disclosed and consulted on at least 120 days <u>prior</u> to implementation of any activities that may cause adverse social and environmental impacts</li> </ul>	<ul style="list-style-type: none"> <li>At a minimum, ensure that a summary report of the draft assessment and management plan is translated into local languages and made available in an accessible location together with the draft assessment and management plan</li> <li>Disclose draft ProDoc</li> <li>Posted on UNDP unit (e.g. CO) website</li> </ul>
<b>Final social and environmental assessments and associated management plans</b>	Stand-alone targeted assessments for Moderate Risk projects and ESIA/SESAs for High Risk Projects and any management plans	<ul style="list-style-type: none"> <li>Upon receipt. Needs to be prior to the PAC if assessment conducted as part of project preparation, or if undertaken as part of project, before implementation of any activities that may cause adverse social and environmental impacts</li> </ul>	<ul style="list-style-type: none"> <li>At a minimum, ensure that a summary report of the final assessment and management plan is translated into local languages and made available in an accessible location together with the final assessment and management plan</li> <li>Posted on UNDP unit (e.g. CO) website</li> </ul>

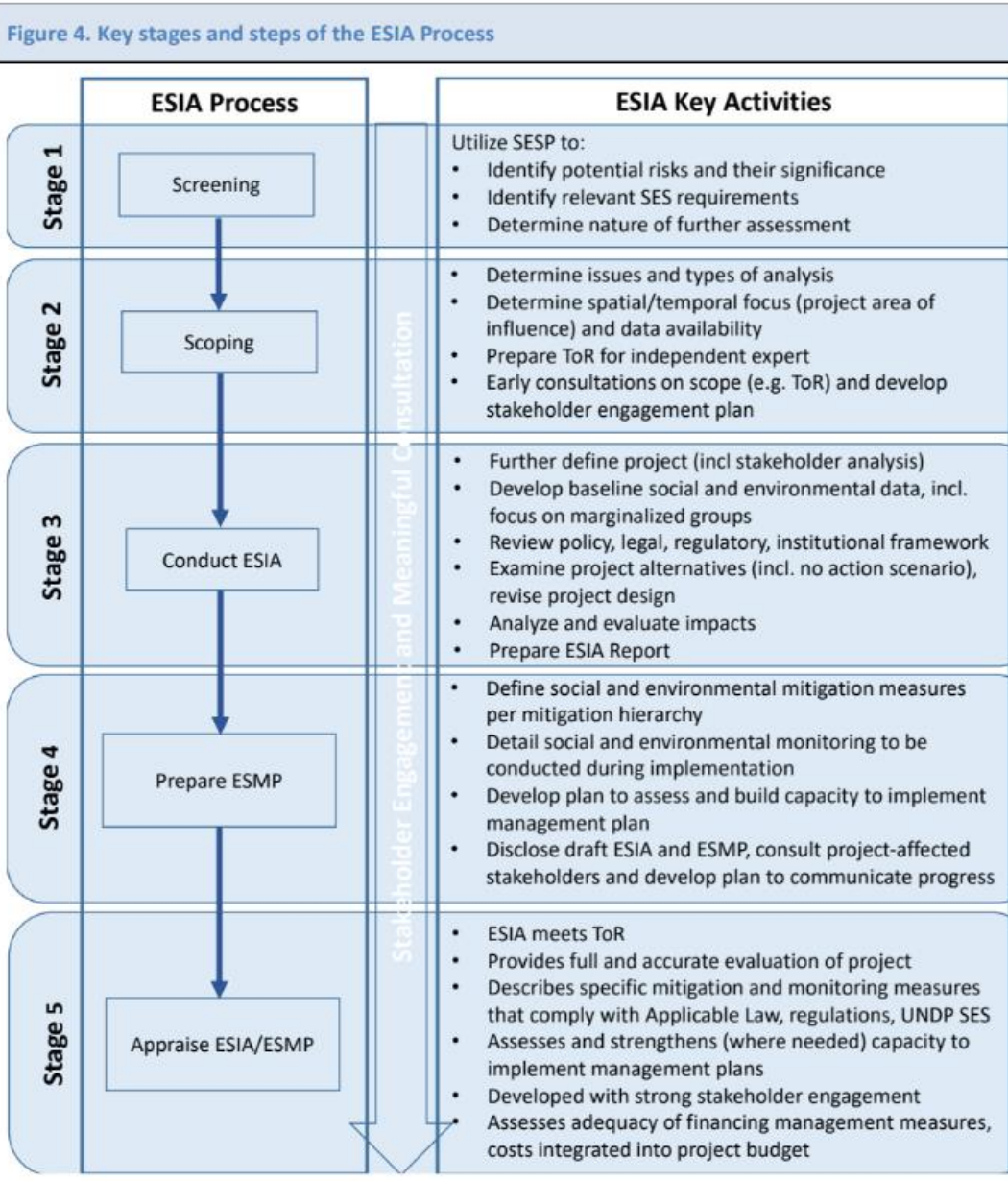
### 3.7 Compliance between National and UNDP SES

Table 0-9 provides a summary of the regulatory compliance between UNDP’s SES and Timor-Leste national laws and regulations.

*Table 0-9: Regulatory Compliance Analysis*

Compliance with National Policies, Legislation and Institutional Framework	Compliance with UNDP’s SES Policy (2015)
<p><b>Note in accordance with National DL 5/2011.</b></p> <p><b>Environmental Screening.</b> Project categorized as A, B or C.</p> <ul style="list-style-type: none"> <li>• <b>The sub-project has been categorized as <u>Category B</u>.</b></li> </ul> <p>As per the ELL, <b>Category C</b> are not required to go through any environmental assessment procedure (other than classification).</p> <p><b>In accordance with Environmental Licensing Law (ELL), Decree Law 5/2011 and the Environmental Basic Law, Decree Law 26/2012 the project submitted the “Project Document” for classification.</b></p> <p><b>Annex 1 of the ELL sets out the format for the submission of the Project Document (PD) for classification of the proposed project.</b></p> <p><b>The Project Document containing the following relevant details was submitted to ANLA and accordingly the project screening and classification was done.</b></p> <ul style="list-style-type: none"> <li>• <b>Details of the project proponent</b></li> <li>• <b>Location and scale of the project, including maps and plans showing existing features around the proposed project</b></li> <li>• <b>Information about the district and villages around the proposed project</b></li> <li>• <b>Plans and technical drawings of the proposed project</b></li> <li>• <b>The Feasibility Study</b></li> <li>• <b>Information about land and water uses</b></li> <li>• <b>A brief description of likely environmental impacts, including biophysical and socio-economic effects</b></li> </ul>	<p>Note in accordance with UNDP SES</p> <p><b>Social and Environmental Screening.</b> Risk Category determined and project classified as Low, Moderate, Substantial, High</p> <p>The overall project has been classified as moderate as per UNDP’s Social and Environmental Safeguards Standards and based on the scope of works and the expected minor environmental and social impacts.</p> <p>In respect of the sub-project, the following seven project level standards have been triggered:</p> <ol style="list-style-type: none"> <li>1. Project-level Standard 1 – Biodiversity Conservation and Sustainable Natural Resources Management</li> <li>2. Project-level Standard 2 – Climate Change Mitigation and Adaptation</li> <li>3. Project-level Standard 3 – Community Health, Safety and Working Conditions</li> <li>4. Project-level Standard 4 – Cultural Heritage</li> <li>5. Project-level Standard 6 – Indigenous Peoples</li> <li>6. Project-level Standard 7 – Pollution Prevention and Resource Efficiency</li> </ol> <p>To address the project level standards that have been triggered, the appropriate plans have been prepared and mitigative measures identified for the various phases of the works.</p> <p><b>Project-level Standard 3</b> <b>Community Health, Safety and Security and Working Conditions</b></p>

<ul style="list-style-type: none"> <li>• <b>Information about any public consultations that have already taken place</b></li> <li>• <b>Information about any consultations with other authorities</b></li> <li>• <b>The proponent’s proposal for classification of the project.</b></li> <li>• <b>Executive Summary</b></li> </ul> <p><b>Indigenous Peoples</b>  <b>IPP is not a requirement.</b></p> <p><b>Cultural Heritage</b></p> <p><b>Other specific related legislation that applies include the DL 33/2017 on Cultural Heritage. This has also been referenced in the Chance Find Procedures for the sub-project.</b></p> <p><b>Labour and Working Conditions:</b>  <b>Labor and working conditions shall follow Government of Timor-Leste Labour Law No. 4 of 2012 that is applicable throughout the territory of East Timor, to all workers and employers and respective organizations in all sectors of activity. This Labor Law addresses the basic requirements on labor relations applicable to individual and collective labor relations.</b></p>	<p>The project involves construction, which always carries some risks. Implementation of appropriate safety plans and engagement with community, along with management of elements such as dust, noise and waste will minimize risks to communities.</p> <p>The project will also facilitate the awareness raising with community about safety measures during construction and include the local contractors and staff. The BOQ and specification which forms part of the contract for implementation of the works includes key mitigation measures such as site management, provision of first aid kit, signages, PPEs and environmental compliance for noise, dust control and safety of road users and these will be closely monitored.</p> <p>In addition to the OHS Management Plan, the contractor will be required to provide a detailed Method Statement and establish specific health and safety measures for workers and visitors to the site to mitigate the risk of occupational hazards, safety incidents or injures.</p> <p>Training will be provided to the local contractor. Specific elements will be the responsibility of the contractor which forms part of the contract and included in the BOQ such as site office, provision of first aid kit, signages, PPEs and water for workers and these will be closely monitored.</p>
<p><b>Screening and Application for Environmental License</b></p> <p><b>The ESIA/ESMP referred to as the “Project Document” was submitted (Application No. 0010/DEDR-MAE/II/2022) by the Proponent to ALNA and the Environmental License No. 47/Cat. C/ANLA/SEA/IV/2022 has been issued accordingly (see Annex 12).</b></p>	<p><b>Project-level Standard 6</b>  <b>Indigenous Peoples</b></p> <p>IPP plan prepared. The FPIC appraisal/screening applied and process undertaken.</p> <p><b>Project-level Standard 8</b>  <b>Pollution Prevention and Resource Efficiency</b></p> <p>The project also includes training for local contractors and the BOQ which forms part of the contract for implementation of the works includes key mitigation measures such as site management, noise, dust and pollution control and resource efficiency and these will be closely monitored.</p>



### 3.8 Overview of Institutional Arrangements for Environmental and Social Management

The sub-project screening and ESIA for each sub-project will be undertaken by the MSA and UNDP prior to any works being undertaken and the ESMP prepared. The ESMP identifies potential site-specific risks to the environment and social matters from the projects and outlines strategies for managing those risks and minimising undesirable environmental and social impacts. The ESMP will be part of the contractor ToR. The site supervisor will be responsible for daily environmental inspections of the construction site. The MSA will cross check these inspections by undertaking monthly audits. The MSA as the implementing agency will be responsible for the implementation and compliance with the ESMP via the collaborating partners and contractors. The Supervising Engineer/Project Manager will supervise the contractor, while the MSA will be responsible for environment and social issues.

The Grievance Redress Mechanism for those that may be impacted by the projects that do not consider their views have been heard was established in the ESMF and applies to each sub-project. The contractor will maintain and keep all administrative and environmental records which would include a log of complaints together with records of any measures taken to mitigate the cause of the complaints. The contractor will be responsible for the day-to-day compliance of the ESMP.

## 4 Project Description

### 4.1 Brief description and scope of the project

The Government of Timor Leste with support from UNDP, is implementing the project “*Safeguarding Rural Communities and their Physical Assets from Climate Induced Disasters in Timor-Leste*” (SRC project hereafter) on adaptation to climate change impacts from extreme natural hazard events with funding from the GCF. The project is seeking to improve the resilience of vulnerable communities and their assets to climate change-induced hazards to which Timor Leste is prone.

The project is implementing a total of 47 rural road rehabilitation projects Figure 0-3 is a map of the location of the rural roads projects and ANNEX 1 is a list of the project detailing their scope of works, beneficiaries and costs.

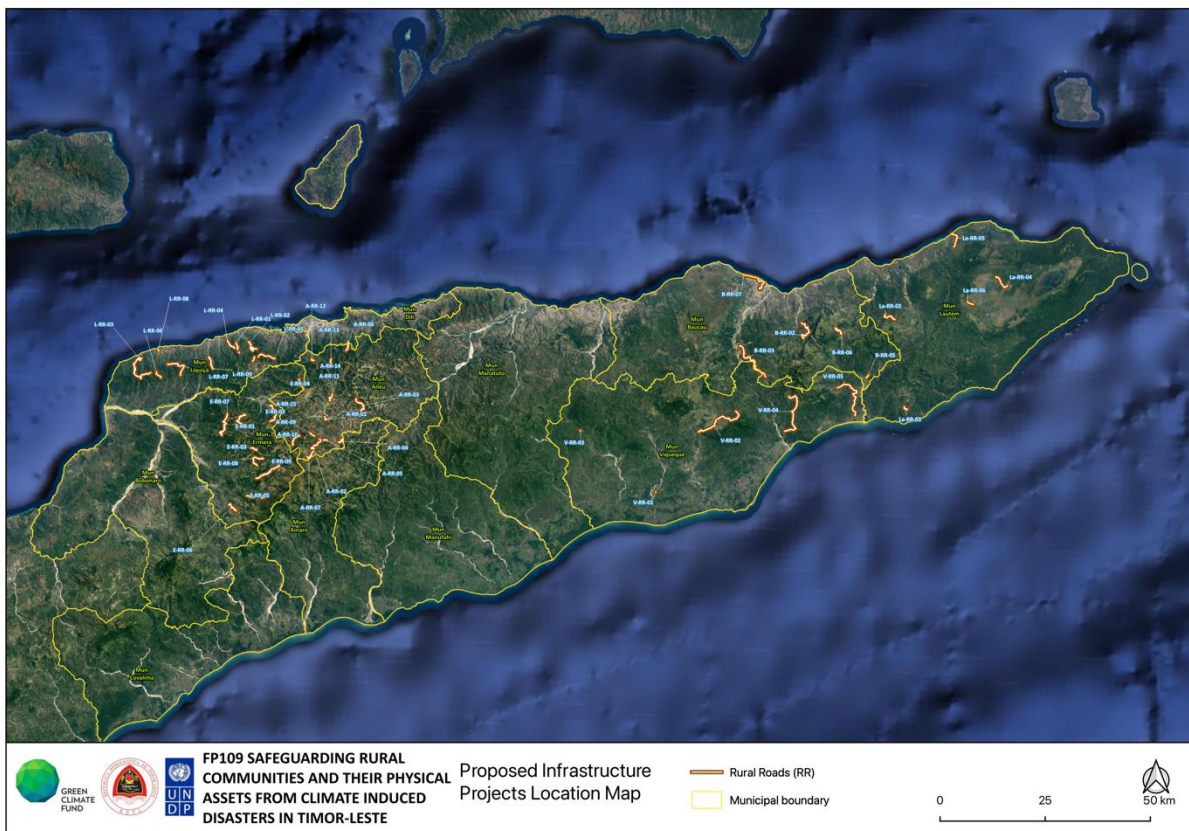


Figure 0-3: Location of Rural Road rehabilitation projects

### 4.2 Pre-Construction Phase

The pre-construction activities cover the initial site surveys, investigations and technical assessments to prepare the designs, BOQ and technical specifications. The main components being road inventory, geological and geotechnical investigation, material exploration, water for construction, locations of site office and construction camp, and alignment characteristics.



## 4.3 Construction Phase

Planned construction works for the climate resilient rehabilitation, include the following main components:

- 1) **Road works:** such as site preparation works, levelling, cambering, road compaction and earthworks.
- 2) **Pavement and surfacing works:** including the application of plum concrete surface and reinforced concrete in risk exposed areas and gravel surfacing.
- 3) **Structural works:** cross drainage structures, masonry lined drains, stone masonry retaining walls, reinforced concrete box culvert and gabion installation
- 4) **Soil stabilization and bio-engineering** approaches: involving revegetation and tree planting, using non-invasive species, with preference for native species, in the hazard prone and vulnerable sections within the catchment under consideration.
- 5) No invasive alien species (IAS) of trees/plants will be used for the soil stabilization and bioengineering applications. Non-native species of trees will be avoided, however, any non-native species proposed to be introduced in the site will undergo a thorough assessment prior to being used.

The climate resilient rehabilitation works will be carried out along the existing alignment, i.e., within the government owned road reserve. The complementary catchment management and rehabilitation measures (such as bioengineering, agroforestry and reforestation interventions) will be applied in the same sub-catchments of the infrastructure unit.

MSA and MAF will collaborate closely with the project to develop and implement the catchment management (such as agroforestry) and climate risk reduction measures (including the application of soil bioengineering) to enhance the resilience of the infrastructure and local communities.

## 4.4 Technical Details of the Project

The planned rehabilitation works will involve earthworks, preparatory works, road widening, grading and levelling, gravel application and compaction, plum concrete surfacing, drainage, cross drainage structures, gabion protection and bioengineering works among other works.

### 4.4.1 Earthworks and Road Preparation

Earthworks include site preparation and clearance, excavation, grading and levelling. These activities will be implemented to ensure that they do not encroach beyond the required road limits as established by the Ministry of Public Works. The contractor is required to undertake detailed surveys and setting out of the construction works prior to excavation and roadway clearance Public Works, ANLA (who issue the Environmental License) together with Municipal and PMU engineers will inspect the setout prior to construction. Existing trees will be retained as much as possible, except if they could pose any interference with the road structure.

Road preparation works activities include clearing of the site, levelling, cambering and compacting. Site clearance will follow the existing alignment of the rural road and therefore the impact on vegetation and flora species is expected to be minimal.

Dust produced during the various earthwork activities shall be controlled so as not to cause a nuisance and health hazards to the surrounding communities. Mitigating measures shall include controlling of the road construction activities by the contractor to be within an allowable length that can be controlled. As much as possible the earth shall be worked upon soon after excavation, when it still has moisture to limit dust.

Construction works shall be planned to ensure that the works are compacted, and pavement layer is applied to reduce dust emission. Additionally, dust levels would be kept within agreed limits by dampening the surface

if required. This item has been included in the BoQ and, hence, it is part of the contractual obligations of the contractor. Suitable sources of water have been identified in consultation with the communities.

#### 4.4.2 Roadside Drainage

A drainage system will facilitate the safe transfer of water and protect against erosion. The drains will cater for the increase in water volumes due to climate change within the road area and surrounding areas. The sections of existing drainage will be rehabilitated, and some new sections will be constructed where these do not currently exist.

The drainage system shall include provision for the following features and components:

- a) **Cross-slope or camber on the carriageway** shall conform to the applicable DRBFC rural road standards and specifications and improvement to address climate hazards in the respective locations. The cross-slope of the shoulder should be 1% steeper than the cross-slope of the carriageway, subject to a minimum of 4%.
- b) **Longitudinal drainage** elements have been included in the design of the project to improve the drainage of pavement layers, especially granular materials and in cut sections. Similarly, along vertical curves, the drainage considerations are significantly important, and the length of the vertical curve adjusted to satisfy drainage requirements. For most conditions, a minimum 0.3% longitudinal gradient is considered in the designs.
- c) **Roadside Drains/ Ditches** to collect the surface water from the roadway (and lead it to an identified outlet) and to drain the base of the roadway to prevent saturation and erosion and to maintain the structural stability of the road. Roadside drains/ ditches will be constructed and maintained in accordance with the following:
  - provide enough area to accommodate storm water runoff and depth enough to drain the base course.
  - protect the surface of ditches from erosion with turf cover or other suitable lining
  - keep velocities low enough to prevent erosion but great enough to prevent deposition or silting
  - maintain a continuous and unobstructed waterway in the drainage cross section.
  - provide stable outlets to natural channels or drainage ditches
- d) **Scour Checks** will be constructed at intermediate locations within sections having unlined drains with gradients so as to limit erosion within the drains by reducing water velocity.

#### 4.4.3 Road Surface

Various pavement surfaces will be provided to facilitate an all-weather surface. This will include gravel surfaces in areas where the gradients are not steep, owing to its cost effectiveness and performance and they usually serve low traffic volumes. This surface type is seen as an affordable alternative in provision of level of service, considering the envisaged traffic.

The specification applicable to rural roads is set by DRBFC, MoPW. For this road, the minimum specification for width of 3.5 m will be met. The detailed and precise surveys and setting out of the construction works is required to be undertaken by an experienced surveyor prior to excavation, levelling and grade corrections and roadway clearance. This will ensure that the construction works to be implemented and works are done so as not to encroach beyond the road reserve. Surveys and setouts will be approved by site engineer prior to excavation.

#### 4.4.4 Climate Proofing Measures and Protection

To protect against the risk of erosion and landslides in the hazard prone areas that have been identified, rock filled gabions and masonry retaining structures will be installed in combination with soil bio-engineering applications to retain the soil mass, promote vegetative cover and prevent slippages. The soil bioengineering (or soil stabilization) interventions will include the revegetation of exposed and hazard prone landscapes by planting of vetiver grass and casuarina trees along various sections of the road, installation of bio-retaining structures and check dams. Protection of slopes will be undertaken where loose and unstable slope were identified, and which may lead to landslides. The slopes will be stabilized with gabions and cement masonry structure and roadside drains to collect and channel the water for safe disposal. On the upstream and downstream ends of the road carriageway, interventions will include gabion with geotextile protection, bioengineering and planting of casuarina trees to stabilize the surrounding soils.

#### 4.4.5 Construction Material Sourcing

The design of the road has adopted, as far as practical and possible, a local resource-based approach which seeks to make use of locally available construction materials ie the design adopts a cut/fill balance that optimises use of excavated materials and minimises waste.

Materials (such as uncontaminated soil) that have been excavated, to make the side drains and foundation channel for the retaining wall structures, will be reused as the sub-base materials for the road pavement. There is no borrow pit for materials to be extracted in the project site. Materials such as gravel and stone will be purchased and transported from existing nationally designated/approved quarries within the municipality outside of the project area.

### 4.5 Post-Construction Phase

For the six months following construction, the defects liability period, the contractor will be responsible for any repairs required to the road. After that MPW will be responsible for ongoing maintenance.

The planned post-construction maintenance by the responsible Ministry will also ensure sustainability of the project.

### 4.6 Land Rights

In Timor Leste, the issue of land rights and land claims is extremely complex due to the historical legacy of different legal regimes, and people's displacements during the conflict. With support from international partners, the Government of Timor Leste has drafted the land law and it is hoped that with its passing, a system for land registration will be created.

The Constitution provides for rights to private property including the right to own and transfer private property. The Juridical Regime of Real Estate No. 11/2003 provides preliminary rules pertaining to land tenure and property rights. The Civil Code contains provisions governing decisions pertaining to land including the sale and lease of land. Decree Law No. 27/2011 Regime for Regularization of Ownership of Immovable Property in Undisputed Cases enables those claiming private property rights to register undisputed claims where land has been surveyed and cadastred, and the Directorate of Lands, Property and Cadastral Services (DLPCS) has confirmed that the cases are indeed undisputed. The government has developed three new laws to fully administer all land parcels, particularly those involving multiple claims: (i) the Special Regime for the Definition of Ownership of Real Estate (2017); (ii) Law 8/2017 the Law on Expropriation; and (iii) the Law on Real Estate Financial Fund.

### 4.6.1 Land Ownership and Land Declarations

The matter of land ownership has been discussed with all relevant parties during the technical surveys and field assessments. The land to be used for the proposed rehabilitation is road reserve and belongs to the Government. According to rural road standards by Ministry of Public Works, 5.5 meters from the center line on both sides of the road belong to the government (11 meters in total). The generic letter from Public Works dated 07 Jun2 2022 (Ref No: MOP, 1039/DGOP-EPCC/VI/2022) stating the ownership of all the rural road belongs to the Directorate of Roads, Bridges and Flood Control (DRBFC), Ministry of Public Works. The land to be used for the proposed road rehabilitation will be on average 5 meters wide in total (3.5 meters actual road + 0.50 meters shoulders + 1 meter drainage). An additional 2 meters area may be required at vulnerable sections of the roads exposed to landslides for bio engineering measures.

The surrounding areas along the right of way of the road belong to the local communities. From the consultations held with the host communities and representatives of local authorities (Chief of Village, Chief of Aldeia) and cultural leader (lia nain), it was determined that the implementation of the projects do not require or result in any acquisition of land. No involuntary resettlement or associated impacts will be caused by the project. As the rehabilitation works will be done on the government owned land no compensation is required.

The rural road projects are rehabilitation of existing roads and ownership is confirmed from all landowners along the road right of way (during public consultation and through the FPIC process the project ensures that signed consent is provided by all landowners along right of way). Existing alignment will be used and no additional land is required.

Technical assessment and surveys such as baseline survey were jointly carried out with host communities, local authorities and technical teams from national and sub-national levels. The local communities agreed that no compensation is required. The signed letters of declaration have to be provided by the local authorities and host community as part of the necessary documentation and declarations required for compliance in accordance with national requirements and with the UNDP SES, prior to commencement of project implementation. Declaration letters for each sub-project are available on request from the project proponents (Table 2.3).

In addition, as the project was drawn from the PDIM list of projects that sucos put together and then escalated ultimately to the national level for approval and funding, a participatory process has been undertaken in the identification and scoping of the project, and general agreement from landholders was already in place at proposal stage and earlier. During EIA and FPIC consultations and assessments for the scheme, formal documentation of land use agreements were obtained and owners' willingness to participate formally documented.

### 4.6.2 Technical Feasibility

During the pre-construction phase, technical, environmental and socio-economic feasibility studies are undertaken in line with the requires stipulated by the articles 15 and 16 of Decree Law 5/2011 Environment Licensing Decree Law (ELDL) Of Timor-Leste. This allows for an exploration of both intended and unintended impacts which may or may not be attributable to the project activities, and forms a key part of the ESIA study.

Road surveys are carried out based upon the Design Standards and Guidelines of DRBFC, following which designs, drawings and specifications are prepared. A local resource-based approach that seeks to reduce carbon footprints has been adopted in the designs. The technical studies establish the viability for the roads to be rehabilitated, but with the need to safeguard and protect the road and land from erosion and landslides, the use of labor-based technologies such as plum concrete surfacing (rather than asphaltic concrete) and soil-bioengineering has been adopted. Apart from providing employment opportunities to members of the host community, these approach improve safeguards and protection of the environment.

The technical feasibility studies for each sub-project will be conducted in line with this ESMP, and the site-specific ESMP will include site-specific design details and management measures as necessary. The

following is the Technical Feasibility Assessment Form (ANLA) which must be completed prior to and during detailed feasibility and design studies for each sub-project.

*Table 0-10: Technical Feasibility Assessment Form (ANLA)*

Viability Issue	Yes	No	Remarks
<b>1. Alignment</b>			
a) Is the gradient very steep over a long length of road?		No	
b) Does the curvature of the road over a long length prevent vehicles making turns in a single movement?		No	
c) Is there insufficient width available on the current alignment over a long length of road?		No	
If any of the above are answered with yes, is a viable realignment available?			
<b>2. Water crossings</b>			
<ul style="list-style-type: none"> <li>Is there a wide/deep river that flows for long periods of time after rainfall, and would be difficult to bridge?</li> </ul>		No	
If yes, is a viable realignment available?			
<b>3. Land stability</b>			
a) Does the road go across wide slopes that are unstable and likely to slide?		No	
b) Does the road go through a wide area that is often saturated or likely to flood?		No	
c) Does the road go alongside a river and is at risk of being washed away?		No	
If any of the above are answered with yes, is a viable realignment available?			

### 4.6.3 Socio-economic Feasibility

Table 4-2 below provide site-level socio-economic factors in respect to the proposed project. Each road project is expected to create significant employment for the local community (on average approximately 5,000 per project) and ensure inclusive participation of at least 30% women during implementation. There will also be social inclusion of people with disabilities. The project will ensure that no children or bonded labor is involved in accordance with the Republic of Timor-Leste Labor law (2012) and international standards through inclusion of the relevant clauses in contract, training of the contractor and regular monitoring for compliance.

As per the economic analysis that was conducted during the project preparation, social benefits due to better access to markets, education, health, commercial and administrative facilities are assumed to be

US\$2/person/year<sup>8</sup>. In terms of the internal rate of return (IRR), that was carried out for the roads rehabilitation projects during the preparation stage, the IRR was 30% on average.

Consultations carried out in communities along the roads as part of the design process identify issues directly related to the design of the road or the implementation of the works and gather information and inputs from the residents on location, including measures to be taken for the culturally sensitive sites during the design and implementation phases of the project and for appropriate mitigative measures to be implemented.

Consultations with the local communities validate the community's priority need for the road and willingness to participate. There is also expected to be an increase in services arising from the completion of the construction of the road while resulting in reduced transport costs and other associated costs owing to increased accessibility. The following is the Social Feasibility Assessment Form (ANLA) which must be completed prior to and during detailed feasibility and design studies or each sub-project.

*Table 0-11: Social Feasibility Assessment*

Potential Social Issue	Yes	No	Remarks
1. Are there – or have there been in the recent past – serious conflicts between concerned Suco's along the proposed road?		No	
2. Are there clear indications from past experiences that no cooperation can be expected from the authorities of the Suco(s) along the road during the implementation of the works?		No	
3. Are there clear indications from past experiences that Suco/Aldeia authorities' have put their personal interest before that of the community in previous infrastructure projects?		No	
4. Are there clear indications that there is no interest among the Suco(s) in the road works and/or in their participation in the works?		No	
5. If the works will require road widening activities or re-alignments, are there clear indications that an agreement may not be reached with the users, owners, or cultural leaders of the land to provide this land for the road works?		No	
6. Are there clear indications that the Suco(s) will not be able to provide the required workforce or that the Suco(s) will not allow workers from outside of the Suco(s) to participate in the works if the		No	

<sup>8</sup> World Bank Poverty Estimate Report for Timor-Leste, 2020

Potential Social Issue	Yes	No	Remarks
labour supply from the Suco(s) is not sufficient?			
7. Are there clear indications that the Suco(s) will not be able to provide the required materials or that the Suco(s) will not allow procurement of materials from outside of the Suco(s) if the material supply from the Suco(s) is not sufficient?		No	

#### 4.6.4 Environment Feasibility Assessment

The project was screened using the UNDP SESP and the risks identified were assessed as per the UNDP SES. Where potential risks have been identified, the appropriate mitigation measures have been proposed. The following is the Environmental Feasibility Assessment Form (ANLA) which must be completed during feasibility and design studies for each sub-project.

Table 0-12: Environmental Feasibility Assessment Form

Part 1 – Environmental Category	Project Analysis			Remarks
	Yes	?	No	
<b>4. CATEGORY A Candidate Projects</b> (DL 05/2011, Annex II) Will the Project be responsible for or have any OWNED activity within any of the following thresholds?				
d) quarries, open pit mining, and peat extraction in isolated areas (≥ 30.000 cbm/yr)			No	
e) construction of national and regional roads (≥10km)			No	
f) construction of rural roads (≥30km)			No	
g) construction of bridges (≥300m)			No	
h) marine dredging, coastal protection works, or river protection works (≥20 ha)			No	
<b>Step 1 – Screening for Category A Projects</b>				
Have any “Yes” boxes (left column) been ticked for this section?	<input type="checkbox"/>		If “Yes” project is classified category “A”. Please proceed to EIA Procedure (DL 05/2011). If “No” proceed to Step 2.	

Part 1 – Environmental Category	Project Analysis			Remarks
	Yes	?	No	
<b>5. CATEGORY B Candidate Projects?</b> (DL 05/2011, Annex II) Will the Project be responsible for or have any OWNED activity within any of the following thresholds?				
<ul style="list-style-type: none"> <li>quarries, open pit mining, and peat extraction in isolated areas (5.000 cbm/yr &gt; Project ≥ 30.000 cbm/yr)?</li> </ul>			No	
<ul style="list-style-type: none"> <li>Installations releasing environmental pollutant, noise, vibration, dust, and/or smells, or handling flammable and/or hazardous materials? (Site ≥1 ha and installation area ≥3000m²)?</li> </ul>			No	
<ul style="list-style-type: none"> <li>Rehabilitation of existing roads (All)?</li> </ul>			No	The project will be undertaking spot rehabilitation (rigid pavement and surfacing and associated structural applications) which include the climate proofing of vulnerable sections.
<ul style="list-style-type: none"> <li>construction of bridges (&lt;300m)</li> </ul>			No	
<ul style="list-style-type: none"> <li>i) marine dredging, coastal protection works, or river protection works (&lt;20 ha)</li> </ul>			No	
<b>Step 2 – Screening for Category B Projects</b>				
Have any “Yes” boxes (left column) been ticked for this section?				If “Yes” project is classified category “B”. If “No” project may still be classified for locational factors. Proceed to Step 3.
<b>6. PROJECT SITTING (Special Conditions)</b> (DL 05/2011, Annex 1) Will the Project area be adjacent to or within any of the following environmentally sensitive areas:				
<ul style="list-style-type: none"> <li>a) Sensitive or valuable ecosystems (beaches, mangroves, coral reefs, wetlands, protected areas, buffer zones of protected areas, Forests, special biodiversity areas, estuaries, marine areas)?</li> </ul>			No	
<ul style="list-style-type: none"> <li>Any protected area mentioned in Untaet Regulation no. 19/2000?</li> </ul>			No	
<ul style="list-style-type: none"> <li>Any Special Biologically Important Areas (proposed for future protected areas) under the NEGA (2010) Assessment?</li> </ul>			No	



Part 1 – Environmental Category	Project Analysis			Remarks
	Yes	?	No	
<ul style="list-style-type: none"> <li>Any area where Tara Bandu has been performed and is currently in force?</li> </ul>			No	
b) Unique and valuable landscape?			No	
c) Archaeological and/or historic, cultural heritage site?	<b>Yes</b>			One lulik (cultural) site and one sacred site (cemetery).
d) Densely populated areas (Resettlement ≥300 persons)?			No	
e) Occupied by cultural communities or tribes?			No	
f) Geographically sensitive areas?			No	
<b>Step 3 – Screening for Project Sensitive Areas</b>				
Have any “Yes” boxes (left column) been ticked for this section?	<input type="checkbox"/>			If “Yes” project requires scoping confirmation from NDE for category definition. If “No” in Steps 1, 2 and 3, project is Category “C” and doesn’t require Environmental License

## 5 Baseline Conditions

### 5.1 Geographical Context

The island of Timor sits at the south-eastern end of the archipelago of volcanic islands, the Banda Arc, running eastwards from the Indonesian island of Bali. Timor-Leste occupies the eastern half of the island and is a relatively small country with an area of 14,954 km<sup>2</sup>. This includes the main land area of 13,989 km<sup>2</sup>, Oecusse enclave of 817 km<sup>2</sup>, Atauro Island of 140 km<sup>2</sup> and Jaco Island of 8 km<sup>2</sup>. Administratively, Timor-Leste is comprised of 13 Districts including Oecusse enclave, 65 Administrative posts and 442 sucos or villages.

The topography, particularly of the mainland, is comprised of hills and mountain ranges and is dominated by a massive central mountainous backbone rising to approximately 3000 meters and dissected by deep valleys (**Error! Reference source not found.**). On the northern side, the mountains extend almost to the coast, but on the southern part the mountains taper off some distance from the coast, which provides areas of coastal plain. Approximately 44% of the territory has slope of more than 40%.

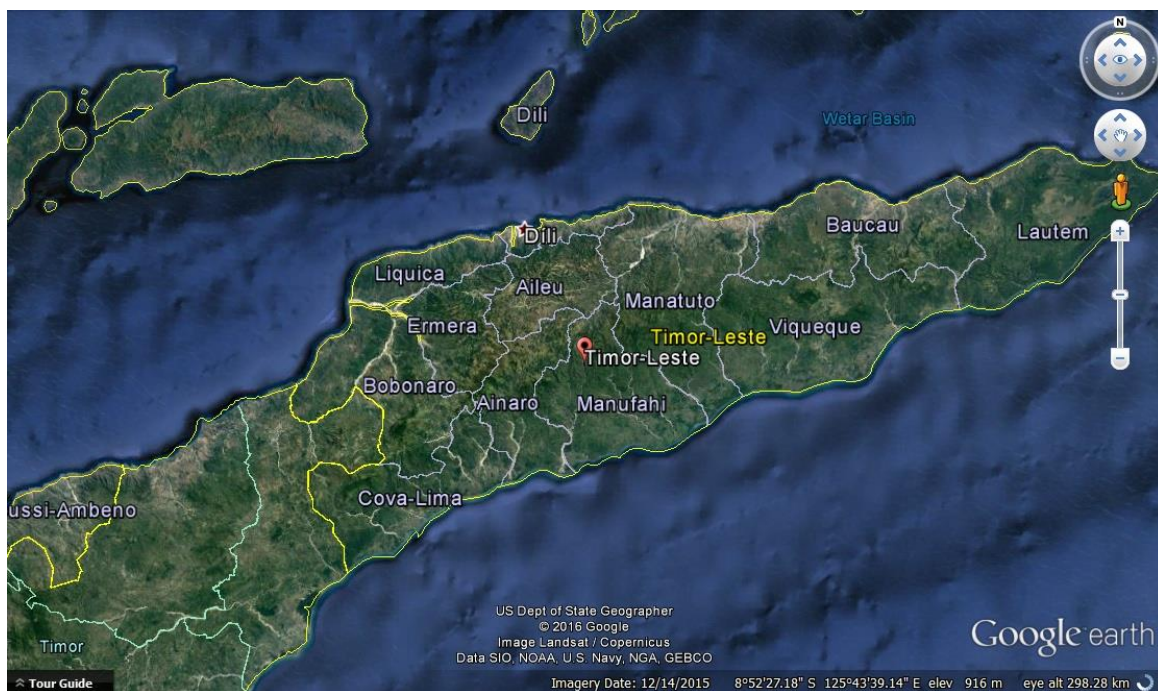


Figure 0-4: Map of Timor-Leste

### 5.2 Climate

The overall climate of Timor-Leste is classified as tropical savannah (Koppen-Geiger type —Awll), with all areas in the country having a pronounced dry season. Timor-Leste is affected by the West Pacific Monsoon,

which moves to mainland Asia during the southern hemisphere winter, and south to Australia in the southern hemisphere summer bringing a switch from very dry to very wet conditions and a change in the direction of the prevailing winds (GoDRTL 2016). This means that the wet season lasts from approximately December to May, and the dry season lasts from approximately June to November, but there is some regional variability. In general, rainfall levels are highest in the south and decrease to the north, with some areas receiving little to no rainfall for eight months of the year (USAID 2017). July is the coolest month, whereas October is the warmest.

## 5.2.1 Precipitation and Temperature

There is little seasonal variation in **temperature** with monthly mean temperatures varying by no more than 3oC between the coolest months of July and August to the warmest months of October and November. Diurnal (daily) temperature variations range from 7oC to 13oC. Temperature decreases with altitude: for example, in Maubisse, which is 1400 m above sea level, the mean monthly temperature is approximately 17oC in July and 24oC in November, compared with Liquica, which is 25 m above sea level and where the mean monthly temperature is approximately 25oC in August and 31oC in February.

There are two distinct **rainfall** patterns: the northern monomodal rainfall pattern, which produces a 4–6 months wet season beginning in December that affects most of the northern side of the country and tapers to the east; and the southern bimodal rainfall pattern, which produces a longer (7–9 month) wet season with two rainfall peaks starting in December and again in May, which affects the southern side of the country. Annual rainfall is very low along the northern coast of East Timor (<1000 mm y-1), low to moderate throughout the central and elevated areas (1500–2000 mm y-1), and moderate (>2500 mm y-1) in high altitude areas. In common with most tropical locations, intense downpours of rainfall are common.

The country's climate zones are determined by precipitation and temperature characteristics (UNDP 2018):

- **North Coast Region.** This area is characterized by annual average mean temperatures of more than 24C, annual rainfall of less than 1500mm, and a dry season lasting for around five months;
- **Mountainous region.** This area is characterized by average mean temperatures of less than 24C, annual rainfall over 1500mm, and a dry season lasting more than four months.
- **South Coast region.** This area is characterized by annual average mean temperatures of greater than 24C, average annual rainfall of approximately 2500mm, and a dry season lasting for only three months.

In addition, Barnett (2003) cit. GoTL (2014) indicated that the country is categorized into six agroclimatic zones based on rainfall pattern.

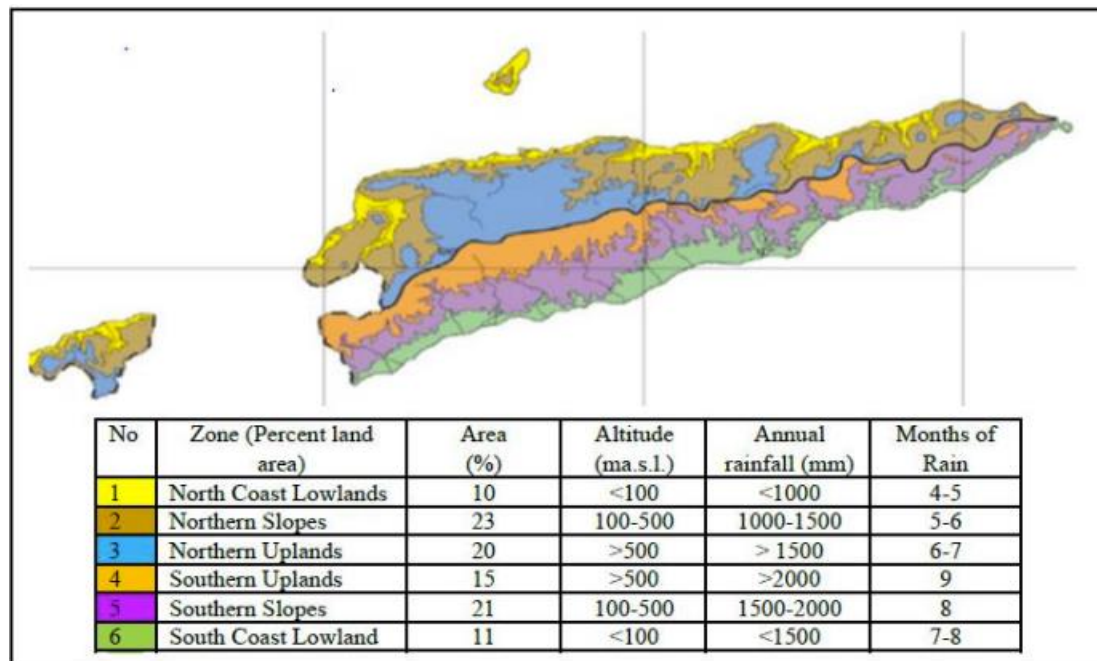


Figure 0-5: Agro-climatic zones of Timor Leste

Timor-Leste is influenced by several cyclical oscillations. The most widely known is the El Niño Southern Oscillation (ENSO), though the country's climate is also influenced to some extent by the Indian Ocean Dipole (IOD), the Pacific Decadal Oscillation (PDO), and the Madden-Julian Oscillation (MJO). These phenomena influence the regional climate on intra-annual, inter-annual, and inter-decadal time scales and influence the total amount of precipitation received as well as water resource availability throughout the country. However, more research is needed in this area, as only the impact of ENSO has been studied with respect to Timor-Leste (World Bank 2018).

In all places, El Niño weather pattern cause overall drier conditions and reduced rainfall in the January-March, with some places experiencing reduced rainfall in comparison to the amounts usually received in these months during non-El Niño years. El Niño years are usually associated with drought, and in general, the wet season is delayed by two to three months, with significant implications for agriculture, food crops planting and consequently food security. Due to decreased precipitation there is also reduced groundwater availability. According to official estimates, the 2015-16 El Niño-induced drought event affected approximately 350,000 people located mainly in the central highlands and eastern parts of the country (USAID 2017). In years following El Niño, rainfall can be higher than the annual average, which can lead to increased flooding. During La Niña conditions dry season rainfall tends to be above normal and the wet season starts earlier and finishes later. Above average rainfall can lead to more landslides and significant erosion mainly the topsoil ENSO also affects ocean conditions; in El Niño years sea level can be as much as 20cm below the long-term average, while during the La Niña phase it can be 10-20cm above normal. During La Niña years wave heights tend to increase by 1-2.5m along the north coast and up to 3 meters along the south coast relative to normal conditions (Secretary of State for Environment 2010).

### 5.3 Geology

The geology of Timor-Leste is complex both compositionally and tectonically. Compositionally, Timor-Leste contains a wide variety of rock types (igneous, metamorphic and sedimentary) with a range of textural (fine-grained and well sorted to large boulder conglomerates) and chemical (felsic to ultra-mafic) compositions. It is important to note, however, that volcanism is not a key feature of the geology in mainland Timor-Leste, in contrast to the surrounding islands. The tectonic history of Timor-Leste, which sits at the interface of the Eurasian and Australian Tectonic Plate boundaries, has received much attention and several tectonic evolution models exist. Geological work has been undertaken pre-1975 before Indonesian occupation with foreign access (Audley-Charles, 1965); 1975-1999 during Indonesian occupation with limited foreign access; and post-1999 with independence of Timor-Leste and foreign access once again possible.

### 5.4 Soils

There are four distinct soil types that occur in Timor-Leste, reflecting the regional geology. In general, the soils of Timor-Leste are not very fertile, do not store water well, and are easily eroded. The soils located at the mouth of the River Loes, to the south of Manatuto, and to the east of Baucau, are of recent alluvial formations and are not suitable for agriculture. The soils found in the eastern regions such as in Maliana, Ainaro, and Maubisse, and to a lesser extent in Baucau, Lauten and in Los Palos are the most fertile and are suitable for agriculture. The soils of alluvial origin are confined to the coastal regions around Dili, Suai and Manatuto and are poorly drained soils. The soils present in the highlands around Ermera are rich in organic matter and suitable for agriculture.

### 5.5 Hydrology and Water Resources

Timor-Leste has been broadly divided into twelve 'Hydrologic Units', which are groupings of climatologically and physio-graphically similar and adjacent river basins. Each of these hydrologic units comprise a number of rivers, 29 main river systems in total, of which 12 in the north and 17 in the south. All rivers are generally short and fast-flowing.

The watersheds of Timor Leste produce an estimated 22,300 million m<sup>3</sup> of water per year (mm<sup>3</sup> /yr), with a total internal renewable water resources of 8,215 mm<sup>3</sup> /yr or 6,932 mm<sup>3</sup> /yr per inhabitant, ranking 63 out of 179 countries on renewable water resources availability per capita (WorldBank, 2018). This

lower potential derives from a dry tropical climate characterized by long dry seasons. Based on 2004 available data, water withdrawal was 14% of the total country's renewable water resources, of which 91% was used for irrigation and livestock and 9% for domestic use.

Surface water accessibility is more problematic than that of groundwater sources. The meteorological variation results in highly variable river flows and flash floods in the wet season and low or no flows in the dry season. These distinct variations between the northern and southern coastlines result in smaller river catchments with diverse hydrological patterns.

Studies of Timor Leste aquifers<sup>9</sup> in representative areas found the following:

- The aquifers of Timor-Leste can be systematically mapped as three principal types of Intergranular, Fissured and Localised, in accordance with international guidelines;
- All aquifers show high levels of structural heterogeneity indicating groundwater flow will be affected by local factors, requiring further detailed localised analysis;
- The majority of Timor-Leste's groundwater is currently of high quality, apart from some coastal sea water intrusion, and the quantity and flow rates may vary widely;
- Intergranular sedimentary aquifers are focused along the coast of Timor-Leste, centred around river channels, and are susceptible to reduced storage and seawater intrusion due to changes in rainfall and sea level rise, particularly in smaller water catchment areas;
- Fissured karst aquifers are principally in the east of Timor-Leste and groundwater yield is susceptible to changes in rainfall, responding rapidly (seasonally) across the broad topographic highs; and
- Localised fractured aquifers are principally in the west of Timor-Leste and groundwater yield is also susceptible to changes in rainfall, responding rapidly (seasonally) in the many localised topographic highs.

An assessment of Timor Leste's aquifers to climate change found that increases in the sea level are likely to cause seawater to move landward and intrude into aquifers, given that the estimated sea level rise of 9 mm per year is much greater than the average tectonic rise of Timor of 0.5 mm per year. The aquifers with the highest vulnerability to climate change are coastal intergranular aquifers with smaller catchment areas and both fissured and localised aquifers in topographic highs, due to higher 'potential impact' from changes in rainfall and/or sea level rise. Combined with the limited 'adaptive capacity', these areas have high vulnerability to the predicted climate change into the future.

## 5.6 Ecology

Located in a crossover zone between Asia and Australia, Timor Leste contains animals common to both regions. The varied terrain of mountains, thousands of miles of coastline, dry forest, grasslands, and a tropical climate provide habitats that sustain many different species.

Timor Leste is part of the Timor and Wetar Deciduous Forests terrestrial ecoregion, which contains a very distinctive fauna representing a mix of Asian and Australasian species; the Lesser Sunda Islands freshwater ecoregion, which may contain as many as 10 endemics e.g., *Oryzias timorensis* is restricted to Timor; the Sunda Islands coral reef hotspot, and the Wallacea biodiversity hotspot.

The primary forest area of Timor Leste has been reduced to around 88,000 hectares (220,000 acres), or 1% of the territory. Dense forests are found only on the south coast or in mountainous areas. The vegetation consists mostly of secondary forests, savannah, and grasslands. Flora includes ironwood, eucalyptus, black eucalyptus, redwood, sandalwood, cendana, and lontarwood. Fauna include deer, monkeys, cockatoos, horses, cows, and beo kakoaks.

There's only one dry forest left in the country, located in Nino Konis Santana National Park. The forest is home to many of the over 250 species of birds in the nation, at least 10% of them thought to be

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<sup>9</sup> E.g. Australian Aid project - <https://www.agriculture.gov.au/sites/default/files/documents/groundwater-timor-leste-report.pdf>

unique to Timor Leste. Some of these birds face the threat of extinction, including the Yellow-crested Cockatoo, the Timor sparrow, the Timor Imperial-pigeon, the Timor Green-pigeon, the Black Cuckoo-dove, the Wetar ground dove, and the Iris lorikeet.

The main environmental threats come from the widespread use of slash-and-burn agriculture, which has led to deforestation and soil erosion. According to a 2006 report issued by the International Union for Conservation of Nature and Natural Resources (IUCN), threatened species included seven species of birds, one type of reptile, and three species of fish.

## 5.7 Climate change

Projections cited in the reports of Intergovernmental Panel on Climate Change (IPCC), including those of the Commonwealth Scientific and Industrial Research Organisation (CSIRO) project notable changes in the region's climate for the future. In Timor-Leste, temperature is expected to increase by 0.3–1.2 °C by 2030 and 0.8–3.6 °C by 2070. Rainfall is predicted to decrease in the dry season and increase in the wet season with overall rainfall increasing by 7–13% by 2050. Extreme rainfall events such as tropical cyclones are expected to decrease in frequency but increase in intensity. Furthermore, an increase in rainfall is predicted for areas of high altitude. For example, the mountainous districts are projected to experience higher increase in rainfall during the wet season. In addition, sea level is expected to rise by between 9 and 76 cm by the year 2100. Based on climate modelling under Timor Leste's NC's the following main indices of climate change are predicted (See Annex 2 of the project proposal for a detailed discussion on climate change in Timor Leste):

- In the longer term, annual mean temperature over Timor-Leste has increased consistently with a rate of about 0.016°C per year. It is very likely that temperatures in Timor-Leste will continue to increase. Prior to the 2040s, the mean temperature anomalies in Timor-Leste are expected to increase by up to as much as 1°C for all emission scenarios. Post 2040s, the rate of increase will vary based on different scenarios. For the high emission scenario (RCP8.5) the increase in temperature relative to current conditions may reach 3°C by 2100, while for the low emission scenario (RCP2.6) it may increase by up to 0.5°C
- Historically, the sea level surrounding the main island of the country has risen at about 5.5 mm/year. Over 100 years, the sea level rise may reach 76 cm. Based on the Pacific Climate Change Science Program (2011); Pacific Ocean acidification has also been increasing in Timor-Leste's waters. It will continue to increase and threaten coral ecosystems.
- Historical data suggests that during the 20th century and early 21st century, there were already some shifts in the peak of the wet season. In the future, the wet season onset may be delayed by about 20 days from the current climate pattern, while dry season onset will be delayed by as much as 11 days depending on the period and emission scenarios. Thus, in some areas the length of the wet season would shorten.
- Extreme rainfall events are projected to become fewer but more intense as a result of decreasing numbers of tropical cyclones albeit with stronger intensity (Pacific Climate Change Science Program 2011).
- Decreases in rainfall are projected in some parts of the country, as well as changes in its seasonal distribution, with respect to the 1981-2010 conditions. For example, the drier area on the northern coast of the country (annual rainfall less than 1000 mm) will expand in the future.
- The water balance suggests that the area with a duration of water deficit period (LDP) of more than 8 months will expand while the area with LDP<5 months will shrink

### 5.7.1 Climate change Impacts

Most climate-induced disasters in Timor-Leste are localised and periodic, with resultant serious impacts upon local communities. Major hazards include flash floods, droughts, landslides and destructive winds. 76% of the of the population have been personally affected by these disasters.

The communities living in areas with difficult road accessibility and low capacity to respond to disasters are generally the worse affected. Most of the rural population is dependent on agriculture for their livelihood. In Timor-Leste, agriculture employs 64% of the labour force and contributes 26.5% of the GDP. With this high level of dependence on agriculture, even low intensity disasters will add significantly to their vulnerability and increased food insecurity.

#### *5.7.1.1 Impact on Water Resources*

Climate change could result in a drier dry season, wet season's characterised by fewer but more intense events, and El Niño events, which result in delayed rain and less rain, may become more severe. These changes may exacerbate existing problems with drought, floods, and water quality. A drier dry season would increase vulnerability to drought because of high year-to-year rainfall variability combined with minimal water resource infrastructure. Lack of water in the dry season is already common, particularly on the northern side of the island, affecting agricultural production. Drought in 2001 to 2002, and the late arrival of the wet season in 2002 to 2003 resulted in an estimated 34% decline in maize production between 2002 and 2003 (22). As a result, 110 000 people were identified as needing food aid, particularly in the drier maize producing districts of Aileu, Ainaro, Ermera, and Liquica. East Timor is also prone to flooding, especially on the southern side of the country. Cova Lima, Manufahi, and Viqueque each receive more rainfall than northern districts, and experience two wet seasons each year. Intense rainfall events often cause flooding in these places. For example, unseasonal rains in June 2003 resulted in intense flooding and associated landslides in Manufahi and Cova Lima, which affected 778 families and caused damage to 74 houses and 610 ha of rice paddy. The severity of these flooding events is most probably exacerbated by upland farming practices that causes soil erosion, and the damage caused by landslides downstream is also a function of deforestation. Water Resources infrastructure such as water storage, water supply and flood defence infrastructure are lacking in rural areas and climate change will increase vulnerability of existing infrastructure and the requirement of additional and more resilient infrastructure.

Groundwater sources are increasingly being seen as an alternative source to surface water supplies in recent years in Timor-Leste due to prolonged drought. Although groundwater provides a useful alternate source of water, it is also a vulnerable resource. When the rate of groundwater extraction exceeds the average long-term recharge rate from rainfall, groundwater levels will decline and impact on aquifer yields and quality. The impact of this decline can include the following:

- Lower yields mean less water is available for domestic water supply, stock drinking water, and irrigation;
- Springs, streams and rivers fed by groundwater may partially or completely dry up, causing both adverse human and ecological effects;
- Low flows of rivers may not be sufficient for proper dilution of discharged wastewater, resulting in greater surface water pollution;
- Increased threat of saltwater intrusion into fresh groundwater supplies in coastal regions; and
- Deterioration of groundwater quality.

To avoid irreversible damage to groundwater systems, an available extraction volume for any aquifer should be established based on the long-term sustainable yield assessment, i.e., the volume of groundwater that can be extracted annually from a groundwater basin without causing adverse effects. Groundwater extraction information for Timor-Leste is currently not available.

#### *5.7.1.2 Impact on Soil Erosion*

Clearing of vegetation occurs as part of maize production in highland areas, but is also a legacy of the use of defoliants during Indonesia's war against the Timorese in the late 1970s, harvesting of forest resources during the period of Indonesian occupation, and changes in energy availability since the Indonesian withdrawal in 1999 and the subsequent removal of the subsidy on kerosene that existed under Indonesian rule, resulting in firewood becoming a cheaper source of fuel and a viable means to

earn cash income for rural communities. In addition to these anthropogenic factors, climate change may exacerbate soil erosion.

### *5.7.1.3 Impact on Agriculture*

Widespread use of slash and burn agriculture coupled with poor agricultural and catchment management practices has led to deforestation and soil erosion, which have resulted in increased intensity of runoff from the country's mostly steep terrain, causing significant soil erosion, increased incidence of landslides and flash flooding and low soil fertility for crop production. These vulnerabilities will be exacerbated under climate change due to the changes in the intensity, frequency and seasonality of rainfall and temperature described above. Potential areas for the establishment of new agricultural areas (expansion) will become more limited. Increasing cropping intensity will be more difficult without supporting irrigation water. In some areas of the north coast of Timor-Leste, even planting crops once a year is not possible. Changes in climate would result in a reduction of maize yield between 5% and 20% from the current yield depending on climate scenarios. Crop failures due to extreme climate events may also increase. Agriculture is the most important socioeconomic sector in East Timor, accounting for approximately 75% of employment. Given the heavy reliance on subsistence agriculture to survive, the population is therefore vulnerable to shocks such as floods and droughts which lead to crop failures. Dependence on the agricultural sector means that climate change impacts can be far-reaching given that the capacity to adapt is low. Overall, a potential loss equivalent to 6.7% of combined gross domestic product (GDP) per year by mid-century due to climate change impacts, is expected.

Maize is the most abundant and accessible crop, making it the most important source of food supply in East Timor and is grown in shallow soils on steep slopes using shifting cultivation practices involving burning existing vegetation and planting seeds in the ashes. It is estimated that up to 20% of the country is burned each year for maize production. Limited land in mountainous areas, means that fallow periods are short, resulting in declining yields which are further exacerbated by soil erosion and nutrient depletion, both of which will increase with climate change. Most agriculture, including maize is unirrigated, making it vulnerable to drought and irregular rainfall.

Rice is the second most important food crop in East Timor in terms of volume produced and a key indicator of food security, with areas producing at least one rice crop per year being more food secure than those that cannot. Two crops are produced mainly in the southern part of the island where there are two rainfall peaks in the wet season, while in the north only 1 peak is possible to less rice is produced. In general, the second crop only accounts for 10% of total production, with the bulk of production coming from single crops irrigated by rain-fed flooding. However, economic loss and physical damage to rice is mainly from flooding in extremely wet years.

Irrigation is a critical input for rice production. Of 498 sucos, 286 have irrigation of some kind, and these roughly correspond to the areas that produce at least one rice crop per year (30). However, most of these systems operate in the wet season only, there being insufficient water in the dry season and no significant water storage systems for year-round irrigation of crops.

Approximately 10 000 ha of irrigation rice systems are still damaged and require rehabilitation. The areas that produce a single crop each year, and which account for the bulk of rice production, may be sensitive to climate change, particularly if rainfall in the wet season decreases. All rice crops in flood prone areas may experience reduced production in the future because of increased flood events, while increased temperature may result in increased evaporation of water from paddies.

Coffee is the most important cash crop in East Timor, accounting for approximately 90% of foreign exchange. Some 25 000 families derive a significant proportion of their income from coffee production, and a further 15 000 families derive a small portion of income from it. However, the real price of coffee declining due to overproduction, commodity dependence, and increasing concentration of power in the hands of a few agribusinesses in the supply chain, thus shifting income from producers to traders. Coffee requires an average annual rainfall of some 2000– 3000 mm y<sup>-1</sup> and relative humidity of 70%– 90% (3). It also requires a distinct dry season for flowering and ripening of berries (3). For these reasons, coffee is grown in the northern and southern highlands, and is a major crop for most sucos in Aileu, Ainaro, Ermera, Liquica, and Manufahi. Rising temperatures and increased rainfall may alter humidity at lower altitudes where coffee is grown and shift the altitude band favourable for coffee production upward. Increased rainfall in the dry season may also have an adverse effect on flowering and ripening of berries.



In summary, climate change has direct and indirect effects on crop production and the socioeconomic circumstances of Timor-Leste.

#### *5.7.1.4 Impact on coast*

A sea level rise of 76 cm may result in increased shoreline erosion, saltwater intrusion into freshwater aquifers, salinization of drinking and agricultural water. Coastal flooding and coastal erosion may increase impacting infrastructure such as buildings and roads, agricultural activity and may increase shoreline retreat. Parts of the main road from Dili to Com via Baucau run close to the water's edge. The main port at Dili would be at increased risk as well as the new port and oil industry infrastructure at Suai. In some places, such as Oecussi, neap tides can cause inundation of settled and farmed areas with seawater, which suggests that such places are vulnerable to rising sea levels.

#### *5.7.1.5 Impact on infrastructure*

The impact of all hazards has been shown to increase under climate change and, the severity of impact is dependent on the ability of communities to cope with hazards under climate change. The analysis shows that the increase in the areas affected as well as the number and length of key infrastructure affected, increases for all municipalities and for all hazards. In most cases, at least doubling in percentage terms.

### **5.7.2 Natural Hazard Risks under baseline and climate change conditions**

#### *5.7.2.1 Flood Risk*

Flood is one of the most common disasters in Timor-Leste, resulting from a combination of heavy monsoon rain, steep topography and widespread deforestation. There are three types of flooding in Timor-Leste namely: (1) flash flooding that occurs when high intensity seasonal rainfall occurs on steep slopes; (2) riverine flooding that occurs when water accumulates in lowland or upland flood plains and river banks have insufficient capacity to contain the flow resulting in an overflow of the river and (3) Urban or pluvial flooding when urban drainage system have insufficient capacity to accept high intensity rainfall which results in surface water flooding in paved areas (mainly in Dili and Baucau).

Based on an indicative national flood hazard map of Timor-Leste an assessment of flood risk under baseline and climate change conditions show that under climate change and with coping strategy taken into account, flooding has greatest impact on houses in Dili, main roads, rural roads, cropland and rice plantations in Baucau and water sources in Lautem. It is important to note that when coping capacity is not considered flooding has the greatest impact on houses in Dili, rural and main roads in Lautem, cropland in Cova Lima and Rice plantations in Baucau. The overall annual average damages for the municipalities which fall within the 6 UNDP prioritized sub-catchments is \$ 2.046 Million and the highest damages, as would be expected, would be sustained in Dili, the capital, which would account for 57% of all damages. Manatuto has the second highest flood damages and accounts for a third of all flood damages. In urban areas, the total damages for the 1 in 100 year event would be \$13.16 Million. Almost twice, covering 7 sucos. In rural areas \$7.9 Million in damages would be incurred for the 1 in 100 year flood and would affect 34 sucos in the 6 priority catchments. In the 6 municipalities, a total of \$36.26 Million in damages, 1.05 Million in crop income losses and \$6.84 Million in total income losses is possible under moderate and high severity flood events. In addition, 38 water supply sources, and 6,813 ha of irrigated land will be impacted. 53.47% of rice areas will be affected.

#### *5.7.2.2 Landslide Risks*

Landslides induced by flooding are reported to be one of the most common disasters in Timor-Leste. The country experienced large-scale landslides in many mountainous areas, especially in Liquiçá district, due to heavy rains brought by La Niña weather patterns from December 2007 to April 2008. A landslide in Bobometo village of Oekusi destroyed at least 2 hectares of local farmland and forced the evacuation of 15 families living around the affected area. In Timor-Leste, high occasional rainfall, steep

slopes, high weathering rates and slope material with low shear resistance or high clay content are the main preconditions for landslides. Apart from their potential to cause casualties and damage, landslides can also cause major disruption to the fragile road network, and can potentially damage fragile irrigation and water supply structures, isolating communities and disrupting services for long durations. Deforestation, vegetation destruction by fire or other sources and inappropriate agricultural activities in Timor-Leste have contributed to creating conditions that make areas prone to landslides.

Based on an indicative national landslide hazard map of Timor-Leste an assessment of landslide risk under baseline and climate change conditions show that under climate change and with coping capacity taken into account, landslides have the greatest impact to house and water sources in Viqueque, main and rural roads and cropland in Ermera, and rice plantations in Baucau. In the 6 project municipalities, economic damages due to high and very high intensity landslide could reach \$186.6 Million to properties and \$13.4 Million to total income lost. In addition, 1,042km of roads, 14,250 road beneficiaries, 15 water supply sources and 1,767 ha of land are at risk of damages.

### *5.7.2.3 Soil Erosion Risks*

Soil is a valuable resource of Timor Leste. The nature of soil in a place is largely influenced by such factors as underlying geology, climate, and natural vegetation. The island of Timor sits at the eastern end of and just south of the archipelago of volcanic islands, the Banda Arc, running eastwards from the Indonesian island of Bali. This volcanic arc is the surface expression of lithospheric subduction currently taking place as the Australian crustal plate moves north eastwards towards and underneath the Eurasian plate. The island of Timor was formed from the collision of the Indo-Australian tectonic plate with the Eurasian plate to the north. Calcareous rock from old coral reefs were forced out of the ocean and the underlying igneous (volcanic) and metamorphic (deep, heated and hard) rock layers from underneath the surface were exposed. This has resulted in a complex soils structure laid over extensively fractured parent materials. The topography consists of a narrow plain around the coast and a central mountain range dominating the country. This central chain of mountains reaches a height of 2980 m at Mount Ramelau (or Tatamailau), which is located approximately 70 km south of Dili in the district of Ainaro. Almost half of Timor's land has a slope of 40° or more. Extensive steep slopes and high rainfall lead directly to extensive soil creep and downhill slumping and soil erosion which in severe cases often gives rise to major landslips which are also abetted by the highly sheared and therefore weak nature of the bedrock. The loss of soil stability and soil erosion can take place due to the removal of vegetation cover, and numerous construction activities. It can cause the loss of soil fertility and induce slope instability. Poor management of soils can lead to erosion and subsequent loss of soils and the habitats and livelihoods that it supports.

Based on an indicative national soil erosion hazard map of Timor-Leste an assessment of soil erosion risk under baseline and climate change conditions show that under climate change and with coping capacity considered, erosion has the greatest impact to houses in Ermera and water sources in Lautem. Impact of soil erosion on agriculture is 4<sup>th</sup> highest in Baucau municipality with estimated losses of \$ US 926,347. In the 6 project municipalities, the total potential economic damages from moderate and high severity erosion is just under \$10 Million with 140 water supply sources, 50,693 ha of land affected, and 312 irrigation schemes (105 of which are in Baucau). 80.98 % of rice areas are affected representing 133,422 households.

### *5.7.2.4 Drought Risk*

Timor-Leste has been experiencing a rapidly worsening drought during the winter season especially in the northern areas (CRM, 2009). Historical records indicate that Timor-Leste has experienced El Niño-related droughts in the past. During the period of 2002-2003, and most recently in 2015-16. El Niño-related drought affects almost all of Timor-Leste. In 2006, the El Niño Southern Oscillation (ENSO) caused delays in the typical wet season throughout the country for more than one month. In addition, the rainfall pattern remained erratic and dry spells were reported in some areas until late February 2007. That year there were serious negative impacts on agricultural production due to the late onset of the rainy season and erratic rainfall pattern. There was a 30% drop in production in 2007 which is attributed to drought (FAO/WFP, 2007). In 2015 and 2016, El Niño resulted in water and food shortages across the country causing crop failure, limited production, reduced family income with 78% of the population affected by food and water shortages, the death of 70,000 livestock and an additional 70,000 reported

sick. Limited supply of water has led to a significant gap in cereal production for two consecutive years and the ongoing drought is putting a critical pressure on the limited resources of rural households.

In an El Niño year, rainfall is not only diminished but the onset of the rainy season is delayed as well (Dolcemascolo, 2003). Because of this, studies of drought in time and space are essential. It is also important to study the probability of having a consecutive dry period during the growing season of a crop. Drought susceptibility has been mapped based on the probability of occurrence of droughts at different severity levels (i.e. moderate, severe, and extreme and moderate to extreme) in the 24 stations.

Based on an indicative national drought hazard map of Timor-Leste an assessment of drought risk under baseline and climate change conditions show that under climate change and with coping capacity considered, drought has the greatest impact to houses in Ermera and water sources in Aileu. Given most agriculture is 'backyard' subsistence agriculture, it is reasonable to use impact of droughts on dwellings as a proxy to impact on the backyard subsistence agriculture that much of the rural communities rely on. However overall impact of drought on agriculture is highest in Baucau municipality (with estimated losses of \$ US 1.7 Million for an extreme drought). In the 6 project municipalities, the economic damages that would be incurred in a high and very high severity drought event is \$12.5 Million for crop income, with 193 water supply sources affected, and 62,808 ha of land and 398 irrigation schemes impacted (163 in Baucau). 98.63% of rice production areas are at risk from high and very high drought which will affect 172,403 properties and nearly the whole population of Timor-Leste.

### *5.7.2.5 Multi-hazard risk to infrastructure*

For dwellings, the riskiest municipalities for both the baseline and climate change scenarios are Baucau, Ermera, Dili and Aileu respectively. The result reflects the density of population in these municipalities and the depth of poverty and hence lack of coping capacity. In addition, given that dwellings can be considered as a proxy to subsistence agriculture, the combined risk reflects the likely combined risk to the ability of communities in these highest risk municipalities to cope with, and recover from hydrometeorological hazards.

**Rural roads in Baucau and Ermera are at highest combined risk from the combination of flooding and landslide hazards, followed by Aileu and Ainaro under baseline and climate change conditions.** Main roads in Baucau are also at highest combined risk followed by Lautem, Cova Lima, Viqueue and Ermera under baseline conditions and climate change conditions. Ainaro main and rural roads show increased risk under climate change.

Water Sources in Lautem, Baucau, Aileu and Ermera are at highest risk from the combination of flood, landslides, droughts, and erosion under baseline conditions. Water sources in Lautem, Aileu, Liquica and Cova Lima are at highest risk under climate change. It should be noted that the risk to individual hazards is very different in different municipalities and this should be considered during the design of intervention measures in specific municipalities.

Agricultural land is assessed based on the combined effect on cropland, rice and orchards. Baucau, Viqueue, Ermera, and Cova Lima are the municipalities worst affected by flooding landslides and wind, under both baseline and climate change conditions. It should be noted, however, that analysis of the individual crops show different ranking of impact by hazards which will be considered when considering intervention measures targeted in different municipalities.

## **5.8 Socio-economic baseline**

Since gaining independence in 1999, Timor-Leste has faced great challenges in rebuilding its infrastructure, strengthening the civil administration, and generating jobs for young people entering the work force. This pervasive infrastructure deficit keeps the rural population in isolation, lacking access to basic public services and deprived of mobility and economic opportunities. A network infrastructure is crucial for the functioning of today's economy and society, notably infrastructure for energy (e.g., grids, power stations, pipelines), transport related fixed assets, such as roads and bridges and water supply (such as, water supply pipelines, reservoirs, waste water treatment facilities and irrigation canals). They are sets of interconnected networks of physical infrastructure which facilitate the production and distribution of goods and economic services and form the basis for the provision of basic

social services. There are considerable gaps in this network infrastructure in Timor Leste, hindering service delivery, growth and economic development. In fact, many country assessments for Timor Leste recognise a direct correlation between the high incidents of poverty and significant gaps in infrastructure. It therefore comes as no surprise that the government's priority investments are directed towards addressing the current infrastructure deficit that is considered the major binding constraint for socio-economic development. It is critical however that climate change impacts are duly addressed as to ensure that these foundational investments and associated services are durable in support of local development and long-term resilience.

Rural populations of Timor Leste are highly exposed to a number of hazards including flash floods, landslides, soil erosion, coastal flooding and drought, due to unfavourable terrain, socio-economic factors and intensification of these climate-induced hazards over time. In addition, anthropogenic factors such as poor, non-climate-resilient design and application of infrastructure construction standards and the limited investment in operation and maintenance, are exacerbating exposure and resulting in the failure of small-scale rural infrastructure, which is essential to the development of rural communities. Impacts include isolation of communities when roads and bridges are damaged by localized extreme events, contamination of unprotected water sources, reduction in yield of water supply sources due to droughts, flooding of communities due to inadequate or failing flood defences. In addition, the institutional and financial capacity of Local Administrations and communities to adapt to the situation is weak. This includes the ability of municipality planning officials, engineers and decision makers to identify areas that are critically vulnerable to climate hazards, to draw the links between ecosystems management and infrastructure development, and to identify, appraise, prioritize, design, cost and 'budget in' greater resilience measures. There is also a weak ability to understand and address gender and climate change related development and equity issues at local level.

### **Economy, employment and income**

According to UNHDR 2019 Statistical Annex Timor Leste is 1.7 times below the average employment rate for developing countries and 1.9 times below the rate for the region. This trend is magnified when the gender disaggregate data is examined with the rate of employment among TL females being 2.5 times less than the regional average while males are 1.6 times below the rate of employment regionally. The working poor is 66.9% compared to the regional average of 23.8%. Youth unemployment is in line with the average for developing countries at 14.8%, but below the regional average of 18.6%, but this may mask the fact that a larger than average percentage of the potential Timor Leste work force is comprised of the youth (Population median age of 16.9 years). 50% of employment is in agriculture while 40% is in services.

An analysis was undertaken of demographics, employment and economic activity using the 2015 census data for the 6 municipalities.

On average, 41% of the population is younger than 15 years old, while 46% is of working age (17-60 years old) and 7% older than 65 years.

*Table 0-13: Age demographics per municipality*

Municipality	Age Group				
	0 - 14	15 - 64	65+	17-60	60+
% Male	39	55	6	48	8
% Female	39	55	5	49	8
<b>Baucau</b>					
% Male	40	53	7	45	10
% Female	38	54	8	46	11
<b>Ermera</b>					
% Male	43	53	5	46	7
% Female	41	54	4	47	7
<b>Lautem</b>					
% Male	45	49	6	41	8

% Female	41	51	8	44	10
<b>Liquica</b>					
% Male	40	54	6	48	9
% Female	38	55	6	49	9
<b>Viqueque</b>					
% Male	43	49	8	42	11
% Female	39	51	10	43	13
<b>Average</b>	41	53	7	46	9

On average 46% of working age people (53% male, 38% female) are employed while 53% are economically inactive (45% male and 60% female) (Table 0-14).

Table 0-14: Main economic activity by municipality

Municipality	Main economic activity		
	Employed	Unemployed	Economically Inactive
<b>Aileu</b>			
% Male	55	2	43
% Female	43	1	56
<b>Baucau</b>			
% Male	52	3	45
% Female	35	1	64
<b>Ermera</b>			
% Male	55	2	43
% Female	44	1	55
<b>Lautem</b>			
% Male	47	3	50
% Female	32	2	66
<b>Liquica</b>			
% Male	53	4	43
% Female	39	2	59
<b>Viqueque</b>			
% Male	55	2	44
% Female	38	1	61
<b>Average</b>	<b>46</b>	<b>2</b>	<b>53</b>
Average (Male)	53	2	45
Average (Female)	38	1	60

Table 0-15: Level of agricultural activity of households per municipality

Municipality	Level of Agricultural Activity		
	Only minor agriculture activity (backyard)	Producing mainly for home consumption	Producing mainly for sale with some home consumption

		with some sales	
<b>Aileu</b>	46	51	2
<b>Baucau</b>	44	48	4
<b>Ermera</b>	59	36	2
<b>Lautem</b>	40	54	2
<b>Liquica</b>	60	33	4
<b>Viqueque</b>	39	56	2
<b>Average</b>	<b>48</b>	<b>46</b>	<b>3</b>

On average 48% of households are involved in backyard only agriculture, 46% produce mainly for home consumption with some sale, while 3% produce mainly for sale with some home consumption (Table 0-15).

Most households produce maize (82%), casava (77%) and sweet potato (69%) while approximately 60% produce vegetables, beans, fruit and coconut, 50% produce coffee, 40% timber, 36% rice and 25% others (Table 0-16). Many households rear chickens (87%) and pigs (85%), while 30% on average rear goats, cattle/cos and other (Table 0-17).

*Table 0-16: Type of crops produced by households per municipality*

Municipality	Type of crop produced											
	Rice	Maize	Cassava	Sweet potato	Vegetables	Beans	Coffee	Coconut	Fruit (perm)	Fruit (temp)	Timber trees	Others
<b>Aileu</b>	34.0	92.6	90.6	85.8	79.2	74.3	82.2	42.7	71.1	73.8	32.3	21.7
<b>Baucau</b>	54.9	77.9	65.9	62.4	46.5	44.3	24.0	63.6	51.3	51.7	36.8	22.7
<b>Ermera</b>	22.5	83.6	82.8	77.8	66.0	57.3	81.9	41.6	50.8	55.3	33.4	24.0
<b>Lautem</b>	28.9	80.1	65.3	54.8	39.4	50.9	18.2	67.2	51.8	49.1	42.9	19.2
<b>Liquica</b>	14.6	85.8	81.4	60.1	63.4	65.2	56.4	66.0	68.2	68.1	40.3	28.7
<b>Viqueque</b>	59.6	74.2	75.8	70.5	65.9	63.1	28.2	68.9	58.3	57.1	55.9	34.3
<b>Average</b>	<b>36</b>	<b>82</b>	<b>77</b>	<b>69</b>	<b>60</b>	<b>59</b>	<b>48</b>	<b>58</b>	<b>59</b>	<b>59</b>	<b>40</b>	<b>25</b>

Table 0-17: Types of livestock reared by households per municipality

Municipality	Type of livestock reared							
	Chickens	Pigs	Sheep	Goats	Cattle/Cows	Buffaloes	Horses	Other
Aileu	79.4	87.2	4.3	38.8	38.0	14.3	24.5	9.4
Baucau	89.4	87.4	15.8	32.2	11.4	17.2	25.3	21.3
Ermera	82.9	76.9	3.1	20.3	31.7	6.5	9.2	33.3
Lautem	88.8	86.3	4.9	15.6	36.0	23.3	19.0	15.5
Liquica	90.7	86.1	2.6	44.9	37.3	5.0	5.6	44.0
Viqueque	88.7	84.8	3.6	25.6	35.1	29.1	27.7	37.7
<b>Average</b>	<b>87</b>	<b>85</b>	<b>6</b>	<b>30</b>	<b>32</b>	<b>16</b>	<b>19</b>	<b>27</b>

### Gender

UNDP's Gender Development Index<sup>10</sup>, based on the sex-disaggregated Human Development Index, defined as a ratio of the female to the male HDI, measures gender inequalities in achievement in three basic dimensions of human development: health (measured by female and male life expectancy at birth), education (measured by female and male expected years of schooling for children and mean years for adults aged 25 years and older); and command over economic resources (measured by female and male estimated GNI per capita). The 2019 female HDI value for Timor-Leste is 0.587 in contrast with 0.623 for males, resulting in a GDI value of 0.942.

The Gender Inequality Index (GII), reflects gender-based inequalities in three dimensions – reproductive health, empowerment, and economic activity. Reproductive health is measured by maternal mortality and adolescent birth rates; empowerment is measured by the share of parliamentary seats held by women and attainment in secondary and higher education by each gender; and economic activity is measured by the labour market participation rate for women and men. The GII can be interpreted as the loss in human development due to inequality between female and male achievements in the three GII dimensions. Due to a lack of relevant data, the GII has not been calculated for Timor Leste.

In rural Timor-Leste, the burden of agricultural work, crop harvesting and caring for home gardens is generally shared between men and women. However, domestic responsibilities such as child-rearing, cooking, cleaning and overall family wellbeing, reflects traditional gender roles. This implies that women's vulnerabilities to climate change and disaster, while similar to men, include specific additional concerns such as:

- Access to water and firewood;
- destruction of and damage to the home gardens;
- damage to seeds;
- hindered access to markets and hence sale of products/ generation of cash;
- diseases and access to clinics; and
- closing of schools.
- Post-disaster health care

In Timor-Leste, women are often excluded from certain activities due to customary norms or lack of capital and ownership arrangements that confer all rights to men in the family. Women hold very few leadership positions within the districts. In cases where women do participate in local level planning, they are in the minority. An important aspect of gender mainstreaming in Timor-Leste is therefore to increase involvement of women in formal and informal decision-making processes.

<sup>10</sup> <https://hdr.undp.org/data-center/documentation-and-downloads>

Timorese women continue to experience high levels of violence, despite the ratification of the Convention on the Elimination of Discrimination against Women in 2003 and other legislation which aims to protect women from gender-based violence (GBV). In Timor-Leste, GBV is the largest category of crimes reported to police, with 59% of ever-partnered women aged 15-19 experiencing intimate partner violence at least once in their lifetime.

In the 6 project target municipalities, on average, there are 3% of female-headed households (Table 0-18) and 40% fewer females than males are in employment and 30% more females than males are economically inactive (Table 0-14).

*Table 0-18: Total households and % female-headed households per municipality*

Municipality	Total Households	Female headed households	% Female headed households
Aileu	7598	1009	2
Baucau	22976	4127	4
Ermera	20671	3255	2
Lautem	12050	3007	2
Liquica	11885	1566	4
Viqueque	15297	2809	2
<b>Average</b>	<b>15080</b>	<b>2629</b>	<b>3</b>

## Youth

The population of Timor-Leste is one of the youngest in the Asia and Pacific region. The median age is 17.4 years, and the country is the 15th youngest in the world.

The annual population growth rates have been high since independence, 2.6 percent between 2010 and 2015. Timor-Leste is the most rapidly growing country in Southeast Asia and one of the most rapidly growing countries in the world. While 39 percent of the population is below the age of 15, a small share—6 percent—is over age 65. Every country experiences a demographic transition as mortality and fertility rates decline, leading to changes in the population age structure. The population age structure is particularly important for economic and human development because it determines the dependency ratio, that is, the ratio of the non-working population, typically ages 0–14 and 65 or above, to the working population, ages 15–64, and, thus, the prospects for a demographic window of opportunity and a demographic dividend.

Because of declining birth rates and decreasing mortality rates among children ages 0–14, Timor-Leste is now engaged in a demographic transition. If appropriate policies and strategic investments are realized by policymakers today, particularly for the benefit of youth, Timor-Leste may enjoy the positive outcomes of a demographic dividend. The Government aspires for the country to reach upper-middle-income status, with a healthy, well-educated and prosperous population, by 2030 (Planning Commission 2011).

In Timor-Leste, young school-leavers generally prefer employment in the public or private sector, but the opportunities for such jobs are limited. Meanwhile, agriculture is viewed as a last resort. These attitudes need to shift to open up new opportunities, not only to engage youth in economically productive activities, but to contribute to rural development in a country that is principally dependent on agriculture for livelihoods.



### **Indigenous People**

The population in Timor-Leste mainly consists of East Timorese and a small fraction of people who are not ethnically East Timorese. The population is both multi-ethnic and multilingual, with 20 individual languages in use (19 indigenous languages and one non-indigenous)

Ethnic groups fall into two main categories of origin: Malayo-Polynesian and Papuan origin. The ethnic groups of Malayo-Polynesian origin include Austronesian (Malayo-Polynesian) includes Tetun, Mambai, Tokodede, Galoli, Kemak, Baikeno. The Melanesian-Papuan includes Bunak, Fataluku, Makasae and there is also a small Chinese minority. The lingua franca and national language of Timor-Leste is Tetum, with which it has equal status as an official language. The Tetum (100,000) are the largest Malayo-Polynesian group and are mainly found around the capital, Dili, and the north coast. The largest ethnic group of Papuan origin are the Bunak (85,000), Fataluku (45,000) the Makasae (75,000).

## 6 Environmental and social risks, impacts and mitigation measures

### 6.1 Introduction

The sub-projects have been screened, environment and social impact assessments undertaken, and environment and social risks and impacts identified.

The **environmental risks** associated with the sub-project are assessed as **Moderate**, with mainly short-term, temporary, predictable, negative impacts that can be readily mitigated, and overall significant long-term positive impacts.

The **social risks** associated with the sub-project are assessed as **Moderate**, with mainly predictable short-term negative impacts that can be readily mitigated. Social risks include potential to impact cultural heritage/sacred sites during construction, potential conflict associated with land tenure and potential for exclusion of or adverse impacts to women and vulnerable groups.

### 6.2 Positive Impacts

There are a number of **positive impacts** associated with the project. They include:

- **Employment:** Temporary employment for community members during the construction phase by the project directly and indirectly through employment opportunities through the provision of services to the construction teams which will include women (minimum 30%). Improved accessibility along the corridor may lead to the increase in the movement of business concerns/economic activity to areas along the corridor, hence enhancing the employment possibilities of inhabitants.
- **Income Generation:** The accessibility will lead to better transport services, hence increasing income of operators in transport services. The location of businesses along the corridor due to accessibility could also change the income levels of the community members due to increased employment possibilities
- **Improved all weather access and ease of road transport in the area:** The rehabilitation of the proposed road will improve transport and communication between surrounding rural communities and connect rural communities with urban communities, markets and services. The climate resilient road will make transportation of goods, commodities, and access to basic services within the area faster and easier all year round and not just in the dry season.
- **Reduced Transportation and Vehicle Maintenance Costs:** The rehabilitation of the existing road and surfacing will result in reduced transportation costs and increased number of vehicles plying the route. The motorable nature of the road will reduce instances of vehicle break down and vehicle maintenance. This will lead to an increment in the lifespan of vehicles that ply the route.
- **Reduced Road Maintenance Costs:** The rehabilitation of the existing road and surfacing will result in reduced cost of road maintenance and frequency of required road repairs. Thus reducing the maintenance costs to the municipality in the long-term.
- **Increased Investments:** Reduced transportation costs of goods and services and increased accessibility along the road corridor may increase the frequency of private entities locating their businesses in the area, hence increasing overall investment along the road corridor. The road will also enhance access to nearby markets.
- **Stimulation of Development:** Increased access will result in development of other social amenities, such as building of health centers, schools, etc and may attract development projects. This will also enable the facilitation of other economic activities in the settlement areas. For example, improved access to market for agricultural produce through a reliable, transportation network, will result in long-term increased household income and will enable re-investment back into agricultural activities.

- **Improved Access to and Delivery of Healthcare and Education:** The project when completed will enhance access to schools and health facilities. It will also reduce the time spent to get to school and health centres. Additionally, improved ambulance services for communities along the project corridor could result.
- **Community resilience and adaptation to climate change:** Rural access is challenged because of the prevalence of landslides and erosion hazards along the road corridor, especially during the rainy season. The project will contribute to enhanced resilience of the community to climate induced disasters through the application of the climate risk reduction measures such as soil bioengineering and complementary catchment management interventions. These climate risk reduction features have been included in the designs to safeguard the infrastructure unit from the potential climate hazards.
- **Improve social-economic conditions and improved living standards:** Most of the people living within the project areas are farmers, and the roads pass through community residential areas and plantations. Currently the rural roads do not allow all-weather access and thus hinders movement and service delivery resulting in higher transport costs and related products, lack of access to markets and essential services. The implementation of the project will contribute to improvement of the living conditions of population living along the road and particularly for the residents of the communities who are considered as direct beneficiaries. The major improvement is access to social services and being able to transport their products (such as agricultural produce) to markets in a timely manner and at less cost. The catchment management interventions and soil bioengineering activities that will complement the road structure will also contribute to improvement in the livelihood of the community. Both men and women agreed that the road rehabilitation will result in improvement in their livelihood.
- **Empowerment of Women and Girls:** The present condition of the road makes it difficult for people in the community to travel. Women and children have to walk long distances and it takes very long time for them to reach markets, schools, hospitals and to access public facilities and other social services. Women are considerably affected because of the constraint in accessing local markets, both for getting their agricultural products to the market and buying other items needed in the household. The road condition in the rainy season makes it inaccessible by regular vehicles. The cost for transportation, including to transport coffee harvested and other products, is very high due to the few transport options available. Access is further compromised by hazards posed by changes in weather and climatic conditions. The proposed road rehabilitation will result in positive changes to these situation, thus empowering women and girls in these communities.
- Increase in **land value** within the project area, due to accessibility to a reliable transportation link/network.
- **Community project governance.** The proposed project will involve the community and the local stakeholders throughout the project cycle equipping them with management skills in implementation and management of road rehabilitation projects. The project will present the local stakeholders with a learning opportunity.

### 6.3 Adverse Impacts

Overall, there will be no long-term negative environmental and socio-economic impacts associated with the planned project. In fact, the infrastructure works will enhance the resilience of the beneficiary communities through implementation of climate resilient engineering technologies and complementary catchment management and landscape restoration measures. The activities will include stabilization of slopes through implementation of substantiable structural measures (such as gabion baskets, plantation of road corridors with bio-engineering material like Vetiver grass, vegetation of road embankments). These measures will address the long term erosion and landslide risk of embankments above and below the rural roads in the steep rural environment. Therefore, the cumulative anticipated impacts would be minor and reversible.

The project has also noted the associated potential impacts, and mitigation measures are as follows:

## 6.4 Environmental risks - management measures

The potential physical impacts of the road rehabilitation work and the subsequent use of the road are limited to noise, air quality, soil and land modification and hydrology. As the project is being undertaken on an existing roadway that currently carries traffic, the negative physical impacts will be relatively minor and of short-duration, being predominantly associated with construction.

The appropriate mitigation measures have been discussed in the ESMP Matrix in Section 6 of this report.

### 6.4.1 Impact on Biological Resources

The project road passes through agricultural areas and villages. The present road alignments do not cross any known biodiversity sensitive areas, such as protected areas, natural reserves, or wetlands. The potential impacts that may occur during construction include:

- Soil disturbance and vibration due to the use of trucks
- Dust and exhaust emissions from construction plant, vehicles and equipment
- Disturbance and/or destruction of small shrubs and bushes
- Sediment discharge from stockpile and/or open excavated areas

However, these will be mitigated and reversed/reinstated after the construction. As a result, the impacts will be negligible.

### 6.4.2 Impact on Flora and Fauna

The proposed road projects rehabilitation works will not directly change land use within the project footprint. Land use changes, such as increase in mixed plantation activities (agriculture and horticulture) and additional residential dwelling units, along the road is likely to occur over time due to the improvement in the road condition, improved access and connectivity with other neighbouring communities, better access to markets and the associated increased in economic activities after project completion.

Some vegetation will be disturbed during the construction works and may lead to the temporary loss of vegetation and has the potential for permanent loss of important plant species if not properly managed. Earth works activities will include minor excavation, for widening of the existing road alignment. These activities will be implemented to ensure that they do not encroach beyond the permitted area and will use manual methods to ensure that existing trees are retained as far as possible. Following clearance, efforts to revegetate the area could result in the introduction of new and potentially invasive species if not carefully managed. The clearance of vegetation could increase the risk of erosion of exposed soil, sedimentation of water courses and could increase risk of dust in the air if not properly managed.

Impact on vegetation will be most pronounced in the areas where there is forest clearance for agriculture, especially on higher altitudes slopes. The types of trees and vegetation in the project area vary according to topography and soil type. There is an exception for perennial species which grow in all areas such as shrubs and grasses. All impacts, such as the clearing of light vegetation for the operation of equipment and temporary storage of materials, will be limited to intermittent locations within 2 meters on either side of the road and any impact outside of the road alignment will be reversed after the work is complete.

There is a risk of degradation of habitat quality due to construction activities and construction camps, and presence of workers which could impact wildlife as well as domesticated animals. Noise generated due to construction and transport could disrupt communication systems of fauna. Lighting from the vehicles during their movements could result in behavioural change, collision of animals and road kills. Fragmentation to important habitat areas may reduce home range and cause isolation of wildlife species. These impacts could result in decline in wildlife population, their flow and movement. Injury and accidents could lead to mortality of animals. Reduced access to breeding sites and nesting habitats of birds could result.

The project will plant trees and grass (vetiver) as part of bio-engineering interventions. Trees have been identified for their ability to hold soil together and prevent landslides. Clearing of light vegetation for the operation of equipment and temporary storage of materials, will be completed using labour-based methods.

The following mitigation and management measures have been identified to further avoid and reduce the impacts of the above risks.

#### *6.4.2.1 Vegetation clearance*

- Vegetation on the project site and adjacent area preserved as far as possible;
- Boundaries of operation areas and traffic routes strictly observed during construction;
- Protected species, if discovered on project site, removed from the environment in accordance with relevant international conventions;
- Use of labour-based methods which preserve environment, based on a knowledge of important species, and where possible by only reducing the height of trees rather than complete removal (such as uprooting)
- Keep clearing to a minimum and only what is necessary
- Compliance with good practice of waste management ensured;
- Use temporary fencing protection for root critical zone of the trees that might be accidentally disturbed during construction by off-site and on-site traffic;
- Vegetation to be removed is clearly marked using paint or flagging tape;
- Revegetation of disturbed sites after completion of works, ensuring that no invasive species are introduced in the process;
- Other dust, soil and water impact mitigation measures implemented;
- Staff trained/briefed in, and aware of, construction best practice.

#### *6.4.2.2 Biodiversity and habitat conservation and protection*

The project is not within any areas that are protected for their biodiversity or sensitivity. Overall, the impact of the project on the biological environment along the road corridor will be minimal and to surrounding natural habitat reversible. From site visits and discussion with local authorities and the residents of the communities, there are no obvious habitats or wild or endangered animal habitats within close vicinity of the project roads. Considering that the roads follow the existing alignment, the construction works will not cause any serious impact or threat to the adjacent natural habitats. A minor disturbance to the livestock and domesticated animals that cross the road might occur during short periods of works.

The project will ensure the following biodiversity safeguards:

- Ensure work is done during dry season, if possible, to minimise impacts on river and streams.
- Ensure no wild animals or endangered species are affected by the proposed works.
- Tree and vegetation habitat protection - Minimizing loss of trees and other vegetation;
- Measures for mitigation of impact on soil, water, air and vegetation, noise and waste management/reduction implemented;
- Habitat disturbance minimised through adequate protection and management of retained vegetation;
- Works scheduled with consideration of period sensitive for fauna species (birds, fish, amphibians in particular); Trees checked for presence of bat roosting places;
- No harm policy implemented;
- Trenches or pits that might be required during construction fenced/protected to avoid entrapping and injuries of the fauna species;
- Upon completion of the shift, planks or medium size twigs left in trenches to allow animals to escape in case entrapped despite precautions mentioned above. Pits/trenches checked prior to filling up;
- Disturbed areas revegetated using native and locally endemic species that have high habitat value;
- Poaching prohibited;

- Use directed light (wherever required) to avoid impact on avian fauna;
- All personnel aware of sensitive fauna/habitat areas and the requirements for the protection of these areas;

### 6.4.3 Water Quality and quantity

#### *6.4.3.1 Water quantity - Impacts on Drainage, Surface Waters and Water Resources*

Roads may have both short-term and long-term impacts on water resources. Earthworks might release suspended particles which could have temporary detrimental effect on water systems and organisms. However, the main concern aside from these short-term impacts during construction work is the effect on drainage and the hydrological functions of rivers, wetlands and surface and groundwater resources. This impacts will need to be minimized and managed by provision of adequate drainage into the designs.

Where road alignments cross several rivers bridges will be constructed over these rivers and waterway diverted to provide adequate flow/conveyance capacity of the rivers and streams under climate-induced high flow conditions. Bridges will need to be have the appropriate level of scour and erosion protections to ensure that flow under road bridges to avoid undermining and washing away of bridges and road sections.

During construction water shall not be extracted from rivers for construction purposes. Quantities of water determined by the contractor for construction purposes shall be procured from appropriate sources, that minimizes the impact on potential flood risk.

#### *6.4.3.2 Water quality – Impacts on surface and groundwater quality*

Direct risks to water quality may result from pollution of sources. Pollution of surface and groundwater could occur from spillages and leaks from construction equipment and vehicles, site waste and waste water, materials and stockpiled waste, and wash from disturbed and/or polluted soils. Heavy sedimentation generated from the construction can reduce river water quality and can exacerbate flood risk.

In order to avoid or mitigate impact, construction works should be performed with due consideration of the following environmental risk mitigation and management measures:

- Most of the sensitive works which could impact water quality or quantity will be mainly implemented during the dry season of August to October, so as to avoid potential risks to water quality and damages and loss during the rainy season.
- Appropriate flow diversion and drainage will be provided during implementation to minimize flood risk during construction.
- Avoid discharge of water on to unstable slopes.
- Discharge of storm-water run-off from construction areas over a vegetated surface (i.e. bio-engineering) to trap sediments
- Staff trained in small spill response measures;
- Onsite repairs /maintenance and fuelling activities avoided.
- On-site vehicles and equipment inspected regularly for leaks; immediate repair of damages;
- Incoming vehicles and equipment checked for leaks. (Leaking vehicles/equipment shall not be allowed on-site);
- Washing of the vehicles on site prohibited;
- Provision of mobile toilets advisable;
- Untreated effluents discharge into the environment banned;

- Discharge of cement contaminated water avoided as cement pollution results in high alkalinity and raises the pH, which can be toxic to aquatic life;
- Materials and waste stockpiled so as to avoid erosion and washing off into the river;
- Waste removed from the site regularly, the sites kept clean and tidy;
- Blockage of the streams avoided through proper management of material/waste;
- Waste collection area sited so as to avoid receiving a substantial amount of runoff from upland areas and draining directly to a water body;
- In disturbed soil areas sediment control measures implemented;
- Construction equipment removed from proximity to the riverine environment at the end of each working day or if heavy rainfall is predicted;
- Discharge of sediment-laden construction water (e.g., from areas containing dredged soil) directly into surface watercourses prohibited. (Sediment laden construction water will be discharged into settling lagoons or tanks prior to final discharge.);
- Staff trained/briefed in and aware of construction best practice.

Should any temporary fuel tank be required onsite, it must be located within at least 100m from the riverbed. The tank must be placed in covered areas with berms or dikes installed to intercept spills, if any. Any spill should be immediately intercepted and cleaned up with absorbent materials;

In case emergency repair is required, any spill of oil/lubricant material must be adequately addressed without delay. If feasible, fuelling/maintenance must be carried away from drainage channels and surface water bodies. (Distance between the maintenance site and any river/water course should be at least 100m). Secondary containment devices (drop cloths, drain pans) shall be used to catch leaks or spills, absorbent materials must be used.

During operation the following risk management and mitigation measures are required:

- Maintenance of bridges openings to ensure adequate flow conveyance capacity during high flows
- Regular water quality monitoring at river crossings
- Regular discharge monitoring at river crossings/bridges

#### 6.4.4 Impact on Soil

Rehabilitation works and widening of the existing road will not cause significant soil erosion. Minor soil pollution could occur due to spillage of construction material, oil, fuel, grease and around the construction site if not managed appropriately. Measures will be taken to manage construction activities to minimise soil disturbance and to ensure that spillages of construction materials, fuel and other hazardous substances are kept to a minimum.

In terms of impact from contractor's facilities, and plant and equipment storage, the contractor will be required to use non-productive and publicly owned areas for these purposes to avoid or minimize the adverse impact. In any case, although this is a direct impact, it would be reversible and insignificant in nature. No major cutting or top-soil removal will result from the road construction. Since the proposed road is on the existing alignment and do not require any land clearance or using agriculture land, there will be no permanent loss of agriculture soil and land due to the road construction. The following soil erosion and sediment control are recommended:

##### ***Erosion and Sediment Control***

- Vegetation on the project site and adjacent area preserved;
- Site revegetated after completion of construction works;
- Slope stabilisation provided - slope drainage, contour drainage trenches (where required);
- Erosion and sediment control devices installed, inspected and maintained as required;

- Works scheduled/staged to minimise cleared areas and exposed soils at all times;
- Major vegetation disturbance and earthworks are carried out during periods of lower rainfall and wind speeds;
- Use mulching to provide adequate vegetation for erosion protection on slopes prior to harsh weather conditions, at sites with surface erosion, daily temperature fluctuations, lack of available moisture, acidic soils, lack of nutrients, and lack of organic material and to supplement other erosion control treatments such as seeding and soil bioengineering. Use soil stabilizers to tack mulches on hard to reach areas and increase mulch durability.
- Stormwater management measures to reduce flow velocities and avoid concentrating runoff designed and implemented;
- Silt curtain installed to protect from increased sediment loads;
- Ground clearance minimized;
- Minimise topsoil removal. Any topsoil removed from areas required for permanent and temporary needs of the project, stored separately from subsoil;
- Stockpiles of removed topsoil and subsoil properly designed and managed - the piles must be placed and managed so as to avoid erosion and washing off. Stockpile storage areas located away from erosion sensitive locations. Drainage trenches around the piles must be provided.
- Soil compaction reduced by strictly keeping to temporary roads (if required) and operation ground boundaries;
- Disturbed vegetation replanted immediately after the construction/disturbance stops;

#### 6.4.5 Air Quality

Dust generated by moving vehicles and exhaust emissions from vehicles are the major sources of air quality impacts. Rehabilitation of the road surface is expected to reduce dust and exhaust emissions with the improvement of road conditions for smooth traffic flow.

Most of the impacts on air quality will occur during the construction phase of the project, but the impacts will be temporary. Measures such as limiting the active section of construction activities, well managed material stockpiles and dust suppression by water sprinkling and the landscape restoration activities will help to significantly reduce the impact.

Although there will be increase in vehicular access and use resulting from the construction, the project will have beneficial impact on air quality during its operation and use especially by providing better traction and riding surface for vehicles. Therefore, the impact on air quality associated with the rural road rehabilitation is likely to be minor. Nevertheless, the following mitigation measures are recommended:

- Restricting active construction activities to not more than a total of 500 meters sections at a time to minimize dust as far as practicable.
- Use of labour-based methods
- Provide masks for the workers and communities.
- Dampen/spray all unpaved roads and significant areas of uncovered soil with water at regular intervals (as required) on working days, during dry and windy weather;
- Cover loose material (if any), with tarpaulins when transported to or off-site on trucks;
- Proper maintenance of vehicles and machinery to minimise emissions;
- Optimum speed while moving through the communities set to reduce dust emissions;
- Prohibit leaving vehicles with the engine idling;
- Staff trained/briefed in, and aware of, construction best practice.



## 6.4.6 Waste Management

Various wastes will be produced throughout the construction process. The main waste producing areas will be construction sites and construction camps (in case of existence). Small amounts of waste are expected along the access and heavy equipment movement routes with ground and soil pollution.

The following types of waste may be produced during construction activities:

- Inert construction waste – cement and concrete residue, loose and debris, stones and gravel, wood etc.
- Excavation waste unsuitable for re-use during earthworks;
- Small amount of hazardous waste – from cleaning, repairing and maintenance of the equipment, polluted soil and water from leakage or spillage of fuels/oils, polluted rags and oil absorbing fabric, polluted personal safety equipment and clothing;
- Non-hazardous waste - paper, glass, plastic and biodegradable waste;
- Sewage - generated through the use of workers' facilities such as toilets.

The preferred waste management hierarchy and principles for achieving good waste management is as follows:

- waste avoidance (avoid using unnecessary material on the projects);
- waste re-use (re-use material and reduce disposing);
- waste recycling (recycle material such as cans, bottles, etc.); and
- waste disposal (all putrescible and/or contaminated waste to be dumped at approved landfills).

Workers involved in construction and operational activities should be familiar with methods minimising the impacts of clearing vegetation to minimise the footprint to that essential for the works and rehabilitate disturbed areas. By doing these activities, the projects should minimise the impact of waste generated by the project.

Waste will be collected and removed from the work camps and disposed in waste disposal areas; Segregation of hazardous wastes (oily wastes, used batteries, fuel drums) to ensure that storage, transport, and disposal shall not cause pollution, consistent with national regulations.

- On-site vehicles and equipment will be inspected regularly for leaks. All leaks/damages immediately repaired.
- Incoming vehicles and equipment will be checked for leaks. Leaking vehicles/equipment will not be allowed on-site;
- waste will be regularly removed from the site; littering prohibited. Sites kept clean and tidy;
- untreated effluents discharge into the environment banned;
- staff trained/briefed in and aware of construction best practice.

## 6.4.7 Noise and Vibration

During the construction phase, the main sources of noise pollution will emanate from the equipment that will be used and vehicles transporting the construction materials to construction site. Mixing, compacting and transporting construction materials are primary noise generating activities and will be distributed over the entire construction period. Construction equipment will have high noise levels, which can affect the construction workers operating the machines. While the noise generated from the activities may have negative environmental impacts on the sensitive receptors close to the project road, where main facilities such as the schools and other public facilities are away from the road construction there will not be a significant impact. Vehicles using the road after the construction works have been completed will cause some noise, but this will be occasional and mild.

All construction and operation activities have the potential to cause noise nuisance. The use of machinery or introduction of noise generating facilities could have an adverse effect on the environment and residents if not appropriately managed. Potential noise sources during construction may include:

- heavy construction machinery;
- power tools and compressors;
- delivery vehicles.

Noise from vehicles is a concern in the areas around the project area as traffic from construction vehicles will increase during construction. In addition, power tools and plant equipment will increase noise levels. There is no criterion for road traffic noise in Timor-Leste. The UNTAET guideline on ambient noise was introduced in 2002. The Timor-Leste ambient noise standard is Leq55dB(A) for residential sensitive receivers and is the same as for World Bank. Where the background exceeds the ambient standards the criterion is background +3dB(A).

Vibration disturbance to nearby residents and sensitive habitats is likely to be caused through the use of vibrating equipment. Blasting is not required to be undertaken as part of this project.

Contractors involved in construction activities should be familiar with methods of controlling noisy machines and alternative construction procedures as contained within specific TIMOR LESTE legislation or in its absence, good international industry practice may be used if the legislation has not been enacted. The detailed, typical equipment sound power levels, provides advice on project supervision and gives guidance on noise reduction.

Mitigation measures should include:

- Restrictions on working hours on weekdays, weekends or public holidays set and complied with, no night-time working allowed;
- Allowable noise level must not be violated (which is Leq55dB(A) )
- Issue protective equipment to onsite employees and those operating heavy machine and power tools
- Install silencers and mufflers as appropriate to site plant and equipment
- Optimum travel speed during offsite travel set and complied with;
- Travel speed in residential areas reduced to reduce vibration
- Temporary noise barriers (whether appropriate) installed;
- Vegetation preserved (that can act as a natural noise barrier);
- Prohibit leaving vehicles with the engine idling;
- Complaints registers and record of response measures provided available;
- Staff trained/briefed in and aware of construction best practice.

#### 6.4.8 Land Use

The proposed road works will not directly change land use within the project footprint. Land use changes, such as increase in mixed plantation activities (agriculture and horticulture) and additional residential dwelling units, along the road is likely to occur over time due to the improvement in the road condition, improved access and connectivity with other neighboring communities, better access to markets and the associated increased in economic activities after project completion.

The course of the roads will be along the existing (dirt) road alignment for the entire corridor, hence there will be minimum need for construction of access roads. Access roads for heavy equipment that will be used only during the construction phase should be removed after completion of the work. Depots and working camps should be located in such a way that they can either be used for other purposes after the time of construction (i.e. in conjunction with local plans), or be removed without trace. Erosion may be a problem during construction, especially in areas with thin soil layers. Great care should be exercised when constructing

along slopes to compact the area well and provide the needed mulch over areas close to the RoW to avoid loss of soil and low vegetation that protect from erosion.

#### 6.4.9 Occupational Health and Safety (OHS)

Labor and working conditions shall follow Government of Timor-Leste labour law No. 4 of 2012 that is applicable throughout the territory of Timor-Leste, to all workers and employers and respective organizations in all sectors of activity. This Labor Law addresses the basic requirements on labor relations applicable to individual and collective labor relations. Injuries and risk to workers health and safety is likely on the construction site and the work requires the use of materials and plant, tools and equipment that can potentially cause harm or injury to its users or nearby observers. Risk to workers and community health can occur because of equipment, poorly managed construction site operations posing danger and risk to workers and community, improper handling of materials and from the (mis)use of equipment and tools, cuts from sharp objects.

The Occupational Health and Safety Management Plan has been prepared to guide the management and monitoring of OHS during the implementation of the rural road rehabilitation project.

#### 6.4.10 Socio-economic Impacts

The existing rural roads that are to be rehabilitated are currently in poor condition, resulting in farming communities being unable to transport inputs or deliver produce to the markets especially during rainy seasons. The absence of all-weather roads besides impeding delivery of other essential services, also results in increased costs of transportation and communities from the various sucos/villages failing to exploit each other's market, which impacts on poverty levels, income and access to health, schools and other essential public services. Additionally, climate change impacts such as erosion and landslides that result in total instability and inaccessibility of the road cut off the community in the beneficiary buffer, resulting in an unacceptable journey detours to markets, etc.

The road projects are expected to benefit the communities through improved access and connectivity, which also results in increased access to social amenities such as clinics, schools thereby improving quality of life. Other direct economic impacts from the project include employment opportunities during implementation.

During the implementation stage, there will be job opportunities for local youths, women and the local community to participate in the construction works. While this will provide income generating opportunities, it will also help to develop the community and household skill sets for the future. The project will target greater participation and involvement of women (targeting at least 30%), vulnerable groups and disability groups. There will also be a trickle-down effect of increased domestic revenue within the communities from the construction activities, including purchase of materials, accommodation, food and services.

It is expected that the road will have positive socio-economic impacts to the community through increased access, market linkages and service delivery with resulting changes in the livelihoods, security and purchasing power of the population and contributing to poverty alleviation. Adequate consultation and involvement of the host community, beneficiaries and stakeholders including women participation in all stages of the project is being fostered.

The sub-projects plan to rehabilitate on average 5 meters wide road within the government owned road corridor (5.5 meters on both side from exiting Centre line) and don't foresee any major damage to crops, trees and structures on the sides of the road. However, where such assets are existing will be recorded and owners will be given enough advance notice to take care of these assets. The project or responsible parties will not provide any support to the affected households in terms of rebuilding or restoring the displaced/damaged structures due to road rehabilitation as all the rehabilitation work will be done on government owned land. Extreme care will be taken by responsible parties to avoid damage to the assets on the downside of the road in hilly patches of the road and for any damage due to negligence, the contractor will be responsible. The project will train the responsible parties to mitigate any damages from the rehabilitation of the road. The Stakeholder Engagement Plan and the GRM also provide mechanisms for communities to formally raise concerns regarding assets that could be affected during the rehabilitation of the road.

Despite the many positive impacts, there are some potential adverse social impacts that could arise during and after implementation of the project for which safeguards need to be established. These may include:

- 1) Social exclusion from project benefits such as employment
- 2) Exploitation of vulnerable (e.g. women and children)/Human right violations
- 3) Competition for project-generated jobs leading to conflict
- 4) Community health and safety
- 5) Negative stakeholder feedback, complaints and grievances
- 6) Site security
- 7) Limited access to information and limited communication about the project (progress, potential delays etc.)
- 8) Cultural heritage impacts

### 6.4.11 Gender

Climate change affects women and men differently. Disasters and related risks and vulnerabilities have social as well as physical dimensions. The impact of disasters and related risks are different for women and men. Shaped by gender roles and relations this is reflected in their differential capacity to respond to disaster. Gender inequality and women's disempowerment are the determining factors behind women and girls being disproportionately affected by climate change and disasters; and at the same time their 'skills and life experiences are not identified as resources, and, therefore, are not incorporated into risk reduction and disaster preparedness, relief or recovery efforts'. Unless these inequalities are adequately assessed and incorporated into climate change adaptation and DRR measures, the disparities are likely to be exacerbated.

In rural Timor-Leste, the burden of agricultural work, crop harvesting and caring for home gardens is generally shared between men and women. However, domestic responsibilities such as child-rearing, cooking, cleaning and overall family wellbeing, reflects traditional gender roles. This implies that women's vulnerabilities to climate change and disaster, while similar to men, include specific additional concerns such as:

- Access to water and firewood;
- destruction of and damage to the home gardens;
- damage to seeds;
- hindered access to markets and hence sale of products/ generation of cash;
- diseases and access to clinics; and
- closing of schools.
- Post-disaster health care

In Timor-Leste, women are often excluded from certain activities due to customary norms or lack of capital and ownership arrangements that confer all rights to men in the family. Women hold very few leadership positions within the districts. In cases where women do participate in local level planning, they are in the minority. An important aspect of gender mainstreaming in Timor-Leste is therefore to increase involvement of women in formal and informal decision-making processes.

Rural women in particular often have few, if any, income opportunities aside from agriculture, a fact which underlines the importance of ensuring equal access to employment opportunities in rural infrastructure development works. Seeing women perform well in non-traditional jobs, such as working in rural road rehabilitation and maintenance, also challenges traditional gender roles, is in itself a step towards changing gender norms and advancing gender equality.

The opportunity to participate in rural construction and maintenance works will open up new employment and income generating opportunities for women, as well as increase their agency. It is expected that during the implementation stage itself, there will be available job opportunities for local

youths, women and the local community to participate in the construction works. While this will provide income generating opportunities, it will also help to develop the community and household skills set for the future. The project will also target greater participation and involvement of women (targeting at least 30%), vulnerable groups and disability groups. Collaboration and cooperation will be strengthened at local level to ensure gender empowerment and gender equality are in place.

As with all construction projects, there is a potential risk of Gender-based Violence and Harassment (GBVH) to community members and workers. GBVH risks can intensify within local communities when there are large influxes of male workers from outside the area. Such workers often come without their families and have large disposable incomes relative to the local community, and can pose a risk in terms of sexual harassment, violence and exploitative transactional relationships. These risks are higher where workers come into close contact with the local community, for example on access routes or when living together in remote areas. During the construction phase, workers are also vulnerable to various forms of harassment, exploitation and abuse, aggravated by traditionally-male working environments<sup>11</sup>. The main GBVH risk factors and proposed mitigation measures include:

- 1) Large-scale influx of transient male workers into small and often rural host communities with low capacity to absorb the sudden increase of workers. *The project will aim to source workers from the local population as far as possible. This will benefit the local community in terms of income generation, and will also reduced the influx of transient workers to the host community*
- 2) Remote locations where people have limited access to resources to report GBVH and receive support. *The project has elaborated a GRM which fully includes mechanisms for reporting GBVH. In addition, GBVH will be regularly monitored on the project site and neighbouring community*
- 3) Male workers transporting goods (e.g. truck drivers), who can perpetrate GBVH on routes and at truck stops associated with the project, even if not on the project site. *The project GRM will apply along transportation routes of the project and will be widely publicized to ensure coverage*
- 4) Poorly designed or maintained physical spaces on project sites and in worker accommodation for example bad lighting in and around grounds and access routes. *The project site/construction camp management and OHS plan will include consideration of GBVH when planning the lighting on and around site and along routes which workers may use to access and exit the site.*
- 5) Informal workers, whose informality means they may either be more vulnerable to GBVH due to lack of contracts or that potential perpetrators may go unidentified due to lack of background checks. *Working arrangements will be formal, with all workers duly registered as part of the contractor team and in line with relevant OHS and labour laws.*
- 6) Income-earning opportunities for women through direct employment in construction or operations, or indirect employment (e.g. catering, traders), which may also increase household tension and create community backlash against women in areas where the perception is that they should not work outside the home. *The overall project GAP includes working with communities to mainstream gender into rural infrastructure development and to enhance gender equality. The sub-project GAP which is based on detailed consultation on gender roles, norms and responsibilities for specific communities, will provide the basis for monitoring any escalation in this type of GBVH that may result from the sub-project is the given locality. In addition the GRM will be applied.*
- 7) GBVH risks also vary depending on country-level or local factors such as how women are treated in society, legal and regulatory frameworks, and trust in local authorities to investigate reports.

The GCF SRC project will implement its Gender Action Plan, throughout the implementation of the infrastructure project to ensure that consideration would be given to the needs of women, disabled people and other vulnerable groups and taken into account during planning, design and execution of the project. Additional measures include ensuring adequate representation of vulnerable groups in all

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<sup>11</sup> IFC - Addressing Gender-Based Violence and Harassment (GBVH) in the Construction Sector

stakeholder engagement activities and full compliance with the Grievance Redress Mechanism process.

A project-specific Gender Action Plan has been prepared for each road rehabilitation project based on surveys and interviews conducted through Focus Groups Discussion and with the key Informants in the project area. The plan includes several points to improve community services for women and other vulnerable groups through the project. The project specific Gender Action Plan consists of a mix of assessments, training, consultations, monitoring and maintenance processes. The GAP is aligned with the project cycle ensuring all project lifecycle incorporates gender principles and increases gender responsiveness of the project. Responsibility for overseeing the adherence and achievement of this Gender Action Plan is the Gender Specialist, Municipal Gender FP and M&E Officer, for implementing this GAP is the Engineers, Contractor, Climate Change and Environment Officers and for monitoring is M&E Officer and Field Coordinators and Gender FP.

#### 6.4.12 Archaeological and cultural heritage

There may be several sacred site along the route of the road (e.g. water sources, cemeteries, sacred trees etc.) which are cultural heritage sites. The project ensure that there is no impact on sacred sites. Consultations with local communities confirmed that, where there are sacred sites near the project area, a ritual ceremony should be conducted by the project with the community before the commencement of any works as detailed in the IPP in line with **tara bandu** practices. No historic archaeological sites are located within the proposed project area.

In case of new chance finds, The Contractor is required to immediately, without delay, halt works and inform the MSA and to undertake measures to ensure the findings are not destroyed or damaged and to protect the area and position in which they are discovered. Contractors will be trained on how to deal with historical archaeological and sacred sites in a responsible manner. Annex 6 details the Chance Find Procedure.

#### 6.4.13 Occupational health and safety

Labor and working conditions shall follow Government of Timor-Leste labour law No. 4 of 2012 that is applicable throughout the territory of Timor-Leste, to all workers and employers and respective organizations in all sectors of activity. This Labor Law addresses the basic requirements on labor relations applicable to individual and collective labor relations. Injuries and risk to workers health and safety is likely on the construction site and the work requires the use of materials and plant, tools and equipment that can potentially cause harm or injury to its users or nearby observers. Risk to workers and community health can occur because of equipment, poorly managed construction site operations posing danger and risk to workers and community, improper handling of materials and from the (mis)use of equipment and tools, cuts from sharp objects, lack of appropriate PPE.

The Occupational Health and Safety Management Plan has been prepared to guide the management and monitoring of OHS during the implementation of the rural roads rehabilitation project (Annex 7). The following key mitigation measures are included:

- Workers shall, at all times, be provided with the necessary safety equipment to prevent accidents and injuries. Furthermore, strict compliance to OSHA, WHO and ILO safety rules and regulations shall be enforced at all times in all the workplace;
- Proper maintenance of vehicles and machinery ensured;
- Machinery inspected prior to use to ensure it is in safe condition;
- Machine perimeter checked before moving to exclude any possibility of collision with people/objects;
- Seatbelts used while operating machine;
- Leaving machinery unattended with engine running prohibited;
- Assign designated spotter, if reversing is required, to guide the move. (Note: The spotters must wear high-viz vests and stay in sight of the driver. The driver must stop if he loses sight of the spotter);

- compliance with work specific safety measures ensured;
- First Aid Boxes available on the sites and maintained and replenished;
- PPE provided; use of the PPE enforced;
- Control exposure to hand-arm vibration from equipment such as hand and power tools, or whole-body vibrations from surfaces on which the worker stands or sits, through the choice of equipment, installation of vibration dampening pads or devices, and/or limiting the duration of exposure;
- Alcohol use prohibited;
- Mobile phone use while driving banned;
- Drivers and other personnel briefed on safety requirement.
- Proper Management of site construction camp, materials and personnel. Camp location with adequate drainage. Restoration and revegetation of used land (after decamping); Adequate toilet facilities that are clean and hygienic. Project's drinking water should not affect availability of drinking water for community; Items and materials are to be stored in accordance with storage guidelines to safeguard against spillage and contamination; Limit time of exposure to dust particles and noise; and ensure all occupational health and safety requirements are in place on the construction site.
- The contractor will design an environmental, health & safety program to be used in orienting their employees and workers on the environmental standards, environmental protection policies, pollution control program and health & safety drill which the company will implement at regular intervals for the entire duration of project implementation.

#### 6.4.14 EMERGENCY MANAGEMENT MEASURES

Potential hazards may arise on the construction site due to: site traffic; on-site materials; materials handling and hoisting; natural hazard events during construction (e.g. flooding, landslide); working near or in water bodies; working at night or in reduced light; equipment/plant failure; fire. Due to the complex and fast-changing environment of a construction site, it is important that the identification and assessment of hazards is ongoing, including all of the possible consequences. An emergency management strategy and plan for dealing with the consequences in an emergency situation should be developed so that quick and effective action can be taken in the event of a problem to ease the severity of the situation and to limit the consequences. An emergency plan comprises agreed, recorded and rehearsed strategies, enabling those on site to respond effectively and reliably.

Emergencies that may need to be planned for include (but are not limited to):

- Serious injuries.
- Explosion.
- Flood.
- Poisoning.
- Electrocutation.
- Fire.
- Chemical spill.
- Structural collapse.

Emergency planning should begin before the commencement of any works on site. The initial emergency plan may be based on a generic plan adapted to the specific project. As the project progresses it will generally be necessary to amend the plan to take account of any changes, in particular, if an emergency or near miss has occurred.

In the event of actions occurring, which may result in serious health, safety and environmental (catastrophic) damage, emergency response or contingency actions will be implemented as soon as possible to limit the extent of environmental damage.

The delivery organisation will need to incorporate emergency responses into the project complying with the requirements under the Occupational, Health and Safety Policy of the delivery organisation and the relevant Timor Leste legislation.

The Accredited Entity (UNDP) has its rigorous Social and Environmental Safeguards (SES) policy and procedures which include SES screening and which are complementary and in compliance to ANLA guidelines. Contractors have received the necessary training and will continue to receive refresher training to ensure compliance with social and environmental safeguards including community participation and relations; adherence to labour laws and standards; gender equality; child protection; disability inclusion; workers and public safety. In addition, the GCF-SRC project will work with partners to ensure compliance to the social and environmental safeguards including compliance such as construction camp and site management; waste and wastewater management; tree and vegetation management; noise, dust and traffic management; material and spoil management; erosion control procedures; biodiversity and sensitive areas; workers and public safety; archaeological and cultural heritage.

#### 6.4.15 Cross-Border Impacts

The road rehabilitation projects will have positive cross-border impacts by connecting rural communities, and enabling movement and access of people, goods and services. However there are no negative cross-border impacts expected from the roads sub-projects.

#### 6.4.16 Other Projects and Cumulative Impact

The suco is a beneficiary of the “uma kbi’it la’ek” programme, implemented by PNDS under the MSA which is building houses for vulnerable people and households in remote areas across 13 municipalities, which complements the objective of the GCF SRC project in enhancing the community and people’s resilience to disasters.

There is no cumulative negative environmental and social impact that will result from the proposed rural road rehabilitation and the Kbi’it La’ek” programme.

GCF SRC project has multiple rural road project planned to be implemented around the same time with this road rehabilitation in each of the target municipalities. However, each project has different Administrative Posts and together there are no cumulative negative environmental or social impacts expected.

#### 6.4.17 Global Impact

The road rehabilitation projects are in the remote rural areas of Timor-Leste and rehabilitation will provide improved connectivity between communities, access to markets, movement of goods and services in beneficiary communities which will increase economic activity and standard of living, and ensure market linkages to surrounding communities. There is no envisaged negative impact globally on account of the proposed rehabilitation works for this project.



# 7 Environmental and Social Management Plan

## 7.1.1 Environmental and Social Risk Assessment

As this project is supported by UNDP in its role as a GCF Accredited Entity, the project has been screened against UNDP's Social and Environmental Standards Procedure. The sub-project Social and Environmental Screening Template was prepared, and the project deemed to be a moderate risk project.

An impact risk assessment was undertaken using UNDP Social and Environmental Screening Procedure to assess the probability (expected, highly likely, moderately likely, not likely) and the impact of the risks identified (critical, severe, moderate, minor, negligible). From this, a significance value was attributed to the potential impact (negligible, low, medium, high and extreme).

<b>IMPACT</b>	Critical	5	High	High	High	High	High
	Severe	4	Medium	Medium	High	High	High
	Moderate	3	Low	Medium	Medium	Medium	Medium
	Minor	2	Low	Low	Medium	Medium	Medium
	Negligible	1	Low	Low	Low	Low	Low
			1	2	3	4	5
			Slight	Not Likely	Moderately Likely	Highly Likely	Expected
	<b>PROBABILITY</b>						

Figure 0-6: UNDP Risk Matrix

Table 0-19: Rating of Impact of Risk

Score	Rating	Definition
5	Critical	Significant adverse impacts on human populations and/or environment. Adverse impacts high in magnitude and/or spatial extent (e.g. large geographic area, large number of people, transboundary impacts, cumulative impacts) and duration (e.g. long-term, permanent and/or irreversible); areas impacted include areas of high value and sensitivity (e.g. valuable ecosystems, critical habitats); adverse impacts to rights, lands, resources and territories of indigenous peoples; involve significant displacement or resettlement; generates significant quantities of greenhouse gas emissions; impacts may give rise to significant social conflict.
4	Severe	Adverse impacts on people and/or environment of medium to large magnitude, spatial extent and duration more limited than critical (e.g. predictable, mostly temporary, reversible). The potential risk impacts of projects that may affect the human rights, lands, natural resources, territories, and traditional livelihoods of indigenous peoples are to be considered at a minimum potentially severe.
3	Moderate	Impacts of low magnitude, limited in scale (site-specific) and duration (temporary), can be avoided, managed and/or mitigated with relatively uncomplicated accepted measures.
2	Minor	Very limited impacts in terms of magnitude (e.g. small affected area, very low number of people affected) and duration (short), may be easily avoided, managed, mitigated.
1	Negligible	Negligible or no adverse impacts on communities, individuals, and/or environment.

When undertaking the risk assessment, all activities are assessed, including pre-construction, construction and post-construction operation and maintenance. Specific measures for each issue/risk are discussed along with the respective mitigation measures in this ESMP. Mitigation measures and actions have been identified to address the risks identified above, in accordance with the mitigation hierarchy that avoid, or if avoidance not possible, reduce potentially significant adverse social and environmental impacts to acceptable levels. The ESMP (a) identifies and summarizes all anticipated adverse social and environmental impacts; (b) describes – with technical details – each mitigation measure, including the type of impact to which it relates and the conditions under which it is required (e.g., continuously or in the event of contingencies), together with designs, equipment descriptions, and operating procedures, as appropriate; (c) estimate of potential social and environmental impacts of these measures and any residual impacts following mitigation (residual risks); and (d) takes into account, and is consistent with, other required mitigation plans.

The environmental and social management plan and mitigation measures which follows aim to mitigate the adverse or negative impacts of the project and to enhance the beneficial or positive impacts.

### 7.1.2 Pre-construction Phase

Environmental and Social Issues	UNDP SES Policy	ESMF Issue No.	Anticipated Risk/Impact	Probability of Impact and Impact	Indicators/Unmitigated Impact	Management Measures	Post Mitigation	Responsibility	Frequency of Monitoring	Means of Verification
Social Management	PP	SM2	Disengagement of Stakeholders	Prob: 3 Impact: 1 Risk: Low	Lack of interest and participation of the community and beneficiaries of the project	Continue to facilitate community consultation and maintain engagement throughout the infrastructure sub-project life cycle through application of the SEP.. Avoid over consultation without tangible action to minimise stakeholder 'consultation fatigue'.	Broad community engagement and participation from beneficiaries of the project and diverse groups.	PMU, GESI Specialist, SSE, MSA	During the site visit, consultation, and project screening. reporting to UNDP, MSA and SSE	SEP Site visit Reports, PMU BTOR, Consultation Minutes.
		SM2	Lack of participation from key stakeholders	Prob: 3 Impact: 2 Risk: Medium	Limited participation and involvement of women, youth, people with disabilities (PWD) and other vulnerable people	Implement the Gender Action Plan (GAP) for the sub-project	Active participation and engagement of Women, youth, disabled and other vulnerable people in the implementation of the infrastructure sub-project	PMU, GESI Specialist, SSE, MSA	Regular monitoring and reporting to UNDP, MSA and SSE	Sub-project specific GAP
		SM4		Prob: 3 Impact: 2 Risk: Low						
Indigenous Peoples	PP	SM1	Encroachment onto surrounding private land, including IP land	Prob: 2 Impact: 3 Risk: medium	Community complains about encroachment.	Roadworks to be within road reserve. Survey and setout to be confirmed and approved prior to commencement of physical works. Implement SEP/GRM and IPP Monitoring of any potential issues, including GRM.	Project implemented without any issue or grievance arising from encroachment or displacement	PMU, SSE, MSA, ANLA	prior to, during and post-construction Reporting to UNDP, MSA and SSE	Contractor surveys and project/Ministry approvals. Site Visit Reports
	PS6	CH1	Project is surrounded by lands and territories claimed by indigenous peoples (IP)	Prob: 3 Impact: 2 Risk: medium	Sub-project encroaches onto on IP lands/territories without prior agreement.	Works designed to be within government-owned road reserve. Identify surrounding landownership and claims Prepare and implement the IPP. Undertake the FPIC process (Annex 5 a) and broad consultation with IP communities and stakeholders. Survey and setout to be confirmed and approved prior to commencement of physical works.	Project wholly within government owned land (existing road reserve)  Continue to implement SEP/GRM & IPP	PMU, local authorities, SSE, ANLA, MSA	Daily and maintain records, Weekly reporting to UNDP, MSA and SSE	Contractor surveys/approvals Land ownership confirmation document FPIC, IPP, IP declaration letter
		SM1	Construction camp located on land without approval	Prob: 2 Impact: 3 Risk: Medium	Camp located in unapproved location	Location to be agreed based on mutual consultation and agreement among the local authorities, host community and contractor.  Contractor to have appropriate agreements in place prior to mobilisation to site.  The site is to be identified with the contractor prior to mobilisation and commencement of the works  If site is on IP land, the FPIC required for temporary land use agreement.	Contractor responsible for securing managing and rehabilitating site.	PMU, Contractor	Pre-construction	Land use agreement in place prior to mobilisation. FPIC documentation (if on IP land)

Environmental and Social Issues	UNDP SES Policy	ESMF Issue No.	Anticipated Risk/Impact	Probability of Impact and Impact	Indicators/Unmitigated Impact	Management Measures	Post Mitigation	Responsibility	Frequency of Monitoring	Means of Verification
Flora and Fauna	PS1	FF1.1	Project adversely impacts sensitive habitats	Prob: 1 Impact: 1 Risk: Low	Sensitive habitat destruction and disturbance of fauna, loss of vegetation	Project located away from protected areas Primary forest not to be cleared. Contractor to only use publicly owned-non productive land for laydown/equipment storage.	Project is not located in or near a protected area Disturbed areas to be revegetated	PMU, MSA, SSE, ANLA	Daily and maintain records, Weekly reporting to UNDP, MSA and SSE	Setout and construction surveys/reports Site visits
		FF2.4	Loss of vegetation due to construction activities	Prob: 3 Impact: 3 Risk: Medium	Cutting and removal of some trees/crops and exposure of land	Minimise clearing required. Roadworks to be contained within road reserve. Contractor to only use publicly owned-non productive land for laydown/equipment storage Re-vegetation of exposed and hazard prone areas. The owners of the crops or trees which is affected by construction activities will be given enough advance notice for timely harvesting.	Catchment stabilization especially in exposed and hazard prone areas	PMU, local authorities, SSE, MAF, MSA	Daily and maintain records, Weekly reporting to UNDP, MSA and SSE	Site engineer inspections Maintains Records
Air Quality	PS8	A1.1	Increase in dust levels at sensitive receptors	Prob: 3 Impact: 2 Risk: Medium	Presence of dust on surfaces in the project site	Time works to take advantage of soil moisture. Minimise areas of disturbance at anyone time. Incorporate dust control measures in the designs and BOQ Effective dust management measures in all areas during construction	Dust control measures included in the designs and BOQ	PMU, local authorities, SSE, MAF, MSA	Daily and maintain records, Weekly reporting to UNDP, MSA and SSE	Maintains Records
		A2.4	Construction company vehicles, plant and machinery are not well-maintained	Prob: 3 Impact: 3 Risk: Medium	High emission from the use of old and poorly maintained construction equipment	Evaluation of successful company covers in the criteria the availability or plant, equipment  Contractor service records to be available upon request	Emission is kept at a minimum	PMU, local authorities, SSE, MAF, MSA	Daily and maintain records, Weekly reporting to UNDP, MSA and SSE	Contractor's Proposal Maintenance Records Lack of community complaints
Noise and Vibration	PS8	N1.2	Increase in noise level during construction works	Prob: 5 Impact: 3 Risk: Medium	Increase in noise level from mobile plant and equipment used for construction such as concrete mixers, excavators, graders, compactors	Construction only within normal work hours near sensitive receivers.  Noise reduction devices such as silencers and mufflers shall be installed as appropriate to site plant and equipment.  Site inspections to be undertaken periodically to check noise reduction devices being used.  Community to be aware of GRM in the event of excessive noise/vibration	Silencers and mufflers affixed to mobile plants, equipment to reduce noise levels	PMU, MSA, Engineers	Daily and maintain records, Weekly reporting to UNDP, MSA and SSE	Maintains Records
Waste Management	PS8	WT1.1	Waste generated from construction activities	Prob: 4 Impact: 3 Risk: Medium	Materials and construction methods result in significant direct and indirect waste generated from the construction activities and methods	The sub-project designs and BOQ takes into account appropriate construction materials and methods to help minimize the direct and indirect waste generated.	Reduced direct and indirect waste from construction activities and methods	PMU, MSA, Engineers	Daily and maintain records, Weekly reporting to UNDP, MSA and SSE	BOQ, site visit reports
Land	PS1	W1.5	Blockages of drains and waterways due to construction activities	Prob: 3 Impact: 2 Risk: Low	Excavation and/or stockpile materials blocks drainage pathways, waterways and	Contractor's Method Statement to be submitted prior to mobilization and commencement of the construction works; ensure that the	Stockpile materials location away from drainage pathways,	PMU, MSA, Engineers, Contractor	Daily and maintain records, Weekly reporting to	Contractor's Method Statement

Environmental and Social Issues	UNDP SES Policy	ESMF Issue No.	Anticipated Risk/Impact	Probability of Impact and Impact	Indicators/Unmitigated Impact	Management Measures	Post Mitigation	Responsibility	Frequency of Monitoring	Means of Verification
					sensitive locations (5 waterways traverse site).	contractor does not block waterways or disrupt flow paths	waterways and sensitive locations.		UNDP, MSA and SSE	
		E1.5	Excavation result in exposed areas prone to erosion	Prob: 3 Impact: 2 Risk: Low	Visible unprotected and/or excessive exposed open area	Contractors Method Statement accounts for the scheduling/staging of the construction works to ensure that vegetation disturbance and earthworks are carried out during periods of lower rainfall and wind speeds. Staging works to minimise amount and duration of exposed areas	Open areas protected and not likely to erode due to rainfall	PMU, MSA, Engineers, Contractor	Daily and maintain records, Weekly reporting to UNDP, MSA and SSE	Contractor's Method Statement Site visits
		E1.13	Erosion and sedimentation caused by construction works (particularly in steep sections)	Prob: 3 Impact: 3 Risk: Medium	Loss of soil material and sedimentation to the surface systems from site due to earthwork activities	Grassed buffer strips and soil-bioengineering incorporated into the designs where appropriate during construction to reduce water velocity.  Temporary sediment barriers used if required (particularly in steep areas)	Construction works does not contribute to erosion and sedimentation	PMU, MSA, Engineers,	Daily and maintain records, Weekly reporting to UNDP, MSA and SSE	BOQ, site visit reports
Health, Safety and Working Conditions	PS3	E	Spread of COVID	Prob: 3 Impact: 3 Risk: Medium	COVID reported among team members and participants of the assessment and consultations	Follow all COVID-19 precautionary measures	COVID precautionary measures and no reported case as a result of the activities	PMU, local authorities, SSE, MSA	Daily and maintain records, Weekly reporting to UNDP, MSA and SSE	Site Reports
		E	Risk of poor health and safety of workers	Prob: 4 Impact: 2 Risk: Medium	Reported cases of workers getting sick from water-borne and other diseases and/or injuries.	Contractor's method statement to include the mobilization and setting up of proper and well managed construction camps and facilities.  Adequate measures for WASH facilities including safe drinking water  Workers to be provided with appropriate PPE and training prior to construction	Site Management and setting up clearly outlined and detailed in the Method Statement, included in BOQ	PMU, Contractor, MSA, Engineer	Daily and maintain records, Weekly reporting to UNDP, MSA and SSE	OHS Management Plan, Contractor's Method Statement
		E1								
		E	Child labour recruited	Prob: 3 Impact: 2 Risk: Medium	Child(ren) recruited to work on the construction site	Ensure that all stakeholders are aware that the use of child labour is not permitted and relevant clauses of national law and international standards attached to the contract Close collaboration with community leaders and contractor prior to mobilization on the site to ensuring that there is no child labour. Monitor during project staff visit.	Child(ren) are not engaged or employed to do construction works.	PMU, Contractor, MSA, Engineer	Daily and maintain records, Weekly reporting to UNDP, MSA and SSE	Contractor's Method Statement, Reports

### 7.1.3 Construction Phase

Environmental and Social Issues	UNDP SES Policy	ESMF Issue No.	Anticipated Risk/Impact	Probability of Impact and Impact	Indicators/Unmitigated Impact	Mitigation Measures	Post Mitigation	Responsibility	Frequency of Monitoring	Means of Verification	
Air Quality	PS8	A1.1	Increase in dust generation and spread of dust	Prob: 5 Impact: 3 Risk: Medium	Airborne fugitive dust and those that settles on various surfaces	Spray water on exposed surfaces during dry periods. Regular damping of unpaved roads or exposed soils/ground to control dust/particulate matter and keep it down. (Water to be obtained from agreed sources) Limit active construction activities to not more than a total of 500 meters at a time on a 2.0 km road length section to minimize dust.	Reduction of airborne fugitive dust on surfaces	Contractor, Field Coordinator, Project Engineer	Daily and maintain records, Weekly reporting to UNDP, MSA and SSE.	Monitoring Reports, Daily log	
		A1.6			Dust from materials stockpile being dispersed due to strong winds	Locate material stockpile areas as far as practicable away from sensitive receptors. Cover the stockpile if possible and appropriate.	Well-managed stockpile not dispersing dust due to strong winds	Contractor, Field Coordinator, Project Engineer	Daily and maintain records, Weekly reporting to UNDP, MSA and SSE	Monitoring Reports, Daily log	
		A1.1			Airborne dust from trucks/vehicles transporting materials	Remove soil /mud from tires of trucks and equipment before leaving the area.	Minimal airborne dust from moving equipment/vehicles	Contractor, Field Coordinator, Project Engineer	Daily and maintain records, Weekly reporting to UNDP, MSA and SSE	Monitoring Reports, Daily log	
			Use cover for trucks and vehicles which are transporting materials that are likely to be blown by wind								
			A1.2		Restrict the speeds on roads and the access tracks						
			A2.1	Increase in emission of air pollutants from vehicles, plant and equipment, machinery	Prob: 5 Impact: 3 Risk: Medium	Increase emission from plant, equipment, machinery is highly visible and pungent	Ensure vehicles/machines are switched off when not in use.	Emission of air pollutant from vehicle, plants and equipment, machinery reduced	Contractor, Field Coordinator, Project Engineer	Daily and maintain records, Weekly reporting to UNDP, MSA and SSE	Monitoring Reports, Daily log, Site Meetings Minutes
			Ensure only vehicles required to undertake works are operated on-site.								
			A2.2				Ensure all construction vehicles, plant and machinery are well maintained and in full operating condition.				
			A2.3				Direct exhaust emissions of mobile plant and machinery such as the concrete mixers and other machinery away from the ground.				
				A2.6							
Ground Water	PS8	GW1.1	Contamination of groundwater from fuel spills, hydrocarbons and other chemical pollutants	Prob: 2 Impact: 2 Risk: Low	Fuel spills, hazardous liquids, hydrocarbons and other chemical pollutants spilling and discharged on the site/onto the ground	Refueling to be conducted in controlled areas (away from sensitive areas)	Fuel spills, lubricants, hazardous liquids, hydrocarbons and other chemical pollutants does not cause any contamination of ground	Contractor, Field Coordinator, Project Engineer	Daily and maintain records, Weekly reporting to UNDP, MSA and SSE.	Monitoring Reports, Daily log, Site Meetings Minutes	
		Spill kits to be kept onsite									
		GW1.4				Regularly inspect all vehicles, equipment and material storage areas for possible fuel spills and oil leaks.	Fuel spills, lubricants, hazardous liquids, hydrocarbons and other chemical	Contractor, Field Coordinator, Project Engineer	Daily and maintain records, Weekly reporting to UNDP,	Monitoring Reports, Daily log, Site Meetings Minutes	

Environmental and Social Issues	UNDP SES Policy	ESMF Issue No.	Anticipated Risk/Impact	Probability of Impact and Impact	Indicators/Unmitigated Impact	Mitigation Measures	Post Mitigation	Responsibility	Frequency of Monitoring	Means of Verification	
		GW1.3	Contaminated surface water entering aquifers via boreholes and wells	Prob: 2 Impact: 2 Risk: Low	Surface water contamination and runoff from spills, hydrocarbons and other chemical pollutants		pollutants minimized and not resulting in contamination		MSA and SSE.		
						Proper storage, transport and disposal of hazardous wastes (oily wastes, used batteries, fuel drums) in the designated areas by the national authorities	Hazardous substances and waste (including oil wastes) is properly managed and stored and does not result in contamination	Contractor, Field Coordinator, Project Engineer	Daily and maintain records, Weekly reporting to UNDP, MSA and SSE.	Monitoring Reports, Daily log, Site Meetings Minutes	
		GW1.2				Prevent contamination of surface water and road runoff is protected from runoff and flooding the surrounding areas.	Spill kits to be kept onsite	Spills and/or pollutants on surface or runoff water are not visible or occurring	Contractor, Field Coordinator, Project Engineer	Daily and maintain records, Weekly reporting to UNDP, MSA and SSE.	Monitoring Reports, Daily log, Site Meetings Minutes
		GW1.3				Undertake refueling only at designated places away from water systems.		Contractor, Field Coordinator, Project Engineer	Daily and maintain records, Weekly reporting to UNDP, MSA and SSE.	Monitoring Reports, Daily log, Site Meetings Minutes	
Water Quality	PS8	WT1.1 1	Elevated total suspended solids and other contaminants in surface water systems	Prob: 3 Impact: 2 Risk: Medium	Evidence of reduced water quality or water pollution in surface waters around site (particularly the 5 waterways that traverse the site)	Ensure that the contractor establish designated areas for storage of fuels, oils, chemicals or other hazardous liquids. Storage areas should have compacted impermeable bases and be surrounded by a bund to contain any spillage.		Contractor, Field Coordinator, Project Engineer	Daily and maintain records, Weekly reporting to UNDP, MSA and SSE.	Monitoring Reports, Daily log, Site Meetings Minutes	
		Refueling and maintenance of plant and equipment to be undertaken in areas away from water systems.				Spills and leaks of hazardous liquids, lubricants, hydrocarbons and other chemical pollutants minimized and does not result in contamination	Contractor, Field Coordinator, Project Engineer	Daily and maintain records, Weekly reporting to UNDP, MSA and SSE.	Monitoring Reports, Daily log, Site Meetings Minutes		
		Sediment controls to be put in place where increased runoff/sedimentation likely (eg around freshly excavated areas and/or stockpiles)					Contractor, Field Coordinator, Project Engineer	Daily and maintain records, Weekly reporting to UNDP, MSA and SSE.	Monitoring Reports, Daily log, Site Meetings Minutes		
		E1.9	Avoid discharging water on to unstable slopes. Discharge storm-water run-off from construction areas are over a vegetated surface (i.e., soil bioengineering) to trap sediments.								
E2.2	Pollution of nearby water body due to improper disposal of construction wastes	Prob: 3 Impact: 2 Risk: Medium	Solid waste and construction waste not properly managed	Set-up temporary disposal mechanism within the construction area and properly dispose solid waste generated.  Collected waste to be disposed of offsite at an approved facility (off site).	Well-managed solid waste and construction waste materials	PMU, Contractor, Field Coordinator, Project Engineer	Daily and maintain records, Weekly reporting to UNDP, MSA and SSE.	Monitoring Reports, Daily log, Site Meetings Minutes			

Environmental and Social Issues	UNDP SES Policy	ESMF Issue No.	Anticipated Risk/Impact	Probability of Impact and Impact	Indicators/Unmitigated Impact	Mitigation Measures	Post Mitigation	Responsibility	Frequency of Monitoring	Means of Verification		
		WT1.2		Prob: 3 Impact: 2 Risk: Medium	Construction camp and site management is not well planned and set-up	Ensure that the contractors facilities including construction camps, site offices and other facilities are well planned and include adequate toilet facilities, waste receptacles.  Adequate consultation and engagement with local authorities to identify suitable public place/site prior to mobilization that will not impact on the host community.	Construction Camp and Site Management is well planned and set-up with minimal or no impact to community.	PMU, Contractor, local authorities, Field Coordinator, Project Engineer	Daily and maintain records, Weekly reporting to UNDP, MSA and SSE.	Monitoring Reports, Daily log, Site Meetings Minutes		
		WT1.2			Improper solid waste disposal	Construction materials will not be stockpiled in proximity to aquatic environment that may allow for release into the environment.  Rubbish receptacles should be covered and located as far as practicably possible from sensitive locations  Waste to be disposed of offsite at an approved facility agreed with the municipality and as per national Environment Law.	Construction waste and solid waste generated on the project site are properly managed or disposed	PMU, Contractor, Field Coordinator, Project Engineer	Daily and maintain records, Weekly reporting to UNDP, MSA and SSE.	Monitoring Reports, Daily log, Site Meetings Minutes		
		WT1.2							PMU, Contractor, Field Coordinator, Project Engineer	Daily and maintain records, Weekly reporting to UNDP, MSA and SSE.	Monitoring Reports, Daily log, Site Meetings Minutes	
		E1.1			Poor management of wastes from construction activities and excessive use of resources	Prob: 3 Impact: 3 Risk: Medium	Excessive storage of fuel and other hazardous chemicals on site	Ensure that on-site storage of fuel and chemicals shall be kept to a minimum and manageable to avoid risk of fires, explosion and other hazards	Storage of fuel and other hazardous chemicals on site is kept to the minimum	PMU, Contractor, Field Coordinator, Project Engineer	Daily and maintain records, Weekly reporting to UNDP, MSA and SSE.	Monitoring Reports, Daily log, Site Meetings Minutes
		WT1.6					Oil and other potential contaminants are not properly collected, managed and/or disposed	Proper storage, transport and disposal of hazardous wastes (oily wastes, used batteries, fuel drums) in the designated areas by the national/municipal authorities in accordance with National Environmental Law.	Oil and other potential contaminants are properly collected, managed and/or disposed	PMU, Contractor, Field Coordinator, Project Engineer	Daily and maintain records, Weekly reporting to UNDP, MSA and SSE.	Monitoring Reports, Daily log, Site Meetings Minutes
		Waste Management			PS8	WT1.8	Improper waste management practices on the construction site	Prob: 3 Impact: 3 Risk: Medium	Construction waste and solid waste generated are not properly managed or disposed	Recyclable waste (including oil and some construction waste) collected separately and disposed of correctly and/or designated facility as per the Government of Timor-Leste Environment Law and designated locations by municipality.	Construction waste and solid waste generated are properly managed or disposed	Contractor, Field Coordinator, Project Engineer
WT1.2	Contaminated and/or construction waste are seen around the community or project site		Orientation provided to all construction workers and daily on-site waste management practices are carried out on site	Contaminated waste is disposed of at an approved facility and/or site.		PMU, Contractor, Field Coordinator, Project Engineer			Daily and maintain records, Weekly reporting to UNDP, MSA and SSE.	Monitoring Reports, Daily log, Site Meetings Minutes No community complaints regarding waste		
WT1.9	Improper disposal of used fuels, lubricants, hydrocarbon and other hazardous chemicals		Prob: 2 Impact: 3 Risk: Medium	Potential contaminants improperly stored/contained		Workers to be made aware of requirements for handling of hazardous waste materials.  Proper storage, transport and disposal of hazardous wastes (oily wastes, used batteries, fuel drums) in the designated areas by the national/municipal authorities			Absence of fuel spills and leaks on site	PMU, Contractor, Field Coordinator, Project Engineer	Daily and maintain records, Weekly reporting to UNDP, MSA and SSE.	Monitoring Reports, Daily log, Site Meetings Minutes



Environmental and Social Issues	UNDP SES Policy	ESMF Issue No.	Anticipated Risk/Impact	Probability of Impact and Impact	Indicators/Unmitigated Impact	Mitigation Measures	Post Mitigation	Responsibility	Frequency of Monitoring	Means of Verification
Noise and Vibration	PS8	N1.3	Public nuisance caused by construction/operation activities	Prob: 4 Impact: 2 Risk: Medium	Increase noise level due to construction work especially beyond (daylight) working hours	Limit work to daylight hours. Schedule noisy construction activities during specific times in the day  Ensure community aware of scheduled noisy activities – seek advise regarding any sensitive events/activities scheduled by community so as to be able to avoid.	Construction work limited within working hours and noise level reduced	PMU, Contractor, Field Coordinator, Project Engineer	Daily and maintain records, Weekly reporting to UNDP, MSA and SSE.	Monitoring Reports, Daily log, Site Meetings Minutes
		N1.1			Complaints from residents about the level of the noise because of the influx of construction workers and construction activities	The contractor conducts employee and operator training to improve awareness of the need to minimize excessive noise in work practices through implementation of measures.	No complaints	PMU, Contractor, Field Coordinator, Project Engineer	Daily and maintain records, Weekly reporting to UNDP, MSA and SSE.	Monitoring Reports, Daily log, Site Meetings Minutes
		N1.2		Prob: 4 Impact: 3 Risk: Medium	Increase in noise level from mobile plant and equipment used for construction such as concrete mixers, excavators, graders, compactors	Install noise reduction devices such as silencers and mufflers as appropriate to mobile plant and equipment. Periodic site inspections to confirm that noise reduction devices are being used/effective. Limit the active construction site to not more than 500 meters per 2.0 km lengths	Reduced noise level from used in the road construction such as mobile plants, excavators, graders, compactors	PMU, Contractor, Field Coordinator, Project Engineer	Daily and maintain records, Weekly reporting to UNDP, MSA and SSE.	Monitoring Reports, Daily log, Site Meetings Minutes
		N2.1	Increase in vibration from heavy equipment	Prob: 3 Impact: 3 Risk: Medium	Sensitive structures are vulnerable to vibrations	Identify properties, structures and habitat locations that will be sensitive to vibration impacts resulting from construction and operation of the project.	Sensitive sites and/or structures vulnerable to vibrations have been identified and avoided	PMU, Contractor, Field Coordinator, Project Engineer	Daily and maintain records, Weekly reporting to UNDP, MSA and SSE.	Monitoring Reports, Daily log, Site Meetings Minutes
		N2.3			Heavy equipment causing vibration resulting in disturbance to sensitive receptors in adjacent property and land	Identify and avoid adjacent highly sensitive receptors that are likely to be disturbed or affected using heavy equipment	No incidents and complaints related to vibrations reported and/or recorded.	PMU, Contractor, Field Coordinator, Project Engineer	Daily and maintain records, Weekly reporting to UNDP, MSA and SSE.	Monitoring Reports, Daily log, Site Meetings Minutes
		Biodiversity	PS1	FF2.4	Loss of vegetation due to land clearing	Prob: 3 Impact: 2 Risk: Medium	Cutting and removal of some trees outside of construction limit area	Limit land clearance and disturbance of natural environment to the construction limit areas (CLA) and road right of way (ROW)	No disturbance or tree cutting of trees outside of the CLA and/or road ROW	PMU, Contractor, Field Coordinator, Project Engineer
FF2.4	Loss of indigenous tree/crops species and ornamental plants			Minimise removal where possible. The owners of the crops or trees which is affected by construction activities will be given enough advance notice for timely harvesting. Re-plant/ plant indigenous tree species and ornamental plants			Revegetation of indigenous tree species and ornamental plants	PMU, Contractor, Field Coordinator, Project Engineer	Daily and maintain records, Weekly reporting to UNDP, MSA and SSE.	Monitoring Reports, Daily log, Site Meetings Minutes
FF3.2	New flora and weed species introduced			Prob: 3 Impact: 3 Risk: Medium	Flora and weed species introduced with the catchment management and bioengineering activities	Ensure that any manure or organic soil applied are free of seeds, and that the seeds used for the catchment rehabilitation are weed free.  No invasive alien species (IAS) of trees/plants will be used for the soil	Ongoing monitoring for weeds/invasive species	PMU, Contractor, Field Coordinator, Project Engineer	Daily and maintain records, Weekly reporting to UNDP, MSA and SSE.	Monitoring Reports, Daily log, Site Meetings Minutes

Environmental and Social Issues	UNDP SES Policy	ESMF Issue No.	Anticipated Risk/Impact	Probability of Impact and Impact	Indicators/Unmitigated Impact	Mitigation Measures	Post Mitigation	Responsibility	Frequency of Monitoring	Means of Verification
						bioengineering applications and reforestation activities.  No non-native species will be used/or new species of trees introduced in the site without prior assessment.				
		FF2.2	Disturbance of wildlife and habitat due to construction activities	Prob: 2 Impact: 2 Risk: Low	High noise pollution from the use of construction equipment	Undertake proper maintenance of equipment and use mufflers	Acceptable noise levels from equipment	PMU, Contractor, Field Coordinator, Project Engineer	Daily and maintain records, Weekly reporting to UNDP, MSA and SSE.	Monitoring Reports, Daily log, Site Meetings Minutes
		FF2.2			Loss of habitat and disturbance of fauna in the project site	Limit land clearance, excavation works and disturbance of natural environment to within the road reserve/right of way.  Minimize the overall disturbance footprint of the construction works and area of movement for construction equipment only as necessary.  Maximize the direct placement of salvaged/excavated soils.  Promote revegetation and habitat protection/land cover by planting native shrubs/grass, and plants for the soil bioengineering applications  Contractor to only use public non-productive land for laydown/equipment storage.	Minimized the cutting and habitat disturbance removal of trees outside of the road reserve/right of way (ROW). Habitat protection and enhancement through soil bioengineering applications		PMU, Contractor, Field Coordinator, Project Engineer	Daily and maintain records, Weekly reporting to UNDP, MSA and SSE.
		FF2.1	Disturbance of fauna and their habitat	Prob: 2 Impact: 2 Risk: Low	Stockpile/laydown areas outside of the construction limit areas	Contractor to only use public non-productive land for laydown/equipment storage.  Ensure that stockpile is secured and stored in a safe place. Vegetate stockpiles if storage required for long periods.	Stockpile within the CLA	PMU, Contractor, Field Coordinator, Project Engineer	Daily and maintain records, Weekly reporting to UNDP, MSA and SSE.	Monitoring Reports, Daily log, Site Meetings Minutes
Land	PS8	W1.5	Material stockpiles located so as to cause adverse impacts.	Prob: 3 Impact: 3 Risk: Medium	Stockpile materials blocks drainage pathways, waterways and sensitive locations.	Locate stockpile away from sensitive areas and schedule/stage works to minimize the duration of stockpiling topsoil material.  Stockpile to be safe in terms of public safety	Stockpile materials location away from drainage pathways, waterways and sensitive locations.	PMU, Contractor, Field Coordinator, Project Engineer	Daily and maintain records, Weekly reporting to UNDP, MSA and SSE.	Monitoring Reports, Daily log, Site Meetings Minutes
		W1.5			Stockpile of materials near water bodies/stream	Proper stockpiling of spoils (on flat areas and away from drainage routes	Stockpile away from water bodies/stream	PMU, Contractor, Field Coordinator, Project Engineer	Daily and maintain records, Weekly reporting to UNDP, MSA and SSE.	Monitoring Reports, Daily log, Site Meetings Minutes
		E1.8		Prob: 3 Impact: 3 Risk: Medium	Excavated or open cut areas are unprotected/exposed	Schedule/stage proposed works to ensure that major vegetation disturbance and earthworks are carried out during periods of lower rainfall and wind speeds.	Open excavation, cut areas are covered and not exposed	PMU, Contractor, Field Coordinator, Project Engineer	Daily and maintain records, Weekly reporting to UNDP, MSA and SSE.	Monitoring Reports, Daily log, Site Meetings Minutes

Environmental and Social Issues	UNDP SES Policy	ESMF Issue No.	Anticipated Risk/Impact	Probability of Impact and Impact	Indicators/Unmitigated Impact	Mitigation Measures	Post Mitigation	Responsibility	Frequency of Monitoring	Means of Verification
		E1.5	Increased risk of erosion, landslide and sediment accumulation on surface and/or groundwater systems	Prob: 3 Impact: 3 Risk: Medium	Excavated or open cut areas are unprotected/exposed	Schedule/stage works to minimize cleared areas and exposed soils at all times.	Open excavation, cut areas are covered and not exposed	PMU, Contractor, Field Coordinator, Project Engineer	Daily and maintain records,  Weekly reporting to UNDP, MSA and SSE.	Monitoring Reports, Daily log, Site Meetings Minutes
		E1.3			Water with dissolved solids on ground surfaces along the road alignment					
		E1.5		Water with dissolved solids on ground surfaces along the road alignment	Prob: 3 Impact: 3 Risk: Medium	Conduct excavation and sensitive construction activities during dry season	Minimized soiled water on ground surfaces along the road alignment	PMU, Contractor, Field Coordinator, Project Engineer	Weekly reporting to UNDP, MSA and SSE.	Monitoring Reports, Daily log, Site Meetings Minutes
		E1.3				Avoid long exposure of opened excavated/cut areas				
		E1.9				Design stormwater management measures to reduce flow velocities and avoid concentrating runoff.				
		E1.3		Prob: 3 Impact: 3 Risk: Medium	Presence of excessive sediments and silt along waterways	Silt fences or similar structures to be installed to protect and reduce sediment loads.	Reduction of sediments volume on waterways	PMU, Contractor, Field Coordinator, Project Engineer	Daily and maintain records, Weekly reporting to UNDP, MSA and SSE.	Monitoring Reports, Daily log, Site Meetings Minutes
		E1.9				Grassed buffer strips and bioengineering measures shall be incorporated where necessary during construction to reduce water velocity.				
		E1.14		Prob: 3 Impact: 3 Risk: Medium	Unmanaged construction spoils	Spoils generated from civil works are reused or properly disposed	Spoils reused or properly disposed as per specifications	PMU, Contractor, Field Coordinator, Project Engineer	Daily and maintain records, Weekly reporting to UNDP, MSA and SSE.	Monitoring Reports, Daily log, Site Meetings Minutes
		E1.13								
		E1.3	Prob: 3 Impact: 3 Risk: Medium	Excavated areas left accessible to to community	Limit extent of exposed area at any one time.	Rehabilitate disturbed areas.	PMU, Contractor, Local authorities, Field Coordinator, Project Engineer	Daily and maintain records, Weekly reporting to UNDP, MSA and SSE.	Monitoring Reports, Daily log, Site Meetings Minutes	
		E1.3			Implement community safety campaign/awareness.  Utilise site barriers or fencing if excavation considered hazardous to community					
		E2.4	Increased risk of soil contamination due to construction activities	Prob: 2 Impact: 2 Risk: Low	Presence of excess silt stockpile along the roadside or in the drainage structures	Materials from other locations to be certified by the Engineer	Well-managed importation of materials from other locations	PMU, Contractor, Field Coordinator, Project Engineer	Daily and maintain records, Weekly reporting to UNDP, MSA and SSE.	Monitoring Reports, Daily log, Site Meetings Minutes
		E2.4	Minimize soil/materials imported from other locations							
		E2.4	Soil Contamination	Prob: 2 Impact: 2 Risk: Low	Presence of imported soils/materials from other locations	Silt removed from drainage and road carriage way during maintenance/defects liability period is to be disposed or appropriately or returned to land where it is determined to be acceptable	Well-managed importation of materials from other locations Reduction of Broad community engagement and participation from diverse groups	PMU, Contractor, Field Coordinator, Project Engineer	Daily and maintain records, Weekly reporting to UNDP, MSA and SSE. Daily and maintain records, Weekly reporting to UNDP, MSA and SSE.	Monitoring Reports, Daily log, Site Meetings Minutes
E2.4	Use only materials from other locations certified by the Engineer after having passed the geotechnical specification requirements									

Environmental and Social Issues	UNDP SES Policy	ESMF Issue No.	Anticipated Risk/Impact	Probability of Impact and Impact	Indicators/Unmitigated Impact	Mitigation Measures	Post Mitigation	Responsibility	Frequency of Monitoring	Means of Verification
		E3.4	Unregulated disposal of excess soil/silt	Prob: 2 Impact: 3 Risk: Medium	Presence of excess silt stockpile along the roadside or in the drainage structures	Silt removed from drainage and road carriage way during maintenance/defects liability period is to be disposed or appropriately or returned to land where it is determined to be acceptable	Reduction of volume of excess silt stockpile along the roadside or in the drainage structures	PMU, Contractor, Field Coordinator, Project Engineer	Daily and maintain records, Weekly reporting to UNDP, MSA and SSE.	Monitoring Reports, Daily log, Site Meetings Minutes
Social Management	PP	SM2	Lack of interest and participation from the community	Prob: 4 Impact: 1 Risk: Low	Low level of engagement and participation	Stakeholders Engagement Plan developed and implemented	Broad community engagement and participation from diverse groups	PMU, Contractor, Field Coordinator, Project Engineer	Daily and maintain records, Weekly reporting to UNDP, MSA and SSE.	Monitoring Reports, Daily log, Site Meetings Minutes, SEP
		SM2.1	Lack of employment for local community due to imported workers	Prob: 3 Impact: 3 Risk: Medium	Conflict and security issues due to outside construction workers	Ensure that the contractor hire local labour (especially unskilled labour) from the host community Ensure that the contractor hire local labour (especially unskilled labour) from the host community	Labour from host community fully engaged in the project and employed including women	PMU, Contractor, Field Coordinator, Project Engineer	Daily and maintain records, Weekly reporting to UNDP, MSA and SSE.	Monitoring Reports, Daily log, Site Meetings Minutes
		SM4.1 SM4.4	Lack of involvement of women, youths and other vulnerable people	Prob: 3 Impact: 3 Risk: Medium	Grievances and complaints, women, youths and other vulnerable people not involved in the project	Gender and Action Plan developed and implemented  Compliance with the GRM	More active involvement of women and other vulnerable groups	PMU, Contractor, Field Coordinator, Project Engineer	Daily and maintain records, Weekly reporting to UNDP, MSA and SSE.	Daily log, Site Meetings Minutes, GRM Consultation, Complaints Register
		E1.1	Incidents of fires and emergency situations	Prob: 3 Impact: 3 Risk: Medium	Workers smoking on site and close to flammable fuels and combustibles Inappropriate storage of flammable and combustible liquids, burning in open spaces and close to material storage sites	Adequate signage and warnings including "highly-flammable", "no smoking"  Ensure that construction workers and host community are adequately informed, and aware  Fire extinguishers are to be available on site  No open fires are permitted within the project area	Maintain low fuel loads along roadway	PMU, Contractor, Field Coordinator, Project Engineer	Daily and maintain records, Weekly reporting to UNDP, MSA and SSE.	Monitoring Reports, Daily log, Site Meetings Minutes
Health, Safety and Working Conditions	PS3	E1.3	Presence of flammable and highly combustible materials and substances	Prob: 3 Impact: 3 Risk: Medium	Workers smoking on site and close to flammable fuels and combustibles	Adequate warnings and signage erected.  Adequate signage and warnings including "highly-flammable", "no smoking"	Non-smoking regulation fully imposed on site that are close to flammable fuels and combustibles	PMU, Contractor, Field Coordinator, t	Daily and maintain records, Weekly reporting to UNDP, MSA and SSE.	Monitoring Reports, Daily log, Site Meetings Minutes

Environmental and Social Issues	UNDP SES Policy	ESMF Issue No.	Anticipated Risk/Impact	Probability of Impact and Impact	Indicators/Unmitigated Impact	Mitigation Measures	Post Mitigation	Responsibility	Frequency of Monitoring	Means of Verification
		E1.4	Health and safety of road users especially school age children	Prob: 3 Impact: 3 Risk: Medium	Construction equipment and works pose safety hazard for school age children	Adequate warnings and signage erected.  Do not operate heavy equipment and machinery during times when school children are going to school or returning home.  Ensure that construction workers and host community are adequately informed, and aware	Risk of safety to children reduced, no safety issue of incident with road users	PMU, Contractor, Field Coordinator, Project	Daily and maintain records, Weekly reporting to UNDP, MSA and SSE.	Monitoring Reports, GRM, Daily log, Site Meetings Minutes
			Increase in SEAH risk associated with influx of workers	Prob: 3 Impact: 3 Risk: Medium	Influx of workers increases risk/incidence	GAP and SEAH awareness Code of conduct for workers GRM and support for SEAH survivors	SEAH risks not increased	PMU, Contractor, Field Coordinator, Project	Daily and maintain records, Weekly reporting to UNDP, MSA and SSE.	Monitoring Reports, Daily log, Site Meetings Minutes
			GBV exacerbated by project	Prob: 2 Impact: 4 Risk: Medium	Changes in power balances  Complaints of harassment or GBV	GAP and SEAH awareness  Code of Conduct for workers  GRM  Support for SEAH/GBV survivors	GBV risks not increased	PMU  Contractor  Field Coordinator	Daily and maintain records.  Weekly reporting to UNDP, MSA and SSE	GRM monitoring
		E1.5	Health and safety of road users and community	Prob: 3 Impact: 3 Risk: Medium	Prevalence of health and safety hazard to road users during construction	Training provided to construction workers, adequate signage and warnings to road users to be in place. Adequate information provided to the host community about the safety measures and emergency protocols	Risk of safety to children reduced, no safety issue of incident with road users	PMU, Contractor, Field Coordinator, Project Engineer	Daily and maintain records, Weekly reporting to UNDP, MSA and SSE.	Monitoring Reports, Daily log, Site Meetings Minutes
		SM2.1	Prevalence and spread of Covid-19	Prob: 3 Impact: 3 Risk: Medium	Prevalence and spread of COVID-19 among contractor's staff and community	Ensure that construction workers and host community are adequately informed, and aware  Encourage Contractor's workers to be vaccinated, COVID awareness and precautionary measures among workers and community  Observe Covid-19 prevention measures and protocols such as wearing masks, regularly washing hands, etc.	COVID-19 precautionary measures being adhered, risk of spread of COVID-19 minimized	PMU, Contractor, Field Coordinator	Daily and maintain records, Weekly reporting to UNDP, MSA and SSE.	Monitoring Reports, Daily log, Site Meetings Minutes
	PS7	E1.3	Flammable and highly combustible materials and substances	Prob: 4 Impact: 2 Risk: Medium	Workers smoking on site and close to flammable fuels and combustibles	Adequate signage and warnings including "highly-flammable", "no smoking"  Ensure that construction workers and host community are adequately informed, and aware	Non-smoking regulation fully imposed on site that are close to flammable fuels and combustibles	PMU, Contractor, Field Coordinator	Daily and maintain records,  Weekly reporting to UNDP, MSA and SSE.	Monitoring Reports, Daily log, Site Meetings Minutes

Environmental and Social Issues	UNDP SES Policy	ESMF Issue No.	Anticipated Risk/Impact	Probability of Impact and Impact	Indicators/Unmitigated Impact	Mitigation Measures	Post Mitigation	Responsibility	Frequency of Monitoring	Means of Verification
		E.1.5 E1.7	Poor working conditions and workers health	Prob: 3 Impact: 3 Risk: Medium	Work related incidents and injuries  Reported cases of workers getting sick	Personal Protection Equipment (PPEs) are provided to workers  Train all staff in emergency preparedness and response.  Keep on site a First Aid Kit and ensure that drinking water is provided	Construction related incidents and injuries avoided or minimized  Minimal number of reported cases of workers getting sick	PMU, Contractor, Field Coordinator	Daily and maintain records, Weekly reporting to UNDP, MSA and SSE	Monitoring Reports, Daily log, Site Meetings Minutes
		E.1.7	Child labour recruited	Prob: 3 Impact: 2 Risk: Medium	Child(ren) recruited to work on the construction site	Ensure that all stakeholders are aware that the use of child labour is not permitted and relevant clauses will be included in the contract.  Close collaboration with community leaders and contractor prior to mobilization on the site, verifying Identity cards to identify and recruit local labour.  Regular monitor/spot check for ensuring the compliance.	Child(ren) are not engaged or employed to do construction works.	PMU, Contractor, MSA, Engineer	Daily and maintain records, Weekly reporting to UNDP, MSA and SSE	Contractor's Method Statement, Reports  Monitoring Reports
Cultural Heritage	PS4	CH1	Discovery of Archaeological or Cultural Heritage sites or objects during construction works	Prob: 2 Impact: 2 Risk: Low	Damage or disturbance to important Archaeological or Cultural Heritage sites or objects during construction works	Contractor to be aware of known cultural heritage sites (as noted in ESIA / site surveys)  Flagging or physical barriers to be put in place if required.  Take precautions when excavating. If any object or site discovered cease works and follow the Chance-Find Procedure (CFP) in Annex 6.	No disturbance or destruction of site or objects of significant cultural heritage value	PMU, Contractor, Field Coordinator, Project	Daily and maintain records, Weekly reporting to UNDP, MSA and SSE. Daily and maintain records, Weekly reporting to UNDP, MSA and SSE.	Monitoring Reports, Daily log, Site Meetings Minutes Monitoring Reports, Daily log, Site Meetings Minutes
Indigenous Peoples	PS6		Project is surrounded by lands and territories claimed by indigenous peoples (IP)	Prob: 5 Impact: 2 Risk: Medium	Project encroaches on IP land without agreement	Project designed to utilise existing government owned road reserve.  No relocation, resettlement, or removal of indigenous population from their lands will take place as a result of the implementation of the infrastructure project.  Contractor to survey and set out for approval prior to commencement of works  Implement the IP Plan (IPP) attached as Annex 5 and monitor its implementation.  Implement and monitor GRM (Annex 3)	Continue to engage with IPs and monitor implementation of IPP	PMU, SSE, SSAC, MSA, Contractor	Prior to construction, then ongoing  Maintain records	IPP Consultation records IP declaration letter

### 7.1.4 Operation Phase

Environmental and Social Issues	UNDP SES Policy	ESMF Issue No.	Anticipated Risk/Impact	Probability of Impact and Impact	Indicators/Unmitigated Impact	Mitigation Measures	Post Mitigation	Responsibility	Frequency of Monitoring	Means of Verification
Flora and Fauna	PS1		Flora and weed species introduced	Prob: 3 Impact: 3 Risk: Medium	New species of flora and weed appear on the site	Ensure that the seeds that are used are weed free, maintenance and monitoring to ensure that non-native species and weeds do not prevail  No invasive species (IAS) to be used Monitor non-native species to ensure that they do not become invasive	Environmental weeds and noxious weeds within the project footprints shall be controlled.	PMU, Contractor, Field Coordinator, Project	Daily and maintain records, Weekly reporting to UNDP, MSA and SSE.	Monitoring Reports, Maintains Records
Ground Water Quality	PS8	GW1.1	Groundwater contamination from fuel spills, hydrocarbons, and other chemical pollutants	Prob: 2 Impact: 1 Risk: Low	Oil spill or leaks	New 4WD vehicles used to reduce the possibility for oil leaks.  Vehicles to be serviced regularly Regularly inspect all vehicles used in the post-construction phases	No groundwater contamination	PMU, Contractor, Field Coordinator, Project	Daily and maintain records, Weekly reporting to UNDP, MSA and SSE.	Monitoring Reports, Maintains Records
Noise and Vibration	PS8	N1.3	Public nuisance caused by maintenance/operation activities	Prob: 4 Impact: 3 Risk: Medium	Noise due to maintenance during defects liability	Limit work to daylight hours.  Schedule noisy construction activities during specific times in the day	Construction work limited within working hours and noise level reduced	PMU, Contractor, Field Coordinator, Project Engineer	Daily and maintain records, Weekly reporting to UNDP, MSA and SSE.	Monitoring Reports, Daily log, Site Meetings Minutes
		N1.1	Noise nuisance during operation and increase in vehicular traffic	Prob: 3 Impact: 2 Risk: Medium	Complaints from residents about the level of the noise because of the influx of users and vehicles due to the new road	Awareness and acceptance by the host community that the benefit of the new road result in increased road users and vehicular traffic	No complaint and acceptance of the new access road	PMU, Contractor, Field Coordinator, Project Engineer	Daily and maintain records, Weekly reporting to UNDP, MSA and SSE.	Monitoring Reports, Daily log, Site Meetings Minutes
Land	PS1	E3.4	Sedimentation/siltation of drainage or waterways from unconfined stockpiles of soil and other materials	Prob: 3 Impact: 3 Risk: Medium	Excess silt stockpile along the roadside or in the drainage structures	Silt removed from drainage and road carriage way during maintenance	Silt is properly disposed and/or beneficially reused eg returned to adjacent farm land	PMU, Contractor, Field Coordinator, Project	Daily and maintain records, Weekly reporting to UNDP, MSA and SSE.	Monitoring Reports, Maintains Records
					Sediment built up in control structures	Excess sediment in all erosion and sediment control structures (eg. sediment basins, check dams) shall be removed when necessary to allow for adequate holding capacity.	Sediment basins, checked dams and other structures are maintained	PMU, Contractor, Field Coordinator, Project	Daily and maintain records, Weekly reporting to UNDP, MSA and SSE.	Monitoring Reports, Maintains Records
					Soil exposed to erosion and land slide	Stabilization of slopes and critical points through bio-engineering measures such as plantation and planting of vetiver grass	Maintenance of plantation and beating up where needed	PMU, Contractor, Field Coordinator, Project	Quarterly	Monitoring reports

### 7.1.5 Complementary ESS measure

In addition to the to the above Environmental and Social Risks/Impacts and Mitigative Measures and Monitoring Plan, GCF's findings and recommendations for the review of project L-RR-06 proposed under different Environmental and Social Safeguards have been take into account in this generic ESMP and will complement the measures outlined above. They including the following:

Environmental and Social Safeguard (SSE)	Recommendations/clarification by GCF	Response
ESS2 (Labor and working Conditions)		
Labor Requirements and labor Laws	Labor Requirements and labor laws. Aside from contractor labor requirements, it should ensure that workers required in the project management side or those that will be assigned or hired directly to work in the subproject by the government will be provided with adequate worker protection in accordance with international labor standards in terms of basic workers' rights (e.g., rights to clear and understandable terms of employment, regular working hours, overtime pay, equal treatment or non-discrimination of hiring and giving of benefits, freedom of association and collective bargaining, grievance redress). It should also include those that may be engaged with associated activities in the catchment area where engagement of community counterpart/contracted labor, including volunteer labor or family labor, which may not be subject to formal laws, may occur.	The relevant Articles/clauses from Labor law No.4, 2012 of The Democratic Republic of Timor-Leste regarding adequate worker protection in terms of basic rights will be included as Annex to the contracts with all parties involved in the sub-projects and the compliance will be monitored during the monitoring visits and Grievance Redressal Mechanism. For example, Article 8 of the Labor law provide details about the prohibition of forced labor which will be complied by all the concerned parties. The project will provide the appropriate trainings to all the stakeholders before the start of the project on the relevant standards/laws and its compliance.
Risks related to ESS2 standards	Risks relating to ESS2 Standards. It is thus critical that the risks as regards potential for non-compliance of the subproject with the labor and working condition standards be adequately addressed with management interventions/mitigating measures. This could include, in addition to measures to ensure health and safety in the workplace and prevention of child labor, the provision of management measures to ensure that basic workers' rights (as enumerated above) are upheld and respected. Should the risk of trafficked/forced or bonded labor is significant, the Responsible Parties should provide measures that would ensure that such types of labor are not engaged in the subproject, including by contractors and their subcontractors (e.g., drainage, revegetation works, etc.) and key suppliers of raw materials (e.g., gravel, aggregates, or bricks).	In addition to the measures suggested in Table above and Annex 7 (Occupational Health and Safety Management Plan (OHSMP) regarding labor and working conditions standards, relevant clauses from Labor Law No.4, 2012 will be included in contracts with the responsible parties (contractors and their suppliers) and will be regularly monitored by the project team for the compliance. For example, Article 34-37 of the Labor law (2012) provide details about the Occupational Safety, Hygiene and Health which will be followed by all the responsible parties.
OHSMP expansion to include additional areas	The current OHSMP may be therefore expanded to ensure that the following are considered and that they will be adequately managed: (a) <i>Non-discrimination and equal opportunity;</i> (e) <i>Freedom of association and collective bargaining;</i> (b) <i>Clear terms of employment;</i> (c) <i>Workers shall have the right to regular and prompt payment of wages;</i> (f) <i>Prohibition of child labor;</i> (g) <i>Prohibition of forced and/or bonded labor;</i> and (h) <i>Establishment of a Grievance redress mechanism for workers.</i>	The additional proposed areas have been included in OHSMP (Annex 7).



ESS3 (Resource Efficiency and Pollution control)		
	<p>Given that there could be domestic (liquid and solid) wastes from labor camps that will need to be disposed of properly and construction activities will also generate waste soil materials (e.g. topsoil, demolished structures, tree stumps and other organic materials which are unsuitable for use as embankment fills) a suitable disposal area for excess soil materials that are deemed unsuitable for embankment fills should be identified and used for the subproject</p>	<p>Additional information added to Construction Phase ESMP above updated where needed. Suitable accessible waste disposal sites will be identified at start of the sub-project by the contractor in consultation with the project team and relevant government authorities where waste material from both labor camps and construction site will be timely and properly disposed at dumping site/s designated by the Municipality and as per the Articles 39-42 of the Democratic Republic of Timor-Leste Decree Law No: 26/2012 of 4 July 2012 Environment Basic Law.</p>
ESS4 (Community Health, Safety and Security).		
	<p>It is however recommended that in the maintenance of the road right of way (and easements), the Responsible Parties (RP) implement an integrated vegetation management (IVM) programme to avoid excess vegetation's interference with vehicle travel as unchecked growth of trees and plants may cover signals and signs, restrict motorist and pedestrian visibility, and branches can fall onto the road, or nearby buildings and power lines (if any) and cause damage to these assets.</p>	<p>Responsible parties will implement Integrated Vegetation Management (IVM) programme on road sides and critical vulnerable points exposed to erosion and landslides according to international standards such as the selection of appropriate species which should not obstruct view of the motorists, preference of native trees, planting of trees at least 3 meter away from outer road boundary with at least 3 meter plant to plant distance depending on the height of the tree, multilayered trees plantation on sides of the road such as higher trees on the outside followed by medium trees in the middle and shrubs/grasses closer to the road complemented by bio- engineering measures for soil stabilization. The outer boundary of the road will be considered 5.5 meter from the center point of the road as per the government rural road standards to allow expansion of the road required in future without any damage to the plantation. No trees will be planted near the power lines.</p>
ESS5 (Land Acquisition and involuntary settlement)		
	<p>Kindly provide information as to the actual width of the road reserve and discuss (or if possible show proof of government ownership of the road reserve/right-of-way) and provide an explanation of how and when the road reserve was acquired by the government. Otherwise, there may be a need to formally transfer ownership of the road reserve to the government such as for example via voluntary donation by their legal owners (if this is the case).</p>	<p>The Sub-Project L-RR-06: Kaigeremeta to Darulema Rural road rehabilitation, the proposed road is owned by the Ministry of Public Works, Directorate Roads Bridges and Flood Control (DRBFC). Please find attached the letter from Public Works dated 07 June 2022 (Ref No: MOP,1039/DGOP-EPCC/VI/2022) as Annex 4A&amp;B stating the ownership of the road by the government of Timor-Leste. According to rural road standards by Ministry of Public Works, 5.5 meters from the center line on both sides of the road belong to the government. The proposed sub-project will only rehabilitate on average 5 meters wide road which falls within the ownership of the road by the government. The details have been added under section 7.2.2 Land Ownership, acquisition and Land Declarations</p>
	<p>It is recommended that once the staking of the road development has been done, an inventory of the affected structures, crops and economic trees should be undertaken. If compensations are waived, their owners should be given sufficient time to harvest any standing crops and be allowed to salvage materials and logs after the trees have been cut and the structures have been dismantled. Furthermore, where</p>	<p>The government documents of the road sub-projects show the ownership of 5.5 meters land on both sides of the road from the center point of the road. The sub-project plan to rehabilitate on average 5 meters wide road and don't foresee any major damage to crops, trees and structures on the sides of the road. However, where such assets are existing will be recorded and owners will be given enough advance notice to take care of these assets. The project or responsible parties</p>

	family assets are affected, the Responsible Parties should aid the affected households in terms of rebuilding or restoring the structure displaced/damaged by the road rehabilitation.	will not provide any support to the affected households in terms of rebuilding or restoring the displaced/damaged structures due to road rehabilitation as all the rehabilitation work will be done on government owned land. Extreme care will be taken by responsible parties to avoid damage to the assets on the downside of the road in hilly areas and for any damage due to negligence, the contractor will be responsible. The project will train the responsible parties to mitigate any damages from the rehabilitation of the road. The Stakeholder Engagement Plan and the GRM also provide mechanisms for communities to formally raise concerns regarding assets that could be affected during the rehabilitation of the roads.
ESS6 (Biodiversity Conservation and Sustainable Management of Living Natural Resources)		
	Given that Activity 2.3 include some complementary catchment management and rehabilitation activities, please ensure that these are also included as part of the long-term measures in the ESMP to mitigate the potential negative impact of the road rehabilitation activities on the overall ecology of the area.	Complementary catchment management and rehabilitation activities, are reflected as part of the long-term measures in the ESMP to mitigate the potential negative impact of the road rehabilitation activities on the overall ecology of the area..
Grievance Redress mechanism		
	The GRM procedure for collecting, recording, and resolving grievances may need to be further described in a clear stepwise manner so that it can be readily followed by the stakeholders. The GRM should also have provision to elevate unresolved grievances from the subproject/municipal level to the project/national level if there is such a project or national-level GRM including possibilities to raise grievances to the AE's Stakeholder Response Mechanism (SRM) and the GCF's Independent Redress Mechanism	Details added under section 7.5 below

## 7.2 Residual risks after mitigation

The environmental and social impact assessment found that there will be no long-term negative environmental and socio-economic impacts associated with the planned project. In fact, the types of structural and other physical works that will be implemented under the project will provide climate resilient infrastructure which will strengthen resilience of the beneficiary communities through implementation of engineering “best practices” and climate resilient engineering technologies, therefore the anticipated impact would be minor and are likely to have temporary and/or minimal environmental impacts.

The project will also bring about beneficial change to the local communities and their livelihoods by providing small scale resilient structures along with more stable hillsides for agricultural use, reducing erosion and sedimentation and downstream environmental impacts, slope stabilization, water outlets for more efficient management and control of water discharge to the fields and drainage improvements that would be carried out with community participation.

The design of the rural road infrastructure has taken into account the social and environmental safeguard (SES) policies of the Accredited Entity (UNDP) that will include avoiding and/or minimizing environmental impacts through application of good engineering design and sound implementation measures.

The environmental checklist has been written to incorporate good practice guidance previously given to ANLA-SSE.

Following implementation of the ESMP, the project is expected to have the following residual risks which have low to negligible, are short-term/temporary, reversible and localised.

Impact	Ranking
<b>Construction</b>	
Deterioration of air quality	Low to negligible, short term, reversible, local
Noise and vibration	Low to medium , short term, reversible, local
Water quality	Low to negligible, short term, reversible, local.
Deterioration of soil quality	Low to negligible, short term, reversible, local.
Deterioration of soil stability (erosion and landslides)	Low
Impact on flora/vegetation	Low, local, short term (temporary), reversible. Affected species are not rare, endemic, endangered, Red List or otherwise protected.
Impact on fauna	Low, temporary, reversible, local. These will be - residual risk of impact on aquatic life due to temporary impact on water quality (mainly increase of turbidity). None of affected species are rare, endemic, endangered, Red List or otherwise protected.
Landscape and visual alteration	Low to negligible, temporary, local, reversible
Temporary use of private land, loss of harvest	Negligible, short term, reversible, local

## 7.3 Implementation of the ESMP

### 7.3.1 Responsibilities and Institutional Arrangements

The key institutions, organizations and stakeholders relevant to the environmental management and that will have responsibilities for the implementation of this ESMP are set out below.

The overall responsibility for ESMP implementation lies with the Ministry of State Administration, as the Responsible Party (RP). The Municipal Administration is the contracting authority and will establish the contract with the local contracting company for the implementation of the rural road.

UNDP is supporting the RP and has established a Project Management Unit (PMU) based in Dili, to support overall project implementation. The Field Coordinator and Climate Change and Environmental Office of the PMU are based in the Municipalities and will support Municipality and the local authorities to monitor the implementation of this plan.

A summary of the key functions for the project implementation and environmental safeguards and detail on the responsibilities of each function is as follows:

*Table 0-20: Summary of the Key Functions and Responsibilities for the ESMP*

No	Name	Roles and Responsibilities
1	Ministry of State Administration (MSA)	<ul style="list-style-type: none"> <li>Responsible Party (RP) for the project. Overall responsibility for project design and implementation and post-construction operation and maintenance.</li> </ul>
2	Secretary of State for Environment (SSE)	<ul style="list-style-type: none"> <li>Implementing Partner for the project. On behalf of the GoTL, SSE ensures that the project, complies with the provisions of the requirements for compliance with the environmental laws and regulations</li> </ul>
3	National Environmental Licensing Agency (ANLA)	<ul style="list-style-type: none"> <li>Screening of the sub-projects and issuance of the environmental permits/licenses in accordance with ELL DL No. 5/2011</li> <li>Monitor compliance with the requirements of the SES and ESMP.</li> <li>Reports on the results of the environmental monitoring and shall conduct validation and provide technical guidance on quality monitoring, when necessary.</li> </ul>
4	Municipality Administration	<ul style="list-style-type: none"> <li>Contracting Authority enters into the contract with the local contractor for implementation of the works.</li> <li>Municipality participates in the monitoring of the Contractor performance in ESMP implementation and involved in grievance resolution in accordance with the established grievance redress mechanism.</li> </ul>
5	UNDP	<ul style="list-style-type: none"> <li>Supports GoTL (IPs, RPs and Municipal Authorities) with implementation of the project through the established PMU</li> <li>Reviews and approve the ESIA, ESMP prior to commencement of the construction works.</li> <li>Supports the PMU, regular monitoring and annual reporting on the implementation of the ESMPs.</li> </ul>
6	Project Management Unit (PMU)	<ul style="list-style-type: none"> <li>Supports MSA to oversee the environmental compliance and reporting requirements, by MSA and the Municipality, to ANLA.</li> <li>PMU Team including the Project Manager, National Project Engineer, Environment Officers facilitate the monitoring and reporting on the implementation of the ESMP to National stakeholders such as MSA, SSE.</li> </ul>

		<ul style="list-style-type: none"> <li>Regularly monitor the mitigation and protection measure during implementation and submit regular reports to UNDP CO, SSE, ANLA, MSA.</li> </ul>
7	Local Authority	<ul style="list-style-type: none"> <li>Municipality and Suco Council to participate in the monitoring of the Contractor performance in ESMP implementation.</li> <li>Chief of Suco and Aldeias shall be involved in grievance resolution in accordance with the established Grievance Redress Mechanism (GRM).</li> <li>Lia nain (traditional/cultural leader) engaged in cultural matters and in case of chance find and having to activate the CFP</li> </ul>
8	Field Coordinators of PMU	<ul style="list-style-type: none"> <li>A daily environmental checklist be completed at each work site and maintained within a register and logged in the on-site logbook.</li> <li>A weekly environmental checklist is to be completed and will include reference to any issues identified in the daily checklists completed by the Field Coordinators.</li> <li>The completed checklist is to be forwarded to MSA, SSE and PMU for review and follow-up if any issues are identified.</li> <li>supports the Municipality Environment Officer to conduct inspections and spot checks to monitor the performance of the Contractor in implementing the ESMP.</li> <li>Coordinate monitor and report on the management and resolution of grievances and effectiveness of the GRM. Conduct appropriate consultation and monitoring of effect of construction on affected people.</li> <li>Oversee observance of the GRM and prepare the grievance redress reports.</li> </ul>
9	Civil Works Contractor	<ul style="list-style-type: none"> <li>Prepare and submit Method Statement detailing the project implementation plans and construction methods, site layout and organization, workers and community safety and health and other related actions for full compliance with the ESMP</li> <li>Implements all environmental mitigation and protection measures, conduct environmental monitoring activities</li> <li>Participates when needed and observes the GRM process in addressing complaints</li> <li>participates in regular monthly construction site meeting</li> <li>adherence to the CFP in the event any unknown site or objects of cultural and heritage value has been discovered</li> <li>prepare and submit monthly and quarterly reporting on the ESMP implementation and compliance</li> </ul>
10	CSOs/NGOs	<ul style="list-style-type: none"> <li>participates in any consultation that may be required during the implementation or post-construction maintenance period</li> <li>acts as an independent third party in the implementation and post-construction monitoring of the project</li> </ul>
10	Beneficiaries, host community	<ul style="list-style-type: none"> <li>supports the contractor in the implementation of the environmental mitigation and protection measures</li> <li>participates in any meeting or consultation that may be required during the implementation or post-construction maintenance period</li> </ul>

### 7.3.2 Contractor Responsibilities

The appointed Contractor will also be responsible for implementing the Environmental and Social Management Plan (ESMP). The ESMP is legally binding and shall be always adhered to. The Contractor shall take the necessary action to ensure that temporary site establishment and construction activities adheres to the requirements stipulated in the ESMP. The Contractor will be required to submit a Method

Statement detailing construction activities and what measures will be implemented to prevent the pollution of streams, rivers and adjacent surface and groundwater resources that can potentially occur because of fuel spills, sewage from the temporary toilets and other deleterious materials from the construction site.

Where in the opinion of the Engineer, the Contractor has not adhered to these requirements, the Contractor shall rectify the damage at his cost and to the satisfaction of the Engineer.

The selected contractor will be required to comply with the requirements outlined in the ESMP during implementation, which will be monitored through audits and regular monitoring.

The Contractor is to appoint an Occupational, Health, Safety and Environment Representative who will be responsible for OHS on site. The Contractor's Work Method Statement shall indicate the various interventions required to protect the environment including:

- a. Protection against dust, landslides, and erosion
- b. Bio-Engineering Interventions
- c. Re-instatement of Quarries and Borrow Pits
- d. Adequate sanitary and ablution facilities to be provided to workers
- f. Environmental awareness training to all site personnel.
- g. Disposal of waste in a manner that will not endanger the environment.

### 7.3.3 Monitoring

To ensure compliance with the ESMP and that all the mitigation actions are completed accordingly, regular compliance monitoring and site observations will be carried out by the project engineer, environment officer and field coordinator. The objective of the monitoring activities is to ensure compliance with the measures as outlined in the ESMP, timely identification of any unforeseen negative impacts or when an impact indicator approaches a critical level and timely reporting to the respective stakeholders. Monitoring of the ESMP implementation includes site inspections, reporting and photographic documentation designed to assess the contractor's compliance with the ESMP and other applicable regulations. It is also anticipated that additional inspections would be required in response to complaints and issues raised by local communities.

The costs for monitoring during the construction works include the salaries of the Project Engineer, Field Coordinator and Environment Officer's and costs for traveling to the site with motorbike and vehicle, mobile communication and camera. The responsibilities for implementation and monitoring of the ESMP are detailed under responsibilities and institutional arrangements.

## 7.4 STAKEHOLDER ENGAGEMENT

The project has prepared a Stakeholder Engagement Plan (SEP) for the sub-project as per Annex 2. The stakeholders' consultation is enshrined in the Timorese Constitution, and is part of the decision-making process, which allows integration of diverse views and perceptions of the project by stakeholders, creating conditions suitable for implementing the project and its integration at community and national levels.

### 7.4.1 Stakeholder Consultations

Prior to detailed design and implementation, extensive consultations are held with stakeholders to gather information about the selected project site and to get the consensus and involvement of the various players, including identifying and coming up with the mitigative measures to address social and environmental concerns. The consultations include women and other disadvantaged groups. During the stakeholders' consultations and engagements with local authorities, the overview of the proposed project and objective of the ESIA are presented. Furthermore, the challenges that could impede the implementation of the project and the support needed from all stakeholders to ensure smooth implementation are also discussed..

### 7.4.2 Objectives of the Consultations

The objectives of the stakeholders' consultations were to:

- to solicit the views and concerns of local community members, project's beneficiaries and stakeholders for the planned road rehabilitation project so that the feedback received can be used to mitigate and address the issues identified in the early stages of project planning and during implementation.
- gather local and traditional knowledge that may be useful in the planning, designs and decision-making processes and that can be incorporated in the project implementation accordingly.
- ensure that important impacts are identified early and not overlooked and the overall benefits of the project for local community is maximized
- provide a forum for the early identification of any critical environmental and social issues and in particular the people who are likely to be affected by the project
- provide an opportunity for the public to provide input and feedback to influence the designs and implementation in a positive manner; and
- increase the local community buy-in and ownership of the project

### 7.4.3 Consultation Process

The project has been discussed with a wide range of stakeholders including relevant government departments, academia, CSOs, local and municipal authorities, local leaders, residents and host community, minority, and vulnerable groups. Extensive on-the-ground consultation are undertaken with municipal and local authorities during the pre-construction technical assessments, and in preparation of the technical engineering designs for the project. Throughout the project's implementation and defect's liability period, consultation with any affected communities will continue.

During the consultation the team also disseminate information about the project and its expected impacts, during the various phases of the project cycle (i.e. pre-construction, construction and post-construction) with the community to get consensus on the main social and environmental concerns related to the designs and implementation of the project.

Key stakeholders for this project are identified and consulted including national and municipality government representatives, local authorities, chief of the villages and sub-villages and the local community members and residents along the road corridor.

The public consultation is done twice. The first consultation is the engineering detailed field assessment conducted in village office in the suco, and the second consultation is the project screening activity which is done jointly with PMU and Official Staff from ANLA. For both public consultations there is participation from representatives from municipal level, administrative post, xefe suco, xefe aldeia, suco consul and youth represent (Men and women).

During the public consultation, information related with the environmental issues and documents are obtained that will be support or submit from suco level as declaration latter, list of the landowner and list of the farm owner to support the project document and submit to ANLA to get the classification of the environmental license. In addition to the meeting also introduces the GCF project to the community leader in municipal, administrative post and suco level.

As-needed discussions are also held with Municipal Administrator, and the Municipal Director of PDIM as well as representatives of beneficiary sucos.

#### 7.4.4 Consultation and Coordination with national and local authorities

Consultation are held with the Municipal Administrator and local authorities to reconfirm that the sucos and communities will collaborate with UNDP and contractor to ensure the project implementation will be successful and benefit the communities.

Coordination meetings are also held with the Ministry of Public Works – Department of Roads Bridges and Flood Control (DFBFC) to confirm/ensure that the selected road project was not already budgeted or contracted for implementation under the MoPW annual plan.

#### 7.4.5 Stakeholders' consultation with residents/community

Stakeholders' consultation with the host community and local authorities are also conducted as FGDs ensuring gender inclusion and responsiveness. The views expressed are incorporated into this ESIA and the project design.

A summary of the issues and/comments raised by the various stakeholders and how the issues were and/are to be addressed by the project are included in the sub-project stakeholder engagement summary of the project document.

#### 7.4.6 Key Findings of the Consultations

The project concepts were derived from the PDIM Planning Framework, a national bottom-up process that allows communities to develop infrastructure proposals and feed them up through the various administrative levels from Aldeia to Suco to Municipality. In this way, the projects are based on community needs and aspirations and there is high ownership of the concepts even before funding is available.

During the GCF SRC project development and design phase there was considerable stakeholder engagement, which was documented as part of the funding proposal. Further consultation are being undertaken as part of the detailed engineering design, ESIA of each project.

The views collected from the consultation process of roads rehabilitation projects can be summarised as follows:

- The residents of the local communities expressed their appreciation and gave the assurance to fully support the successful implementation of the project and are aware of the positive social, economic and health benefits that the road rehabilitation will bring to their community.
- The project implementation follows the Municipality Integrated Development Programme (PDIM) planning framework. This road has long been the priority of the suco/community, but it was not implemented.
- The widening of the existing road alignment does not involve the relocation or destruction of any house or physical asset and does not require any compensation for land acquisition from local community.



- The project proposes to utilise the existing government owned road reserve, so no displacement or resettlement is required. Further, the local community agreed that no compensation is required for any disturbance that might occur due to construction, although this will be reduced to the minimal. This was assessed in full consultation and participation of local authorities and residents of the host community during the technical assessment and surveys. The declaration letter has been provided and signed by IPs representatives to this effect.
- Residents are aware of the positive social, economic and health benefits that the road rehabilitation will have on their lives and the resultant climate resilient improvement and safeguard for the community and its physical assets.
- The rural road will provide direct benefits and improved all-weather access to communities, which include improved access to local markets and services, and transport in a timely manner.
- Local community members did not express dissatisfaction with the issues that will arise during the construction works such as the noise from equipment and dust.
- The residents/community also see this as an opportunity to give full support and voluntarily contribute towards the implementation of the project for the development of the community and long-term improvement in their livelihood.
- As is customary in Timorese culture, before the project start physical construction works on the ground, the cultural ceremony needs to be done at the time of commencement and completion of the construction works of the project in consideration of the holy (lulik) site that is near to the road.

## 7.5 Grievance Redress Mechanism (GRM)

To ensure timely and effective addressing of any issues or problems that may be encountered during implementation, a robust Grievance Redress Mechanism (GRM), has been established to address the grievances of the stakeholders of the project. The GRM consultation with municipality and local authorities is held and with the committee and established and adopted in the Municipality during the pre-construction phase of the project.

Any person having grievance or complaints will have the opportunity to submit their grievance/complaint either via a grievance form or verbally and pursuant to the mechanism and committee established. The GRM will as much as possible, try to resolve complaints and/or grievances on terms that are mutually acceptable to all parties. When making a complaint and/or grievance, all parties must always act, in good faith and should not attempt to delay and/or hinder any mutually acceptable resolution.

The project will follow Guidance Note -UNDP Social and Environmental Standards (SES), Stakeholder Engagement Supplemental Guidance: Grievance Redressal Mechanisms for establishing GRM for the project as following:

1. **Receive and Register Grievance:** The Project Field Coordinator at Municipality level will receive and register all the grievances within 48 hours. The GRM will be widely publicized through meetings and posters in prominent congregation points such as sub-village office. All the stakeholders will be informed about the purpose, process and assured of the confidentiality of personal details of the person recording the grievance. All the stakeholders including government officials, contractor, workers and community will be informed about the focal person and her/his phone number will be shared for either registering the complaints in person or through phone calls.
2. **Acknowledge, Assess and Assign:** The nominated Field Coordinator will acknowledge the receipt of the grievance and will share with Monitoring, Evaluation and Communication Officer of the Project who will assess and assign the grievance to the relevant project staff for resolution and preparing the response. Depending on the nature of the grievance, the serious and time sensitive grievances such as sexual harassment, security and misappropriation of the project resources, the Project Manager should be immediately informed and in consultation with UNDP management will resolve and respond to the grievance through appropriate measures.

3. **Propose Response:** The assigned person will further investigate in consultation with Field Coordinator and if needed will discuss with other relevant departments and staff to prepare the detailed response.
4. **Agreement on the response:** Minor grievances should be handled and responded within one month by the relevant Field Coordinators in consultation with relevant Team Leader/staff and government authorities while response to major grievances should be agreed/resolved by the Project Manager within 2 months or referred to the Grievance Redressal Committee.
5. **Implement Agreed Response:** The relevant Team Lead will implement the agreed response with the support from relevant field and technical staff as required. Relevant government departments will be informed accordingly for their support.
6. **Grievance Resolved successfully and closed:** All the grievances received and resolved will be documented and mitigation measures put in place to avoid the repetition of the same or similar issues in future.
7. **No agreement on the response/Grievance not resolved:** The assigned staff in consultation with Project Manager will consider revising the approach, refer out or close out as appropriate.
8. **Reporting to GCF:** The Project will keep GCF updated on quarterly basis regarding the number of grievances received, natures of the grievances, its status (resolved/not resolved) and mitigation measures put in place to avoid similar situation in future.

The Project Grievance Redress Mechanism does not replace or exclude other existing avenues for complaint resolution. All complainants have the right to use the Court of Timor Leste at any time to seek resolution or the following available independent grievance mechanism.

- UNDP Stakeholder Response Mechanism - [www.undp.org/secu-srm](http://www.undp.org/secu-srm)
- GCF Independent Redressal Mechanism - <https://irm.greenclimate.fund>

### 7.5.1 GRM

Grievance Redress Mechanism (GRMs) is defined as organizational systems and resources established by national government agencies (or, as appropriate, by regional or municipal agencies) to receive and address concerns about the impact of their policies, programs and operations on external stakeholders. The stakeholder input handled through these systems and procedures may be called “grievances,” “complaints,” “feedback,” or other functionally equivalent term. At sub-project level, GRM is established with the function to support project in registering and addressing any complaint that might arise during the project implementation. The structure of GRM to be developed for each sub-project is presented in Table 0-21. Annex 3 gives the full details of the GRM procedures.

*Table 0-21: GRM Structure for each sub-project*

Nu.	Name	Position /title	Position in GRM committee	Phone Number	Email (if applicable)	Address
1			Chairman			
2			Vice			
3			Secretary			
4			Member			
5			Member			

6			Member			
7			Member			
8			Member			
12			Member			
13			Member			
14			Member			

## 7.6 Gender and Social Inclusion

Rural women often have few, if any, income opportunities aside from agriculture, which stresses the importance of ensuring equal access to employment opportunities in rural infrastructure development and particularly road works. Seeing women perform well in non-traditional jobs, such as working in road construction and maintenance, also challenges traditional gender roles and is a step towards changing gender norms and advancing gender equality in Timor-Leste.

- While the labour force participation rate more than doubled from 24 percent in 2010 to 46.9% in 2016, crucially over 50% of the working age population are not economically active, with women particularly behind men and youth behind adult over 25 years of age in terms of labour force participation.
- According to the SEIA 2.0 nationwide household survey, ‘the overall labour force participation rate (March 2021) was 51.3 percent. This represents the percentage of the working-age population that is working in the market economy or is looking for paid employment.<sup>12</sup> The labour force participation of women was lower than that of men, respectively 46.7 and 55.8 percent, which represents a gender parity index of 0.84’. Urban areas have larger share of unemployed population compared to rural areas (16.1% versus 7.4%).<sup>13</sup>
- People with disability in Timor-Leste often resort to subsistence work to compensate the lack of access to employment for pay or profit. The participation rate of 28.0 percent for persons with a disability is about half (54 percent) the rate of people without disabilities, which is an indication of the adverse position on the labour market of the former group<sup>14</sup>
- Men predominate in every sector except self-employed non-farmers, of which 57% are women. Seventy-six percent (76%) of businesses and farms are owned by men; men occupy roughly 59-69% of the jobs in government, NGOs, international organizations, and state-owned enterprises.<sup>15</sup>
- Most of the population have no consistent incomes due to working in the informal sector, and many are subsistence farmers. In 2016, of the employed population in Timor-Leste, 42.9% were self-employed and 15.1% were contributing family members.<sup>16</sup> Of those, only a quarter of employed women (28%) were in waged or salaried (employee) positions, whereas half (49%) of all employed men were in secure jobs<sup>17</sup>.

<sup>12</sup> UN Timor-Leste and GoTL (2021), The Socio-Economic Impact Assessment of COVID-19 in Timor-Leste, Round 2 (SEIA 2.0)

<sup>13</sup> MOF, ILO, UNFPA (2018). Timor-Leste Population and Housing Census 2015: Analytical Report on Labour Force. Thematic Report Volume 10, GDS and UNFPA.

<sup>14</sup> UN Timor-Leste and GoTL (2021), The Socio-Economic Impact Assessment of COVID-19 in Timor-Leste, Round 2 (SEIA 2.0)

<sup>15</sup> MOF, ILO, UNFPA (2018). Timor-Leste Population and Housing Census 2015: Analytical Report on Labour Force. Thematic Report Volume 10, GDS and UNFPA.

<sup>16</sup> MOF, ILO, UNFPA (2018). Timor-Leste Population and Housing Census 2015: Analytical Report on Labour Force. Thematic Report Volume 10, GDS and UNFPA.

<sup>17</sup> UNWOMEN, Secretary of State for the Support and Socio-Economic Promotion of Women (SEM, Secretary of State for Employment Policy and Vocational Training (SEPFPOPE), and ILO. 2017. *Gender analysis of the 2013 Timor-Leste Labour Force Survey: A statistical summary of women and men at work in Timor-Leste*.

The opportunity to participate in rural road construction and maintenance works will open new employment and income generating opportunities for women, as well as increase their agency. It is expected that during the implementation stage itself, there will be available job opportunities for local youths, women and the local community to participate in the construction works. While this will provide income generating opportunities, it will also help to develop the community and household skills set for the future. The project will target greater participation and involvement of women (targeting at least 30%), vulnerable groups and disability groups. Collaboration and cooperation with local authorities and leaders will ensure broader gender involvement and empowerment.

The project will develop, implement, and monitor its Gender Action Plan. Consideration would be given to ensure that the needs of women, disabled people, youth, and other vulnerable groups are considered at all stages from planning, design, execution and monitoring of the road infrastructure. Dedicated and simplified tools will be designed and used as part of the Gender Action Plan. Additional measures include ensuring adequate representation and engagement of vulnerable groups in the consultation activities and full compliance with the GRM process.

## 7.7 Indigenous People's Plan (IPP)

As social groups with identities that are often distinct from dominant groups in their national societies, Indigenous Peoples are frequently among the most marginalized and vulnerable segments of the population. As a result, their economic, social, and legal status often limit their capacity to defend their rights to lands, territories, and other productive resources, and restricts their ability to participate in and benefit from development. At the same time, GCF recognizes that Indigenous Peoples play a vital role in sustainable development and emphasize that any constructions should benefit Indigenous Peoples, thereby ensuring long-term sustainable management of critical environmental and socio cultures of the community.

The project has been designed with the assistance of stakeholders and aims to provide benefits to the broader community. Notwithstanding, as with any project that involves construction, some dissatisfaction can occur and conflicts may arise. It is important that potential areas of tension are recognised early and appropriate actions taken to avoid or minimise conflict.

The Indigenous People's Plan (IPP) was developed (see Annex 5) and the checklist was applied for appraising whether FPIC process was required. The IPP is crucial to recognize the distinct circumstances that expose Indigenous Peoples to different types of risks and impacts from development projects. The purpose of developing this Indigenous People Plan is to avoid adverse impacts on Indigenous Peoples and to provide them with culturally appropriate social and economic benefits. In particular,

- to respect Indigenous Peoples' rights, including their rights to Free, Prior, and Informed Consent (FPIC).
- to involve Indigenous Peoples in the design of the project, receive culturally appropriate benefits that are negotiated and agreed upon with the affected persons and/or communities.
- to avoid or adequately address to potential adverse impacts through a participatory and consultative approach; and
- to monitor the implementation of the project, any required Indigenous Peoples plan or framework, and project benefits are monitored.

Once implemented the IPP will ensure that:

- The community has been consulted and project elements have been designed with their informed consultation and participation throughout the project;
- public disclosure conforms with GCF requirements;
- all stakeholders are appropriately represented;
- avoid adverse impacts to local community during construction and operations and where not possible, minimise, restore or compensate for these impacts;
- cultural heritage is not adversely impacted;
- community health and safety is protected and overall well-being benefits derived from the project;

- complaint and grievance mechanisms are put in place and proactively managed; and
- long-term social benefits are achieved.

Local stakeholders and community members have a key role to play in the implementation and monitoring of the project. Consultation with stakeholders will continue. This will help ensure that stakeholders continue to be aware of the project, its progress and any changes in the project. It will also assist in identifying any issues as they arise.

MSA will be responsible for advisory support and extensions services to local beneficiaries backstopping in the implementation of programme activities. Records of all consultations are to be kept and reported a weekly basis. The MSA must be notified in the event of any individual or community complaint or dissatisfaction and ensure the Grievance Redress Mechanism is complied with.

## 7.8 Training and Capacity Building

Training and capacity development is a key aspect to support the ESIA and ESMP processes. ANLA is the national agency that is responsible for facilitating the screening and for issuance of the requisite permit and licensing in accordance with the ELL and will facilitate the trainings with the PMU. The training targets staff from the PMU, technical counterparts in the respective government ministries and other responsible parties to have clear information and understanding of the safeguard policies and its requirements and to support the implementation and monitoring of the ESMP.

The training also focuses on the procedure for complying the social and environmental safeguard requirements and procedures, and applicable regulations in relation to the environmental procedures and issuance of the appropriate environmental license prior to commencing physical works on the site.

GCF project facilitated training workshop for Municipal Engineers and Technicians on introduction to the national ELL and ESIA/ESMP concepts for better understanding during monitoring, reporting and compliance.

Table 0-22: ESIA Training Plan

Description of Training	Target Participants	Facilitated by
Training on ESIA/ESMP (including monitoring) and Climate Resilient Infrastructure Methods (CRIM)	National Technical Staff from MSA, SSE, ADN Municipal Engineers and Technicians	ANLA, UNDP, PMU

Training include the Climate Resilient Infrastructure Methods (CRIM) was conducted at both the national (Dili) and in the Municipal levels between November 25 and December 10, 2021. The training which is part of Outcome 2 of the GCF project targets technical staff in the respective line ministries (SSE, MSA, MAF, MoPW) at the national level and municipal engineers and Environment Officers. Further sessions have been planned and will be facilitated to enhance the capacity of technical staffs in the respective line ministries to support the implementation and monitoring of the site specific ESMP.

The project will support the selected contractor and relevant technical staff to receive refresher training to ensure compliance with the environmental and social safeguards measures including dealing with stakeholders, community participation and relations; adherence to labor laws and standards; gender equality; child protection; training on OHS and emergency requirements, PPEs, disability inclusion and workers and public safety. Along with the monitoring that will be undertaken, coaching and mentoring will also be offered to the contractor's staff to ensure full compliance with the safeguard measures.

## 7.9 Estimated cost of Environmental Mitigation Measures

The estimated cost for implementing the mitigation measures and monitoring plan is provided in the table below.

Table 0-23: Expenditures of reducing environmental impacts and monitoring

#	Item	Unit	Quantity	Unit Cost in USD	Total in USD
<b>Impact reducing measures described in the document <sup>18</sup></b>					
1	Climate proofing measures (Bio-engineering)	lump sum		35,000	35,000
2	Technical safety measures for the construction sites	lump sum	1	15,00	15,00
3	Implementation of Grievance mechanism	lump sum	1	5,000	5,000
4	Occasional archaeological discoveries, training the labor in the issues connected with the corresponding activities.	lump sum	1	2,000	2,000
5	Identification of places for disposal of the waste. Implementation of procedures for treating the waste	lump sum	1	6,000	6,000
6	Subcontract for all the waste collection generated during construction	lump sum	1	2,000	2,000
<b>Monitoring described in the environmental monitoring plan</b>					
7	Protection of the safety and health of the labor / periodical checking of the training	hours	15	100	1,500
8	Monitoring of the surface water protection measure in the course of the construction works	month	4	250	1,000
9	Monitoring of the ground water protection measure in the course of the construction works	month	4	250	1,000
10	Ambient water and noise, regular checking of the vehicles and building machinery	month	4	250	1000
<b>Emergency Response Training and Engagement of Environmental Supervision Consultant</b>					
11	Training of construction workers in emergency response	lump sum	1	1,000	1,000
12	Field Environmental Supervision Consultant	month	3	1,000	3,000
				<b>TOTAL</b>	<b>60,000</b>

<sup>18</sup> Estimated expenditure of the construction period



## **Annex 1 – Project description – List and description of Rural Roads rehabilitation projects**



Table 0-1: Details of rural roads rehabilitation sub-projects implemented by the project. Schemes highlighted in blue are being implemented with GCF-funding

Project Code	Project Title	Type of Infrastructure	Project Description	Municipality	Total Capital Cost (USD)	Funding Source	Beneficiaries			
							Female	Male	Total	HH
A-RR-01	Lausi Bandudato road rehabilitation	Road rehabilitation	Clearing, grubbing and excavation, construction of various drainage structures (culverts and causeways) and concrete kerb (retaining wall) and drainage channel, gabion installation and soil bioengineering, gravel and concrete surfacing for 7.5 km	Aileu	85,000	Co-financing	826	808	1634	314
A-RR-02	Fatubosa - Coulau Road Rehabilitation	Road rehabilitation	Clearing, grubbing and excavation, construction of various drainage structures (culverts and causeways) and concrete kerb (retaining wall) and drainage channel, gabion installation and soil bioengineering, gravel and concrete surfacing for 8 km	Aileu	85,000	Co-financing	215	193	408	94
A-RR-03	Acubilitoho - Betulau Road Rehabilitation	Road rehabilitation	Clearing, grubbing and excavation, construction of various drainage structures (culverts and causeways) and concrete kerb (retaining wall) and drainage channel, gabion installation and soil bioengineering, gravel and concrete surfacing for 1.5 km	Aileu	150,000	Co-financing	964	894	1858	443
A-RR-04	Lequitura - Rairema Road Rehabilitation	Road rehabilitation	Clearing, grubbing and excavation, construction of various drainage structures (culverts and causeways) and concrete kerb (retaining wall) and drainage channel, gabion installation and soil bioengineering, gravel and concrete surfacing for 6 km	Aileu	209,720	Co-financing	299	288	587	116
A-RR-05	Lahae - Eralolo Road Rehabilitation	Road rehabilitation	Clearing, grubbing and excavation, construction of various drainage structures (culverts and causeways) and concrete kerb (retaining wall) and drainage channel, gabion installation and soil bioengineering, gravel and concrete surfacing for 0.6 km	Aileu	189,390	GCF	706	646	1352	312
A-RR-06	Suku lama - Kasmantutu Road Rehabilitation	Road rehabilitation	Clearing, grubbing and excavation, construction of various drainage structures (culverts and causeways) and concrete kerb (retaining wall) and drainage channel, gabion installation and soil bioengineering, gravel and concrete surfacing for 5 km	Aileu	130,500	Co-financing	429	403	832	167
A-RR-07	Caikasa-Fatubesi Road Rehabilitation	Road rehabilitation	Clearing, grubbing and excavation, construction of various drainage structures (culverts and causeways) and concrete kerb (retaining wall) and drainage channel, gabion installation and soil bioengineering, gravel and concrete surfacing for 3.38 km	Aileu	307,980	GCF	657	671	1328	304
A-RR-09	Construction of new road from Rairema to Lahae	New Road construction	Clearing, grubbing and excavation, construction of various drainage structures (culverts and causeways) and concrete kerb (retaining wall) and drainage channel, gabion installation and soil bioengineering, gravel and concrete surfacing for 3.53 km	Aileu	180,005	Co-financing	410	437	847	110
A-RR-10	Construction of new road from Laklo to Liksala	New Road construction	Clearing, grubbing and excavation, construction of various drainage structures (culverts and causeways) and concrete kerb (retaining wall) and drainage channel, gabion installation and soil bioengineering, gravel and concrete surfacing for 7.58 km	Aileu	189,999	GCF	281	246	527	87
A-RR-11	Construction of new road from Aisirimou to Aldeia Berkati	New Road construction	Clearing, grubbing and excavation, construction of various drainage structures (culverts and causeways) and concrete kerb (retaining wall) and drainage channel, gabion installation and soil bioengineering, gravel and concrete surfacing for 7.11 km	Aileu	194,990	Co-financing	241	222	463	92
A-RR-12	Construction of new road from Tohumeta to akadiru	New Road construction	Clearing, grubbing and excavation, construction of various drainage structures (culverts and causeways) and concrete kerb (retaining wall) and drainage channel, gabion installation and soil bioengineering, gravel and concrete surfacing for 0.5 km	Aileu	150,000	GCF	134	158	292	61
A-RR-13	Construction of new road from Ladeia Manufoni to Aldeia Lismori	New Road construction	Clearing, grubbing and excavation, construction of various drainage structures (culverts and causeways) and concrete kerb (retaining wall) and drainage channel, gabion installation and soil bioengineering, gravel and concrete surfacing for 1 km	Aileu	174,988	GCF	149	134	283	66
A-RR-14	Road Rehabilitation from suku Madabeno to aldeia Manehalo	Road rehabilitation	Clearing, grubbing and excavation, construction of various drainage structures (culverts and causeways) and concrete kerb (retaining wall) and drainage channel, gabion installation and soil bioengineering, gravel and concrete surfacing for 1 km	Aileu	150,000	Co-financing	149	181	330	84

A-RR-15	Road rehabilitation from Halalmeta to Tabulasi suku Selo Kraik	Road rehabilitation	Clearing, grubbing and excavation, construction of various drainage structures (culverts and causeways) and concrete kerb (retaining wall) and drainage channel, gabion installation and soil bioengineering, gravel and concrete surfacing for 2.19 km	Aileu	249,900	GCF	414	404	818	173
B-RR-02	Construction of new Road from suco Afaca to Suco Guruca	New Road construction	Clearing, Excavation, construction of various drainage structures (Culvert and Cause way) and concrete kerb (retaining wall) and drainage channel, gabion installation soil and bioengineering, gravel and concrete surfacing for 0.77 km	Baucau	434,977.40	GCF	1316	1291	2607	519
B-RR-03	Road rehabilitation from suco Laisorulai to Suco Lelalai	Road rehabilitation	Construction and rehabilitation of various drainage structures (Culvert and Cause way) and concrete kerb (retaining wall) and drainage channel, gabion installation soil and bioengineering, gravel and concrete surfacing for 2.73 km	Baucau	199,993.20	GCF	898	974	1872	428
B-RR-05	Construction of new road from suco Uacala to aldeia Baiburu and Baifa	New Road construction	Clearing, Excavation, construction of various drainage structures (pip culvert and Cause way) and concrete kerb (retaining wall) and drainage channel, gabion installation soil and bioengineering, gravel and concrete surfacing for 0.43 km	Baucau	349,980	GCF	80	71	151	32
B-RR-06	Road rehabilitation from suco Lavateri to Aldeia Onor Tibalari	Road rehabilitation	Construction and rehabilitation of various drainage structures (Culvert and Cause way) and concrete kerb (retaining wall) and drainage channel, gabion installation soil and bioengineering, gravel and concrete surfacing for 0.40 km	Baucau	149,996.80	GCF	846	937	1783	309
B-RR-07	Road Rehabilitation from Uatabo to Seical	Road rehabilitation	Construction and rehabilitation of various drainage structures (Culvert and Cause way) and concrete kerb (retaining wall) and drainage channel, gabion installation soil and bioengineering, gravel and concrete surfacing for 2 km	Baucau	374,995	GCF	929	913	1842	1181
E-RR-01	Road rehabilitation to aldeia Tidibesi	Road rehabilitation	Clearing, grubbing and excavation, construction of various drainage structures (culverts and causeways) and concrete kerb (retaining wall) and drainage channel, gabion installation and soil bioengineering, gravel and concrete surfacing for 8 km	Ermera	650,000	GCF	153	177	330	80
E-RR-02	Rehabilitation of road and drains from Lauala to Talikotu	Road rehabilitation	Clearing, grubbing and excavation, construction of various drainage structures (culverts and causeways) and concrete kerb (retaining wall) and drainage channel, gabion installation and soil bioengineering, gravel and concrete surfacing for 2.50 km	Ermera	599,900	GCF	1520	1469	2989	617
E-RR-03	Road rehabilitation from Hauleun to Haupu	Road rehabilitation	Clearing, grubbing and excavation, construction of various drainage structures (culverts and causeways) and concrete kerb (retaining wall) and drainage channel, gabion installation and soil bioengineering, gravel and concrete surfacing for 10 km	Ermera	350,000	Co-financing	2816	2917	5733	1169
E-RR-04	Road rehabilitation from Poemata to Lebudu	Road rehabilitation	Clearing, grubbing and excavation, construction of various drainage structures (culverts and causeways) and concrete kerb (retaining wall) and drainage channel, gabion installation and soil bioengineering, gravel and concrete surfacing for 0.97 km	Ermera	249,000	Co-financing	6660	1792	8452	299
E-RR-05	Road rehabilitation and Construction of drains and Culverts from Parami to Hatupae	Road rehabilitation	Clearing, grubbing and excavation, construction of various drainage structures (culverts and causeways) and concrete kerb (retaining wall) and drainage channel, gabion installation and soil bioengineering, gravel and concrete surfacing for 3.81 km	Ermera	350,000	Co-financing	1116	1067	2183	455
E-RR-06	Road rehabilitation and Construction of drains and Culverts in Batumanu	Road rehabilitation	Clearing, grubbing and excavation, construction of various drainage structures (culverts and causeways) and concrete kerb (retaining wall) and drainage channel, gabion installation and soil bioengineering, gravel and concrete surfacing for 2 km	Ermera	300,000	GCF	694	720	1414	293

E-RR-07	Road rehabilitation from Manusae to Fatubolu	Road rehabilitation	Clearing, grubbing and excavation, construction of various drainage structures (culverts and causeways) and concrete kerb (retaining wall) and drainage channel, gabion installation and soil bioengineering, gravel and concrete surfacing for 1.71 km	Ermera	300,000	GCF	5374	5504	10878	2200
E-RR-08	Road rehabilitation from Poetali to Assi	Road rehabilitation	Clearing, grubbing and excavation, construction of various drainage structures (culverts and causeways) and concrete kerb (retaining wall) and drainage channel, gabion installation and soil bioengineering, gravel and concrete surfacing for 1 km	Ermera	650,000	GCF	259	275	534	109
E-RR-09	Road rehabilitation from Katrai Kraik to Dukurai	Road rehabilitation	Clearing, grubbing and excavation, construction of various drainage structures (culverts and causeways) and concrete kerb (retaining wall) and drainage channel, gabion installation and soil bioengineering, gravel and concrete surfacing for 5 km	Ermera	599,900	GCF	810	719	1529	318
La-RR-02	Road Rehabilitation from Warique to Baniria	Road rehabilitation	Construction and rehabilitation of various drainage structures (Culvert and Cause way) and concrete kerb (retaining wall) and drainage channel, gabion installation soil and bioengineering, gravel and concrete surfacing for 1.61 km	Lautem	249,971.60	GCF	196	207	403	75
La-RR-03	Road Rehabilitation from Osoira to Alira	Road rehabilitation	Construction and rehabilitation of various drainage structures (Culvert and Cause way) and concrete kerb (retaining wall) and drainage channel, gabion installation soil and bioengineering, gravel and concrete surfacing for 0.5 km	Lautem	99,991.20	GCF	788	717	1505	304
La-RR-04	Road Rehabilitation from Bauro to Nanafoe	Road rehabilitation	Construction of various drainage structures (Culvert and Cause way) and drainage channel and bioengineering, gravel and concrete surfacing for 4.36 km	Lautem	49,965.60	GCF	260	184	444	102
La-RR-05	Road rehabilitation from Pairara to Muro	Road rehabilitation	Construction and rehabilitation of various drainage structures (Culvert and Cause way) and concrete kerb (retaining wall) and drainage channel, gabion installation soil and bioengineering, gravel and concrete surfacing for 5.28 km	Lautem	199,953.60	GCF	681	716	1397	316
La-RR-06	Road rehabilitation from Barikava to Osuvasu	Road rehabilitation	Construction of various drainage structures (Culvert and Cause way) and concrete kerb (retaining wall) and drainage channel, gabion installation soil and bioengineering, gravel and concrete surfacing for 3.5 km	Lautem	200,000	GCF	245	236	481	90
L-RR-01	Road rehabilitation of Lika	Road rehabilitation	Clearing, grubbing and excavation, construction of various drainage structures (culverts and causeways) and concrete kerb (retaining wall) and drainage channel, gabion installation and soil bioengineering, gravel and concrete surfacing for 1.5 km	Liquica	150,000	GCF	1029	1037	2066	413
L-RR-02	Road rehabilitation of Mota ulun - Fahilebo	Road rehabilitation	Clearing, grubbing and excavation, construction of various drainage structures (culverts and causeways) and concrete kerb (retaining wall) and drainage channel, gabion installation and soil bioengineering, gravel and concrete surfacing for 12 km	Liquica	699,960	Co-financing	1107	1048	2155	624
L-RR-03	Road rehabilitation in Gogleur	Road rehabilitation	Clearing, grubbing and excavation, construction of various drainage structures (culverts and causeways) and concrete kerb (retaining wall) and drainage channel, gabion installation and soil bioengineering, gravel and concrete surfacing for 8 km	Liquica	650,000	Co-financing	1865	1869	3734	865
L-RR-04	Road rehabilitation in Pobua	Road rehabilitation	Clearing, grubbing and excavation, construction of various drainage structures (culverts and causeways) and concrete kerb (retaining wall) and drainage channel, gabion installation and soil bioengineering, gravel and concrete surfacing for 7.50 km	Liquica	650,025	GCF	1168	1136	2304	483
L-RR-05	Road rehabilitation in Nasutan	Road rehabilitation	Clearing, grubbing and excavation, construction of various drainage structures (culverts and causeways) and concrete kerb (retaining wall) and drainage channel, gabion installation and soil bioengineering, gravel and concrete surfacing for 8 km	Liquica	650,000	Co-financing	1079	1144	2223	432
L-RR-06	Road rehabilitation in Kaigeremeta	Road rehabilitation	Clearing, grubbing and excavation, construction of various drainage structures (culverts and causeways) and concrete kerb (retaining wall) and drainage channel, gabion installation and soil bioengineering, gravel and concrete surfacing for 1.5 km	Liquica	150,000	GCF	2197	2173	4370	896
L-RR-07	Rehabilitation of Leboresi-Lisaiko Road	Road rehabilitation	Clearing, grubbing and excavation, construction of various drainage structures (culverts and causeways) and concrete kerb (retaining wall) and drainage channel, gabion installation and soil bioengineering, gravel and concrete surfacing for 6 km	Liquica	450,000	Co-financing	267	277	544	118

L-RR-08	Drainage rehabilitation in Vaviquina	Road rehabilitation	Clearing, grubbing and excavation, construction drainage channel for 0.6 km	Liquica	85,002	GCF	500	478	978	232
L-RR-09	Road rehabilitation from Lubsalara to Hatuquesi	Road rehabilitation	Clearing, grubbing and excavation, construction of various drainage structures (culverts and causeways) and concrete kerb (retaining wall) and drainage channel, gabion installation and soil bioengineering, gravel and concrete surfacing for 5 km	Liquica	300,000	GCF	1800	1826	3626	610
V-RR-01	Road rehabilitation from bahalarawain to uma uain kraik	Road rehabilitation	Construction of various drainage structures (culvert and cause way) and concrete kerb (retaining wall) and drainage channel, gabion installation soil and bioengineering, gravel and concrete surfacing for 3.38 km	Viqueque	449,979.40	GCF	609	640	1249	225
V-RR-02	Road rehabilitation from Osorua to Nahareka uaibo	Road rehabilitation	Construction of various drainage structures (culvert and cause way) and concrete kerb (retaining wall) and drainage channel, gabion installation soil and bioengineering, gravel and concrete surfacing for 2.93 km	Viqueque	449,989.40	GCF	1596	1693	3289	770
V-RR-03	Road rehabilitation from Ahic desiloe to laline raikuak	Road rehabilitation	Construction of various drainage structures (culvert and cause way) and concrete kerb (retaining wall) and drainage channel, gabion installation soil and bioengineering, gravel and concrete surfacing for 3.53 km	Viqueque	499,989.20	GCF	745	729	1474	324
V-RR-04	Road rehabilitation from Uatulari atas to Iraler matahoi	Road rehabilitation	Construction of various drainage structures (Culvert and Cause way) and concrete kerb (retaining wall) and drainage channel, gabion installation soil and bioengineering, gravel and concrete surfacing for 7.58 km	Viqueque	300,471.20	GCF	745	729	1474	324
V-RR-05	Road rehabilitation from Haeoli to Loi Ulo	Road rehabilitation	Construction of various drainage structures (Culvert and Cause way) and concrete kerb (retaining wall) and drainage channel, gabion installation soil and bioengineering, gravel and concrete surfacing for 7.11 km	Viqueque	499,975.20	GCF	704	604	1308	265

## **Annex 2 - Stakeholder engagement plan**

## **A2.1 Introduction**

Stakeholder engagement and consultation is necessary to consider stakeholders inputs and views on the project and ensure that appropriate representation is given to all. To this end, this SEP, the ESMP, GAP, IPP work together to help the project meet its objectives.

The proposed sub-project entails the rehabilitation of rural roads and consists of the climate resilience application and methods to help safeguard the infrastructure from climate induced disasters while at the same time enhancing the community's access and livelihood opportunities.

## **A2.2 Stakeholders and Roles in Project**

Stakeholder engagement will be facilitated by various means and include the project board meetings, technical sub-steering committee meetings, stakeholders' workshops, formal and informal meetings, trainings/Training of Trainers, stakeholder's consultation, information campaigns, GRM consultation, FPIC, joint monitoring, media and networking events (e.g., community forums), internet and social media (such as Twitter, Facebook) communications.

The project board will serve as a major institutional mechanism for key stakeholder engagement. It is composed of high to mid-level representatives of the SSE, all responsible parties (MSA, MAF, SSCP, MoPW) and also, MoF, MOFA, UNDP. The Administrator of Liquica Municipality attends the Technical Sub-Steering Committee (TSSC) Meetings, and this is another important forum for key stakeholder engagement in which members provide inputs to and endorsement of the design and quality of the project outputs. The TSSC members will represent the government, private sector, academia, indigenous peoples and civil society to provide guidance and technical advice on the project.

Local stakeholders and community members have a key role in implementing and monitoring the project. The host communities benefitting from the project have been selected based on climate risk profiles, socio-economics vulnerabilities and coping capacity of communities. Community members from selected communities will be mobilized to form consultative community groups and will be engaged in participatory planning, implementation and maintenance of community climate resilient infrastructure. Representatives of relevant indigenous peoples and/or ethnic minorities will be included in the community groups.

Under the public awareness and education component, it is planned to target both members of the general public and specific groups of society, including selected communities, youth women, local governments, NGOs, media, education institutions.

During the pre-construction phase, there will be extensive consultation with national and local authorities, residents of the host community, indigenous peoples, CBOs/NGOs representative and local government, to facilitate understanding of the roles, functions, and responsibilities within the project implementation. The Gender Action Plan, Indigenous Peoples Plan, has also been prepared. Grievance Redress Mechanism has also been established as a means to receive complaints and conflict resolution mechanisms.

Local community consultation councils will be established at target municipality and/or community levels to maintain dialogue with the local beneficiaries and stakeholders throughout the sub-project implementation. Stakeholders will also be engaged throughout the implementation of the project including during the monthly construction site meetings, joint monitoring visit and progress review of the project and enable adaptive project and construction management in response to the needs and concerns of the communities.

### A2.3 Stakeholders Engagement Strategy

Stakeholder, Groups Organization or Sector	Potential Role in the sub-project	Level of interest/power	Engagement strategy
UNDP	PMU, AE	Interest: High Power: High	LoA with MSA, Co-Chairs the Project Board and TSSC Meetings, Joint Monitoring Visits, regular Monitoring, PMU provides overall oversight for the project
Municipality Administrator, Director of PDIM, PA, CDO	PDIM Process, GRM, Contracting Authority	Interest: High Power: High	Co-Chairs the Project Board and TSSC Meetings, Joint Monitoring Visits Consultations throughout the project life cycle Establish Contract with the local Contractor discuss the GRM process, participates in decision making committees
Secretary of State for Environment	Project Board, IP	Interest: High Power: High	Project Board, Technical Sub-Steering Committee Meetings, Joint Monitoring Visits
ANLA	Environmental Screening, Issuance of the Licence	Interest: High Power: High	ESIAs/ESMPs, Environmental License
Ministry of State Administration	Responsible Party, Project Proponent, oversight of PDIM, LoA with AE/UNDP Contracting Authority	Interest: High Power: High	Establish LoA between UNDP & MSA, Engage Technical Staff in designs and implementation of the project Operation and Maintenance of the project
Municipality MoPW, DRBFC	Responsible irrigation rehabilitation, bridges and flood control	Interest: High Power: High	Design standards, Technical Staff in designs and implementation of the project Operation and Maintenance of the project
MAF	Responsible party for the complementary catchment management measures, agroforestry intervention	Interest: High Power: Low	Technical Staff and extensionists involve in the implementation of the agroforestry component of the project Operation and Maintenance of the agroforestry and catchment management interventions, public meetings/consultations
Chief of Villages and sub-villages	Community Leader/Local Authority in the sub-project location	Interest: High Power: Low	Briefing the stakeholders in Municipality level relating to the project and explain their important role in these activities discuss the GRM process, include representatives in decision making committees, public meetings/consultations, Construction site meetings
Lia Nain (cultural leaders)	Traditional cultural leaders to consult on cultural issues in the sub-project location	Interest: Medium Power: Medium	Involvement in the stakeholder's consultation during technical assessment and screening, public

			meetings/consultations, involvement in the traditional cultural ceremonies
Host Community	Beneficiary of the project	Interest: High Power: Low	Briefing the stakeholders in community level relating to the project and explain their important role in these activities Involvement in the stakeholder's consultation during technical assessment and screening, public meetings/consultations
Indigenous Peoples	Beneficiary of the project	Interest: High Power: Low	Briefing the stakeholders in Municipality level relating to the project and explain their important role in these activities, public meetings/consultations Obtain FPIC, discuss the GRM process, include representatives in decision making committees
Local Contractor	Implementation of the	Interest: High Power: Low	Contract to implement the construction works, Construction site meetings, public meetings/consultations



## A2.4 Stakeholder identification and consultation methods

Engagement Technique	Application of the technique
Correspondences (Telephone, Emails)	Share/distribute information to Government officials, Local Government, and organisations/agencies Invite stakeholders to meetings and follow-ups
One-on-one meetings	Seeking views and opinions Enable stakeholder to speak freely about sensitive issues Build personal relationships Record/take notes of the meetings and follow-up actions
Formal meetings	Present the project and the respective sub-project information to group of relevant stakeholders Allow group to comment and provide their feedback, opinions and views Build impersonal relation with high level stakeholders Disseminate technical information Record discussions, take notes of the meetings and follow-up actions
Public meetings/consultations	Present project information to a large group of stakeholders, especially the beneficiaries and members of the host communities Allow the group to provide their views and opinions Build relationship with the communities, especially those impacted Distribute non-technical information Facilitate meetings with presentations, PowerPoint, posters etc. Record discussions, comments, questions and note what follow-up actions are needed
Focus group meetings	Present Project information to a group of stakeholders Allow stakeholders to provide their views on targeted baseline information Build relationships with communities Record responses
Construction site meetings	Present update on the progress of the construction works and next month plans. Discuss key issues arising and finding appropriate solutions
Project/UNDP website	Present project information and progress updates Disclose ESIA, ESMP and other relevant project documentation
Direct communication with affected crops/asset owners (IS component only)	Share information on timing of works including any traffic disruptions Agree options for removing encumbrances, community objects and/or crops in the ROW.
Road signs and notices	Share information on project activities Reminders of potential impacts (eg for increased movement of site traffic; remind farmers and community land owners about the schedule of the rehabilitation works, ensure that where the project is likely to affect community that they are to harvest crops and also take actions to avoid the impact that construction activities will have
Project brochures/leaflet/newsletters	Brief project information to provide regular update stakeholders, newsletters and leaflets Site specific project information.
Notice boards	Post relevant project information such as during the construction phase to provide update Site specific project information and plans to be posted as required

## A2.5 Stakeholders Engagement Plan (SEP) Matrix

Output	Activity	Responsibility	Stakeholders	Frequency (Estimated time)	Nature of Activity
<b>Project Board Meetings</b>	Annual Work Plan, budget approval for the sub-project	PMU, SSE, RPs, UNDP	Project Board Members including SSE, all responsible parties (MSA, MAF, SSCP, MoPW) and also, MoF, MOFA, UNDP.	At least 1 annually and/or as required	High-Level Meetings
<b>Technical Sub-Steering Committee Meetings</b>	Sub-project prioritization and discussion on technical aspects. Discussion on the establishment of the LoA with MSA to facilitate the implementation of the sub-project	PMU, SSE, RPs, UNDP	TSSC Members including SSE, all responsible parties (MSA, MAF, SSCP, MoPW) and also, MoF, MOFA, UNDP, SEII.	Quarterly and/or as required	Technical Level Meetings with key stakeholders in the respective line Ministries
<b>Preparation Phase /field assessment</b>	Public consultation at national, Municipality, Administrative Post and community in the construction area. this is including discussion of land declaration from respective community	PMU, engineer, Field Coordinators	PDIM national, Municipality Administrator, Municipality Director of Public Works, Technical staff at municipality, Administrator of Administrative Post, Chief of Village, community members	During assessment and preparation of document (engagement will be continued until implementation and hand-over of the project)	Meetings, workshops, and on-site field visit
	Public consultation of conducting field assessment and conducting the Environmental and Social Impact Assessment (ESIA), Introduction of UNDP SESP and establishment of the Grievance Redness Mechanism (GRM)	PMU, Engineers, CTA, SES Consultant, Field Coordinators, ANLA, SSE	The National Authority of Environmental License (ANLA), Municipality Focal Point of Environment, Local authorities from Municipality to village level	During assessment and preparation of document, the GRM committee will be established to support and facilitate to concern may arise during implementation.	Meeting, field assessment

<b>Output</b>	<b>Activity</b>	<b>Responsibility</b>	<b>Stakeholders</b>	<b>Frequency (Estimated time)</b>	<b>Nature of Activity</b>
	Technical assessment, Engineering Designs, BOQ and ITB document preparation	Engineers, CTA	Municipality technical staff, Administrator of PA and Municipality	During preparation of design, BoQ and technical specifications	Meeting, field/site visit
	Training /capacity building to national, municipal engineers, environment staff	PMU	National, municipality, Administrative Post, Village	During preparation. the training will be followed during construction (coaching period to technical staff and contactors technical staff, supervisor)	Training, site visit
<b>Procurement phase</b>	Announcement for tender process, field visit	MSA, Municipality Procurement Committee, PMU	Local pre-qualified contractors, engineers	Announcement of tender process and announcement of the result based on PDIM Procurement manual and procedures	Meeting, site visit
	Evaluation of bids and announcement	MSA, Municipality Procurement Committee, PMU	Selected contractor, Evaluation Committee, Head of Municipality	Evaluation committee, announcement of contract award	Meetings, Notice Boards
<b>Construction phase</b>	Launching and joint monitoring in the field	PMU, contractor	National, Municipality and local/village authorities	During launching to start its construction and preliminary joint monitoring	On site
	Construction Site Meetings	Contractor and engineers, CC&EO, FCs, CTA	Local authority including those that engaged on the construction work, local authorities and village leaders	Project site – monthly	Meeting and discussion at site

Output	Activity	Responsibility	Stakeholders	Frequency (Estimated time)	Nature of Activity
	Introduction of GRM structure and sensitize GRM function	Field Coordinator, engineer, Contractor	Municipal, APs and Council of Suco' representatives	During the implementation (quarterly)	Meeting and discussion at site
	Review on implementation of Environmental plan and recommendation	contractor	Village head, community members, Environment focal point, Field Coordinator, engineer	Monthly	Meeting, site visit
	Review GRM and update information of GRM	FC, engineer, contractor, GRM' committee	Village head, community members, municipality	Monthly /quarterly depends on the issue raise in the project site	Meeting, site visit
	Review on implementation of OHS plan, Waste management plan,	Contractor, engineer	Village members, technical staff, chief of leader	Monthly	Meeting, site visit
	Monitor excavation	Contractor	Engineer, FC	Daily during excavation until finalizing the work	Site monitoring
	Monitoring of the ESMP implementation and technical compliance	Engineers	Contractor	Daily and as required	Site monitoring
	Field monitoring and supervision of the construction works	Engineers, FCs, technical staff from municipality	Contractor, community members, head of village	Daily and as required	Site monitoring, meeting
	Joint Monitoring Visit	PMU, MSA, IPS, RPS	UNDP, PMU, Ministries, Contractors, community members, local authorities, head of village, community	Monthly or as required	Site monitoring visits, meetings
<b>Post-Construction Phase/Demobilization</b>	Clean -up site and demobilization of the contractor's plant, equipment and labour	Contractor	Community from respective village, community leader, AP leader	After completion of construction	Construction Site

<b>Output</b>	<b>Activity</b>	<b>Responsibility</b>	<b>Stakeholders</b>	<b>Frequency (Estimated time)</b>	<b>Nature of Activity</b>
	Establishment of maintenance group (Community Maintenance Group)	MSA, PDIM, FCs, Technical engineer	Community members	During defect period and after hand over to local authorities	Once at project site
	Defects Liability - Retention period	Contractor	MSA, PMU Engineer, FC, community leaders and members, municipal technical staff	6 months defect liability period before hand over fully	Construction Works during the defects period
<b>Maintenance</b>	Operation and Maintenance of the project	MSA, PDIM, MOPW,	MSA, MoPW, community leaders and members, municipal technical staff	Ongoing after project's completion	Maintenance & Operations of the Project

## Annex 3 – Grievance redress mechanism

### A3.1 Grievance Redress Mechanism

1. The Grievance Redress Mechanism has been designed to be problem-solving mechanism with voluntary good-faith efforts. The Grievance Redress Mechanism is not a substitute for the legal process. The Grievance Redress Mechanism will as far as practicable, try to resolve complaints and/or grievances on terms that are mutually acceptable to all parties. When making a complaint and/or grievance, all parties must act at all times, in good faith and should not attempt to delay and or hinder any mutually acceptable resolution.
2. In order to ensure smooth implementation of the Project and timely and effectively addressing of problems that may be encountered during implementation, a robust Grievance Redress Mechanism, which will enable to the Project Authorities to address the grievances of the stakeholders of the Project has been established.
3. All complaints and/or grievances regarding social and environmental issues can be received either orally (to the field staff), by phone, in complaints box or in writing to the UNDP, MSA or the Construction Contractor. A key part of the grievance redress mechanism is the requirement for the MSA/PMU and construction contractor to maintain a register of complaints and/or grievances received at the respective project site offices. All complainants shall be treated respectfully, politely and with sensitivity. Every possible effort should be made by the MSA/PMU and construction contractor to resolve the issues referred to in the complaint and/or grievance within their purview. However, there may be certain problems that are more complex and cannot be solved through project-level mechanisms. Such grievances will be referred to the Grievance Redress Committee. It would be responsibility of the MSA to solve these issues through a sound / robust process.
4. The Grievance Redress Mechanism has been designed to ensure that an individual and/or group are not financially impacted by the process of making a complaint and/or grievance. The Grievance Redress Mechanism will cover any reasonable costs in engaging a suitably qualified person to assist in the preparation of a legitimate complaint and/or grievance. Where a complaint and/or grievance is seen to be ineligible, the Grievance Redress Mechanism will not cover these costs.
5. Information about the Grievance Redress Mechanism and how to make a complaint and/or grievance must be placed at prominent places for the information of the key stakeholders.
6. The Safeguards officer in the PMU will be designated as the key officer in charge of the Grievance Redress Mechanism. The Terms of Reference for these positions (as amended from time to time) will have the following key responsibilities:
  - coordinate formation of Grievance Redress Committees before the commencement of constructions to resolve issues;
  - act as the focal point at the PMU on Grievance Redress issues and facilitate the resolution of issues within the PMU;
  - create awareness of the Grievance Redress Mechanism amongst all the stakeholders through public awareness campaigns;
  - assist in redress of all grievances by coordinating with the concerned parties;
  - maintain information on grievances and redress;
  - monitor the activities of MSA on grievances issues; and
  - prepare the progress for monthly/quarterly reports.
7. A two tier Grievance Redress Mechanism structure has been developed to address all complaints and/or grievances in the project. The first trier redress mechanism involves the receipt of a complaint and/or grievance at the site and/or administrative district level. The stakeholders are

8. informed of various points of making a complaint and/or grievance (if any) and the PMU collect the complaints and/or grievances from these points on a regular basis and record them. This is followed by coordinating with the concerned people to redress the grievances. The Safeguards Officer of the PMU will coordinate the activities at the respective District level to address the grievances and would act as the focal point in this regard. The Community Development Officer of the Local Authority or in the absence of the Community Development Officer, any officer given the responsibility of this would coordinate with the Safeguards and Gender Manager of the PMU and MSA in redressing the grievances. The designated officer of the Local Authorities is provided with sufficient training in the procedure of redress to continue such systems in future.
9. The grievance can be made orally (to the field staff), by phone to Project M&E Officer, in complaints box installed at an accessible point at village or sub-village level or in writing to the UNDP, MSA or the Construction Contractor<sup>19</sup>. Complainants may specifically contact the Safeguards Officer and request confidentiality if they have concerns about retaliation. In cases where confidentiality is requested (i.e. not revealing the complainant's identity to UNDP, MSA and/or the Construction Contractor). In these cases, the Safeguards Officer will review the complaint and/or grievance, discuss it with the complainant, and determine how best to engage project executing entities while preserving confidentiality for the complainant.
10. As soon as a complaint and/or grievance is received, the Safeguards Officer would issue an acknowledgement. The Community Development Officer receiving the complaint and/or grievance should try to obtain relevant basic information regarding the grievance and the complainant and will immediately inform the Safeguards Officer in the PMU.
11. The PMU will maintain a Complaint / Grievance Redress register at the Administrative District Level. Keeping records collected from relevant bodies is the responsibility of PMU.
12. After registering the complaint and/or grievance, the Safeguards Officer will study the complaint and/or grievance made in detail and forward the complaint and/or grievance to the concerned officer with specific dates for replying and redressing the same. The Safeguards Officer will hold meetings with the affected persons / complainant and then attempt to find a solution to the complaint and/or grievance received. If necessary, meetings will be held with the concerned affected persons / complainant and the concerned officer to find a solution to the problem and develop plans to redress the grievance. The deliberations of the meetings and decisions taken are recorded. All meetings in connection with the Grievance Redress Mechanism, including the meetings of the Grievance Redress Committee, must be recorded. The Safeguards Officer for the Grievances Redress Mechanism will be actively involved in all activities.
13. The resolution at the first tier will normally be completed within 15 working days and the complaint and/or grievance will be notified of the proposed response through a disclosure form. The resolution process should comply with the requirements of the Grievance Redress Mechanism in that it should, as far as practicable, be informal with all parties acting in good faith. Further, the Grievance Redress Mechanism should, as far as practicable, achieve mutually acceptable outcomes for all parties.
14. Should the grievance be not resolved within this period to the satisfaction of the complainant, the grievance will be referred to the next level of Grievance Redress Mechanism. If the social safeguard and gender officer feels that adequate solutions can be established within the next five working days, the officer can decide on retaining the issue at the first level by informing the complainant accordingly. However, if the complainant requests for an immediate transfer to the next level, the matter must be referred to the next tier. In any case, where the issue is not addressed within 20 working days, the matter is referred to the next level.
15. Any grievance related to corruption or any unethical practice should be referred immediately to the Timor Leste Office of the Attorney General and/or Ombudsman and the Office of Audit and Investigation within the UNDP in New York.

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<sup>19</sup> The table in Section 7.5.1 will be completed for each site-specific ESMP and will contain necessary contact details for each sub-project.

16. The Safeguard Officer from the PMU will coordinate with the respective Commissioner of Local Government in getting these Committees constituted for each State and get the necessary circulars issued in this regard so that they can be convened whenever required.
17. The Terms of Reference for the Grievance Redress Committee are:
  - providing support to the affected persons in solving their problems;
  - prioritize grievances and resolve them at the earliest;
  - provide information to the PMU and MSA on serious cases at the earliest opportunity;
  - Coordinate with the aggrieved person/group and obtain proper and timely information on the solution worked out for his/her grievance; and
  - study the normally occurring grievances and advise PMU, National and District Steering Committee on remedial actions to avoid further occurrences.
18. The Grievance Redress Committee will hold the necessary meetings with the aggrieved party/complainant and the concerned officer and attempt to find a solution acceptable at all levels. The Grievance Redress Committee would record the minutes of the meeting.
19. Grievance Redress Committee will communicate proposed responses to the complainant formally. If the proposed response satisfies the complainant, the response will be implemented and the complaint and/or grievance closed. In cases where a proposed response is unsatisfactory to the complainant, the Grievance Redress Committee may choose to revise the proposed response to meet the complainant's remaining concerns, or to indicate to the complainant that no other response appears feasible to the Grievance Redress Committee. The complainant may decide to take a legal or any other recourse if s/he is not satisfied with the resolutions due to the deliberations of the three tiers of the grievance redress mechanism.
20. In addition to the project-level and national grievance redress mechanisms, complainants have the option to access UNDP's Accountability Mechanism, with both compliance and grievance functions. The Social and Environmental Compliance Unit investigates allegations that UNDP's Standards, screening procedure or other UNDP social and environmental commitments are not being implemented adequately, and that harm may result to people or the environment. The Social and Environmental Compliance Unit is housed in the Office of Audit and Investigations and managed by a Lead Compliance Officer. A compliance review is available to any community or individual with concerns about the impacts of a UNDP programme or project. The Social and Environmental Compliance Unit is mandated to independently and impartially investigate valid requests from locally impacted people, and to report its findings and recommendations publicly.
21. The Stakeholder Response Mechanism offers locally affected people an opportunity to work with other stakeholders to resolve concerns, complaints and/or grievances about the social and environmental impacts of a UNDP project. Stakeholder Response Mechanism is intended to supplement the proactive stakeholder engagement that is required of UNDP and its Implementing Partners
22. throughout the project cycle. Communities and individuals may request a Stakeholder Response Mechanism process when they have used standard channels for project management and quality assurance and are not satisfied with the response (in this case the project level grievance redress mechanism). When a valid Stakeholder Response Mechanism request is submitted, UNDP focal points at country, regional and headquarters levels will work with concerned stakeholders and Implementing Partners to address and resolve the concerns. Visit [www.undp.org/secu-srm](http://www.undp.org/secu-srm) for more details. The relevant form is attached at the end of the ESMP.



## A3.2 Grievance Registration and Monitoring Form

### Grievance Registration and Monitoring Form

Reference No:

Date

---

#### Complainant Information

1. Full Name

First name \_\_\_\_\_

Note: you can remain anonymous if you prefer or request not to disclose

Last name \_\_\_\_\_

your identity to the third parties without your consent

I wish to raise my grievance anonymously

I request not to disclose my identity without my consent

2. National ID:

3. Gender:  Male  Female

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4. Contact Information

Please mark how you wish to be contacted (mail, telephone, e-mail).

By Post: Please provide mailing address: \_\_\_\_\_

By Telephone: \_\_\_\_\_

By E-mail \_\_\_\_\_

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5. Preferred Language for communication

Tetum

Portuguese

Local Dialect: [ \_\_\_\_\_ ]

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#### Complaint Details:

What happened? Where did it happen? Who did it happen to? What is the result of the problem?

6. Mode of receiving the grievance:

Letter

Phone call

Telephone Message (WA, Text)

Email

Verbal complaint (in-person)

Social Media (FB, etc)

Others (please specify)

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7. Location of the problem/issue specified in the complaint:

Project Reference Code:

Municipality

Administrative Post

Suco

Aldeia

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8. Type of Problem/Issue:

Land Issue/Land acquisition

Cultural Issue

- Construction
- Environmental
- Other [please specify] \_\_\_\_\_

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9. Short Description of Problem or Grievance:

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10. Date of Incident/ Grievance

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11. Short Description of The factors causing the Problem or Grievance:

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12. Who is responsible for causing the problem or grievance?

- Project Implementation Agency
- Affected Parties
- Local Community
- Project Beneficiary
- Contractor/Sub-Contractor/NGO
- Local Authority
- Others [please specify]

- 
- One time incident/grievance (date \_\_\_\_\_)
  - Happened more than once (how many times? \_\_\_\_\_)
  - On-going (currently experiencing problem)

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How action would you like to be taken to resolve the problem?

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**Details of the focal point that receive the complaint/grievance**

Name of the person that receive the complaint:

Position/Designation:

Date:

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**Action Taken by the receiving Officer:**

Description of Action:

Date:

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**Name of Person completing this form:**

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

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Please submit this form to: [name],

Address \_\_\_\_\_: Tel.: \_\_\_\_\_ or E-mail: \_\_\_\_\_@\_\_\_\_\_.com

**Final Resolution:**

**To be filled by GRM Committee:**

Acknowledge of received:

Name: \_\_\_\_\_

Position: \_\_\_\_\_

Date Received: \_\_\_\_\_

Follow up action (date, venue, line of communication, i.e. meeting, phone call, letter etc).\_\_\_\_\_

## Annex 4 – Gender Action Plan

### A4.1 Site Description

Project Code/ID:	
Project location:	
Type of infrastructure:	Rural Road Rehabilitation
Planning: PDIM/PNDS	PDIM
Expected duration of the project:	
No. of households affected:	
No. of women:	
No. of men:	

### A4.2 Objectives of the Action Plan

The site-specific Gender Action Plan has the following overall objectives:

No.	Objectives	Targets/ Indicators
1	<i>Identify and mitigate risks and adhere to do no harm principles addressing basic mobility and accessibility needs of women and vulnerable groups<sup>20</sup></i>	<ul style="list-style-type: none"> <li>Road is safe for pedestrians to use and for those using carts</li> <li>&gt;80% of project design and preparation stage gender action targets achieved</li> <li>At least 30% of each consultation/engagement participants are women and are vulnerable groups (youth, elderly, people with disabilities)</li> </ul>
2	Design infrastructure project that is more <i>responsive to women and vulnerable groups' needs</i>	<ul style="list-style-type: none"> <li>&gt;70% of women and men satisfied with travel on roads than before</li> <li>&gt;80% of road design gender-responsiveness checklist criteria are met</li> </ul>
3	<i>Empower women and other vulnerable groups by facilitating equal access to and benefit from the infrastructure project</i>	<ul style="list-style-type: none"> <li>Women perform at least 30% of construction labour related to the project with equal pay as that of men</li> <li>At least 50% of the community members engaged in the complementary catchment management measures and agroforestry are women</li> <li>30% of community facilitators engaged in the Operations and Maintenance committee are women</li> </ul>

### A4.3 Action Plan for Gender Mainstreaming

The project specific Gender Action Plan consists of a mix of assessments, training, consultations and monitoring processes. The GAP is aligned with the project cycle ensuring all project lifecycle incorporates gender principles and increases gender responsiveness of the project. The GAP is developed based on community consultations and validation consultations.

Key person responsible for overseeing the adherence and achievement of this Gender Action Plan is the Gender Specialist, Municipal Gender Focal Point (FP) and M&E Officer, for implementing this GAP is the Engineers, Contractor, Climate Change and Environment Officers and for monitoring is M&E Officer and Field Coordinators and Gender Focal Point.

<sup>20</sup> Vulnerable group is defined as children, older persons, people with disabilities and low-income groups (with no access to private transportation such as scooters, motorbikes and cars).

**Abbreviation**

CMMG – Community maintenance and Monitoring group, ESIA – Environmental and social impact assessment, GAP – Gender action plan, GFP – Gender focal point, GBV – Gender based violence, WEE – women Economic Empowerment, MSA – Ministry of State Administration, BOQ ( Bill of Quantities)

No.	Activities	Target	Timeframe	Implementing Parties	Tools / methods
<b>I</b>	<b>Project design and preparation stage</b>				
1.1	Conduct project specific rapid gender analysis and collect gender-disaggregated statistics	<ul style="list-style-type: none"> <li>Findings are incorporated to improve this GAP</li> </ul>	Sub-project preparation phase	Gender expert Field coordinator Municipal GFP Technical Assessment team	Rapid gender analysis
1.2	Support women to develop confidence and leadership skills	<ul style="list-style-type: none"> <li>Women's voices and concerns heard through active participation in the pre-construction and consultation stages of the project, pro-active engagement by the project to identified target group</li> <li>Socialization on women's economic empowerment and addressing potential gender stereotype regarding work/jobs for men and women, girls and boys within the suco provided</li> </ul>	Pre-construction and sub-project preparation phase 2022	Local NGO Gender expert Municipal GFP PMU, Field Coordinator	Gender training on women's empowerment
1.3	Consultation with national and municipal stakeholders and sub-project prioritization	<ul style="list-style-type: none"> <li>Key design decisions are consulted with women and men, documented and incorporated in the project design</li> <li>At least 30% of the consultation participants are women</li> <li>The timing of the meetings and location should be strategic. The best timing to ensure women participation will be on Monday or Tuesday.</li> </ul>	Pre-construction and sub-project preparation phase 2022, screening of sub-project	Gender expert Field coordinator Municipal GFP Engineer	<ul style="list-style-type: none"> <li>Stakeholder engagement plan</li> <li>FPIC tool</li> <li>Project proposal</li> </ul>
1.4	Male and female community members, leaders and road users are consulted and involved as decision makers in the design and planning				
1.5	Conduct detailed Technical Assessment and site surveys use gender responsiveness checklist	<ul style="list-style-type: none"> <li>Engineers and design team use gender checklist during technical assessment and incorporate in reports</li> </ul>	Q1 2022	Engineers CTA M&E Officer	Rural road design gender responsiveness checklist

No.	Activities	Target	Timeframe	Implementing Parties	Tools / methods
1.6	Preparation of engineering designs, BOQ and technical specifications	<ul style="list-style-type: none"> <li>The project design meets at least 80% of gender responsiveness requirements</li> <li>The design demonstrates concerns and needs of women documented during consultations are incorporated</li> </ul>	Q2-Q3 2022	Gender expert Engineers, CTA MSA	<ul style="list-style-type: none"> <li>Rural road design gender responsiveness checklist</li> <li>Stakeholder engagement plan</li> </ul>
1.7	Sub-project designs appraisal and approval	<ul style="list-style-type: none"> <li>Approval review committee consists of &gt;30% women</li> </ul>	Q2-Q3 2022	Gender expert Engineers, CTA MSA	Approval form
<b>II</b>	<b>Procurement and contracts stage</b>				
2.1	Pre-qualification of the contractors	<ul style="list-style-type: none"> <li>Both male- and female-owned small and medium sized enterprises (SMEs) are targeted for procurement for construction works.</li> </ul>	Pre-qualification stage 2021	Procurement officer Communication officer	<ul style="list-style-type: none"> <li>Gender equality and inclusion criteria for tenders</li> <li>Outreach plan and channels</li> </ul>
2.2	Provide orientation and guidance on gender issues to contractor, sub-contractors and labour at commencement of work	<ul style="list-style-type: none"> <li>Eligible women led contractors or contractors whose workforce with at least 30% women included in orientation</li> <li>Consider for female supervisor of local workers.</li> </ul>	Pre-construction, before mobilization 2022	Procurement team Gender expert Training expert	Orientation and guidance handbook
2.3	Provide feedback to local contractors	<ul style="list-style-type: none"> <li>Contractors/bidders who are unsuccessful due to their lack of gender equality and social inclusion criteria are provided with feedback about their tender</li> </ul>	2022	Procurement team	<ul style="list-style-type: none"> <li>Feedback form</li> <li>Consultation/debriefing meeting</li> </ul>
<b>III</b>	<b>Project implementation stage</b>				
3.1	Launching of the project and mobilization meetings	<ul style="list-style-type: none"> <li>Launching of gender policy, project implementation plan/schedule are presented</li> </ul>	Pre-construction Q3 2022	PMU Contractor Field coordinator	Stakeholder engagement tool

No.	Activities	Target	Timeframe	Implementing Parties	Tools / methods
		<ul style="list-style-type: none"> <li>At least 30% of the consultation participants are women</li> </ul>			
3.2	Skills training for female and male workers in performing tasks – road services, basic construction and maintenance skills	<ul style="list-style-type: none"> <li>30% of female and male training participants improve skills in different roles related to construction and maintenance.</li> </ul>	Mobilization and during Construction phase	Training expert / partner organization Field coordinator Contractor	Training plan and report
3.3	Both men and women from the community are provided with targeted opportunities to benefit from labour, and direct and indirect services for construction	<ul style="list-style-type: none"> <li>Women perform at least 30% of unskilled construction labour related to the project with equal pay as men</li> <li>Pay must be in accessible way for women -not mobile pay or registered under the name of men</li> </ul>	Mobilization and during Construction phase	Contractor Gender expert M&E Officer	Project design document
3.4	Model gender policy adapted to sub-project site and implemented	<ul style="list-style-type: none"> <li>Gender policy and zero tolerance policy on sexual harassment, violence, abuse of workers and community members, and requirements for equal pay and non-discrimination regarding women</li> </ul>	During Construction	Gender expert Contractor PMU MSA Municipal GFP	Model gender policy adopted by the contractor
3.5	Construction is implemented in accordance with the gender-responsive design (e.g., OSH)	<ul style="list-style-type: none"> <li>At least 80% of the checklist is complied</li> </ul>	During Construction	M&E Officer Gender expert CMG – Community maintenance group	Rural road design gender responsiveness checklist compliance
<b>IV</b>	<b>Project operations and maintenance stage</b>				
4.1	Community-based maintenance group established and linked with MoPW	<ul style="list-style-type: none"> <li>Community-based maintenance group (CMG) composed of 50% men and 50% women</li> </ul>	During construction	Engineer, Leader community, Contractor	CMG structure, roles and responsibilities
4.2	Hand-Over/Commissioning of the Project	<ul style="list-style-type: none"> <li>Lessons learned and best practices emerging from project monitoring are shared with stakeholders</li> </ul>	Q4 2022	M&E Officer Field coordinator	
<b>V</b>	<b>Project monitoring</b>				



No.	Activities	Target	Timeframe	Implementing Parties	Tools / methods
5.1	Compile gender disaggregated indicators and data	<ul style="list-style-type: none"> <li>Achievement of gender policy, gender quotas and gender criteria are monitored and documented</li> </ul>	During Construction	Gender expert M&E Officer	Tool 1: Gender analysis
5.2	Increase capacity of women and men in collecting data and monitoring	<ul style="list-style-type: none"> <li>Results improved for at least 50% of women and men</li> </ul>	During Construction	Training expert M&E Officer	Training report Simple ICT tools
5.3	Joint monitoring activities are conducted	<ul style="list-style-type: none"> <li>&gt;50% of participants are women and vulnerable groups (youth, elderly, people with disabilities)</li> </ul>	During Construction	CMG committee Municipal GFP M&E Officer Field coordinator	Stakeholder engagement tool M&E framework for the project
5.4	Best practices and lessons learned on gender-related aspects are documented, shared, and applied to new projects.	<ul style="list-style-type: none"> <li>Focus group discussion on lessons learned best practices held</li> <li>Quarterly and annual reports include information on lessons learned.</li> </ul>	Post Construction	M&E Officer Gender expert Contractor Field coordinator	<ul style="list-style-type: none"> <li>Project final report</li> <li>Stakeholder engagement tool</li> </ul>

**GAP Acronyms:**

CMG – Community Maintenance Group  
 GAP – Gender Action Plan  
 GFP – Gender Focal Point  
 GBV – Gender Based Violence

NMT – Non-Motorized Transport  
 SME – Small and Medium Enterprises  
 STI – Sexually Transmitted Infection

#### A4.4GAP tools : Rural Road Design Gender – Responsiveness Checklist

Relevant sections in this checklist are obtained from the Guide on integrating gender into infrastructure developed in Asia and the Pacific: Transport and Road guidelines.

#	Key considerations	Yes	No	N/A	Comments
1	Gender concerns and issues documented				
2	Gender mitigation measures developed				
3	Design and siting take into consideration how men, women, boys, and girls use roads in different ways (e.g. who walks and to where, who rides a bicycle, who uses motorized vehicles, who accesses public transport).				
4	The design ensures linkages for women, girls, men and boys to public and private health and education facilities, male and female community gathering spaces, markets, and places for entrepreneurship and employment.				
5	The road and transport design and siting take into consideration how men, women, boys, and girls in the affected corridor will be impacted by construction and operation, including safety, GBV)				
6	Designs take into account special needs and considerations, including access for persons with disabilities (e.g., roadside rest points, roadside market facilities, wider road shoulders for walking or adaptive transport methods, etc.)				
7	Gender-responsive training on GBV, and HIV/AIDS awareness is provided for contractors, operators etc.				
8	Non-motorized transport (NMT) and intermediate means of transport are accounted for in road planning				
9	Unnecessary relocation of roadside economic activities is avoided, and economic opportunities for women and other socially-excluded groups are promoted (e.g. provision of market stalls at rest stops)				
	<b>Budget</b>				
10	Allocate budget to fund gender mainstreaming and this GAP activities				
11	Budget allocated for maintenance to sustain a safe and healthy environment over the long term				
12	Adequate funds for investing in safety measures – pedestrian walkways, availability of NMT...				
13	Resources are allocated separately for accessibility requirements				
14	Budgets and resources for M&E activities allocated				

## Annex 5 – Indigenous People’s Plan

### A5.1 Executive summary

This Indigenous People Plan (IPP) is prepared based on desk review and field consultation with stakeholders and the Indigenous Peoples (IPs) and data collection at each project site during project and during the conduct of the Environmental and Social Assessment for a number of rural roads rehabilitation projects. As this IPP covers all rural road projects, it is not feasible to reflect all site-specific detailed information in this document. During feasibility studies, additional site-specific information will be collected to cover any variation between different sites and included in the plan before the start of the project. The processes proposed under IPP (such as FPIC, GRM and capacity building) will be followed for all rural roads to be rehabilitated/constructed under the project.

This Indigenous People Plan (IPP) was prepared based on desk review and field consultation with stakeholders and the Indigenous Peoples (IPs) and data collection at each project site during project and during the conduct of the Environmental and Social Assessment for a number of road rehabilitation projects. The IPP was developed based on the FPIC process and consultations with the affected IPs. This includes a series of visits to the project site, meetings with local authorities and consultations with the host community. The local authorities and members of the community participated in the visit for the technical field assessment to gather data and information to prepare technical design and Bill of Quantities (BoQs). The extensive engagement with the host residents and IPs complies with the SESP and requirements and to address specific action to be implemented and monitored during the implementation. The plan has been prepared in accordance with the UNDP Social and Safeguard Policy as an Accredited Entity (AE) to GCF and follows the approved ESMF.

The current IPP was designed and the FPIC process followed the structure of the local governance structure and administrative and customary leadership that are recognized in the Decree-Law No. 9/2016, 8 of July, Law on Sucos. The suco council represented by the chefe suco is identified as the key IPP stakeholder and the main representative in the FPIC process.

The traditional and cultural customs upheld in suco Lisadila were identified. They concentrate on the use of tara bandu, uma lulik, sau bandu / sau batar and the respect for lulik (sacred) places. The project lifecycle will respect and incorporate these cultural customs through cultural ceremonies at project launch and closing and respect for sacred places.

The list of positive and negative impacts that could be posed by the subproject were identified. Potential positive impacts were – generating local employment, improved access to markets and basic services, reduced time for water collection, reduced dust and emission after the rehabilitation, and enhanced community resilience to climate induced disasters (prevention from landslide/erosion and floods). Potential adverse impacts of the project included dust, noise and waste generation during implementation, and they were temporary in nature and related to physical aspects of the project.

FPIC processes were followed in the elements of land use, physical aspects of the project (dust, noise, and waste), project design and participation mechanism of the IPP and comply with the local customary law and tradition. Community’s right to withdrawal, terms of withdrawal and process to enable withdrawal of consent were identified and established with the community. The IPP includes communications plan, participatory monitoring plan, feedback and complaints plan (GRM), capacity building and gender action plans based on a series of community consultations and validation. Mitigation measures were identified and included in the IPP and the overall ESMP.

## A5.2 Objectives of the IPP

The principal objectives of the IPP and targets are indicated in the table below.

Table 5a Objectives of the IPP

No.	Objectives	Targets
1	Screen project components early to assess their impacts on IPs and to avoid any adverse impacts	<ul style="list-style-type: none"> <li>Potential positive and negative impacts are identified with the consultation of the IPs, documented and addressed.</li> <li>Strategies to avoid and mitigate negative impacts are consulted with the affected IPs.</li> </ul>
2	Protect the rights (human, environmental, land and customary) of the affected IPs, especially the most vulnerable ones	<ul style="list-style-type: none"> <li>FPIC process is implemented in the process of preparation, implementation, and monitoring of project activities.</li> <li>Project respects and follows cultural customs and heritage at all phases.</li> </ul>
3	Identify the priorities and needs of the community and to ensure they are taken into account	<ul style="list-style-type: none"> <li>Priorities and concerns are documented and incorporated into the project design.</li> </ul>
4	Enable the IPs to negotiate the conditions under which the project will be designed, implemented, monitored, and evaluated	<ul style="list-style-type: none"> <li>Institutional arrangement for planning and implementation of the IPP established and agreed.</li> <li>Capacity building for the IPs and project stakeholders to implement the project and IPP.</li> </ul>

## A5.3 Project description

### Brief Introduction of the Overall GCF SRC Project

The Green Climate Fund Project is a co-financed project by the Green Climate Fund grant, the Government of Timor-Leste and the United Nations Development Program (UNDP) on 'Safeguarding Rural Communities and their Physical Assets from Climate-induced Disasters in Timor-Leste'. This project targets six municipalities that are highly susceptible to climate-related hazards. This six-year project (2020-2026) is led by the Secretary of State for Environment (SEA) under the Ministry for the Coordination of Economic Affairs (MCAE).

The project focuses on Climate risk reduction and climate-proofing measures for small-scale rural infrastructure, and the development and integration of climate risk into policies, regulations and institutions to inform rural infrastructure planning and management. The project will also support for the development of vulnerability mapping under for a long-term investment planning for small-scale rural infrastructures in six target municipalities in Timor-Leste.

The project objective is to safeguard vulnerable communities and their physical assets from climate change-induced disasters. It aims to address existing institutional, financial and legislative barriers, increasing the climate resilience of vulnerable small-scale rural infrastructure.

The project targets 175,840 direct beneficiaries (51% male, 49% female) with an estimated 15% of the total population. Benefits include to increase resilience and enhanced livelihoods of the most vulnerable people, communities, and regions as well as climate resilience for small-scale infrastructure and 300 ha of reforested and rehabilitated land to buffer against climate-induced disasters. The project will ensure long-term infrastructure resilience via (i) embedding climate resilience standards into the processes through

which small-scale infrastructure is planned, designed, constructed, and maintained; (ii) improving climate hazard and risk assessment capacity and access to climate risk information<sup>21</sup>.

#### **A5.4 Sub-Project Location and Description**

The rural roads sub-projects have been prioritized and proposed for climate resilient rehabilitation by the GCF-SRC project through the Municipality Integrated Development Planning (PDIM) framework. The sub-projects being implemented are all rehabilitations of existing roads, which in general involve the following design elements, which is based on climate proofing measures to address flood, erosion and landslide risks, as well as detailed socio-economics assessment of likely benefits to local communities from the rehabilitation and climate proofing of the roads.

- 1) *Road Works*: such as site preparation works, leveling, cambering, road compaction and earthworks.
- 2) *Pavement and surfacing works* which include the application of plum concrete surface and reinforced concrete in risk exposed areas and gravel surfacing.
- 3) *Structural works*: cross drainage structures, masonry lined drains, stone masonry retaining walls, reinforced concrete box culvert, low water crossing, causeway and gabion installation
- 4) *Soil stabilization and bio-engineering approaches*: which involve the revegetation and tree planting in the hazard prone and vulnerable sections within the catchment under consideration.

The prevalence of landslide and erosion hazards within this area along the road corridor will be addressed through the climate risk reduction measures such as soil bioengineering and complementary catchment management interventions.

The construction-related short-term impacts to the environment such as dust pollution, vibration, and noise that will result from the construction phase are predictable and manageable with appropriate mitigation measures proposed. No negative impacts on cultural or heritage sites are foreseen from clearance or excavation works. However, a Chance Find Procedure has been developed in case any unknown object or site of cultural significance is discovered during the construction works. To ensure that these mitigation measures are implemented, and that negative impacts are avoided, measures will be included in the BOQ for the works and specifications. Although the sub-projects will have minimal negative impacts, these will be carefully monitored and mitigated during implementation. The project will ensure full compliance with the Environmental and Social Management Plan (ESMP). Regular and consistent monitoring and timely interventions to mitigate and prevent the potential negative impacts will be undertaken by the project team.

The ESIA study and ESMP document that was prepared takes into consideration all the socio-economic, environmental and cultural aspects related to the climate resilient rehabilitation of the rural roads. The project has been prioritized for rehabilitation by the GCF-SRC project through the Municipality Integrated Development Planning (PDIM) framework.

The checklist for appraising whether FPIC process is required, was applied and consultation undertaken extensively with the project stakeholders. Sub-projects were screened using the process described in the ESMF to determine whether the FPIC process need to be carried out and whether the sub-project may affect rights, lands, territories, and resources of indigenous peoples identified through this process. No negative impacts on cultural or heritages sites are foreseen from clearance or excavation works or from implementation of the rehabilitation works during the construction phase.

## A5.5 Description of Indigenous Peoples in the project area

### Features of indigenous cultures in Timor-Leste

The population in Timor-Leste mainly consists of East Timorese and a small fraction of people who are not ethnically East Timorese. The population is both multiethnic and multilingual, with 20 individual languages in use (19 indigenous languages and one non-indigenous)<sup>22</sup>

Ethnic groups fall into two main categories of origin: Malayo-Polynesian and Papuan origin. The ethnic groups of Malayo-Polynesian origin include Austronesian (Malayo-Polynesian) includes Tetun, Mambai, Tokodede, Galoli, Kemak, Baikeno. The Melanesian-Papuan includes Bunak, Fataluku, Makasae and there is also a small Chinese minority.<sup>23</sup> The lingua franca and national language of Timor-Leste is Tetum, with which it has equal status as an official language.<sup>24</sup> The Tetum (100,000) are the largest Malayo-Polynesian group and are mainly found around the capital, Dili, and the north coast. The largest ethnic group of Papuan origin are the Bunak (85,000), Fataluku (45,000) the Makasae (75,000).

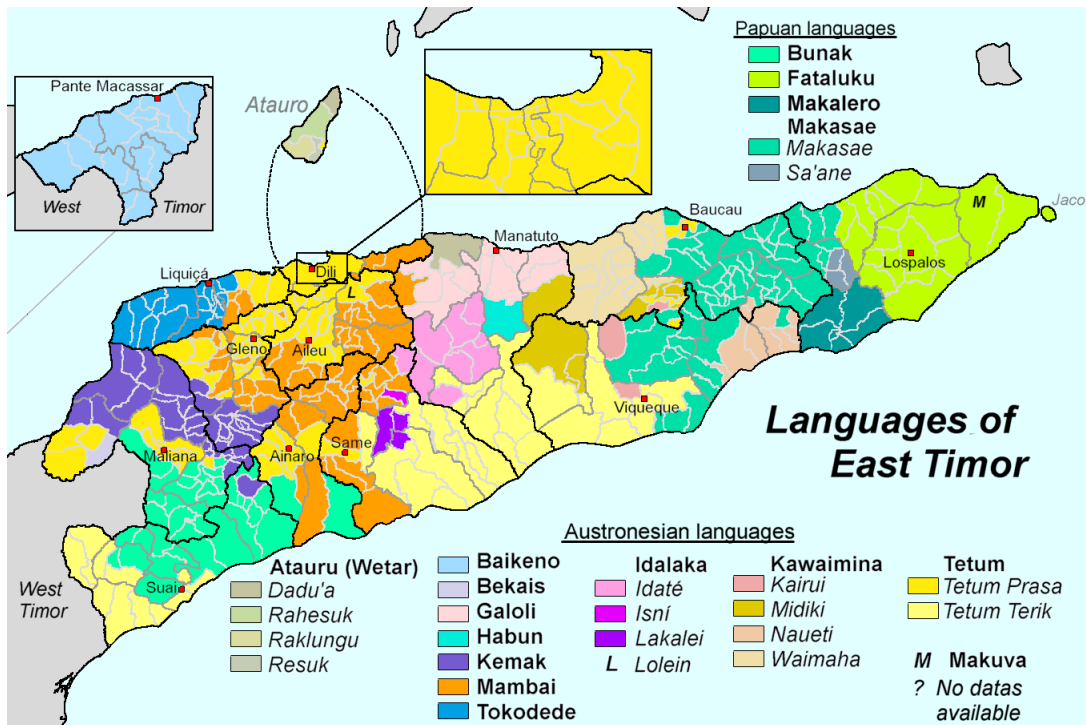


Figure A8- 1: Languages of Timor Leste<sup>25</sup>

### A5.6 Local political governance structure

The local governance structure consists of both administrative and customary leadership that are recognized in the Decree-Law No. 9/2016, 8 of July, Law on Sucos. In particular, the suco (village) and aldeia (hamlet) chiefs are important in fulfilling the roles of administrative and customary leadership. The

<sup>22</sup> <https://www.ethnologue.com/country/tl>

<sup>23</sup> <https://www.worldatlas.com/articles/what-is-the-ethnic-composition-of-timor-leste.html>

<sup>24</sup> <http://easttimorgovernment.com/languages.htm>

<sup>25</sup> Source: [https://upload.wikimedia.org/wikipedia/commons/d/d9/Sprachen\\_Ostimors-en.png](https://upload.wikimedia.org/wikipedia/commons/d/d9/Sprachen_Ostimors-en.png)

current IPP was designed and the FPIC process followed the structure of the local governance structure and processes.

The Suco Law was written to help ensure that development and basic services are achieved within the community and provides legal responsibilities of sucos, its governance mechanism and necessary functions. In this regard, the responsibilities of the sucos include but not limited to (as stipulated in Article 6 of the Law):

- Promote the resolution of conflicts that arise between the community members or between aldeias, in accordance with the traditions and practices of the community and the respect for the principle of equality
- Promote and defend the Knua as fundamental elements of the cultural identity of the Timorese People
- Preserve the existence uma-lulik or uma-lisan in the community
- Collaborate in the organization of festivities, ceremonies, rituals and other activities for the affirmation of the traditions, practices and customs that form the identity of the community
- Promote the holding of activities for the intergenerational transmission of practices, traditions and customs of the local community.
- Disseminate the laws, regulations, deliberations and decisions produced by the organs of the State, as well as the customary law rules, that are of interest to the community.
- Inform the Municipal Administration about the existence of underage children at risk in the community, as well as individuals in social exclusion or vulnerability situations.
- Promote the creation of community cooperatives.

Key parties included in Suco Governance system are the Suco Council; the Suco Chief; the Aldeia Assembly and the Aldeia Chief. The suco council and aldeia assembly form both the traditional socio-political structures at the suco and aldeia levels and the statutory processes.

- The Suco Council: the council has the responsibility to approve the Suco Community Development Plan, recommendations of the Suco Chief and Aldeia Chiefs for the promotion of the traditions, practices and customs of the community; recommendations for the improvement of the Suco services. According to Article 10, the Suco Council consists of:
  - The Suco Chief
  - The Aldeia Chiefs of the Suco
  - A female delegate from each Suco's Aldeias
  - A male delegate from each Suco's Aldeias
  - A female youth representative from the Suco
  - A male youth representative from the Suco
  - A lia nain.
- The Suco Chief: Article 23 sets out the roles and responsibilities of the Suco Chief as both statutory and customary leader. The Suco Chief represents the suco with external parties, convenes and chairs the Suco meetings, promote community consultations regarding matters of its general interest, namely in the field of planning and community development; awareness raising on various issues, implementation of agreed upon programmes and policies, mediate conflict or disputes between community members and aldeias and acts as intermediary between the suco and other parties. The suco chief (xefe suco) also has the responsibility to communicate to the competent authorities the existence of environmental problems, namely the existence of polluted areas, soil erosion areas and cutting of trees.
- The Aldeia Assembly (Article 26) is responsible for choosing the Aldeia Chief; choosing a female and a male delegate to the Suco Council and for providing opinion on the impact of

various public policies and the governmental and municipal programs on the Aldeia development process and other initiatives.

- The Aldeia Chief (Article 33) is responsible for representing the interest of aldeia members at the suco council meetings, disseminate information to aldeia members on legislation, regulations, public policies, and programmes; carry out the resolutions of the suco council at the aldeia level, resolution of minor conflicts or disputes that involve aldeia members; identify situations of extreme poverty and social exclusion affecting aldeia members and inform the suco chief, and to undertake various sensitization and mobilization activities of the aldeia members.

Hence the suco and aldeia council members are identified as the key IPP stakeholders and the main representative in the FPIC process is the Chefe suco (suco chief).

### ***Tara bandu and other traditional beliefs and norms***

The local indigenous peoples in Timor-Leste have several social and traditional norms followed and bear the legacy of their ancestors from the past. These norms include tara bandu (prohibition), na'in (guardian of nature) and others.<sup>26</sup>

Tara bandu is a regulatory mechanism aimed at governing the relationships among humans and between human and non-human entities (spaces, objects, animals, crops, the state, the environment). It can be considered both a custom-based regulatory mechanism and a newly supported organizational form. The Tara bandu system operates de-facto in parallel to the formal justice system and remains the favoured mode of dispute resolution. Endorsement of the Tara bandu requires ritual performance. Penalties for violating its provisions may include payments of foodstuff and animal meat that are consumed in a public event.<sup>27</sup>

There are three key steps in Tara bandu<sup>28</sup>:

- Specifically prohibited activities are determined at a public meeting of community members (e.g. burning of forests, the cutting of trees, collection of forest products, agricultural harvests, and hunting and fishing in a forbidden zone for a defined period of time, conflict resolution mechanisms).
- The community conducts a public ceremony to announce its enactment of the determined prohibition. A ritual authority figure (lia nain) takes the leading role in conducting the ceremony. The ceremony consists of a set of ritual forms such as an altar is established, an animal is sacrificed, and the animal blood is poured over the land. Items are hung on the altar to inform the community about the prohibition.
- As an enforcement mechanism, fines are determined by the community leaders and are imposed on any individual who is caught violating the regulation. Violators usually pay their fines in kind—by giving the community leaders an animal.

Other important beliefs include<sup>29</sup>:

- *Lulik*: The realms of the sacred, the holy or the taboo. It has been defined as spiritual potential and even magic. All considered lulik is set apart, potentially bounteous but equally dangerous and malevolent if not correctly approached (McWilliam, 2003).
- *Uma lisan*: Literally “traditional house”. Kin group with a common original ancestor.
- *Uma lulik*: Sacred house of each Uma lisan. Considered to be located in the original land of the kin group.

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<sup>26</sup> F Fios *et al* 2021 *IOP Conf. Ser.: Earth Environ. Sci.* **801** 012010

<sup>27</sup> Tara Bandu as a coastal and marine resource management mechanism: A case study of Biacou, Timor-Leste, Enrique Alonso Población, Pedro Rodrigues and Robert Lee, FAO, 2016

<sup>28</sup> Customary law and community-based natural resource management in post-conflict Timor-Leste, Naori Miyazawa, 2013

<sup>29</sup> Tara Bandu as a coastal and marine resource management mechanism: A case study of Biacou, Timor-Leste, Enrique Alonso Población, Pedro Rodrigues and Robert Lee, FAO, 2016



- *Rai na'in*: Literally “landowner”. It can refer to the lineage with a preferential access over a given land or to the spirit that inhabits the land.
- *Rai na'in kar bua malus*: Ritual authority of the lineage with the role of dealing with all matters linked to the realm of the lulik.
- *Sau-batar/sau-hare*: After the harvesting of corn and rice before the members of each clan could feast on the harvested goods. Moreover, there are also different kinds of foods or drinks that are considered *lulik* (prohibited) from being consumed by each member of the clan.<sup>30</sup>

The traditions upheld by each *uma lisan/lulik* and sucos in terms of their *tara bandu* can vary.

### **A5.7 Ethnic and socio-economic profile of affected IPs**

For each sub-project a detailed profile of the IP will be prepared by PMU during pre construction phase consultation as part of the feasibility study, using project FPIC survey tools.

Rural populations of Timor Leste are highly exposed to a number of hazards including flash floods, landslides, soil erosion, coastal flooding and drought, due to unfavourable terrain, socio-economic factors and intensification of these climate-induced hazards over time. In addition, anthropogenic factors such as poor, non-climate-resilient design and application of infrastructure construction standards and the limited investment in operation and maintenance, are exacerbating exposure and resulting in the failure of small-scale rural infrastructure, which is essential to the development of rural communities. Impacts include isolation of communities when roads and bridges are damaged by localized extreme events, contamination of unprotected water sources, reduction in yield of water supply sources due to droughts, flooding of communities due to inadequate or failing flood defences. In addition, the institutional and financial capacity of Local Administrations and communities to adapt to the situation is weak. This includes the ability of municipality planning officials, engineers and decision makers to identify areas that are critically vulnerable to climate hazards, to draw the links between ecosystems management and infrastructure development, and to identify, appraise, prioritize, design, cost and ‘budget in’ greater resilience measures. There is also a weak ability to understand and address gender and climate change related development and equity issues at local level.

### **Economy, employment and income**

According to UNHDR 2019 Statistical Annex Timor Leste is 1.7 times below the average employment rate for developing countries and 1.9 times below the rate for the region. This trend is magnified when the gender disaggregate data is examined with the rate of employment among TL females being 2.5 times less than the regional average while males are 1.6 times below the rate of employment regionally. The working poor is 66.9% compared to the regional average of 23.8%. Youth unemployment is in line with the average for developing countries at 14.8%, but below the regional average of 18.6%, but this may mask the fact that a larger than average percentage of the potential Timor Leste work force is comprised of the youth (Population median age of 16.9 years). 50% of employment is in agriculture while 40% is in services.

An analysis was undertaken of demographics, employment and economic activity using the 2015 census data for the 6 municipalities. On average, 41% of the population is younger than 15 years old, while 46% is of working age (17-60 years old) and 7% older than 65 years.

On average 46% of working age people (53% male, 38% female) are employed while 53% are economically inactive (45% male and 60% female).

On average 48% of households are involved in backyard only agriculture, 46% produce mainly for home consumption with some sale, while 3% produce mainly for sale with some home consumption.

<sup>30</sup> <https://us.boell.org/en/2021/10/22/summary-some-indigenous-knowledge-timor-leste-and-its-relevance-climate-action>

Most households produce maize (82%), casava (77%) and sweet potato (69%) while approximately 60% produce vegetables, beans, fruit and coconut, 50% produce coffee, 40% timber, 36% rice and 25% others. Many households rear chickens (87%) and pigs (85%), while 30% on average rear goats, cattle/cos and other.

**Cultural belief and sacred areas:** The traditional and cultural customs upheld in suco Uani-Uma also concentrate on the use of tara bandu, uma lulik, sau bandu / sau batar and the respect for lulik (sacred) places. The first Tara Bandu was instituted in 2004. In January 2017 the Tara bandu was reenacted with a few changes to the regulations/suco Law. Sau Bandu was done in 2018. The IPP respects and is implemented in line with the suco tara bandu (see Annex 8b on FPIC processes using tara bandu).

#### **A5.8 The Legal and Institutional Framework Applicable to Indigenous Peoples**

An analysis of the regulatory compliance between UNDP's SES and Timor-Leste national laws and regulations is provided in Chapter 3 of this ESMP. Although the national legal and institutional framework does not specifically spell out 'indigenous peoples', they reflect important elements of the SES Standard 6: inclusion and participation of affected communities; respect for traditional and local knowledge and customs in both administrative and customary affairs; information transparency to stakeholders, and avoiding and minimizing likely environmental impacts, including biophysical and socio-economic effects. The list of relevant national and international legislation and policies is provided below.

#### **Legislation, Policies and Regulations**

Under the portfolio of the Secretary of State for Art and Culture, Ministry of Higher Education, Science and Culture and Ministry of Justice, the following legislations are relevant to the project with respect to IPs:

- Government Resolution No. 25/2011 of 14 September, on the Protection of Cultural Heritage; to affirm that through culture, Timor-Leste should position itself in preserving, enriching, and safeguarding its identity, and the protection of culture, ensures the continuity and transmission over generations, the historical and ethnographic legacy of our ancestors and achievements and contemporary values.
- In 2009 the Government signed the Resolution 24/2009 approving the National Cultural Policy (Política da Cultura Nacional, Pt.3). This was the first formal and official document that established a conceptual political framework regarding the definition and protection of National Culture and Heritage.
- Decree-Law No. 9/2016, 8 of July, on Law of Sucos, provides legal responsibilities of sucos, its governance mechanism and necessary functions to improve administrative capability and authority. The Law directly states sucos are integral in the 'improvement of the life conditions of the populations and the socioeconomic progress of the country' and must promote and protect the cultural, social, economic and human rights of the community.
- Decree Law No. 33/2017 of 6 September, on Cultural Heritage of Timor-Leste, to create condition for inventorying, preserving, protection and valuing the Timorese cultural heritage. It also highlights the citizen responsibility in guaranteeing the cultural diversity, contributing to the protection and dissemination in many sorts of cultural heritage.
- The Government Constitutional Amendment to change Article 54, paragraph 4, to clarify that land ownership is allowed for all East Timorese natural persons as well as juridical persons, i.e., include a wider range of nationals, regardless of their age and ability to exercise political rights. In such event, minors and national legal entities would be considered 'citizens' and, hence, have access to land ownership.

In addition to that, the Government also recognize and customary tenure to give to community leaders or leaders of clan to determine the use of land, allocation, transfer among others based on community needs.

## **A5.9 Multilateral Agreements and Protocols relevant to Indigenous Peoples**

The relevant international agreements and protocols for IPs are as follows:

- Convention of the Rights of Persons with Disabilities
- Convention against Torture and Other Cruel, Inhuman or Degrading Treatment or Punishment
- International Covenant on Economic, Social and Cultural Rights
- Convention on the Elimination of All Forms of Discrimination Against Women
- International Covenant on Economic, Social and Cultural Rights
- Convention for the Protection of All Persons from Enforced Disappearance
- International Convention on the Elimination of All Forms of Racial Discrimination

## **A5.10 UNDP Social and Environmental Safeguard**

UNDP's SES, and Project Level Standard 6: Indigenous Peoples provides guidance to ensure the full, effective and meaningful participation of indigenous peoples in a manner which aligns with their distinct vision and development priorities, building sustainable partnerships with indigenous peoples as companions in development and conservation efforts.

Through implementation of Standard 6 UNDP aims to avoid adverse impacts on indigenous peoples, their rights, lands, territories, and resources; mitigate and remedy impacts that cannot be avoided; support countries to implement human rights obligations; and ensure equitable and culturally appropriate benefit sharing with indigenous peoples. This IPP is prepared in line with the Guidance Note on UNDP's SES Standard 6 and UNDP SESP.

## **A5.11 Indigenous Peoples Policy**

GCF Indigenous Peoples Policy seeks to increase the capacity of indigenous peoples to fully exercise their rights to, and interests in, land, territories and natural and cultural resources, and ability to participate in and benefit from development initiatives and climate change actions. The Policy outlines the actions to minimize and/or compensate for the adverse impacts and identify opportunities and actions to enhance the positive impacts of a project for indigenous peoples in a culturally appropriate manner. The Indigenous Peoples Policy operational guidelines provide clear framework for preparing project IPP in line with the GCF Indigenous Peoples Policy.

## **A5.12 Social and Environmental Assessment in the project location**

### **Assessment methodology and appraising Free, Prior and Informed Consent (FPIC) for the Sub-Project**

This IPP was prepared at each sub-project site on the basis that none of the interventions will require the displacement/resettlement of people. As the SESP screening results for the project indicates a Moderate Risk, SES Standard 6 checklist was used (Annex 8a) in appraising Free, Prior and Informed Consent (FPIC) for the Sub-Project. Of the nine questions, one question had the answer 'Yes', therefore requiring FPIC process: *'Will the activity involve the accessing of traditional knowledge, innovations, and practices of indigenous and local communities?'*

Hence the social and environmental assessment was conducted as part of the ESMP and IPP preparation. Using the results, management and mitigation measures were prepared with consultation of the IPs.

- First, a review of the basic socio-economic indicators and conditions of the households is conducted (summaries presented in section 5.7.1 and in this section).
- Second, the GCF/UNDP Project's Field Coordinator and the Engineers conducted pre-assessment using a semi-structured interview with the suco chief – covering various environmental and socio-economic areas whilst pre-identifying potential risks (see Annex 1 Section A1.3 for the completed pre-assessment form).

- Third, using the pre-assessment result, the GCF/UNDP project team conducted a participatory assessment (see Annex 2 of this ESMP for meeting minutes) with the representatives of the IPs. The participatory assessment includes documenting geographic and demographic information gathered through participatory mapping of the land (GIS) – walking with the community through the road alignment and record coordinates of the landmarks, assets, livelihood areas and sacred sites. Local authority representatives (Chefe suco and chefe Aldeia) along with the residents of the community participated in the site assessment, together with the engineers, and did the linear measurements of the road and identification the spots where there will be a need for river crossings and slope stabilization.
- After the participatory assessment and draft plan, as part of the iterative discussions with the affected community, the GCF/UNDP project team had consultation with local leaders to validate the participatory monitoring plan, communications plan, capacity building plan and gender action plan.

*Table A5- 1: Social and Environmental Assessment Methods*

<b>Method</b>	<b>Tools</b>	<b>Topic areas</b>
Desk review	<ul style="list-style-type: none"> <li>• 2015 Census data</li> <li>• SEIA 2.0 survey results for suco Uani-Uma</li> </ul> <p><i>SEIA 2.0 - Covering 28 households and 126 household members</i></p>	<ul style="list-style-type: none"> <li>• Socio-economic baselines</li> <li>• Priority development areas</li> </ul>
Key informant interview	<ul style="list-style-type: none"> <li>• Pre-assessment interview conducted by the Field Coordinator with the Suco chief (see <i>Annex 2</i>)</li> </ul>	<ul style="list-style-type: none"> <li>• Community structure, relationships, and potential conflict</li> <li>• Public assets</li> <li>• Land ownership and land use</li> <li>• Sacred places and house</li> <li>• Access to WASH and basic services</li> <li>• Livelihood sources of the community including agriculture</li> <li>• Status and traditional exercise related to Tara Bandu</li> <li>• Identify suco development priorities</li> <li>• Skills of the local workers</li> <li>• Natural disaster history</li> <li>• GPS coordinates of the project area (start point, mid-point and end point)</li> </ul>
Participatory community assessment	<ul style="list-style-type: none"> <li>• Group discussion on views and concerns related to Project and potential positive/negative impacts</li> <li>• Geo-spatial mapping and measurement (done with community)</li> <li>• Group discussion on potential mitigation measures and Project</li> </ul>	<ul style="list-style-type: none"> <li>• Women and men’s views and concerns regarding the Project</li> <li>• Access to services</li> <li>• Livelihood</li> <li>• Women and men’s differential use of the road</li> <li>• Land use</li> <li>• Waste management</li> </ul>

	design (including communication plan, O&M plan and GRM)	<ul style="list-style-type: none"> <li>• Pollution</li> <li>• Customary laws and holy sites</li> <li>• Preferred communication plan with the Project</li> </ul>
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**A5.13 Assessment results: Identification of potential impacts**

Identification of the potential socio-economic, environmental and cultural impacts related to the climate resilient rehabilitation of the rural roads projects indicate the following:

- Overall, the existing roads provide essential function in livelihoods and market driven activities of the households including selling products nearby the road and access to health and education services. However, during rainy seasons, rural roads become inaccessible preventing these functions from being fulfilled.
- Priority livelihood and development areas of the communities are food and cash support, disaster risk management and prevention from floods and erosion. Also, there was a strong social cohesion in the IPs – trust in each other and support and cooperation.
- Potential adverse impacts of the project during implementation identified are – temporary negative impacts at the project site including dust, noise and waste.
- Potential positive impacts/benefits identified are – generating local employment, improved access to markets and basic services, reduced time for water collection, reduced dust and emission after the rehabilitation, enhanced community resilience to climate induced disasters (prevention from landslide/erosion and floods).

Table below summarizes the social and environmental impacts found during the pre-assessment and participatory assessment.

*Table A5- 2: Identified social and environmental impacts (positive and negative) and feedback on project design*

Areas	Assessment results	Risk and Impact
<b>Social impacts</b>		
Gender and inclusion	<p>The rehabilitation of the road will bring positive impacts especially for women. Participatory assessment revealed the current road condition during rainy season poses significant challenges on women’s road accessibility. Issues mentioned were:</p> <ul style="list-style-type: none"> <li>- Pregnant women cannot get timely maternal health care services during rainy season.</li> <li>- Children and people with limited mobility cannot use the road because the road is very steep in general</li> <li>- During rainy season, the road becomes slippery and difficult to use for all groups.</li> <li>- School children are walking long distances to school on the current unsafe road and residents of the nearby suco and community also have to walk long distances walk to get medical assistances in suco.</li> </ul>	Rehabilitated and climate proofed road results in positive impact on reliability and improved accessibility of basic services
Livelihoods	<ul style="list-style-type: none"> <li>• The current road is significantly affected by erosion and landslide in turn affecting plantation of cassava in the surrounding. Urgent road rehabilitation is needed.</li> <li>• The participation of the IPs in road rehabilitation will allow additional income for households.</li> <li>• Market access will be increased for the IPs, in particular for women.</li> </ul>	Positive impact on access to market

Areas	Assessment results	Risk and Impact
	<ul style="list-style-type: none"> <li>People producing local products will have easy access to markets due to improved road conditions.</li> </ul>	
Customary land use to be correctly negotiated in line with community expectations	<ul style="list-style-type: none"> <li>Several spots that are sacred along the road should be considered in the designs and implementation of the construction and respected: one cemetery and one <i>ai lulik</i> sites (sacred tree).</li> <li>Participatory assessment of all sacred places in pre-construction phase will ensure that the project activities will not impact the sites.</li> </ul>	Potential negative impact if customs not followed
Land related (acquisition) and surrounding features	<ul style="list-style-type: none"> <li>Agriculture and forestry, houses, public facilities nearby the road were identified. Community in the past has cleared the forested areas to engage in horticulture activities in their farmlands/gardens.</li> <li>Participatory assessment identified the existing farmlands will not be affected by the road rehabilitation since they are located at distance and the rehabilitation will be done on existing road and will not delineate from the existing road.</li> </ul>	Positive impact - the community and farmers will benefit from road access to transport their agricultural produce to local markets and enhanced access to basic services.
<b>Environmental impacts</b>		
Waste management	Waste generated such as cement bags during construction, oil from equipment maintenance (used oil), food bags, boxes and cups, drinking water bottles being discarded in the community and nearby sites, pit for the temporary toilet facilities.	Temporary negative impact
Pollution (noise, emission, water)	Noise generated from construction activities such as the mobile plants (concrete mixers, plate compactors and vibrators), vehicles and equipment (such as the excavators, rollers, dump trucks) will be temporary and only during construction.	Temporary negative impact
Pollution (dust and emissions)	Dust generated from vehicles during the dry season will be reduced once the road is rehabilitated. Emissions will be reduced because the steep slopes will be rehabilitated and surfaced, and vehicles will require less revving of the vehicle engines to ascend and move.	Positive impact
<b>Project design and participation</b>		
Participation and consultation	<ul style="list-style-type: none"> <li>It is necessary to provide information about the project and progress regularly to the community.</li> <li>Key decisions related to the project should include community representatives.</li> <li>If COVID-19 outbreaks intensify again and sanitary fences/State of Emergency declared, this could hinder progress of the project and participation.</li> </ul>	Positive impact on ownership and legitimacy of the project
Project monitoring	<ul style="list-style-type: none"> <li>Joint monitoring groups consisting of national and municipal level stakeholders and affected communities allow to monitor both technical and socio-economic and cultural aspects of the project.</li> <li>Independent monitoring and inspection is conducted by ANLA.</li> </ul>	Positive impact on transparency and efficiency

#### A5.14 Measures to eliminate, minimize or mitigate the identified risks

This section presents the planned measures to avoid, minimize, or mitigate the adverse effects mentioned in previous section.

All potential impacts were considered, and the possible measures that can be taken to fully and effectively mitigate any arising unforeseen impacts identified. Although there are IPs present in the project area, the impacts are expected to be positive. Based on the consultations conducted, there is broad community support for the rehabilitation of the existing road.

It was also agreed that whenever there will be unanticipated impact in the future, the Suco Council Members along with the traditional cultural leaders will discuss the matter and come up with a plan of action and solutions as detailed below on FPIC procedures, and Action Plan of this IPP. Should IPs have concerns and feedback, the GRM process and communication plan detailed below will be used.

**Table 5g. Measures to eliminate, minimize or mitigate the identified risks**

Issues discussed	Measures	Responsible persons	Tools/forms/templates to be used
<b>Land</b>	<ul style="list-style-type: none"> <li>Engage and involve the local authorities, affected community members, IP community and representatives during the field surveys and technical assessment and consultations and get consensus on the scope and scale of the rehabilitation works.</li> <li>Ensure that the local leaders and IP community are fully aware that the road rehabilitation works will be following along the existing road alignment and some sections require widening.</li> <li>No relocation, resettlement, or removal of indigenous population from their lands will take place as a result of the implementation of the infrastructure project.</li> <li>Engage IP community and their representative and ensure that sufficient understanding of the project scope and the issues in well informed and consensus is reached.</li> <li>Obtain consent and agreement from IP and formal declaration for IP representatives.</li> </ul>	MSA, SSE, FC  Local Contractor	<ul style="list-style-type: none"> <li>Meeting Minutes, Regular Reports – Monitoring</li> </ul>
<b>Employment during the Construction</b>	<ul style="list-style-type: none"> <li>Number of people in the local community that is actively engaged/employed on the construction project.</li> <li>At least 50% of the contractor's labour force/workers from local community (of which 30% women)</li> </ul>	FC, Engineer, Contractor	<ul style="list-style-type: none"> <li>Contractors Method Statement,</li> <li>Employment Contracts</li> <li>M&amp;E framework for the project</li> </ul>
<b>Natural Resources</b>	<ul style="list-style-type: none"> <li>No natural resource extraction such as quarrying, and or construction material extraction for road construction occurs on the lands/territories that belong to IPs.</li> </ul>	Field Coordinator, Climate Change & Environment Officer Municipal Focal Point/PDIM Engineers	<ul style="list-style-type: none"> <li>Contractors Method Statement</li> </ul>

Issues discussed	Measures	Responsible persons	Tools/forms/templates to be used
	<ul style="list-style-type: none"> <li>Ensure that catchment management interventions such as soil-bioengineering and agroforestry interventions do not introduce weed and/or invasive alien species or trees/plants.</li> <li>Ensure thorough consultation with IP community for agroforestry and bioengineering measures</li> <li>Conduct prior assessment on the species of trees and plants to be used of the catchment rehabilitation measures.</li> <li>No invasive alien species (IAS) of trees/plants will be used for the soil bioengineering applications and reforestation activities.</li> <li>No non-native species will be used/or new species of trees introduced in the site without prior assessment.</li> </ul>	<p>MSA, ANLA, SSE Local Contractor</p> <p>PMU, Agroforestry Specialist MAF, Extensionist</p>	<ul style="list-style-type: none"> <li>Catchment Management Plan</li> <li>Soil Bioengineering Approaches</li> <li>Agroforestry Strategy</li> </ul>
<b>Construction materials</b>	<ul style="list-style-type: none"> <li>Seek to reuse materials from earthworks within footprint in new roadwork.</li> <li>Quarry materials to be sourced from approved/authorised quarries.</li> <li>Local suppliers of materials to be preferentially sought.</li> </ul>		
<b>Waste management</b>	<ul style="list-style-type: none"> <li>Waste to adopt hierarchy.</li> <li>Waste to be managed according to measures outlined in ESMP, including disposal at approved facilities</li> </ul>		
<b>Pollution (noise, dust, water)</b>	<ul style="list-style-type: none"> <li>As per ESMP</li> </ul>		
<b>Culture and Heritage</b>	<ul style="list-style-type: none"> <li>No removal, confiscation or damage is caused to cultural heritage site, objects and/or spiritual property from the community and/or IPs.</li> </ul>	<p>Field Coordinator, Climate Change &amp; Environment Officer MSA, ANLA, SSE, SSAC, Local Contractor</p>	<ul style="list-style-type: none"> <li>Meeting Minutes, Regular Reports – Monitoring</li> </ul>
	<ul style="list-style-type: none"> <li>Customary regulations and traditional practices of the local community, affected IPs are respected and followed.</li> <li>The key customary ceremonies incorporated in the project design and SEP and IPP.</li> </ul>	<p>Field Coordinator, Climate Change &amp; Environment Officer Communications and M&amp;E Officer MSA, ANLA, SSE, SSAC Local Contractor</p>	<ul style="list-style-type: none"> <li>Meeting Minutes, Regular Reports – Monitoring, Project Progress Reports</li> </ul>
<b>Customary land use to be correctly negotiated in line with community expectations.</b>	<ul style="list-style-type: none"> <li>The customary ritual/ceremony will be done prior to the construction works led by the IPs spiritual leader.</li> <li>Conduct cultural ceremony at the start and end points of the project: It is a symbolic ceremony to consider</li> </ul>	<p>Lia nain ANLA Environnemental officer Chefe suco Contractor Municipal engineers</p>	<p>Activity report – as part of the ANLA environmental inspection</p>



Issues discussed	Measures	Responsible persons	Tools/forms/templates to be used
	<p>the <i>lulik</i> (holy) site that is near to the roadside.</p> <ul style="list-style-type: none"> <li>FPIC process was used to identify project activity site and land.</li> </ul>	Field Coordinator CCEO	
<b>Participatory Project design – to ensure that livelihoods, cultural activities and O&amp;M plans are culturally appropriate</b>	<ul style="list-style-type: none"> <li>FPIC process was used through participatory assessment and consultation on project design (on preferred communications channels and methods, monitoring activities and frequency, grievance and feedback mechanism conducted and integrated in the IPP).</li> </ul>	Municipal and project engineers Field Coordinator CCEO Chefe suco	Participatory assessment tools Consultation meeting and meeting minutes
<b>Grievance and feedback mechanism</b>	<ul style="list-style-type: none"> <li>FPIC process was used to determine and establish the GRM.</li> </ul>	GRM structure: Municipal administrator, MoPW representative, PA representatives and suco representatives – youth, women and men and chefe suco, municipal GFP Secretariat is the FC	Grievance Redress Mechanism Structure form (grievance, feedback, complaint form and register) – see ESMP section Annex 6).

#### **A5.15 Information Disclosure, Participation, and FPIC process**

The design of the road rehabilitation project was properly consulted and agreed during several consultations with the community, local authorities, and national and sub-national stakeholders. The information disclosure, participation and consultation process followed the section 4 of the Standard 6 Guidance Note and implemented a meaningful FPIC processes. This section describes the mechanisms to conduct iterative consultation and consent throughout implementation of the project. The information disclosure, participation and FPIC processes are also in line with the SEP in Annex 2 of this ESMP. It should be noted that no resettlement is required as part of this subproject. The road rehabilitation has been identified as one of the urgent needs for the community.

#### **A5.16 IPs representatives in the subproject**

- Chefe suco is the main representative as the administrative and customary leader.
- Chefe aldeias, lia nain, suco council members including youth, women and veterans and the affected communities are active participants in project monitoring, key cultural ceremonies, and regularly
- The project Field Coordinators, Climate Change and Environment Officer along with local authorities are responsible for liaising with communities and for promoting community participation and consultation.
- According to the SEP, national partners – Post Administration, Municipality, line ministries' representatives participate at various stages of the project and have clear functions.

#### **A5.17 Summary of FPIC processes undertaken with the affected peoples'**

The FPIC and screening process as described in the ESMF was conducted with due diligence and with active participation from members of the local community to design the project, to identify risks and impacts and mitigation measures. The FPIC processes undertaken and led to the IPs' support for the project are described in this section.

The consultation meetings were organized ensuring:

- **Meetings were conducted in an environment where they do not feel intimidated** – sede suco (sucu community center) which is used for community consultations.
- **Where they have sufficient time to discuss in their own language** – meetings were conducted in local language, field coordinators provided information and plan about the meeting in advance to chefe suco who in turn had informed the community members.
- **Meetings are conducted in a culturally appropriate way** – meetings were led by chefe suco and national project staff which followed cultural norms in facilitating meetings. For example, it is expected in community meetings to have lunch and food, certain protocols are followed (respects and names are mentioned in detail, to raise questions and agree on topics).
- **Meeting topics included relevant matters affecting the IPs’ rights, lands, natural resources, livelihoods, traditional knowledge and customs and governance systems.**
- It was made clear at each stage of the meeting, once the community has given their consent to the project, they can withdraw it at any stage.

The FPIC process:

- **Free:** The IPs representatives have free access to project information and have full freedom to make their own decisions related to their rights and interests, during the project’s critical implementation time points.
- **Prior:** The project documents have been provided by the Field Coordinator to chefe suco and council members before the pre-assessment. In addition to the project FPIC process, the national PDIM project planning/identification process was used in the sub-project prioritization/selection process during the overall project selection and prior to the detail technical assessments and designs.
- **Informed Consent:** all the project activities conducted in communities should be decided through process of collective discussion and decision-making.

*Table A5- 3: FPIC processes implemented to obtain IPs’ consent*

<b>FPIC implementation</b>	<b>Steps conducted</b>
Identified IP representatives	Key representatives of the IPs were identified. They include: chefe suco, chefe aldeia, lia nain, members of the suco council and aldeia assembly including youth and women representatives.
Pre-assessment meeting with IP representative	Through desk review and pre-assessment, demographic information was collected.  Results were used to design relevant and effective participatory assessment.
Conduct participatory assessment	Through the participatory assessment geographic information related to the project was mapped and documented.  Potential positive and negative impacts, views and concerns regarding the project and areas requiring FPIC were identified.
Discussion on identified impacts	Land use, physical impacts (waste, noise and dust), the use of customary laws in project implementation and IPs’ participation in project monitoring were documented and reported back to IPs during consultation.  Lia nain sets out key project activities that require cultural ceremonies as documented in the IP plan (Annex 5b).

Design project grievance and feedback mechanism	A project GRM set up consultation was conducted.
<b>GRM committee established, and mechanism agreed</b>	GRM Committee and processes were agreed (see Annex 6 for detailed process and minutes).
<b>Communication plan</b>	<p><b>Distribution of materials</b></p> <ul style="list-style-type: none"> <li>• Flip charts of the technical assessments with results of the mapping and issues raised are provided to the suco (caricature and drawing)</li> <li>• Brochure about the Project can be distributed</li> <li>• Notice board on the construction site</li> <li>• Sign board with project information</li> <li>• Mobilization meeting – also distribute additional materials: <ul style="list-style-type: none"> <li>- Booklet/guideline for the climate resilient infrastructure provided to the contractors.</li> <li>- Summary of the guideline distributed for the community</li> </ul> </li> </ul>
Participatory monitoring agreement	<p>IPs' preferences in monitoring activities were documented and integrated in the project design (see section A5.18)</p> <p>Independent review and monitoring provided by ANLA which uses forms that are nationally and locally relevant and respect and promote the rights of the communities.</p>
Draft letter of declaration	All issues documented. Key agreements listed in the Letter of Declaration. Draft Declaration Letter is shared and read aloud to all representatives. Any feedback received.
<b>Declaration letter signed by IP representative</b>	<p>IPs' needs, conditions and priorities are included in the project design.</p> <p>Consent reached and provided in the form of the signed Declaration Letter</p>
<b>Right to withdrawal</b>	Community's right to withdrawal to parts or whole of the project were reiterated, conditions for withdrawal agreed and process of withdrawal agreed.

**Right to withdrawal, conditions for withdrawal and process of withdrawal.** The conditions of withdrawal of consent to the sub-project are discussed and agreed as follows:

**Cultural ceremony.** Although the project is the rehabilitation of an existing road, the rehabilitation still requires customary regulations and traditional practices of the local community are respected.

**Land.** It is noted that the project will not require, encourage, or coerce the relocation of IPs, nor will the project impinge on the development goals of IPs and therefore compensation under ES 6 is not required.

However, it has been agreed with the IPs representatives that the IPs have the right to withdraw the consent/agreement and that the agreement would be revisited if the project has impacts on their lands in terms of encroaching sacred places, affecting the community's livelihoods, and resources.

**Local employment.** All unskilled labour including women and men should be hired from within the local community in the suco.

The mechanism or process for withdrawal includes using the established Grievance Redress Mechanism

established with each beneficiary community and other mechanisms convenient for the community at the time (Annex 3 of this ESMP). To ensure IPs' have full access to information throughout the project, project communication and information plan and monitoring plans are also agreed.

#### **A5.18 Particular project activities and circumstances requiring FPIC**

Extensive consultations, following FPIC processes, with the host community and people potentially impacted by the proposed project were carried out to confirm that sub-project activities would not cause any disruption to people's rights, lands territories, resources, traditional livelihoods, cultural heritage and that no resettlement or relocation IPs would take. The project activities requiring agreement (based on FPIC) identified during the pre-assessment and participatory assessment were:

- Land use (respect for sacred structures, and no encroachment on farmlands)
- Temporary physical (noise, waste and pollution)
- Participatory project design – communications plan, monitoring plan, grievance and feedback mechanism.
- Throughout the entire project, customary laws should be respected.
- Local community should be employed by contractors during construction as unskilled workers.

The project has completed preparatory work for the rehabilitation of 10 rural roads including assessment, design and BoQ preparation, consultations with stakeholders and ANLA licensing. During consultations, FPIC process was conducted, and all the documentation is available with the Project Management Unit and can be provided to GCF when required covering the below projects:

<b>Project Code</b>	<b>Project Title</b>	<b>Municipality</b>
A-RR-05	Lahae - Eralolo Road Rehabilitation	Aileu
A-RR-12	Construction of new road from Tohumeta to akadiru	Aileu
A-RR-13	Construction of new road from Ladeia Manufoni to Aldeia Lismori.	Aileu
B-RR-06	Road rehabilitation from suco Lavateri to Aldeia Onor Tibalari	Baucau
E-RR-06	Road rehabilitation and construction of drain and culverts in Batumanu Distance	Ermera
E-RR-09	Road rehabilitation form Katrai kraik to Dukurai From start point Suco Lauana	Ermera
L-RR-01	Road rehabilitation of Lika	Liquica
L-RR-06	Road rehabilitation in Kaigeremeta	Liquica
La-RR-04	Road Rehabilitation from Bauro to Nanafoe	Lautem
La-RR-02	Road Rehabilitation from Warique to Baniria	Lautem

Similar FPIC process will be followed for all other rural roads to be implemented.

#### **A5.19 Beneficial Measures**

The infrastructure subproject will provide social and economic benefits, environmental and cultural protection and, based on the ESIA and ESMP that have been developed, is not expected to result in unacceptable adverse or negative impacts to the community during the project implementation period. The negative impacts likely are considered to be minor and of a temporary nature and therefore outweighed by the positive impacts that the project will have.

The opportunity to participate in the road rehabilitation and maintenance works will create employment and income generating opportunities for youths, women and the local community through direct engagement in construction and or revegetation activities or via indirect activities such as provision of ancillary services and support.

#### **A5.20 Grievance and Redress Mechanism (GRM)**

The project supported the establishment of a GRM that is culturally and socially acceptable and appropriate to the community and Municipality as mentioned in Section 7.5 and Annex 3. The GRM was developed with IPs following FPIC processes. The establishment of the grievance redress Mechanism (GRM) is crucial in facilitating the resolution of any issues and concern that is related to the implementation of this sub-project.

The key relevance of IP issues for this project are related to:

- Development of an appropriate GRM which considers local conflict resolution mechanisms
- Consultations and stakeholder engagement that are detailed and respect clan and family relationships
- Participatory Project design – to ensure that livelihoods, cultural activities and O&M plans are culturally appropriate and do not adversely impact IPs
- If use of customary land required, that it be correctly negotiated in line with community expectations.

*Table A8- 4: Targets for the GRM structure*

<b>Activity</b>	<b>Responsible</b>	<b>Tools/ forms</b>
Grievance Redress Mechanisms is readily accessible and tailored to the needs of the local/indigenous communities	Field Coordinator, Climate Change & Environment Officers MSA Municipality	<ul style="list-style-type: none"> <li>• GRM Minutes of Meeting, TOR</li> <li>• GRM Register</li> </ul>
Capacity building and awareness activities for local/community and indigenous peoples to report grievances issues and concerns.  Information on the GRM posted on Notice Board on the site.  Community aware of the GRM and how to report issues and concerns.	Field Coordinator, Climate Change & Environment Officer Communication Officer MSA, ANLA, SSE	<ul style="list-style-type: none"> <li>• Stakeholder Engagement Plan</li> <li>• Training and Awareness Plan</li> </ul>

#### **A5.21 Capacity Building**

Project staff and experts will be trained on how to engage with IPs and how to support the effective implementation of the IPP throughout the project’s life cycle.

IPs and other members of the community who will be involved in various phases of the project will be trained of appropriate skills needed to effectively perform their expected roles. The activities/sessions should also serve as a mechanism to build awareness and capacity of the local community/indigenous beneficiaries to identify and address issues affecting them. A training Needs Assessment (TNA) will be used as the basis in the developing the most appropriate trainings and awareness activities.

Table A8- 5: Capacity Building Plan

Activity	Responsible	Tools / forms
Project staff and experts trained on how to engage with Ips and how to support the effective implementation of the IPP throughout the project's life cycle.	Field Coordinator, Climate Change & Environment Officer Municipal Focal Point/PDIM Engineers – Technical Assessment MSA, ANLA, SSE Local Contractor	<ul style="list-style-type: none"> <li>• Training and Awareness/Capacity Building Plan</li> <li>• Training reports</li> </ul>
Adequate information about the project provided to the host community – at least 10% of beneficiaries know about the Project.  IPs and other members of the community trained in skills needed to perform effectively their expected roles on the project.	Field Coordinator, Climate Change & Environment Officers Municipal Focal Point/PDIM Communication Officer MSA	<ul style="list-style-type: none"> <li>• Stakeholder Engagement Plan</li> <li>• Training and Awareness Plan/ Capacity building plan</li> <li>• Communication Plans</li> <li>• Training report</li> </ul>
Training provided to construction workers, and the customary regulations and traditional practices of the local community are fully respected.	Local Authorities, PMU, Contractor and Workers Field Coordinator, Climate Change & Environment Officer	<ul style="list-style-type: none"> <li>• Stakeholder Engagement Plan</li> <li>• Capacity building plan</li> <li>• Training report</li> </ul>
Training about how to control the quality of the project so they can contribute to long-term sustainability of the project.	MoPW, ANLA, SSE Local Contractor	<ul style="list-style-type: none"> <li>• Capacity building plan</li> <li>• Training report</li> </ul>

#### A5.22 Monitoring, Reporting and Evaluation

The implementation of the IPP will be monitored to:

- i. ensure that mitigation measures designed to manage any negative social impacts and measures to enhance positive impacts are adequate and effective,
- ii. determine if the indigenous communities have any issues or concerns regarding project implementation, and that they have access to the right channels to register and address their concerns and/or complaints
- iii. propose corrective actions when needed during the implementation

The monitoring will be participatory and implemented with the IP representatives, government officials and project team. A system will be established to monitor whether implementation of and compliance with the IPP – as described in Annex 5c.

The responsible IP focal point for monitoring– in this case the suco chefe will ensure that representatives from the IPs, women, youth, and persons with disabilities participate in the monitoring. In addition, lian nain, veteran and aldeia chefes will be part of the monitoring group.

All M&E documentations are to be widely consulted and confirmed by representatives from the IPs/community who were involved in the process.

Implementation of the IPP will be reported on a weekly basis from Field Coordinators. Monthly joint monitoring meetings will be held with the IPs to discuss progress and milestones, any issues related to the project.

#### A5.23 Budget and financing

Table A8- 6: Sub-project IPP implementation budget

No	Description of Activity	Unit	Qty	USD
1	Community Consultation with IPs/community– introduction of the project and appraisal	No.	1	120.00
2	Participatory Assessments with stakeholders	No.	1	300.00
3	Implementation of Communication Plan including signboards, noticeboards, translation and distribution of materials, brochures, meetings	L.Sum		750.00
4	Participatory screening with IPs and key stakeholders including ANLA staff	No.	2	350.00
5	Establishment of the GRM (budget covered in the GRM Establishment as per Annex 6)	No.	1	550.00
6	Training of the selected contractor on the IPP	No.	1	100.00
7	Orientation training for workers from IP community and contractor's staff	No.	1	300.00
8	Official launching of the project prior to mobilization and commencement of the construction works	No	1	650.00
9	Official commissioning of the project after completion and hand-over of the construction works	No	1	1150.00
10	Cultural ceremony to seek permission from ancestral spirits before commencement of the construction works ( <i>budget provided in the BOQ contractor's unit rates/overheads</i> )	No.	2	--
11	Monthly construction site meetings during construction period	No	4	200.00
12	Environmental Inspections/Monitoring by National Agency for Environmental Licensing (ANLA) during construction	No	2	350.00
	<b>Total:</b>			<b>4,820.00</b>

## Annex 5a: Checklist applied for appraising whether FPIC process likely to be required

**Project Code:**

Questions	Yes/No
Will the activity involve the relocation/resettlement/removal of an indigenous population from their lands?	No
Will the activity involve the taking, confiscation, removal or damage of cultural, intellectual, religious and/or spiritual property from indigenous peoples?	Yes
Will the activity adopt or implement any legislative or administrative measures that will affect the rights, lands, territories and/or resources of indigenous peoples (e.g., in connection with the development, utilization or exploitation of mineral, water or other resources; land reform; legal reforms that may discriminate de jure or de facto against indigenous peoples, etc.)?	No
Will the activity involve natural resource extraction such as logging or mining or agricultural development on the lands/territories of indigenous peoples?	No
Will the activity involve any decisions that will affect the status of indigenous peoples' rights to their lands/territories, resources or livelihoods?	No
Will the activity involve the accessing of traditional knowledge, innovations and practices of indigenous and local communities?	Yes
Will the activity affect indigenous peoples' political, legal, economic, social, or cultural institutions and/or practices?	No
Will the activity involve making commercial use of natural and/or cultural resources on lands subject to traditional ownership and/or under customary use by indigenous peoples?	No
Will the activity involve decisions regarding benefit-sharing arrangements, when benefits are derived from the lands/territories/resources of indigenous peoples (e.g., natural resource management or extractive industries)?	No
Will the activity have an impact on the continuance of the relationship of the indigenous peoples with their land or their culture?	No

Name: National Field Coordinator

Date:



## Annex 5b: Action plan for the Indigenous Peoples Plan<sup>31</sup>

Project ID:	
Project Name:	
Project Location	
Type of infrastructure:	
Expected duration of the project:	

The project specific IPP consists of a mix of assessments, training, consultations, cultural ceremonies and monitoring processes. The IPP is aligned with the project cycle ensuring all project lifecycle incorporates FPIC principles.

#	Activities	Description	Timeframe	Implementing Parties	Tools / methods
<b>I</b>	<b>Project design and preparation stage</b>				
1.1	<b>Community consultation</b> <ul style="list-style-type: none"> <li>Suco council members (female, youth, lia nain), PA representatives, veterans, community/beneficiaries</li> </ul>	<ul style="list-style-type: none"> <li>Explain and introduce the Project, parties involved and responsible</li> <li>Inform about the budget/funding arrangements</li> <li>Discussion appraisal</li> </ul>	Q3-Q4 2021	GCF/UNDP Engineers PDIM Engineers MoPW Engineers Field coordinator to support	<ul style="list-style-type: none"> <li>Concept note</li> <li>Community consultation agenda</li> <li>Meeting minute</li> </ul>
1.2	<b>Participatory assessments</b> to understand and document the socio-demographics, and the historical, political, and cultural dynamics of the area	<ul style="list-style-type: none"> <li>Document geographic and demographic information gathered through participatory mapping of the land (GIS) – walking with the community through the road and record coordinates of the landmarks, assets, livelihood areas and sacred sites.</li> <li>Community measures the width etc. together with the engineers – the road rehabilitation is based on the existing road and does not include additional</li> <li>Engineers and design team use FPIC checklist during the assessments.</li> </ul>	Q3 – Q4 2021	GCF/UNDP Engineers PDIM Engineers MoPW Engineers CCEOs FC Municipality representatives	<ul style="list-style-type: none"> <li>Questionnaire for the development of environmental project document of road rehabilitation</li> <li>Site identification tool (technical and environmental)</li> <li>GPS coordinates on Google map – kml file</li> </ul>

<sup>31</sup> Annex 5b is the Action Plan for a completed roads project for which the FPIC process was completed (L-RR-06). Similar site-specific Action plans will be prepared for each sub-project once the site-specific FPIC is completed.

#	Activities	Description	Timeframe	Implementing Parties	Tools / methods
		<ul style="list-style-type: none"> <li>Community group discussion guided by the questionnaires is conducted through participatory methods involving communities – all information (including sacred lands) is provided by the community. This serves the basis for identifying community priorities and needs.</li> <li>Open comments on the Project – by representatives of all groups – men and women and youth.</li> </ul>			
1.3	Discuss and agree on the <b>participatory communication plan</b> and carry out iterative discussions through which project information will be disclosed in a transparent way.	<ul style="list-style-type: none"> <li>Key milestones of the Project discussed and informed including mobilization meeting, participatory screening date</li> <li>Project progress monthly meeting structure and format discussed.</li> <li>Key communication frequency and materials discussed and added to the ESMP and IPP.</li> </ul>	Q3-Q4 2021	M&E officer	<ul style="list-style-type: none"> <li>Distribution materials in Tetum</li> <li>Sign boards</li> <li>Monthly meetings</li> </ul>
1.4	<b>Participatory screening</b> by ANLA and IPs– verify the mitigation plans	<ul style="list-style-type: none"> <li>Opportunity for the community to raise any additional concerns, information and views.</li> <li>Apply the national screening checklist for project categorization including adherence to customary laws.</li> <li>Based on additional verification, update the ESMP if necessary.</li> </ul>	Q3 2021 and Q3 2022	ANLA	ANLA licensing screening Project document
1.5	Establish <b>Grievance Redress Mechanism Structure</b> at the suco level	<ul style="list-style-type: none"> <li>Agree on a feedback and complaints mechanism</li> <li>GRM Structure established</li> <li>GRM mandate meets the FPIC criteria – targeting, implementation, impact, to improve efficiency and effectiveness of the project</li> </ul>	Q3 2021	GRM structure: Municipal administrator, MoPW representative, PA representatives and suco representatives – youth, women and men and chefe suco, municipal GFP Secretariat is the FC	<p>Grievance Redress Mechanism Structure form (grievance, feedback, complaint form and register) – see ESMP section Annex 6).</p> <p>ToR for the GRM Committee</p>

#	Activities	Description	Timeframe	Implementing Parties	Tools / methods
1.6	Informing and consultation on the results of <b>the participatory assessments</b> , communication plan and GRM structures—length, width and depth of the road are demonstrated.	<ul style="list-style-type: none"> <li>• During participatory meeting validate information and inform the community participants before the consent</li> <li>• Any changes and suggestions documented and integrated to the plan.</li> </ul>	Q3 - Q4 2021	Chefe suco and community	<ul style="list-style-type: none"> <li>• Meeting minute</li> <li>• Project document for ANLA licensing</li> <li>• Project ESMP</li> </ul>
1.7	Community participants vote and participatory consultation and assessment results are documented in the Declaration Letter.	<ul style="list-style-type: none"> <li>• Document Indigenous Peoples' needs that are to be included into the Declaration Letter</li> <li>• Make any changes based on the consultation and review</li> <li>• Seeking to use available materials within the vicinity of the project site and municipality prior to moving to further areas</li> </ul>	Q3 2021	Chefe suco and community	Draft Declaration Letter
1.8	Obtaining consent	<ul style="list-style-type: none"> <li>• Through community meeting reach consent</li> </ul>	Q3 2021	Chefe suco and Post Administrator and IPs	Signed Letter of Declaration from IP representatives
1.9	Preparation of engineering designs, BOQ and technical specifications	<ul style="list-style-type: none"> <li>• Design takes into account the community's priorities and concerns expressed during consultations</li> </ul>	Q4 2021	Engineers , CTA and Local Contractor	Technical specifications form
<b>II</b>	<b>Procurement and contracts stage</b>				
2.1	Conduct contractor training on customary regulations and traditional practices of the local community are fully respected (as part of the social and environmental safeguard training)	<ul style="list-style-type: none"> <li>• Contractors understand the local customary regulations and traditional practices</li> </ul>	Q2-Q3 2022	Project team Training expert	Social and environmental safeguard training
2.2	Contractor's method statement (prior to mobilization and the construction work)	<ul style="list-style-type: none"> <li>• Contractors agree to follow the FPIC process including GRM in their construction activities</li> </ul>	Q2 2022	Procurement team	Contractor method statement
2.3	Labour recruitment from the community members to participate in the project (of workers)	<ul style="list-style-type: none"> <li>• Chefe suco identified workers to participate in the construction</li> <li>• Contractor to make agreements with community workers</li> <li>• Orientation training of the local workers</li> </ul>	Q2-Q4 2022	Chefe suco Contractor	Contractor's worker agreement

#	Activities	Description	Timeframe	Implementing Parties	Tools / methods
2.4	Launching of the project and mobilization meeting	<ul style="list-style-type: none"> <li>Participatory meeting introducing the contractor to the wider IPs community and stakeholders</li> <li>Consultation – additional comments/feedback/...</li> </ul>	Q2 2022	PMU Contractor Field coordinator PA, municipal and suco representatives	Concept note (including agenda) Meeting minute
<b>III</b>	<b>Project implementation stage</b>				
3.1	Hold cultural ceremony to ask permission (ancestral spirits) before the project starts	<ul style="list-style-type: none"> <li>Cultural aspects are respected suco owner's permission is allowed</li> </ul>	Q2 2022	Lia nain ANLA environmental officer Chefe suco Contractor Municipal engineers Field Coordinator CCEO	Activity report – as part of the ANLA environmental inspection
3.2	Monthly project meeting during implementation	<ul style="list-style-type: none"> <li>Discuss and hear opinion of the community on the progress including any social issues arising, complaints on payments, implementation</li> </ul>	Q2-Q4 2022	Engineers – GCF, Municipality, MoPW Chefe suco Contractor	Meeting agenda and minute
<b>IV</b>	<b>Project operations and maintenance and closing stage</b>				
4.1	Establish community maintenance group and link with MoPW	<ul style="list-style-type: none"> <li>Community maintenance group established</li> <li>Develop an operations and maintenance plan (including plans to sustain safe roads and transport)</li> </ul>	Q3 2022	MoPW	Operations and maintenance plan
4.2	Cultural gratitude ceremony for the ancestral spirits for granting permission and smooth implementation	<ul style="list-style-type: none"> <li>At the end of the project implementation and before hand over, cultural ceremony performed by lia nain</li> </ul>	Q4 2022	<b>Lia nain</b> Chefe suco Contractor IPs	Concept note to organize the ceremony
4.3	Hand-over /commissioning ceremony – Follow traditional suco ceremony customs (exchanging tais, group Prayer, cultural dance, food)	<ul style="list-style-type: none"> <li>Community and MoPW receives the rehabilitated project</li> </ul>	Q4 2022	MoPW, MSA and SSE <b>Chefe suco</b> <b>Lia nain</b> <b>Contractor</b> PA and Municipal Administrator Field coordinator PMU	Master of Ceremony from the suco will guide all ceremony process to follow traditional customs
<b>V</b>	<b>Project monitoring</b>				

#	Activities	Description	Timeframe	Implementing Parties	Tools / methods
5.1	Conduct participatory monitoring and evaluation of the IPP	During monthly meetings, conduct progress checks with respective stakeholders and representatives of the IPs	Q2-Q4 2022	M&E officer Chefe suco Representatives of Suco council	Progress reports
5.2	Environmental inspection during construction	<ul style="list-style-type: none"> <li>Ensure social and environmental guidelines are adhered by the contractor, including proper FPIC processes</li> <li>Waste generation, land, pollution</li> </ul>	Q3-Q4 2022	ANLA environmental officer, Contractor Chefe suco Municipal engineers Field Coordinator CCEO	Environmental licensing Law Environmental Project Document IPP
5.3	Documenting lessons learned	<ul style="list-style-type: none"> <li>Conducting bilateral meetings (individual interviews) on project implementation from IPs and responsible parties</li> <li>Documentation of lessons learned and dissemination during technical sub-Steering committee, Municipal Coordination Meetings, internal Project meetings with PMU staff.</li> </ul>	Q4 2022	M&E officer Field Coordinator	Final consultation meeting Individual interviews with stakeholders and IPs Documentation brief

## Annex 5c: Monitoring Indicators –

Activity	Target	Responsibility	Tools/Methods
<b>Stakeholders Engagement</b>	Local authorities and customary leaders actively participate in identifying and addressing issues and concerns of the community and IPs. At least 2 such consultation meetings held with local authorities and community.	Field Coordinator Municipal Focal Point/PDIM Engineers - Technical Assessment ANLA, SSE	<ul style="list-style-type: none"> <li>Stakeholder Engagement Plan</li> <li>Checklist applied for appraising whether FPIC process required</li> <li>Project Document</li> <li>Consultation/debriefing meeting</li> </ul>
	Community engagement facilitated by someone who speaks the local languages and is aware of the project context and is culturally and gender sensitive.	Field Coordinator Municipal Focal Point/PDIM Engineers - Technical Assessment	<ul style="list-style-type: none"> <li>Stakeholder Engagement Plan</li> <li>Consultation/debriefing meeting</li> </ul>
<b>Capacity Building and Awareness</b>	Project staff and experts trained on how to engage with IPs and how to support the effective implementation of the IPP throughout the project's life cycle.	Field Coordinator, CCEO, Municipal Focal Point/PDIM Engineers - Technical Assessment MSA, ANLA, SSE, Local Contractor	<ul style="list-style-type: none"> <li>Training and Awareness Plan</li> <li>Training reports</li> </ul>
	Adequate information about the project provided to the IPs – at least 10% of beneficiaries know about the project. IPs and other members of the community trained of appropriate skills needed to perform effectively their expected roles on the project.	Field Coordinator, CCEO, Municipal Focal Point/PDIM, Communication Officer, MSA	<ul style="list-style-type: none"> <li>Stakeholder Engagement Plan</li> <li>Training and Awareness Plan</li> <li>Communication Strategy</li> <li>Training report</li> </ul>
	Training provided to construction workers, customary regulations and traditional practices of the local community are fully respected.	Local Authorities, PMU, Contractor Field Coordinator, CCEO	<ul style="list-style-type: none"> <li>Stakeholder Engagement Plan</li> <li>Training and Awareness Plan</li> <li>Training report</li> </ul>
<b>GRM Structure</b>	Grievance Redress Mechanisms is readily accessible and tailored to the needs of the local/indigenous communities	Field Coordinator, CCEO, MSA Municipality	<ul style="list-style-type: none"> <li>GRM Minutes of Meeting, TOR</li> <li>GRM Register</li> </ul>
	Capacity building and awareness activities for local/community and indigenous peoples to report grievances issues and concerns. Information on the GRM posted on Notice Board on the site Community aware of the GRM and how to report issues and concerns,	Field Coordinator, CCEO, Communication Officer MSA, ANLA, SSE	<ul style="list-style-type: none"> <li>Stakeholder Engagement Plan</li> <li>Training and Awareness Plan</li> </ul>

Activity	Target	Responsibility	Tools/Methods
<b>Employment during the Construction</b>	Number of people in the local community that is actively engaged/employed in the construction project. At least 50% of the contractor's labour force from local community.	FC, Engineer, Contractor	<ul style="list-style-type: none"> <li>Contractors Method Statement,</li> <li>Employment Contracts</li> <li>M&amp;E framework for the project</li> </ul>
<b>Natural Resources</b>	No natural resource extraction such as quarrying, material extraction for IS channel construction occurs on the lands/territories that belong to indigenous peoples. FPIC process if the contractor requires resource extraction.	Field Coordinator, CCEO, Municipal Focal Point/PDIM Engineers, MSA, ANLA, SSE, Local Contractor	<ul style="list-style-type: none"> <li>Contractors Method Statement</li> </ul>
	The catchment management interventions such as soil-bioengineering and agroforestry interventions do not introduce weed and/or invasive species.	PMU, Agroforestry Specialist MAF, Extensionist	<ul style="list-style-type: none"> <li>Catchment Management Plan</li> <li>Soil Bioengineering Approaches</li> <li>Agroforestry Strategy</li> </ul>
<b>Land</b>	No relocation, resettlement, or removal of indigenous population from their lands will take place as a result of the implementation of the infrastructure project. <u>0 IP affected</u> by relocation, resettlement or removal of indigenous population from their lands.	MSA, SSE, FC, Local Contractor	<ul style="list-style-type: none"> <li>Meeting Minutes, Regular Reports – Monitoring</li> </ul>
<b>Culture and Heritage</b>	No removal, confiscation or damage is caused to cultural heritage site, objects and/or spiritual property from the community and/or IPs.	Field Coordinator, CCEO MSA, ANLA, SSE, SSAC Local Contractor	<ul style="list-style-type: none"> <li>Meeting Minutes, Regular Reports – Monitoring</li> </ul>
	Customary regulations and traditional practices of the local community, affected IPs are respected. 2 cultural ceremonies and 2 official ceremonies implemented throughout the project lifespan.	Field Coordinator, CCEO Communications and M&E Officer MSA, ANLA, SSE, SSAC Local Contractor	<ul style="list-style-type: none"> <li>Meeting Minutes, Regular Reports – Monitoring, Project Progress Reports</li> </ul>
<b>Monitoring &amp; Evaluation</b>	<u>At least 5 people</u> (and/or representatives of the suco council) selected/participated as local community representatives to in project monitoring. <u>At least 4 monthly meetings</u> conducted with IPs to discuss progress of the project and get feedback.	Field Coordinator, CCEO MSA.	<ul style="list-style-type: none"> <li>Quarterly Reports</li> </ul>

## Annex 5d: IPP Institutional Arrangement in Timor-Leste

Matrix below is the established institutional arrangement in engaging with IPs and are relevant in implementing an IPP in Timor-Leste.

Stakeholder	Description
Secretary of State for Arts and Culture	<ul style="list-style-type: none"> <li>- Lead the government agency on policy, legislation in relation to art and cultural heritage in Timor-Leste</li> <li>- Lead the execution of all project and activities related to art and cultural heritage in each village in Timor-Leste</li> <li>- Lead the implementation of <i>tara bandu</i> as one of customary law implemented in the communities.</li> </ul>
The Ministry of Tourism, Trade and Industry	<ul style="list-style-type: none"> <li>- elaborate the policy and regulations for the conservation, protection and preservation of the historical-cultural heritage.</li> <li>- propose policies for the definition and development of arts and culture</li> </ul>
General Directorate of Arts and Culture, Ministry of Higher Institution, Science and Culture (based on Organic Law No. 2/2019, March 5 <sup>th</sup> )	<ul style="list-style-type: none"> <li>- ensure an adequate and efficient internal structure to ensure the implementation of policies and programs in the area of art and culture through the coordination and execution of policies defined in the context of the preservation of cultural heritage, the protection of copyright and the promotion and support of cultural activities and the management of museums and libraries, providing the possibility of developing cultural activities aimed at the knowledge and dissemination of the historical, anthropological, archaeological and musicological heritage of Timor-Leste</li> </ul>
Secretary of State for the Environment (SSE)	<ul style="list-style-type: none"> <li>- implementation of climate change mitigation in the community as well implementing <i>tara bandu</i> activities with the community</li> </ul>
Ministry of State Administration (MSA)	<ul style="list-style-type: none"> <li>- Local development PDIM and PNDP fiscal planning frameworks</li> <li>- Planning, budgeting and implementation of infrastructure and rural development programs</li> </ul>
Municipal Authorities and local authorities	<ul style="list-style-type: none"> <li>- Authorize Suco for the implementation of <i>tara bandu</i> as a customary law that is also involve and respect the right of indigenous people</li> </ul>



Stakeholder	Description
Secretary of State for Land and Property, Ministry of Justice	<ul style="list-style-type: none"> <li>- Regulate status of land ownerships, community land, private land including Indigenous Peoples heritage</li> <li>- Regulation of right of indigenous cultural and tradition and activities, the right of using cultural symbols, identities etc.</li> </ul>
Ministry of Agriculture and Fisheries (MAF)	<ul style="list-style-type: none"> <li>- Regulate the implementation of national park, protected areas</li> <li>- Regulate natural forest use for livelihood and use as source of economic income</li> </ul>

## Annex 6 – Chance Find Procedure

### A6.1 Project Description

This chance find procedure (CFP) has been prepared for all rural road sub-projects for the GCF Project FP109 Safeguarding Rural Communities and their Physical Assets from Climate Induced Disasters in Timor-Leste.

### B6.1 Purpose of the chance find procedure

The chance find procedure is a project-specific procedure that outlines actions required if previously unknown cultural, heritage resources, particularly archaeological resources, are encountered during project construction or operation. If such cultural and heritage resources are found during the construction works, then the works should cease and local authorities, national agencies and experts should be contacted immediately and directly for site inspection.

A Chance Find Procedure, as described in UNDP's SES Standard 4 on Cultural Heritage recognizes the importance of cultural heritage for present and future generations and provides guidance to ensure that Cultural Heritage is preserved, protected, and promoted in project activities in a manner consistent with national legal instruments and in alignment. The procedure sets out the steps to be taken to prevent chance finds from being disturbed until an assessment by the responsible authorities and/or competent specialist is made and actions consistent with the requirements are implemented.

The Decree Law No. 33/2017 of 6 September on Cultural Heritage of Timor-Leste provides the guiding legal framework on cultural heritage sites and items.

### A6.3 Scope of the chance find procedure

This procedure is applicable to all activities conducted by the personnel, including contractors, that have the potential to uncover a heritage item/site. The procedure details the actions to be taken when a previously unidentified and potential heritage item/site is found during construction activities. The procedure outlines the roles and responsibilities and the response times required by local authorities, project staff, and the relevant national cultural and heritage authority.

### A6.4 National Laws and Policies on Cultural Heritage in Timor-Leste

1. Decree Law No. 33/2017 of 6 September, on Cultural Heritage of Timor-Leste, to create condition for inventorying, preserving, protection and valuing the Timorese cultural heritage. It also highlights the citizen responsibility in guaranteeing the cultural diversity, contributing to the protection and dissemination in many sorts of cultural heritage.
2. Government Resolutions No. 30/2014 of 14 October, on the establishment of National Cultural Day to support the policy on the promotion of Diversity of Cultural Expressions, Timor-Leste has established National Day of Culture on October 14, to dignify Timorese cultural diversity expressions, public awareness, and pay tribute to all who have dedicated themselves in practical artist activities and cultures and enhanced the importance of the country's sustainable development. On this national day, the government organizes cultural festivals that mobilizes all artists from different modalities within the national territory to participate in various programs and competitions, such as (a) traditional dances, traditional music, traditional fashion shows, paintings, poetry, and lectures; (b) shows and appreciation of artist modality from municipalities; (c) seminars on the theme of culture with the aim to empower participant awareness on the importance of protection, preservation, valorization, and promotion of Timor-Leste's cultural heritage; and (d) exhibition programs where cultural professionals can show and sell their cultural products.

3. Government Resolution No. 12/2012 of 14 May; on the establishment of National Academy of Arts and Creative Industry as a measure to establish the National Academy of Arts and Creative Industry. The academy will be the center of educating craft and arts in traditional form, including the contemporaneous arts, as well as music, dance, and visual arts. The Academy will address a department, which will conduct research in cultural area, providing the study on traditional arts to strength the knowledge of cultural diversifications based on the concept of the modern era.
4. Government Resolution No. 25/2011 of 14 September, on the Protection of Cultural Heritage; to affirm that through culture, Timor-Leste should position itself in preserving, enriching, and safeguarding its identity, and the protection of culture, ensures the continuity and transmission over generations, the historical and ethnographic legacy of our ancestors and achievements and contemporary values.
5. In 2009 the Government signed the Resolution 24/2009 approving the National Cultural Policy (Política da Cultura Nacional, Pt.3). This was the first formal and official document that established a conceptual political framework regarding the definition and protection of National Culture and Heritage

The objective of the cultural heritage policy are knowledge, protection and valorization of material sites and goods and intangible values of relevant cultural interest, as well as their respective contexts.

#### **A6.5 National Administration and Institutions**

The Minister of Higher Education, Science and Culture has overall responsibility for cultural heritage. The following services and bodies are dependent on the Minister of Higher Education, Science and Culture: Implementation Unit of the Academy of Arts, Culture and Cultural Creative Industries; Monitoring Committee of the Academy of Arts, Culture and Cultural Creative Industries; National Library of Timor-Leste; National Museum of Timor-Leste, UNESCO National Commission. The Secretary of State for Art and Culture assists the Ministry of Higher Education, Science and Culture in the performance of these functions.

Timor-Leste has been a member of UNESCO since 2003, and since 2004 a UNESCO Country Office has been based in Dili. The National East Timorese Commission for UNESCO (KNTLU) was established in 2009 and all the projects have been coordinated together with the Secretary of State for Arts and Culture (SEAC) which has shifted between the Ministries of Education (4th, 7th, 8th legislatures) and Ministry of Tourism (under the 5th and 6th).

#### **A6.6 UNDP's Social and Environmental Standards (SES)**

UNDP's SES, and Project Level Standard 4: Cultural Heritage provides guidance to ensure that Cultural Heritage is preserved, protected and promoted in project activities in a manner consistent with national legal instruments and in alignment with UNESCO Cultural Heritage conventions or any other international legal instruments that might have a bearing on the use of Cultural Heritage. As a requirement to safeguard and preserve Cultural Heritage, this is one of the , UNDP projects ensure that chance find procedures are included in all plans and contracts regarding project-related construction, including excavations, demolitions, movement of earth, flooding, or other changes in the physical environment; such procedures establish how chance finds of tangible Cultural Heritage shall be managed, including notification of relevant authorities and stakeholders, avoidance of further disturbance or damage, protection, documentation and assessment of found objects by relevant experts.

#### **A6.7 Induction/Training**

All project staff involved in the construction implementation stage of the project such as the project supervisory engineer, construction manager, site engineers, site supervisors, construction

coaches and foreman will be briefed about the procedure to be followed if any item or material of cultural and heritage significance is discovered.

All the personnel of the local contracting company, especially those working on the construction site and in particular those that are to be involved in site clearance, earth movements and excavation works are to be inducted on the identification of potential heritage items/sites and the relevant actions for them with regards to this procedure during the Project induction and this shall also be discussed with the contractor and his key personnel during the regular (monthly) construction site meetings.

#### **A6.8 Chance Find Procedure**

If any person discovers a physical cultural or heritage resource, such as (but not limited to) archaeological sites, historical sites, remains and objects, or a cemetery and/or individual graves during excavation or construction works, the following steps shall be taken:

1. Immediately cease and stop all works in the vicinity of the find, until a solution is found for the preservation of these artefacts, or advice from the relevant authorities is obtained
2. Immediately notify a foreman or site supervisor. The foreman or site supervisor will then immediately notify the Project Engineer and the Field Coordinator/Environmental Officer.
3. The Project Engineer and the Field Coordinator/Environmental Officer will record all the details in a Site Incident Report (as per Annex A) and take photos and GPS/geo-reference points of the discovery.
4. The Project Engineer and the Field Coordinator/Environmental Officer will immediately notify the relevant local and municipal authorities (such as the Chefe Suco, Administrative Post Administrator, Municipal Administrator). This is in keeping with the provision of Article 6 of Decree Law No. 33/2017 which outlines the obligations of the State and local government to preserve, defend and enhance the cultural heritage of the Timorese people in their area of jurisdiction, in accordance with their legislation. Hence, the project team will first notify the relevant local authorities.
5. Under the direction of the Municipal Authority and project engineer, the contractor will demarcate and secure the site to prevent any disturbance, damage or loss of movable material heritage or removable objects.
6. The Project Engineer and Environment Officer submit the Site Incident Report (Annex A) to the National Project Director and National Project Manager.
7. The National Project Director and National Project Manager notify the Heritage Team which is followed-up in writing.
8. The Heritage Team shall organize and mobilize the archaeologist to conduct a rapid assessment of the site or find to determine its importance. Based on this assessment the appropriate strategy can be implemented. The significance and importance of the findings should be assessed according to the various criteria relevant to cultural heritage such as aesthetic, historic, scientific or research, social and economic values of the find.
9. Sites of minor significance (such as isolated or unclear features, and isolated finds) should be recorded immediately by the archaeologist, thus causing minimum disruption and delay to the work schedule of the Contractor. The results of all archaeological work must be reported to the relevant Government body and/or the Advisory Committee on Cultural Heritage, once completed.
10. In case of significant find the Secretary of State for Arts and Culture and the Ministry of Higher Education, Science and Culture team (hereinafter referred to as the Heritage Team) should be informed immediately and followed-up in writing.
11. Written notification of the cultural heritage site encountered during the construction works will come from the contracting authority (which in this case is the Viqueque Municipal Administration) and provide the Heritage team with photos, other information as relevant for identification and assessment of the significance of heritage items.
12. Decisions on how to handle the finding shall be taken by the responsible authorities. This could include changes in the layout (such as when finding an irremovable remain of cultural or archaeological importance) conservation, preservation, restoration and salvage
13. Construction works could resume only after permission is granted from the responsible authorities.

14. In case there is no response to the notification of the find and/or should no consideration or action be taken by the responsible authorities on the notification within 30 days from the date the find was discovered, and works were suspended, this shall be considered as an authorization to proceed with the suspended sections of the construction works.
15. The contracting authority (Viqueque Municipality) shall then provide a written order to the contractor to proceed with the works.

#### **A6.9 Reports and Record keeping**

One of the main requirements of the procedure is thorough record keeping. In keeping with the requirements of the procedures outline herein, all finds must be registered with maps, geo-referencing, photolog, copies of communication with decision making authorities, conclusions and recommendations/guidance, and the implementation reports kept.

**A6.10 Additional information**  
**Specific Articles of Decree Law No. 33/2017**

CHAPTER V Protection of Cultural Heritage

Article 15 Cultural heritage and its categories

The cultural heritage encompasses the categories of immovable material heritage, movable material heritage and intangible heritage.

The property heritage, comprising the architectural heritage, the archaeological heritage and the landscape heritage with cultural value, can belong to the categories of monument, set or site.

Movable material heritage may belong to the categories of a single cultural object or object integrated into elements of immovable material heritage.

Intangible heritage may belong to one of the categories defined in Article 40(2), established in accordance with the UNESCO Convention for the Safeguarding of Intangible Cultural Heritage of 2003.

The existence of the categories and designations referred to in this Article shall be without prejudice to the possible relevance of others, in particular where it is provided for in international law.

Article 16 Classification of material heritage according to interest

The property and mobile heritage may be classified as of national interest or local interest.

For immovable property heritage classified as of national interest, whether monument, set or site, the designation of '*national monument*' shall be adopted.

For movable property classified as in the national interest, the designation of '*national treasure*' shall be adopted.

Article 17 Property assets of national and local interest

A heritage asset is considered to be of national interest when its protection and valorization, in whole or in part, represents a cultural value of meaning to the nation.

Property assets whose protection and recovery, in whole or in part, is considered to be of a cultural value of predominant significance for a given district, subdistrict or juice.

The immovable cultural goods included in the list of world heritage are included, for all its purposes and in its category, the list of property elements classified as in the national interest.

Article 18 Forms of protection of cultural assets and values.

The legal protection of cultural assets and values is based on inventory and classification.

Each form of protection shall give way to the corresponding level of registration and there is:

- a. the inventory-asset record
- b. the patrimonial registration of classification

The application of precautionary measures provided for by law does not depend on the prior classification or inventory of a cultural good.

Article 19 General criteria for assessment

For inventory and classification, in any of the categories referred to in Article 15, one or more shall be considered in more of the following criteria:

- a. the matrix character of the asset element
- b. the genius of the respective creator
- c. the interest of the heritage element as a testimony symbolic or religious
- d. the interest of the heritage element as a testimony to remarkable experiences or historical facts
- e. the aesthetic, technical or intrinsic material value of the element patrimonial assets
- f. the architectural, urban and landscape design

- g. the extent of the equity element and what is reflected in it from the point of view of collective memory
- h. the importance of the equity element from the point of view historical or scientific research
- i. the circumstances likely to lead to a decrease in loss of the perforty or integrity of the element Asset.

#### Article 21 Classification

1. The classification and disqualification of cultural heritage is made by ministerial diploma and shall be the responsibility of the member of the Government responsible for Culture, which shall include the rights and obligations of the owner.
2. For the evaluation of proposals for the classification of cultural heritage assets and values, a Cultural Heritage Advisory Committee shall be established by the Member of the Government responsible for Cultural Heritage in accordance with Article 64 of this Diploma.
3. The following cultural heritage assets are proposed with immediate effect:
  - a. all monuments, sites or ensembles whose conservation is historically, prehistoric, architectural or artistic, a national public interest
  - b. Monuments, sites or sets whose conservation presents from the historical, prehistoric, architectural or artistic point of view, a local public interest
  - c. all movable cultural goods imported and manufactured on a date prior to 1900, and those which are included in monuments, sites or sets proposed for classification
  - d. All materials found underground or in aquatic context, the result of archaeological research or single finding
  - e. The significant archives and collections documenting the history of the country, including those of the Timorese Resistance and the documentation of all Timorese nationalist movements
  - f. all expressions and assets of intangible cultural heritage attesting to the living culture of the communities inhabiting the national territory.
4. The proposal to classify a cultural heritage property is made by notification to the person concerned and has the same effects as the classification decision
5. The effects of the proposed classification shall cease to take place within 12 months of its notification if the classification of the property has not been decided

#### CHAPTER VI Property Cultural Heritage

##### Article 22 Real Estate Cultural Assets

The immovable material heritage comprises the architectural heritage, the archaeological heritage and the landscape heritage with cultural value

#### CHAPTER XII Impact assessment, plans and projects

##### Article 63 Projects, works and interventions

Until the preparation of any of the plans referred to in the preceding article, the granting of licenses, or the performance of licensed works, prior to the classification of the monument, set or site, depend on the prior assent of the member of the Government responsible for Culture. After the entry into force of the rescue detail plan, municipalities may license the works designed in accordance with the provisions of that company, without prejudice to the duty to communicate to the member of the Government responsible for Culture, within a maximum period of 30 days, the licenses granted.

#### CHAPTER XIII Advisory Committee on Cultural Heritage

##### Article 64 Functions and composition\_

1. The Advisory Committee on Cultural Heritage is set up as a consultation body to decide on proposals for classification and cancellation of classification of assets and to issue recommendations to the competent bodies on the protection, financing and use of cultural heritage assets.
2. The Advisory Committee on Cultural Heritage is composed of representatives of the member of the Government responsible for culture presiding and other relevant ministries, university professors, members of civil society, including representatives of NGOs and cultural associations, and by individualities of recognized cultural merit.
3. Its composition, in a variable but always odd number, shall be defined by invitation sent by the member of the Government responsible for Culture.
4. Its operation shall be subject to internal regulations approved by the member of the Government responsible for Culture.
5. The Advisory Committee of Cultural Heritage should meet ordinarily twice a year, proposing to the guardianship the classification or revocation of cultural heritage assets and values.

#### **A6.11 Management options for the cultural heritage site**

##### *a. Site avoidance*

If the boundaries of the heritage site have been delineated attempt must be made to avoid the location. The first option will be to realign and/or redesign the proposed construction and development to avoid the site. (The fastest and most cost-effective management option)

##### *b. Site Protection*

It may be possible to protect the site through the installation of barriers during the time of the development and/or possibly for a longer term. This could include the erection of high visibility fencing around the site or covering the site area in a prescribed manner to protect the heritage. The exact prescription would be site- specific.

##### *c. Mitigation*

If it is not feasible to avoid the site through realignment or redesign of the specific features or component of the IS scheme, the mitigation hierarchy is as follows:

- Avoidance – ensure minimum adverse impacts and implementation of any restoration measures, in situ
- Restoration of the functionality of the cultural heritage, in a different location.
- Removal of the movable material heritage or historical and archaeological materials in accordance with the prescription and direction of the heritage team.
- No compensation for loss is provided for in this CFP

Mitigation measures could be applied where tangible heritage that is replicable and not critical is encountered.

#### **A6.12 Human Remains Management Options**

The handling of human remains believed to be archaeological in nature requires communication according to the same procedure described above.

While the handling of such cases is based on the procedures and steps prescribed by the Heritage Team, there are two possible courses of action cited for the purpose of this CFP document.

Avoid: The development project is re-designed to completely avoid the found remains. An assessment should be made as to whether the remains may be affected by residual or accumulative impacts



associated with the rehabilitation of the proposed IS, and properly addressed by a comprehensive management plan.

**Exhume:** Exhumation of the remains where this is considered acceptable and as the most appropriate course of action by the authorities making the decision. This will involve the predetermination of a site suitable for reinterment of the remains. Certain ceremonies or procedures may need to be followed before the construction works can recommence in the site of the discovery.

#### **A6.13 Monitoring**

Local authorities, stakeholders and community members have a key role to play in the implementation and monitoring of the project.

Consultation with stakeholders will continue throughout the project cycle and is vital during the implementation. This will help ensure that stakeholders continue to be aware of the project, its progress and any changes in the project. It will also assist in identifying any issues as they arise.

The Secretary of State for Environment will be responsible to support the project and provide extension services to local beneficiaries along with being responsible for providing guidance during the implementation of the project's activities.

ANLA will be responsible for advisory support, inputs and providing the relevant technical trainings.

#### **A6.14 Emergency Contacts**

##### **Secretary of State for Art and Culture**

Name: Mr. Manuel Ximenes Smith, Director General Arts and Culture  
 Address: Avenida Praia dos Coqueiros, Pantai Kelapa, Dili, Timor-Leste  
 Contact: +670 77327189, manuelsingthts@gmail.com

##### **Ministry of State Administration**

Name: Rosito Guterres – Director General Rural Development  
 Address: Rua Jacinto Candido Dili, Timor Leste  
 Contact: +670-77120725

##### **Secretary of State for the Environment**

Name: Augusto Pinto – Project Director  
 Address: Rua de Boa Ventura, mandarin, Dili, Timor Leste  
 Contact: +670-78427259

**Table 9A: Other Contacts**

<b>No</b>	<b>Name</b>	<b>Agency/Institution</b>	<b>Contact Info.</b>
1		Municipal Administrator	
2		Chief of Village/Chefe Suco Local Authority/Village Leader for suco	
3		Cultural Leader (lia nain) for suco	
4	Augusto Pinto	Project Director	+670-78427259
5	Jehangir Khan	Project Manager	+670-77729826
6	Antonio Lelo Taci	National Environmental Licensing Agency (ANLA)	+670-77115444
7	Rafael do Carmo	Environmental Officer Secretary of State for the Environment	+670-78322001, +670-76275672

8		Municipal Engineer (PDIM) Municipal Administration Ministry of State Administration	
9	Juliana Carvalho Rangel	National Project Engineer GCF Project Implementation Unit	+670-78579892
10	Crissantos da Conceição	Climate Change & Environment Officer GCF Project Implementation Unit, Cluster A Municipalities	+670-77153428, +670-76010668
11		Field Coordinator for target Municipality & Secretary of the GRM	

**Annex 9 (A): SITE INCIDENT REPORT**

**Project No.**

To: National Project Director  
National Project Manager

From Municipality: XXXX Municipality

Date of Report: \_\_\_\_\_

Date of Occurrence: \_\_\_\_\_ Time of Incident:

Incident Location: Chainage: \_\_\_\_\_

Geo-Coordinates/GPS Location: \_\_\_\_\_; \_\_\_\_\_

Discovery made by:

Individual Completing this Form

Person(s) Present at the time of Discovery/Find: \_\_\_\_\_

Description of Discovery/Find:

Action Taken:

Incident Reported to:

Date Reported: \_\_\_\_\_ Time: \_\_\_\_\_

Comments:



Report Prepared by:

CC: Director General, Secretary of State for Arts and Culture  
Director General, Rural Development, MSA  
Administrator of Municipality –  
Director, Municipality PDIM  
Director, Municipality MoPW, DRBFC  
Chefe Suco, Suco XXXXX

Photos:

<b>Photo</b>	<b>Brief Description</b>

## Annex 7 – Occupational Health and Safety Management Plan (OHSMP)

### A7.1 General Information:

This Occupational and Health Safety Management Plan (OHSMP) has been developed to guide the management of OHS in the rural road rehabilitation project. This plan will be attached to the contract and relevant clauses will be highlighted and will come into effect on the day of the award of the contract works to the contractor. The plan will be made available to the contractor and all personnel and workers on site to ensure that they can read, understand, clarify and ask question on any aspect of this OHSMP and its implementation on the project. The contractor will be trained on the use of the plan and its monitoring mechanism.

This OHSMP will be translated in Tetun and a copy will be displayed on a board at the worksite for the duration of the construction. The plan shall be reviewed and updated as necessary during the project implementation.

### A7.2 Sub-Project Information:

<b>Sub-Project Code</b>	
<b>Sub-Project Name</b>	
<b>Location</b>	
<b>Construction Period</b>	

### 10.3 Contractor Details

<b>Name of Contractor</b>	
<b>Address/Location</b>	
<b>Contact Details:</b>	
<b>Site Supervisor</b>	
<b>Contact Details</b>	

### A7.3 Policy/Legislation/Regulation

Labor and working conditions shall be in compliance with Government of Timor-Leste Labor Law No. 4 of 2012 that is applicable throughout the territory of Timor-Leste, to all workers and employers and respective organizations in all sectors of activity. This Labor Law addresses the basic requirements on labor relations applicable to individual and collective labor relations.

The following are specific areas of the law to considered and adequately managed during the implementation of the project.

<i>Non-discrimination and equal opportunity</i>	Article 6- The equality principle
<i>Freedom of association and collective bargaining</i>	Article 82- Freedom of association and to display information  Article 83 Independence and autonomy
<i>Clear terms of employment</i>	Articles 9-18

<i>Workers shall have the right to regular and prompt payment of wages</i>	Article 40- Payment of Remuneration: method, place and time
<i>Prohibition of child labor</i>	Article 66- General Principles Article 67-Special Protection Article 68-Minimum age for admission to work <sup>32</sup> Article 69: Definition of Light work <sup>33</sup>
<i>Prohibition of forced and/or bonded labor; and</i>	Article 8- Prohibition of forced labour
<i>Establishment of a Grievance redress mechanism for workers</i>	Article 97- Dispute resolution

In addition, Article 7 on Harassment and Article 34-37 on Occupational Health, Hygiene and Security will be also taken into consideration.

Timor-Leste has ratified six of the eight ILO fundamental conventions:

*Table A10- 1: Ratification of International Labour Conventions*

<b>Convention</b>	<b>Ratification</b>	<b>Date</b>
Forced Labor Convention (C029)	✓	16 Jun 2009
Minimum Age (C138)	X	Not ratified
Freedom of Association and Protection of the Right to Organize Convention (C087)	✓	16 Jun 2009
Right to Organize and Collective Bargaining Convention (C098)	✓	16 Jun 2009
Equal Remuneration Convention (C100)	✓	10 May 2016
Discrimination Convention (C111)	✓	10 May 2016
Worst Forms of Child Labor Convention (C182)	✓	16 Jun 2009
Abolition of Forced Labour Convention, 1957 (C105)	X	Not ratified

According to the 2020 Country Reports on Human Rights Practices of Timor-Leste, ‘the [Labour code] does not prohibit all of the worst forms of child labor. The labor law prohibits children younger than 17 from all forms of hazardous work, a definition that leaves 17-year-olds vulnerable to child labor and exploitation.’<sup>34</sup>

Further, the government has established laws and regulations related to child labour.

*Table A10- 2: National Laws and Regulations on Child Labor*

<b>Standard</b>	<b>Meets International Standards</b>	<b>Age</b>	<b>Legislation</b>
Minimum Age for Work	Yes	15	DL 4/2012 Article 68 of the Labour Code (26)

<sup>32</sup> Article 68 on Minimum Age for Work Admission, that regulates 15 years old as the minimum age for admission with exclusion of young person in the age between 13 to 15 years old may perform light work.

<sup>33</sup> Article 69 on the definition of Light Work, where this means an activity that comprises simple defined tasks calling for basic skills, not requiring any physical or mental effort that would put the young person’s health and development at risk, and not jeopardizing their schooling participation in Government-approved vocational training programs.

<sup>34</sup> <https://www.state.gov/reports/2020-country-reports-on-human-rights-practices/timor-leste/>

Minimum Age for Hazardous Work	No	17	DL 4/2012 Article 67 of the Labour Code (26)
Identification of Hazardous Occupations or Activities Prohibited for Children	Yes		List of Hazardous and Prohibited Activities to Children Under the Age of 18 (27)
Prohibition of Forced Labor	Yes		Articles 155, 162–163, and 166 of the Penal Code; Articles 8 and 67 of the Labour Code (26,28)

Also highlighted in the 2020 Country Report on Human Rights Practices of Timor-Leste, "the labour code does not apply to family-owned businesses operated for subsistence, the sector in which most children worked. By year's end the government had not adopted a list of prohibited hazardous work."<sup>35</sup>

There is a draft Child Protection Law pending<sup>36</sup> to be approved by the Parliament in 2022 which strengthens the promotion of children's rights and the protection of children at risk and in danger. Therefore, this plan will ensure children aged 17 and in rural areas will be protected against child labour.

Several other related international conventions on Occupational Health and Safety are not ratified by Timor-Leste including:

- Occupational Safety and Health Convention (C155)
- Hygiene (Commerce and Offices) Convention (C120),
- Working environment (Air Pollution, Noise and Vibration) Convention (C148)
- Safety and Health in Construction Convention (C167)
- Prevention of Major Industrial Accidents Convention (C174)

Guides and codes of practice on OSH are also limited.

#### **A7.4 Roles and Responsibilities**

*Table A10- 3: Roles and Responsibilities in implementation of OHSMP*

<b>Name &amp; Contact Info</b>	<b>Position</b>	<b>Responsibilities</b>
[Name of Contractor]	Contractor	<ul style="list-style-type: none"> <li>• Prepare the detailed Method Statement taking into consideration OHS</li> <li>• Implement the OHSMP.</li> <li>• Recruit/employ workforce aged above 18 and no workforce under 17 is engaged.</li> <li>• Ensure that all works are conducted in a manner without any risk to the workers including sexual harassment.</li> <li>• Plan the implementation of the work safely.</li> <li>• Ensure that the labourers are trained on OHS.</li> <li>• Ensure that corrective actions are implemented for any mishap.</li> <li>• Assist in rehabilitation and return to work initiatives.</li> <li>• Ensure that they have the required and workable tools and equipment for the task.</li> <li>• Ensure grievance resolution.</li> <li>• In line with project GAP, ensure safety of male and female workers arriving and leaving the site, proximity</li> </ul>

<sup>35</sup> <https://www.state.gov/reports/2020-country-reports-on-human-rights-practices/timor-leste/>

<sup>36</sup> <http://www.tatoli.tl/en/2021/09/21/pn-approves-draft-law-on-child-protection-in-generality/>

		<p>from site to workers' accommodation, as well as interactions between male and female workers and community.</p> <ul style="list-style-type: none"> <li>Health, safety and environment guidance (such as IFC guidelines) is followed to ensure the construction site is sufficiently restricted to avoid endangering children and/or unauthorized access.</li> </ul>
	Construction Workers	<ul style="list-style-type: none"> <li>Take reasonable care of their own health and safety.</li> <li>Take reasonable care that their conduct does not adversely affect others.</li> <li>Comply with the instruction, so far as they are reasonably able.</li> <li>Cooperate with reasonable notified policies or procedures.</li> </ul>
[Name of Project Engineer]	Project Engineer	<ul style="list-style-type: none"> <li>Monitor the compliance of the OHSMP</li> <li>Ensures that the Site Safety Procedures are observed</li> <li>Reviews regular OHS reporting by the contractor</li> </ul>
[Name of Field Coordinator]	Field Coordinator	<ul style="list-style-type: none"> <li>Monitor the compliance of the OHSMP</li> <li>Provide regular reports to Engineer, PMU</li> <li>Ensures that all incidents are reported and that the Incident Report is prepared and submitted in accordance with the procedures</li> <li>Align the implementation of the plan with other relevant plans including Gender Action Plan.</li> </ul>

#### **A7.5 Construction Safety Plans and Work Method Statements**

The contractor is required to prepare and submit a detailed Method Statement (MS) prior to mobilization on site and commencement of the construction works. The MS shall detail all steps the steps that will be taken during construction and measures to comply with the OHSMP.

At the request of the project Engineer, the contractor shall provide further details about any specific activity or task prior to work commencing on site by contractors who will be performing the task(s).

#### **A7.6 Potential Risks from Construction Activities include (but not limited to):**

- Personnel entering trenches more than 1.0 meter deep
- Working near or adjacent to a steep drop or slope on the road
- Occupational health and safety risks due to exposure of workers to unsafe conditions while operating or handling of equipment and machinery
- Prolong exposure to air and noise pollution
- Using hazardous or flammable substances
- Risk of electrical shock, working near an exposed energized electrical installation
- Working with a mobile plant and equipment such as concrete mixers, plate compactors, vibrators etc.
- Lifting heavy rocks to fill up of gabion baskets or for masonry construction works
- Other activities that are considered to be of a hazardous/high risk nature and has the potential to cause death or injuries to personnel and/or damage to plant, equipment, structures etc.

### **A7.7 Hazard Identification and Risk Management**

Hazard assessments and risk management are to be undertaken prior to commencing any task to assess the risk of injury and/or damage to plant and equipment.

The following shall be considered in the risk assessment:

1. Elimination – Eliminate the hazard, remove it from the work site and risk to workers, residents and visitor's health and safety.
2. Substitution – Substitute the risk item/hazardous procedure for an item/procedure that is less hazardous and poses a lesser risk to workers.
3. Engineering – Change the layout or design of the site, equipment or work process – e.g. noise prevention/suppression, mechanical aids for manual handling of materials or heavy items.
4. Isolation – Isolate or separate the hazard from the person – e.g. screens or barriers, move or enclose equipment.
5. Administration – Job rotation/reduction in exposure by working less hours in hazardous environment, provide appropriate training and adequate supervision etc.
6. Personal Protective Equipment (PPE) – such as helmets, high-visibility/reflective vests, gloves, hearing protection, safety glasses, respiratory protection equipment.

### **A7.8 Site Safety Procedures to be observed**

- The contractor is to provide adequate number of good quality appropriate PPEs – helmets, reflective vests, gum boots, gloves, ear plugs, face masks etc.
- Provide Training to workers on use of appropriate PPEs and how to respond during emergency
- Wear PPE at all times to minimize risk and to prevent injury to workers
- Do not start work without providing induction to workers and site personnel
- Ensure that the construction site is kept organized and clean
- Think and act "safety first"
- Install adequate signage to alert and follow safety signs and procedures.
- Displaying traffic cones and cautionary tapes for clear direction where required to guide road users.
- Do not work in an unsafe area without first assessing the risks and ensure that all safety measures are put in place
- Report any problem or issue immediately.
- Use equipment for the purpose they are designated and make sure they are in proper working condition
- If in doubt, always ask

### **A7.9 Machinery/Plant/Equipment Vehicles and Tools**

- All speed limits, traffic rules, signs and directions are to be obeyed at all times within the site and surrounding areas.
- Motor vehicles, trucks etc. are not to be overloaded or carry loads in excess of its allowable and legal weight.
- Personnel working around and/or directing equipment/machinery on site are to wear high visibility clothing.
- All plant, vehicles, equipment etc. are to have the required current registration, certification, be adequately maintained, have all guards effective and operational, be suitable for the application and comply with the national regulations.
- Plant, machinery and vehicles etc. are to be operated in accordance with statutory requirements and manufacturer's instructions.
- All operators are to be experienced and hold a current relevant certificate of competency, license and/or have documented evidence of experience applicable to the item they are to operate.
- Fuel powered plant (such as concrete mixers etc.) and equipment are not to be used in or near areas where exhaust/toxic fumes can accumulate.



- Items/materials that are to be cut, drilled and/or shaped in any way by a hand power tool are to be secured in a stable position to prevent movement or securely clamped to a work bench.

#### **A7.10 Occupational Health and Safety (OHS) Monitoring**

The contractor will provide compliance in initial report to the Engineer and thereafter submit a compliance report every month. The following shall be covered as part of OHS monitoring:

- Training and awareness for workers – OHS measures, Emergency Management, Use of PPEs
- Health check-up records of workers
- Identification of unsafe activities or workplace risks
- Identification of hazardous working locations and installation of markings
- Emergency response procedure
- Availability of PPEs – types, numbers
- Incident and/or accident reporting

#### **A7.11 Personal Protective Equipment (PPE)**

Site personnel are to wear appropriate Personal Protective Equipment (PPE) appropriate for the tasks they are to perform.

Contractors are to supply all appropriate PPE and must ensure construction workers have received appropriate instruction on the correct selection, use, care, storage and maintenance of the PPEs.

PPEs include safety helmets, high visibility/reflective vests, appropriate safety footwear, eye, hearing and respiratory protection, and gloves and protective clothing are to be worn in areas of risk to prevent injury from contact with hazardous substances, and sharp or abrasive objects.

The contractor shall ensure that the PPEs are:

- Worn to minimize risk and to prevent injury to workers
- Assessed for each application and suitable for the nature of the work and any risk associated with it.
- Of proper quality, suitable size and fit and reasonably comfortable for the workers to use or wear it.
- Regularly checked and well maintained so that the risk is minimized to the user/workers.
- Not defective and/or non-compliant with safety requirements. Defective PPEs are to be removed from the site immediately upon detection.

#### **A7.12 Equipment Safety**

Any defective plant and/or equipment is to be removed from service immediately upon detection.

#### **A7.13 Facilities on Site**

- Adequate toilet and hygiene facilities are to be provided at the worksite.
- Covid-19 prevention measures should be adopted. The contractor shall put in place appropriate facilities for handwashing with soap and water.
- Waste receptacles shall be placed in designated places on site to collect refuse/rubbish.
- Drinking water shall be provided to workers and visitors on site.

#### **A7.14 Communication and Consultation**

##### **(a) Communication**

The contractor is expected to make sure that all the workers are fully aware of all OHS requirements. The OHS information will be communicated to everyone involved in this project by:

- Induction Training
- Pre-work meetings.

- Construction site meetings.
- Incident reports and outcomes.
- Distributing safety alerts or guidance material about the risks/incident

### **(b) Disciplinary Procedures**

If the contractor and its workers do not comply with the requirements of this plan, the following shall apply:

- First violation: Verbal warning and record of the incident the site logbook
- Second violation: Written notification.
- Third violation: Complete removal/suspension from the project site.

For serious breach of safety, the worker(s) shall be immediately removed from the site. This shall be followed in writing.

### **(c) Notice Boards on Site**

The contractor shall erect the project signboard in a location that is visible and at the entrance to the site. At minimum the information shall include:

- Name of the project
- Name of contractor implementing the project
- Period of Implementation:
- Contracting Authority
- Funding Agency

All signs and billboards should be visible (in local language) in the location where the construction works is being implemented.

### **(d) Reporting Incidents on Site:**

All work-related injuries, illnesses, dangerous events, incidents etc. are to be reported to the site/project Engineer and recorded on a Site Incident Notification Form. The Template/Form to record the incident is attached in Annex.

### **(e) Emergency Contacts**

The emergency contact list shall be provided in a leaflet and be available on site at all times. The emergency contact details for the contractor's personnel shall be maintained in a register. The emergency contact numbers shall be displayed at designated locations for the workers and the public.

#### **A7.15 First Aid**

The contractor is required to make provision to have on site at all times a fully stocked First Aid Kit and emergency medicines. If anyone becomes aware that an item of first aid is out of stock or out of date, they shall notify the contractor/engineer immediately.

The contractor shall ensure to have personnel on site that is trained accordingly to administer First Aid.

#### **A7.16 Competent Personnel and Training**

- Personnel working in prescribed tasks such as operation of equipment are to be experienced and hold current relevant certificates of competency,
- Apprentices and trainees are to be supervised at all times by suitably qualified and experienced trades or other relevant personnel.
- Personnel should not carry out any works that they are not familiar with, have not been trained to perform or are not licensed to do,

**Annex 10 (a): SITE INCIDENT NOTIFICATION FORM**

Report Template – Injury, health and/or safety issue/incident on the construction site.

**Instructions:**

This form shall be used to report all work-related accidents, injuries, illnesses or medical situations and/or “near miss” events (which could have caused an injury or illness). This helps us to identify and correct hazards before they cause serious injuries.

The form should be completed within 24 hours of the event by a team member and submitted for further action.

**Project No.**

To: Project Engineer, Project Manager

From : Municipality XXXX

Date of Report: \_\_\_\_\_

Date of Incident: \_\_\_\_\_

Time of Incident:

Location of Incident: \_\_\_\_\_

Chainage: \_\_\_\_\_

**INFORMATION ABOUT PERSON (s) INVOLVED**

NAME:			
CONTACT INFO:			
<input type="checkbox"/> Employee	<input type="checkbox"/> Visitor	<input type="checkbox"/> Resident	<input type="checkbox"/> Other _____

**INFORMATION ABOUT INCIDENT**

**Description of Incident:**

*(what happened, how it happened, factors leading to the event, etc.)*

Were there any witnesses to the incident? Yes No

Person(s) Present at the time of incident: \_\_\_\_\_

Was there any injury to individual:  Yes  No

If yes, was medical treatment provided?  Yes  No

If yes, where was treatment provided:  
 On Site/First Aid  Hospital  Other

Was the incident Reported:

Date Reported: \_\_\_\_\_ Time: \_\_\_\_\_

Local Authority Notified :  Yes  No

PNTL/Police Notified :  Yes  No  
Action Taken based on report:

Describe the corrective measures taken to immediately address hazards related to incident:

Name of individual submitting this report:  
Position:  
Signature:  
Date:

CC: Administrator of Municipality –Municipality  
Director, Municipality PDIM  
Director, Municipality MoPW, DRBFC,  
Chefe Suco XXXXXX

**OFFICIAL USE:**

Document follow-up actions taken after receipt of the incident report.

Date	Action Taken	By Whom