

Linking Commercial Tree Planting and Expanded Catchment Management in Tafara and Caraulan Watersheds (collaboration with JICA/GCF)

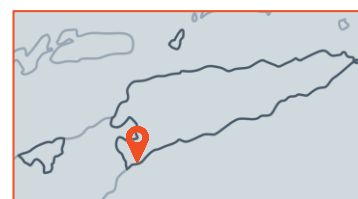


LOCATION SNAPSHOT

Location & description

The proposed Project will have an operational focus on the southern catchments of Tafara and Caraulan in the Municipalities of Covalima, Ainaro and Manufahi. In addition, it is possible that these catchments could be supported a small general-purpose port build at with Suai or Beacu on the south coast (port also included in Commercial Tree Crops Fiche)

Through a program encouraging the establishment of commercial tree crops (teak, mahogany, eucalypts, acacia, coconut, cashew, and sandalwood), improvement of related processing industries, and the improvement of rural access and infrastructure, the project will offer livelihood improvements, help alleviate rural poverty and, increase tree cover and carbon stocks.



1. PROJECT CONTEXT AND RATIONALE

1.1. Sector & Sub-sector(s)

Sector: **Forestry Sector**

Forests and planted trees are important parts of the landscape in Timor-Leste. Of the total land area of 1.493 million ha, 59 % (869,000 ha) had forest cover in 2012, including 21.2 % dense forest (313,000 ha with forest cover of 60-70 %), sparse forest (37.7 %: 556,000 ha) and very sparse forest (4.3 %). Over 27 % of the area is covered with grasslands.

Between 2003 and 2012, the area under dense forest decreased by 35.3 % and the area under sparse forest by 2.6 %. There is considerable regional variation in the rates and patterns of degradation and deforestation, varying from up to 30 % decrease in forest cover from 2003 to 2012 in some municipalities to less than 1 % in others; the current national deforestation rate is estimated to be a high 1.3% per annum.

Primary drivers of forest degradation include conversion of forest to agricultural land, uncontrolled grazing, and weaknesses in the institutional arrangements for forest management. Forest loss in the target Municipalities has been largely the result of clearing for subsistence agriculture. Forests remain the largest source of household energy in Timor-Leste with national fuelwood consumption estimated at 500,000 tonnes p.a., worth an estimated US174 million/yr.

Improving land management in catchment areas, especially in the mountainous parts of the country will require modifications to existing land-use including:

- Adoption of agricultural practices to minimise soil erosion in line with conservation agriculture practices which preserve surface organic matter
- Enhancing perennial and annual vegetative cover in the catchment areas, particularly through reducing the incidence of fires
- Increasing tree cover with species of commercial use
- Upgrading roads and other infrastructure to minimise soil movement.

Demand for construction and furniture timbers is expanding as urban centres grow and a substantial proportion of these building timbers are imported informally from neighbouring Indonesia. Global

demand for sandalwood remains strong, however production in Timor-Leste is in decline due to overcutting.

The national coconut resources, part of Timor-Leste's tree cover and an important component of agroforestry systems and Trees outside Forests, has declined from 35,000 ha in 1975 to an estimated 12,000 ha at a time when global demand for high quality coconut oil is expanding. Other commercial tree crops such as cashew offer opportunities for increasing household incomes and alleviating poverty.

Processing facilities for wood, coconut oil, and nut processing remain rudimentary. Improvements are needed to make best use of limited domestic resources and to create high quality products which can compete in domestic and export markets.

Timor-Leste's forests harbour important genetic resources of valuable timber species such as *Pterocarpus indicus*, *Toona sureni* and sandalwood (*Santalum album*). The importance of Timor-Leste's biodiversity is demonstrated by the wide international use of the genetic resources of the native *Eucalyptus urophylla* and emerging interest in native species of *Casuarina* and *Acacia*. Popular exotic species for smallholder and community planting include teak (*Tectona grandis*) and mahogany (*Swietenia mahogani*).

Expanded tree plantings and industries based on planted trees and palms have been restricted because of poor rural access. Rural roads remain an ongoing priority for GOTL development strategies.

The Asian Development Bank (2020)¹ found that successful forestry investment will be dependent on the following key enablers:

1. A supportive forest policy
2. Secure access to land (not necessarily ownership)
3. Access to technical forest management and extension services
4. Market transparency and knowledge
5. Developing strong and innovative forest clusters
6. A pro-active and positive regulatory framework
7. Good skills and governance
8. A supportive Government culture
9. Commitment to review, consult and report on progress

The proposed Project activities are consolidated and classified under the following NACE codes with one supporting pre-condition:

Proposed supporting pre-condition:

F42.11 - Construction of roads and motorways (rural access roads)

F42.91 - Construction of water projects (general-purpose port on the south coast)

Activities

A2.10 - Silviculture and other forestry activities (wood and commercial tree crops)

A1.26 - Growing of oleaginous fruits (coconuts)

C16.10 - Sawmilling and planing of wood

1.2. Rationale for PPIP intervention and IFI loan

Timor-Leste's commitment to halting forest loss, increasing tree cover and protecting watersheds will require finance and technical support to make progress towards the alleviation of rural poverty, improvement of livelihoods and improvements in rural access. In addition, the motivation to grow more trees will be improved by efficient and profitable local processing industries which can offer best possible value for locally grown products.

Opportunities exist to increase national tree cover through the protection and restoration of remnant native forest and planting of a range of commercial tree crops for products such as commercial wood, coconut, sandalwood, cashew and fuelwood. Suitable land areas are available and suitable species grow well to meet market demand for both new industries (sequestered carbon and

¹ Asian Development Bank (2020). Timor-Leste Forestry Sector Investment Plan 2019 – 2030. TA-9057 REG: Building Sustainable Food and Nutrition Security in Asia and the Pacific (Phase 1) – Timor-Leste Forestry Sector Investment Plan (49305-001)

veneers) and established industries (sawn timber, coconut, cashew, sandalwood and possibly wood chips). Regional demand for exported plantation-grown wood fibre is strongly influenced by an estimated shortage of wood fibre in excess of 10 million cubic metres annually.

However, at present, Timor Leste does not have a commercial port on the south coast. Domestic freight rates are expensive due the mountainous terrain and the long distance between the Tibar Port on the project area. Therefore, it seems logical to at least investigate the feasibility of investing in a small general-purpose port located at either Suai or Beacu on the south coast. Construction of this infrastructure would allow export of wood-related products to Darwin, Tibar and possibly Surabaya in eastern Java

In addition, Timor-Leste's commitment to accelerating decarbonization and meeting the U.N. net zero target by 2050 suggests that increased tree cover, carbon trading and carbon credits markets can become an integral part of the nation's future economy. Managing trees for wood production is consistent with the needs of carbon accumulation. Recent research² has demonstrated that GHG mitigation from harvested stands typically surpasses unharvested stands, and that commercial afforestation can deliver effective GHG mitigation that is robust in terms of future decarbonisation pathways and wood uses.

The PPIP intervention will partner with communities and individual landowners, companies and other organisations, and development partners in two catchments (Tafara and Caraulan) across three Municipalities (Covalima, Ainaro and Manufahi). Tree planting will focus on lands generally less favourable for agriculture (mainly food crop production).

The intervention will support activities to identify and unblock barriers and bottlenecks within the supply chains for commercial products from a wide range of planted trees.

The need to increase tree cover to provide sustainably the suite of benefits which forests can offer for sustainable catchment management, is urgent. The creation of a sustainable commercial basis for growth and production of wood products; and other products such as coconut, cashew and sandalwood, will assist in the alleviation of poverty, and increase tree cover and carbon stocks.

The project's potential is demonstrated by the success achieved in Timor-Leste by a series of JICA-supported projects, through development and adoption of a Community-Based Natural Resource Management (CBNRM) approach which commits to effective engagement between affected households and communities, and a broad-based approach to catchment management. The current JICA/GCF watershed management project, based on over 10 years of operational experience, focuses upon four major catchments: Lacla. Comoro, Tafara and Caraulan.

The project proposal aims to capture the advantages offered on the south coast for growing commercial trees, and will focus on the Tafara and Caraulan watersheds which can be serviced by a new general-purpose port on the south coast.

1.3. Relevance to Strategic Development Plan & overall planning framework

The Government of Timor-Leste, in its **Strategic Development Plan (2011-2030)**, acknowledges that for most people living in rural areas, especially the poor, forests and trees are the sources of food, fuel, fodder, medicines and building materials. It lists forestry as one of five critical agricultural industries (the others being Food Crops, Cash Crops, Livestock and Fisheries). The **Plan** promotes reforestation and sustainable land management practices in Timor-Leste and support for Community-based nurseries to plant one million trees a year. It commits to support for community-based tree and forest product enterprises that provide local communities with more opportunities to benefit from forest resources, while also giving a greater incentive to sustainably manage and protect these resources. Specifically, the **Plan** calls for development of small-scale and commercial forestry, using most suitable commercial species to engage with regional markets and "take advantage of Timor-Leste's comparative advantage for high-value tropical hardwoods."

The proposal is consistent with the **National Plan to Combat Climate Change** which has aligned national development with SDG 13: "Take urgent action to combat climate change and its impacts" and to promote reforestation and sustainable land management practices in Timor-Leste. Similarly, the proposal is consistent with the country's **National Adaptation Programme of Action on Climate Change** (NAPA, 2010) and the **First Initial National Communication to UNFCCC** (NC-

² Eilidh J. Forster, John R. Healey, Caren Dymond & David Styles. 2021. Commercial afforestation can deliver effective climate change mitigation under multiple decarbonisation pathways. NATURE COMMUNICATIONS | (2021) 12:3831 | <https://doi.org/10.1038/s41467-021-24084-x>

UNFCCC, 2014) which gave priority to building the resilience of rural livelihoods to ensure national food security.

Other related policies include the **National Action Program to Combat Land Degradation (2008)**, which emphasises CBNRM as an effective, preventive and mitigation program for sustainable land management in the country.

The goal of the **Revised National Forest Policy (2017)** is sustainable management of forest resources and watersheds to provide environmental, social and economic benefits to the people of Timor-Leste. Three of the six policy objectives focus on forest and watershed management and development. In addition, the Policy recognises that the benefits of afforestation and reforestation are especially high in watersheds. Further, the Policy has a specific objective to produce 50 % of the nation's sawn timber supply from locally grown forest plantations, community forestry and agroforestry programmes by 2050, to be used for building construction, furniture manufacture and other uses of timber. Further, the **Forest Policy** recognises afforestation will *"provide rural employment in the short term and attractive financial returns to rural communities and other investors."* It notes that well-managed plantations and regenerating natural (*Eucalyptus*) forests can produce fuelwood from thinnings, other processing operations, and from tree branches at the final wood harvest.

The Policy notes that reforestation can *"play a critical role in sustaining the health of the environment by conserving biological diversity, providing low cost, renewable energy (fuelwood) and helping to mitigate climate change"*. Among the other primary objectives outlined in **the Policy** is a commitment to the *"promotion of participation by local communities and other stakeholders from the private sector in forest management and development"*, noting that key in the actions to achieve these objectives is the *"active participation from local communities and other stakeholders"*. Further, a policy objective related to institutional development in the forestry sector recognises the need to *enable sustainable and profitable forest management by communities*. The **National Coconut Industry Revitalisation Plan (2018)** encourages expanded planting of coconut and upgrading of related processing industries.

The **Timor-Leste Forestry Sector Investment Plan (2019 – 2030)** considered several commercial models to expand and develop the plantation estate, but access to land remains a significant challenge to attracting investors. More success may be gained by concentrating on joint ventures with small landowners and community groups as these are most likely to understand land tenure in their Aldea's (small household clusters). While this model would be slow to implement, it would be more sustainable as the trend across Asia is towards smallholder and community-based commercial forestry programmes. **The Plan** concluded that in view of the predominant mosaic land use pattern, the customary land tenure claims, the needs for an improved staff capacity and an administrative framework, *"community forestry is the main option for implementing the national forest policy in Timor-Leste"*.

The **Economic Recovery Plan (2020)** recognises that good management of forests is crucial to protecting the environment, biodiversity, water resources and that the sale of carbon credits can offer much-needed rural income. The 7th Constitutional Government proposed to the National Parliament, which approved it, legislation aimed at boosting **forest production** (Law No. 14/2017, of 2 August) in steep and mountainous areas of the country.

1.4. Relevance to Sustainable Development Goals

The project is designed to address a number of the UN Sustainable Development Goals (SDGs); and through increasing tree cover, encouraging sustainable farming systems, improving livelihoods and fostering local processing industries, will realise the SDGs.

Specifically, the project will address the following 5 SDG:

- > Goal 1. No Poverty: Access to basic human needs of health, education, sanitation
- > Goal 8. Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all
- > Goal 9. Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation
- > Goal 15. Life on Land: Reversing man-made deforestation and desertification to sustain all life on earth

(Relevant Sustainable Development Goals (SDGs) and indicators are described in Section 4.5)

<p>1.5. Project promoter(s)</p>	<p>The project promoter is the Ministry of Agriculture and Fisheries (MAF), Directorate General of Forestry, Coffee and Industrial Plants (DGFCPI) who will manage the project via:</p> <ul style="list-style-type: none"> • the National Directorate for Community Forestry Development which is the Government agency with prime responsibility for community forestry and commercial forestry development. • the National Directorate for Coffee and Industrial Plants which maintains responsibility for coconut and other commercial tree crops. • The National Directorate of Forestry and Watershed Management • Formal and informal links to be maintained with the current JICA/GCF project and other initiatives supported by development partners. <p>Financing: EIB and other partner (s)- to be determined (GoTL/EUD/JICA?)</p>
<p>1.6. General institutional set-up</p>	<p>MAF is the Government agency with prime responsibility for forestry development. The DGFCPI is one of four directorates general within the Ministry, and has broad responsibilities for community forestry, watershed management, forest protection, plantation forestry, protected natural areas development and other aspects of forestry development. The roles and responsibilities of the DGFCIP, its three national directorates and its municipal offices are defined in the Ministerial Diploma No.10/2016.</p> <p>Strong links with JICA/CBNRM/GCF will be critical for project success. The project will rely on JICA to work with target communities to prepare land use plans, which will then be used to guide catchment planting with commercial tree crops. Fortunately, JICA has considerable experience in this area and has established management and operational structures in place</p> <p>Similarly, it will be important for the Project to work in close cooperation with GOTL's Directorate of Roads, Bridges and Flood Control (DRBFC). This GOTL organization is responsible for the construction and maintenance of rural roads. Rural road development in Timor Leste is supported by two major Development Partners (EU and DFAT with support from ILO). Finally, if a general-purpose port is to be constructed somewhere along the south coast, it will be important that GoTL's Port Authority is involved with site selection, design, tendering, etc. Therefore, liaison and cooperation with all of these agencies will also be important if road access to areas of tree crops, and local shipping services, are to be assured.</p>



2. INVESTMENT PROJECT INFORMATION

<p>2.1. Scope of proposed project and type of investment measures to be implemented</p>	<p>The general concept for the project is to engage with local communities within the two target watersheds to encourage planting of trees of commercial value; and to adopt improved land management practices to foster efficient wood processing industries and profitable processing of other tree crops. In addition, through tree planting and increased tree cover, the project will sequester additional atmospheric carbon which can create carbon credits which can be sold into international carbon markets. The tree product processing industries will receive support through improved rural access roads to facilitate domestic transport.</p> <p>Pilot projects, particularly those supported by JICA, have demonstrated the effectiveness of various types of support for smallholders and community groups to improve land-use in watershed areas, expand areas of commercial trees, regenerate degraded natural forest, and manage forests and plantations sustainably. The success achieved in Timor-Leste through adoption of an CBNRM approach which commits to effective engagement with affected households and communities suggests a broad-based approach with several objectives:</p> <ul style="list-style-type: none"> • Adoption of sustainable land-use and tree planting practices to minimise soil loss • Protecting remnant forests and enhancing vegetative cover in the catchment areas, particularly through reducing the incidence of fires • Increasing tree cover using trees of commercial value • Upgrading rural roads access
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- Enhance capacity through appropriate institutional development, capacity building, and public awareness/education.

These objectives will be achieved by investments in: (i) tree seedling nurseries and seedling distribution systems; (ii) financial and other incentives for target communities to adopt improved land management practices and to increase tree cover; (iii) new tree crop product processing equipment; (iv), local infrastructure (mainly access roads) where necessary; and (v) supplemented by investments in institutional development, capacity building, and public awareness/education.

There are currently various initiatives in Timor-Leste that have targeted community tree planting. The focus of this project will be on watershed management and on trees with direct commercial value, such as wood (for construction and possibly export wood chips), sandalwood, coconut oil, and cashew nuts.

The project will comprise of the following components:

1. Commercial Wood, Commercial Tree Crops, Agroforestry, Trees on Farms/ Around Homes, and Small Block Plantings: The project will support targeted smallholders (and the larger private sector if interested) to plant commercial trees species such as acacias, eucalypts, mahogany, teak, sandalwood, coconut and cashew.

Expected success is based on the observations that:

- Commercial trees grow well.
- There is strong domestic demand for wood – for timber construction and furniture.
- There is strong regional demand for veneers, woodchip for pulp and fibreboard.
- There is strong global demand for both the scented wood and sandalwood oil; and there is a great deal of information and experience to support expanded sandalwood cultivation including recent work funded by the Australian Centre for International Agricultural research (ACIAR) and DGFCIP.
- Agronomic technologies and markets are strong for both cashew and coconut.
- Large areas of degraded forest land and marginal agricultural lands are available in the target catchments.
- There are operating models elsewhere in SE Asia where growing commercial wood and other commercial tree products has proven to be very profitable for smallholders³, particularly in Vietnam, southern China and Thailand.
- The project will encourage strong private sector links.
- Fuelwood is an important co-product of other wood and nut products.

2. GOTL Management and Institutional Support, and Technical Assistance. This will include technical and managerial/planning training and capacity development, and the supply of appropriate tree product processing equipment, and will be provided through GoTL's DGFCPI, and a team offering Technical Assistance.

These two activities will proceed in parallel with development of supporting infrastructure activities (a small general-purpose port and rural access roads) to ensure that forestry-related projects can be implemented efficiently, and that forest-related products can be marketed.

3. Supporting Infrastructure (1): South Coast General Purpose Port. The south coast of Timor-Leste has high and reliable rainfall, low population densities and excellent prospects for production of commercial wood, coconut and other tree crops. Commercial agricultural/forestry development on the south coast will depend upon supporting infrastructure including a small, general-purpose port to offer access to domestic and regional markets, and reduced road and shipping costs.

4. Supporting Infrastructure (2): Rural Roads. Rural access remains critical for development progress in all sectors of Timor Leste's economy. Both agriculture and forestry will benefit from improved rural access roads. The component enjoys strong GoTL and development partner support – Australian Aid has recently committed to an expanded US\$47 million Roads for Development (R4D) program, and the EU has made substantial contributions through its Partnership for Sustainable Agroforestry (PSAF) program.

³ Midgley, S. J., Stevens, P. R. and Arnold R. J. (2017). Hidden Assets: Asia's Smallholder Wood Resources, and their Contribution to Supply Chains of Commercial Wood. Australian Forestry 80 (1). Pp 10-25. <http://dx.doi.org/10.1080/00049158.2017.1280750> .

<p>2.2. Level of maturity</p>	<p>All elements of the proposed project have been planned and implemented in some form over the past 20 years. All of the recommended species have demonstrated proven performance, and the proposed processing technologies for wood, and for coconut oil, are mature. The project concept has been based on achievements since 2009 by several projects funded by JICA, and the recent commitments from the EU to PSAF.</p>						
<p>2.3. Approach chosen for project implementation</p>	<p>The proposed Institutional set-up for project implementation is as follows:</p> <table border="1" data-bbox="432 456 1517 994"> <tr> <td data-bbox="432 456 703 618"> <p>PMU (Project Management Unit)</p> </td> <td data-bbox="703 456 1517 618"> <p>Implementing Agency: Within the DGFCIP, comprising representatives from national Directorates, Municipalities, and supported by a Technical Assistance (TA) Consultant; and in partnership with the JICA team to oversee, monitor, and manage implementation of project components during all phases</p> </td> </tr> <tr> <td data-bbox="432 618 703 815"> <p>TA Consultant:</p> </td> <td data-bbox="703 618 1517 815"> <p>Institutional Development; Assistance with the development of national forest production and processing systems which are supported by improved technical knowledge; technical and progress monitoring; capacity building for GOTL staff and target farmers; and public education. The TA provider will maintain strong links with the JICA team.</p> </td> </tr> <tr> <td data-bbox="432 815 703 994"> <p>Private Contractors</p> </td> <td data-bbox="703 815 1517 994"> <ul style="list-style-type: none"> • Nurseries and seedling distribution to farmers • Road improvement • Training <p>Works contracts: Via contracts with PMU</p> </td> </tr> </table>	<p>PMU (Project Management Unit)</p>	<p>Implementing Agency: Within the DGFCIP, comprising representatives from national Directorates, Municipalities, and supported by a Technical Assistance (TA) Consultant; and in partnership with the JICA team to oversee, monitor, and manage implementation of project components during all phases</p>	<p>TA Consultant:</p>	<p>Institutional Development; Assistance with the development of national forest production and processing systems which are supported by improved technical knowledge; technical and progress monitoring; capacity building for GOTL staff and target farmers; and public education. The TA provider will maintain strong links with the JICA team.</p>	<p>Private Contractors</p>	<ul style="list-style-type: none"> • Nurseries and seedling distribution to farmers • Road improvement • Training <p>Works contracts: Via contracts with PMU</p>
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<p>2.4. Identification of preliminary alternatives for the works</p>	<p>Detailed consideration of the strategies to be adopted in engaging communities to achieve effective catchment management in the target watersheds will be provided in the pre-feasibility study. There are limited alternatives for the approach to be adopted to engage communities to achieve the objectives of sustainable catchment management, noting that JICA has developed and tested an approach to CBNRM which has proven successful and sustainable in Timor-Leste's rural sector. Communities must be willing and equipped to participate, species must be suitable for sites selected, a network of nurseries in place to ensure effective distribution of planting material, and markets must be open and available for wood and wood products.</p> <p>The options analysis will comprise elements such as:</p> <ul style="list-style-type: none"> > Delineation and characterisation of suitable sites for reforestation – degraded areas or deforested areas without tree cover > Identification and characterisation of affected stakeholders and communities through livelihoods analysis and willingness to participate > Identification of major contributing factors (and locations) for loss of tree cover – clearing for agriculture, demand for firewood, demand for wood products. > Capacity building within Government and the communities <p>Based upon the preliminary analysis, a program of effective operational activities will be developed, which is likely to include:</p> <ul style="list-style-type: none"> > Tree planting of species with commercial value in addition to fixing carbon > Protecting remnant forests and enhancing vegetative cover particularly through reducing the incidence of fires > Upgrading, repair and possible relocation of rural roads in target Districts > Enhance capacity through appropriate institutional development, capacity building, and public awareness/education. 						
<p>2.5. Total estimated project investment costs</p>	<p>The creation of a tree resource and effective engagement with communities and domestic/regional markets is a long-term task, requiring commitment from all stakeholders for an extended period. A first order indication of the investment costs, including estimated costs for port construction (est €37.1 mill) over 10 years is shown below:</p> <table border="1" data-bbox="432 1921 1461 2089"> <thead> <tr> <th data-bbox="432 1921 1270 1980">Output</th> <th data-bbox="1270 1921 1461 1980">Approx. cost (EUR ,000)</th> </tr> </thead> <tbody> <tr> <td data-bbox="432 1980 1270 2089">Preliminary delineation and characterisation of the targeted areas, and identification and characterisation of affected stakeholders and communities.</td> <td data-bbox="1270 1980 1461 2089">400</td> </tr> </tbody> </table>	Output	Approx. cost (EUR ,000)	Preliminary delineation and characterisation of the targeted areas, and identification and characterisation of affected stakeholders and communities.	400		
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	Establishment of new nurseries (and maintenance of existing facilities) and distribution of seedlings	1,600
	Improvement of wood processing and coconut oil processing facilities	1,500
	South Coast General Purpose Port (also in Commercial tree Crops Fiche)	25,000
	Rural access roads	6,000
	Equipment, vehicles and materials	600
	TA support: Assistance with the development of national forest production and processing systems which are supported by improved technical knowledge; technical and progress monitoring; capacity building for GOTL staff and target farmers; and public education.	2,000
	Total	37,100
2.6. Approach to finance the project	<p>Considering that the EIB's contribution to a project's cost is limited to 50% of the overall investment, the following possibilities for co-financing have been identified:</p> <ul style="list-style-type: none"> > JICA, through additional resources for its JICA/GCF project (technical assistance) > EU via an expanded interest via PSAF (technical assistance) > Other investors (including IFI) to be identified during the Pre-Feasibility Study (PIIP). 	



3. IMPLEMENTATION ARRANGEMENTS

3.1. Provisional schedule for project implementation	<p>The creation of tree-based resources, land management and community engagement are long-term tasks, requiring commitment from all stakeholders for an extended period. A first order indication of the investment costs (est €12.1 mill) over 10 years (2 x 5-year stages suggested) is shown below. An exception to this is the rural access roads component which can be undertaken within an initial 5-year timeframe.</p>																		
3.2. Estimated time and resources for PFS and FS	<p>The estimated time and resources required are as follows:</p> <table border="1"> <thead> <tr> <th>Phase</th> <th>Time (months)</th> <th>Level of Effort (person days – KE and Backstopping)</th> <th>Level of Effort (person days – NKEs)</th> </tr> </thead> <tbody> <tr> <td>Pre-Feasibility study</td> <td>10-12</td> <td>70</td> <td>250</td> </tr> <tr> <td>Feasibility study</td> <td>18</td> <td>200</td> <td>800</td> </tr> <tr> <td>Total</td> <td>28-30</td> <td>270</td> <td>1,050</td> </tr> </tbody> </table>			Phase	Time (months)	Level of Effort (person days – KE and Backstopping)	Level of Effort (person days – NKEs)	Pre-Feasibility study	10-12	70	250	Feasibility study	18	200	800	Total	28-30	270	1,050
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Pre-Feasibility study	10-12	70	250																
Feasibility study	18	200	800																
Total	28-30	270	1,050																
3.3. Main barriers to develop the project	<p>The main barriers to develop and implement the project identified at this stage are:</p> <ul style="list-style-type: none"> > Engagement and agreement with GoTL at all levels, particularly agreement on spheres of responsibility between DGFCIP and authorities responsible for roads and ports with co-financing agencies > Coordination of project activities with those of co-financers, donors, IFI and NGO and the private sector > Institutional arrangements between national and municipal authorities and between GOTL agencies. 																		
3.4. Estimation of required TA activities to implement the planned investment	<p>Considerable Technical Assistance will be required for: (i) the development of forest production and processing systems which are supported by improved technical knowledge; (ii) technical and progress monitoring; (iii) capacity building for GOTL staff and target farmers; and (vi) public education. In addition, there will need to be support for: (i) the division of responsibilities between National, regional, and municipal entities; (ii) changed/improved land tenure; (iii) tendering and contracting of access road and local infrastructure repairs; and (vi) marketing of commercial tree crop products.</p>																		



4. SAFEGUARDS AND ELIGIBILITY

4.1. Environmental and Social issues, recommended ESIA needs

A screening of environmental and social aspects will be performed at the pre-feasibility stage. The environmental and social safeguards that may become relevant are listed below:

Assessment and management of environmental and social impacts and risks, including roads and a port	Y	Involuntary resettlement	N
Pollution prevention and abatement	Y	Rights and interests of vulnerable groups	N
Biodiversity and ecosystems	Y	Labour standards	Y
Climate-related standards	Y	Occupational and public health, safety and security	Y
Cultural heritage	N	Stakeholder engagement	Y

The impacts of tree planting and other well-established and proven catchment management activities are expected to be benign. However, the construction of rural access roads and a general-purpose port will need to be supported with environmental impact analyses.

4.2. Eligibility: Alignment with Paris Agreement

The proposed investment falls within the following sector(s) supported by the EIB Group under the Paris alignment framework:

- > Investment in nature and biodiversity conservation and restoration.
- > Investment in subsectors such as sustainable forestry and sustainable, resilient agricultural land management, and erosion control (LULUCF).

As the EU Climate Bank, the EIB Group commits to aligning all its financing activities with the principles and goals of the Paris Agreement. Investments proposed to EIB should be consistent with the Paris alignment framework to adopt low-carbon pathways in support of the European Union (EU) pathway to net zero emissions. Investments should also build greater resilience to future climate change.

The proposed Project concept addresses these issues by creating a positive carbon balance through tree planting, and improved forest management and enhanced vegetative cover. Through adopting changes to agricultural practices and adoption of sustainable agricultural and tree planting practices to minimise soil loss (and in line with conservation farming) the project will ensure resilience to future climate change.

4.3. Eligibility: Alignment with EU Taxonomy

A summary of the technical screening criteria for "substantial contribution" and "do-no-significant-harm" (DNSH) in relation to the six environmental objectives of the EU Taxonomy is shown below.

The current technical screening criteria on climate mitigation focuses on 1.1 afforestation; 1.2 rehabilitation and restoration of forests, including reforestation and natural forest regeneration after an extreme event; 1.3 forest management; and 1.4 conservation forestry. In addition, the agriculture sector is not included in the first Delegated Act. Thus, only limited activities/ project components will be aligned with the EU Taxonomy, despite the obvious benefits of tree planting and increased tree cover.

The following project activities are/will be aligned with the EU Taxonomy:

Environmental objective	Afforestation: Activity NACE A02.10 Silviculture and other forestry activities (related to trees for commercial wood, coconut, and commercial tree crops such as sandalwood and cashew)
Climate change mitigation	<p>Substantial Contribution:</p> <ol style="list-style-type: none"> 1. Afforestation plan and subsequent forest management plan or equivalent instrument; 2. Climate benefit analysis 3. Guarantee of permanence 4. Audit 5. Group assessment <p><i>Note: Meeting the requirements will be administratively burdensome and time consuming, especially for smaller forest holdings, agroforestry systems and Trees on Farms.</i></p>

	Climate change adaptation	DNSH: Climate risk and vulnerability assessment performed. The PPIP anticipates this for the PFS and FS stages.
	Water and marine resources	DNSH: Environmental degradation risks related to preserving water quality and avoiding water stress are identified and addressed with the aim of achieving good water status and good ecological potential (EU Water Framework Directive), and a water use and protection management plan is developed for the potentially affected water bodies in consultation with relevant stakeholders. However, no assessment is needed if such risks are considered in an EIA in accordance with the EU EIA Directive and Water Framework Directive.
	Circular economy	NA
	Pollution prevention & control	DNSH: The use of pesticides is reduced and alternative approaches or techniques used; the activity minimises the use of fertilisers and does not use manure. Well documented and verifiable measures are taken to avoid the use of active ingredients that are listed in Annex I, part A, of Regulation (EU) 2019/1021. Pollution of water and soil is prevented and cleaning up measures are undertaken when pollution occurs.
	Biodiversity and ecosystems	DNSH: In areas designated by the national competent authority for conservation or in habitats that are protected, the activity is in accordance with the conservation objectives for those areas. <u>The project proposes no activities in protected areas.</u> There is no conversion of habitats specifically sensitive to biodiversity loss or with high conservation value, or of areas set aside for the restoration of such habitats in accordance with national law.
	Activity A1.26 - Growing of oleaginous fruits (including coconuts) may be covered under Crop Production in the second Delegated Act of, but it is still in draft form.	
4.4. Eligibility: Clean Oceans Initiative	N/A	

4.5 Relevant Sustainable Development Goals (SDGs) and indicators

Goals and targets	Indicators
Goal 1. No Poverty: Access to basic human needs of health, education, sanitation	
1.1 By 2030, eradicate extreme poverty for all people everywhere, currently measured as people living on less than \$1.25 a day.	1.1.1 Proportion of population below the international poverty line, by sex, age, employment status and geographical location (urban/rural)
The project will provide: <ul style="list-style-type: none"> Enhanced opportunity for men and women to improve their livelihoods through increased and more sustainable incomes from a range of commercial trees crops, and other agriculture products including annual and perennial food crops, grown on the target watersheds; thereby addressing 1.1. Stable and productive watersheds will contribute to improved resilience and reduced vulnerability to the events referred to in 1.5. 	
Goal 8. Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all	
8.2 Achieve higher levels of economic productivity through diversification, technological upgrading and innovation, including through a focus on high-value added and labour-intensive sectors	8.2.1 Annual growth rate of real GDP per employed person
8.6 By 2020, substantially reduce the proportion of youth not in employment, education or training	8.6.1 Proportion of youth (aged 15–24 years) not in education, employment or training
The Project will provide opportunities: <ul style="list-style-type: none"> for on-farm and off-farm employment to upskill to meet new needs of agro-industry 	
Goal 9. Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation	
9.1 Develop quality, reliable, sustainable and resilient infrastructure, including regional and transborder infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all	9.1.1 Proportion of the rural population who live within 2 km of an all-season road 9.1.2 Passenger and freight volumes, by mode of transport
9.3 Increase the access of small-scale industrial and other enterprises, in particular in developing countries, to financial	9.3.1 Proportion of small-scale industries in total industry value added

services, including affordable credit, and their integration into value chains and markets	9.3.2 Proportion of small-scale industries with a loan or line of credit
<p>The Project will provide:</p> <ul style="list-style-type: none"> • A general-purpose port on the south coast which will cut transport costs, increase efficiency and open up possible new markets • Rural access roads to improve marketing efficiency and reduce transport costs • Facilitate investment in commercial agriculture and forestry and industry engagement with local communities 	
Goal 15. Life on Land: Reversing man-made deforestation and desertification to sustain all life on earth	
15.1 By 2020, ensure the conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services, in particular forests, wetlands, mountains and drylands, in line with obligations under international agreements	15.1.1 Forest area as a proportion of total land area
15.2 By 2020, promote the implementation of sustainable management of all types of forests, halt deforestation, restore degraded forests and substantially increase afforestation and reforestation globally.	15.2.1 Progress towards sustainable forest management
15.3 By 2030, combat desertification, restore degraded land and soil, including land affected by desertification, drought and floods, and strive to achieve a land degradation neutral world	15.3.1 Proportion of land that is degraded over total land area
<p>The project will provide:</p> <ul style="list-style-type: none"> • Enhanced forest cover through tree planting and restoration of forest areas • Improved soil conservation through increased tree cover 	