GEF-6 PROJECT IDENTIFICATION FORM (PIF)

PROJECT TYPE: Medium-sized Project
TYPE OF TRUST FUND:GEF Trust Fund

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PART I: Project Information

Project Title:	**Establishing the National Framework and Operational Capacity for Implementing the Nagoya Protocol in Timor Leste** (former title: Creating and Applying an Access and Benefit-Sharing Regime in Timor Leste)		
Country(ies):	Timor Leste	GEF Project ID:	9703
GEF Agency(ies):	UNEP	GEF Agency Project ID:	01547
Other Executing Partner(s):	Lead: Ministry of Commerce, Industry and Environment (MCAI) - National Directorate of Biodiversity Protection and Restoration (NDBPR); with National University Timor Leste (UNTL)	Resubmission Date:	July 10, 2017
GEF Focal Area(s):	Biodiversity	Project Duration (Months)	48
Integrated Approach Pilot	IAP-Cities ☐ IAP-Commodities ☐ IAP-Food Security ☐	Corporate Program: SGP ☐	
Name of parent program:	NA	Agency Fee ($)	125,387

A. INDICATIVE FOCAL AREA STRATEGY FRAMEWORK AND OTHER PROGRAM STRATEGIES

Objectives/Programs (Focal Areas, Integrated Approach Pilot, Corporate Programs)	**Trust Fund**	**(in $)**	
		GEF Project Financing	**Co-financing**
BD-3 Program 8	GEFTF	1,319,863	3,800,000
Total Project Cost		1,319,863	3,800,000

B. INDICATIVE PROJECT DESCRIPTION SUMMARY

Project Objective: To establish the conditions enabling sustainable access to the genetic resources of Timor Leste (TL) which will deliver fair and equitable benefits (ABS) to its people, while protecting legal and customary ownership and traditional knowledge

Project Components	**Financing Type**	**Project Outcomes**	**Project Outputs**	**Trust Fund**	**(in $)**	
					GEF Project Financing	**Co-financing**
Component 1: Establishment of national legal and institutional framework on ABS, including Traditional Knowledge	TA	1.1 National coherent legal and institutional framework on ABS and the protection of TK approved in accordance with Draft Biodiversity Law • At least two new or modified central government regulations/policies incorporating provisions regarding compliance, access, traditional knowledge, and/or benefit sharing under the Nagoya Protocol by end of project • Roles of Competent National Authority and Competent Sector Authorities defined and designated, including on national coordination mechanism • Approved National Procedures and Operational Manual for implementing ABS agreements and requirements (e.g. monitoring/ checkpoints and Community Protocols • Renewed efforts recorded in the Parliamentary processing of the	1.1.1 National regulatory, policy and institutional framework adopted by government for implementation of the Nagoya Protocol through a process of national consultations, a White Paper and National Operational Guidelines. 1.1.2 Systematization of local indigenous practices, beliefs and customary law into nationally agreed (model) Community Protocols for the protection and access related to traditional knowledge. 1.1.3 National specific ABS model agreements (PIC, MAT) developed that facilitate the negotiation of monetary and non-monetary benefits between users and providers of genetic resources 1.1.4 High-level dialogue with policy makers and Parliament to make case for NP and Draft Biodiversity Act, related their potential for value adding through research & development, and	GEFTF	525,900	930,000

		Draft Biodiversity Act as well as the process of acceeding the Nagoya Protocol 1.2 Increased awareness and capacity of national stakeholders on the provisions the Nagoya Protocol, and the (evolving) national institutional and regulatory framework on ABS. • An increase with over 50% of targeted government staff, researchers, local communities, and relevant industry players understanding and aware of the provisions, opportunities and requiremements under the Nagoya Protocol, including on traditional knowledge • Capacities with national agencies with competency and/or mandate, raised by at least 30% on national institutional, regulatory and implementation framework for ABS.	contribution to SDGs targets. 1.1.5 Information required for formal accession to the Nagoya Protocol available to the Government of TL and process started. 1.2.1 An outreach and institutional development plan developed on ABS issues in Tetun language based on needs assessments 1.2.2 National outreach campaign on provisions of NP, the evolving national ABS framework, and role of ABS for genetic resource-based innovation and value addition in meeting sustainable development goals. 1.2.3 Targeted training of 50 staff NCA, CSAs, national focal points and related research agencies on national institutional, regulatory and implementation framework for ABS			
Component 2: Operationalisation of the Nagoya Protocol on research and monitoring for sustainable utilisation of genetic resources.	TA	2.1 Institutional capacity enhanced for enacting Article 17 on 'monitoring' and Articles 8a & 23 on 'promoting research' for sustainable use through consolidation of inventory, cataloguing and fair access to national and internationally held records on biodiversity, genetic and TK resources of Timor Leste. • National CHM monitoring source and use of biological, genetic, bio-chemical and/or traditional knowledge, through use of PIC/MAT agreements, standard protocols, and # of records with TL National Data Center accessed (TLNDC) . • Institutional capacity of at least 10 staff of UNTL, and 5 staff of DNBPR, and other government institutions enhanced in developing and applying CHM on monitoring sustainable and fair use & Database protocols on data collection, surveys and cataloging • At least 2 international partnerships leading to 3 new co-funded biodiversity/TK assessments and documentation with TLNDC – highlighting any opportunities for commercial and non-commercial bioprospecting • National assessement report on bio-discovery widely disseminated and used for	2.1.1: Consolidated National Database on biodiversity, genetic and TK resources, including ABS Clearing House Mechanism through partnership MCIE-NDBPR with UNTL-TLNDC (*all physical, core staffing and laboratory investments through co-funding*) 2.1.2: Protocols established for the national ABS Clearing House Mechanism, including National Database on collecting, cataloguing, permitting and monitoring of fair access to scientific records and traditional knowledge in Timor Leste. (see also 1.1.2) 2.1.3 Partnership, training and transfer of knowledge with international. institutions for (i) institutional development of NDBPR and UNTL with regards the CHM/National Database, (ii) protocols on data management and access to TK, and (iii) co-funded collaborative survey and data exchange programs on biodiversity, genetic and TK resources of Timor Leste. 2.1.4 Existing and new opportunities for bio-discovery projects in e.g. the agricultural, crop protection, food/beverage, botanical, cosmetics or pharmaceutical industries	GEFTF	673,975	2,490,000

		promoting ABS partnership 2.2: Enhanced technological and business capacity for screening and commercialisation of genetic and bio-chemical compounds of biodiversity in Timor Leste, in compliance with NP on sustainable utilisation of genetic resources. • At least 10 persons trained with the Center for Biodiversity and Climate Change (MCIE/UNTL) and UNTLin bio-prospecting, laboratory management, and product trials • At least 1 resource identified through genetic and/or chemicals screening towards potential commodity development for food, medical, cosmetic or other applications • At least 2 Prior Informed Consent (PIC), Material Transfer Agreement and/or Mutually Agreed Terms (MAT) signed for trials and commodity development	identified 2.2.1: Memorandum of Agreement on Technical Collaboration between MCIE-NDBPR, UNTL and Namura Genetic Solutions (NGS Japan) on multiple-year collaborative research and capacity building for bio-prospecting and institutional support to the biochemical and genetic research laboratory. 2.2.2 Technology transfer in research and development through conducting institutional development and biochemical and genetic screening trials, enabled through PIC and MAT agreements with the provider(s) of the genetic resources (co-funded).			
				Subtotal		1,199,875	3,420,000
				Project Management Cost (PMC)	GEFTF	119,988	380,000
				Total Project Cost		1,319,863	3,800,000

C. INDICATIVE SOURCES OF CO-FINANCING FOR THE PROJECT BY NAME AND BY TYPE, IF AVAILABLE

Sources of Co-financing	Name of Co-financier	Type of Co-financing	Amount ($)
Recipient Government	Ministry of Commerce, Industry and Environment (MCIE)	In-kind	346,000
Recipient Government	Ministry of Agriculture and Fisheries (MAF)	Grants	50,000
Recipient Government	Center for Biodiversity and Climate Change (MCIE & UNTL)	In-kind	800,000
CSO	With One Seed	In-kind	100,000
CSO	Conservation International (CI)	In-kind	854,000
CSO	World Vision	Grants & In-kind	350,000
Donor Agency	European Union (EU)	In-kind	300,000
Others	Museum and Art Gallery of the Northern Territory	Grants & In-kind	250,000
Others	Charles Darwin University	Grants & In-kind	200,000
Private Sector	Nimura Genetic Solutions, Kitasato University, Kyoto IPS laboratory	Grants & In-kind	450,000
GEF Agency	United Nations Environment Programme (UNEP)	In-kind	100,000
Total Co-financing			3,800,000

D. INDICATIVE TRUST FUND RESOURCES REQUESTED BY AGENCY(IES), COUNTRY(IES), FOCAL AREA AND THE PROGRAMMING OF FUNDS [a)]

GEF Agency	Trust Fund	Country/ Regional/ Global	Focal Area	Programming of Funds	(in $)		
					GEF Project Financing (a)	Agency Fee (b)[b)]	Total (c)=a+b
UNEP	GEFTF	Timor Leste	Biodiversity		1,319,863	125,387	1,445,250
Total GEF Resources					1,319,863	125,387	1,445,250

E. PROJECT PREPARATION GRANT (PPG) IS PROJECT PREPARATION GRANT REQUESTED? YES ☒ NO ☐ IF NO, SKIP ITEM E.

PPG AMOUNT REQUESTED BY AGENCY(IES), TRUST FUND, COUNTRY(IES) AND THE PROGRAMMING OF FUNDS

Project Preparation Grant amount requested: $50,000					PPG Agency Fee: $4,750		
GEF Agency	Trust Fund	Country/ Regional/Global	Focal Area	Programming of Funds	(in $)		
					PPG (a)	Agency Fee(b)	Total c = a + b
UNEP	GEF TF	Timor Leste	Biodiversity		50,000	4,750	54,750
Total PPG Amount					**50,000**	**4,750**	**54,750**

F. PROJECT'S TARGET CONTRIBUTIONS TO GLOBAL ENVIRONMENTAL BENEFITS

Provide the expected project targets as appropriate.

Corporate Results	Replenishment Targets	Project Targets
1. Maintain globally significant biodiversity and the ecosystem goods and services that it provides to society	Improved management of landscapes and seascapes covering 300 million hectares	*n.a*

PART II: PROJECT JUSTIFICATION

1. *Project Description.*

1.1) The global environmental and/or adaptation problems, root causes and barriers that need to be addressed

Environmental, Social and Governance Context

Timor Leste, located 500 km. north of Australia in the Lesser Sunda Islands, includes the eastern half of Timor Island, the Atauro and Jaco Islands, and the Oecusse region (a coastal enclave within Indonesian West Timor). Timor Leste is largely mountainous, surrounded by a narrow coastal plain. Rainfall varies from 500 mm/year along the northern coast to as high as 2000 mm/year in the mountains of the southeast. The steep topography, and shallow soils with low infiltration rates, combines to create extended periods when water is in deficit, and the availability of dry season water is a major factor in determining the distribution of agriculture and population. These natural factors, along with a lack of substantial large-scale water infrastructure, result in a situation where only 30% of otherwise arable land is under cultivation. Timor Leste has an estimated population of 1.2 million people (2015), with a high population growth rate of 2.45%, and is one of the least developed countries in the region. In 2010 the Human Development Index for Timor Leste was 0.502, giving it a rank of 120 out of 167 countries; the poverty rate was estimated at 49.9% by the World Bank in 2007; and 45.3% of children under 5 are underweight due to poor nutrition. These factors underline the importance of supporting social development as an essential part of reducing pressure on natural ecosystems and native biodiversity.

Timor Leste is within the Wallacea biodiversity hotspot, which harbours a number of globally significant ecosystems and endemic species, including the world's 2nd highest concentration of endemic birds[1]. Wallacea is increasingly seen as a unique bio-region characterised by a large number of endemic species, including at least 1,500 plants, 262 birds, 127 mammals, 33 frogs, 99 reptiles and 50 freshwater fish species found nowhere else on earth. It has been identified by Conservation International as one of 25 Global Hotspots for the conservation of biodiversity. The non-bird land fauna of Timor and its associated islands is poorly known with recent surveys discovering new species of bats, frogs, geckos and skinks, but the available evidence indicates that there are high levels of endemism in all faunal groups[2]. At least 52 mammals occur on Timor. Bats are the best represented group with at least 34 species, including 12 species of fruit bats. There are about 15–20 amphibian species and 40 or more reptile species on Timor. Timor and the associated islands of Wetar, Sawu, Roti and Semau have been defined by BirdLife International as the 'Timor and Wetar Endemic Bird Area' (EBA) (Stattersfield et al. 1998); 35 restricted-range species have been identified as occurring in the Timor and Wetar EBA, of which 23 are confined to these islands. Five globally threatened and 15 near threatened bird species have been recorded in Timor Leste, most of which are restricted-range species. Interest in the diversity of Timor Leste's flora and fauna extends to its marine environment, as studies of its coral reef

[1] Trainor C. R., Santana F., Rudyanto, Xavier A. F., Pinto P., de Oliveira G. F. 2007. Important bird areas in Timor-Leste. Key sites for conservation. BirdLife International, Cambridge, United Kingdom. 86 pp

[2] O'Shea M, C Sanchez, A Kathriner, S Mecke, V Lopes Carvalho, A Varelo Ribeiro, Z Afranio Soares, L Lemos de Araujo and H Kaiser. *Herpetological Diversity of Timor-Leste: Updates and a Review of Species Distributions*. Asian Herpetological Research 2015, 6(2): 73–131

ecosystems indicate a high level of diversity in corals, fish, and other marine organisms. Timor Leste is located within the Coral Triangle, which contains highly significant marine biodiversity, including 76 per cent of the world's coral species and 6 of the world's 7 marine turtle species (NEGA, 2010 and IBA, 2007). Marine surveys conducted by Conservation International on the reefs of Atauro island, as recently as mid-2016, found a total of 646 species of fish, with a maximum of 314 species at a single site, which is exceptionally high even within the Coral Triangle, which is known to have the highest coral diversity in the world. The country also boasts a diverse assemblage of sponges, a faunal group that is of high interest in bioprospecting for genetic and bio-chemical resources.

Timor Leste's position within Wallacea and the high degree of endemism of its fauna and flora, make the country an attractive location for investigations of biodiversity for science and for natural biologically active substances for medicinal, cosmetic, pharmaceutical and other uses[3]. An early example of a genetic resource endemic to Timor is *Eucalyptus europhylla*, which contributed to an international genetically enriched forest plantation industry based on fast growing hardwood stock (Stephen Midgely pers. comm.). However, it has been the pioneering work of Dr Sean Collins and his colleagues from the University of Ottawa which has opened up the potential importance of the genetic resources of the biota through their work on the rich traditional knowledge of medical ethnobotany in the Timorese population. This traditional knowledge was preserved through the war of independence from Indonesia by the need to rely on these, rather than western medicines. In Timor Leste the complexity of tracking ethnobiology across language groups, especially in view of the historical social disturbances the country has faced in the past three decades, means that the understanding of these issues is still limited[4]. Nevertheless, the level of traditional knowledge in Timor Leste, appears to be higher than in nearby areas such as the Tanimbar Islands, where preliminary investigations in rural communities showed surprisingly little awareness of the medicinal qualities of a similar suites of species (Dr James Davie *unpublished pers obs*. April 2015).

In order to efficiently progress detailed knowledge of the native biodiversity of the country and its traditional knowledge, it is important to establish a logical framework for the necessary field work. Reflecting its history, the region of Dili has received a lot of attention over the years and continues to be a focus for much of the existing project work. Knowledge of the biology of the Nino Konis Santana National Park is well developed both in terrestrial and marine environments, but national assessments are very few, resulting a strong bias based on level of effort. The work of Trainor[5] provides the best guide to the variability of environmental and habitat heterogeneity in Timor Leste, while that of O'Shea *et al* (see footnote 10) concludes that the fine scale heterogeneity, linked to human land use history and fragmentation is best organised around a combination of administrative boundaries and geographic variation, including rainfall, soils and topography. There are five distinct forest areas within Timor Leste reflecting differences in soil, climate and topography: These areas are:

- The Eastern region, which contains the majority of primary forest within the Nino Konis Santana National Park.
- The Northern region, which contains open savannah with drought-resistant tree species and broad stretches of mangrove.
- The mountainous Central region dominated by coffee plantations and other marginal agriculture; sparse, vine forests and original forest remnants in steep gullies or rocky locations offering fire protection.
- The Western region contains smaller areas of primary forest.
- The Southern area contains mostly coastal forest including swamp and mangrove.

Because of this fine scale, regional complexity of natural systems and their biodiversity, the work under project Component 2 on collaborative surveys (Output 2.1.3) as well as the transfer of technology for screening and bio-prospecting on biological components (output 2.2.2) is suggested to focus on representative eco-regions of the country including the Sub-district of Vemasse in Bacau, representing the dry and relatively infertile north coast; the Sub-District Lacubes in Manatuto, representing the high central mountains, and/or the Sub-District Alas in Manafahu, representing the fertile southern coastal lowlands (including freshwater streams lakes and other wetlands). These sites were preliminary selected in order to ensure biological and traditional knowledge is extended under this Project to areas other than the large National Park at the extreme eastern end of the island which is the source of most of the available scientific knowledge; and because the different climatic and edaphic environments in these locations are representative of the diversity of the country as a whole. The locations are relatively accessible and they contain very different biotic assemblages from each other. At the same time, each site contains significant human populations that possess, because of differences in local language and traditions, different traditional approaches to the utilization of their ecosystems. Each of the three districts also shows the highest herpetological species diversity, indicative of their potential for application to biodiversity studies (see Kaiser H *et al*, Footnote 16). Additional assessment during the project

[3] Collins, SWM. 2005. *The Ethnobotany of East Timor*. M.Sc Thesis, University of Ottawa: Canada; 2) Collins, SWM, Martins, X, Mitchell, A, Teshome, A and Arnason, JT. 2007. *Fataluku medicinal ethnobotany and the East Timorese military resistance*. Journal of Ethnobiology and Ethnomedicine 2007,3:5 doi:10.1186/1746-4269-3-5; 3) Erdmann, M.V. & Mohan, C. (eds) 2013. *A Rapid Marine Biological Assessment of Timor-Leste*, RAP Bulletin of Biological Assessment 66, Coral Triangle Support Partnership, Conservation International, Dili. 166 p.

[4] For example, India has spent decades creating and maintaining a digital library on traditional knowledge (see http://www.csir.res.in/External/Utilities/Frames/career/main_page1.asp?a=tkdl_topframe.htm&b=tkdl_left.htm&c=..%2FHeads%2FTKDL%2Fmain.htm)

[5] Trainor C. R. 2010. Timor's fauna: the influence of scale, history and land-use on faunal patterning. PhD. Thesis. Charles Darwin University, Darwin, Australia.

preparation phase will be used to confirm the most likely targeted organisms for surveys, collections and bio-screening, as well as best sites to collect those, including possibly the area including Atauro Island just north of Dili, which was recently surveyed by CI and indicating very high marine biodiversity levels, which led to the process suggested with government to propose the area for protection and integrated development to secure both the economic interests as well as the environment.

Since independence in 2002, institutional governance has continued to be dominated by the national government. In the area of biodiversity conservation and ABS issues, the National Directorate for Biodiversity Protection and Restoration (NDBPR) within the Ministry of Commerce, Industry and the Environment is responsible for policies and resource access issues related to biodiversity, while the Ministry of Agriculture and Fisheries is responsible for agricultural, forestry and fisheries resources, the oversight of terrestrial and marine protected areas, and management of the Timor Leste Agriculture and Land GIS (ALGIS) system. The potential for institutional management of ABS issues has advanced in several important ways, including establishment of a national electronic database at UNTL; the formation by MCIE in 2014 of a National Centre for Climate Change and Biodiversity[6] hosted by UNTL, which is responsible for BD-related research, including research and extraction agreements; and the establishment of the NDBPR. Timor Leste is preparing to grant significant autonomy, including increased legislative authority, to the 13 *Municipalities* (Districts) in the country starting in the early 2020s. According to Timor Leste's constitution, land and natural resources belong to the State, but customary law is recognized by the government and local agreement is required for the successful implementation of virtually all activities (for this reason, Free Prior and Informed Consent – FPIC - processes are a long established informal requirement in the country). In addition, because of the inability of the national government to impose effective day-to-day administration, local, non-formal, controls remain very important throughout rural areas of the country, and the split in governance between national statutory provisions and the application of local laws depending on day-to-day needs generally functions well[7]. At present, the 442 Sucos (villages) have some degree of autonomy, including their own structure of by-laws and regulations relevant to local administration[8].

Four Decree Laws and a Policy critical to the Nagoya Protocol are currently in draft form and awaiting enactment in Timor Leste. The draft Decree Law on Biodiversity will provide the legal basis for implementing the Nagoya Protocol; set out the authorities and duties for the relevant ministry to regulate the accessing of genetic resources; and provide guidance on benefit sharing, including authorization for the establishment of a permit system. The Decree Law on Land has been in existence as a draft since 2012, but is still being developed due to the difficulty of determining the legal status of urban land in Timor Leste. The draft Decree Law for Protected Areas will regulate the establishment, management and use of protected areas, including provisions for obtaining licenses to conduct scientific or commercial investigations within PAs. The draft Decree Law on Forestry will govern the utilization and sustainable management of forests. Finally, the draft National Seed Policy for Timor Leste will regulate the conservation and use of plant genetic resources and recognize the role of farmers in maintaining genetic resources in agriculture systems. The policy provides strategies to comply with the Convention on Biodiversity especially from the Agriculture sector, in the regulation of seed management.

Threats and Root Causes

The most encompassing and severe on-going threat to biodiversity is deforestation and forest degradation. During the Indonesian administration (1975-1999), a third of upland and dry lowland forest ecosystems were lost through deforestation. Large areas of forest were destroyed through unsustainable harvesting for export of sandalwood, ebony, redwood teak and mahogany; and clearing as part of the war against FELANTIL. The rate of deforestation during this period was 1.1% per year compared to the global average of 0.3% per year. Most of the deforestation was on sloping land, which contributed to additional environmental degradation through soil erosion, landslides and sedimentation of waterways. Deforestation and forest degradation has continued since independence, driven by a rapidly growing and impoverished rural population[9] requiring agricultural land and fuelwood. Between 2000 and 2005, 56,000 ha of forest were lost, amounting to an estimated 1.38% per year. Demand for fuelwood remains high, and is especially problematic around the major population centres.

Forest degradation has greatly impacted biodiversity. For example, of the resident bird species on Timor, four are threatened with global extinction and eleven are near threatened, due to habitat loss from deforestation and from hunting/ trapping for the wild bird trade. Important wetlands, which support many resident and migratory waterbird species, including four near threatened shorebirds, are also at risk. In addition to destroying biodiversity habitat, deforestation also degrades other important ecosystem services, including disruption to watershed functions, with flooding causing riverbank erosion and downstream siltation in the wet season and poor water yields in the dry season; reduced groundwater yields from lower replenishment rates

[6] The National Centre for Climate Change and Biodiversity was established in 2014 as a joint facility between the University and the MCIE and is receiving developmental support from a climate fund within the UNDP Country Programme under an MOU between UNDP and the MCIE.
[7] Cummins, Deborah 2015. *Local Governance in Timor Leste*. Routledge: London.
[8] Some *Aldeias* (sub-districts) have also developed their own regulations and these will be reviewed if they exist in the pilot areas (i.e. sub-districts where the Project will operate in Component 2)
[9] Population growth rate between 2005 and 2010 was 3.4%

and water holding capacity; loss of soil quality leading to reduced agricultural productivity; and damage to wetlands and offshore fringing marine ecosystems from poor quality run-off and siltation. Coupled with frequent burning of slopes, deforestation and fuelwood harvesting has contributed to severe soil erosion above Dili, and in Aileu, Manatuto (one of the selected demonstration areas.) and Liquica. The loss of forest cover also facilitates the introduction of pests and other invasive alien species; for example, Siam weed (*Chromolaena odorata*), which degrades pasture and crop lands, has become widespread since its introduction in 1975 and now affects 90% of the total land of Timor Leste[10].

Barriers

This Project proposes to address the challenges noted above by increasing understanding of the value of biodiversity and strengthening capacities for its management among the government and the people of Timor Leste. Addressing Access and Benefit Sharing issues under the Nagoya Protocol offers one important way forward and is consistent with the country's NBSAP. In order to enable the country to formally adopt and implement the Nagoya Protocol, the following three barriers need to be addressed:

Barrier 1: Absence of a Legal and Governance Framework for ABS: The ASEAN-implemented regional UNEP/GEF Project on ABS commissioned a review of Timor Leste's legislation relevant to the Nagoya Protocol, which found that all of the Decree Laws most relevant to ABS, including laws in support of Biodiversity, Land and Forestry, are still awaiting ratification by Parliament. Another critical barrier relates to customary rights, as the recognition and reward of proprietary rights to the custodians of genetic resources including traditional knowledge is a core requirement of the Nagoya Protocol. Although customary ownership and rights are deeply entrenched in all ethnic communities in Timor Leste, the country has experienced significant and on-going disruption of customary laws, a lack of recognition of customary rights as they relate to biodiversity, and the loss of traditional knowledge of the values of natural ecosystems. Consequently, implementation of ABS will require State and customary owners to understand and reach agreement to deliver equity and justice under the law. Furthermore, although a formal customary law process, in which local consent for land, resource use and conflict resolution is incorporated into the draft Biodiversity Decree Law, specific protocols and regulations for implementing such arrangements using Prior Informed Consent (PIC) and Mutually Agreed Terms (MAT) have not been developed, resulting in confusion about how ownership of genetic resources is vested and how genetic resources are valued within the context of that ownership.

Barrier 2: Understanding and awareness of potential value of Timor Leste's biological and genetic resources is inadequate for establishment of an ABS System: Timor Leste's 4th and 5th National Reports to the CBD, consolidate information from a number of historical studies of the marine and terrestrial environment. These reports attest to the patchy nature of information on biodiversity in the country, including on results of any research and development on genetic and/or biochemical composition through the application of biotechnology as defined in Article 2 of the CBD;. A more systematic compilation, storage and access to existing data and future additional surveys of the country on biological and genetic resources would contribute much to (i) a science-based approach to biodiversity conservation, and (ii) the sustainable utilisation of genetic resources as well as prospect for attracting research partnerships and additional resources to enact the Nagoya Protocol. In the absence of such an approach biological data and new inventories will be extremely hard to access and use in ways beneficial to e.g. research institutions or new budding enterprises in biodiversity-friendly business in Timor Leste. This baseline situation as a result lacks the important stimulus for more systematic exploration and screening of genetic resources in the country by linking the processes and objectives of private commercial outcomes to those of public policy and scientific enquiry. Additionally, survey in biological resources will remain limited in location and focus, and increasingly will depend on the areas selected by various development projects[11], thereby lacking context for comparisons, weakening the ability of NCA/CSA – to be designated under the Nagoya Protocol, to monitoring the fair and equitable access to genetic resources (Article 17of NP), and of a more damaging nature, will remain a barrier for commercial and non-commercial research due to the perceived risk of non-compliance.

An effective ABS regime for sustainable use and fair access to genetic resources also needs to be responsive to the proprietary knowledge of the natural biodiversity by rural people within their territories[12]. Traditional knowledge is an explicit requirement for assessment of biodiversity in support of an ABS system. In Timor Leste the complexity of tracking ethnobiology across language groups, means that understanding of these issues is quite limited in the scientific literature. Nevertheless, initial studies of ethnobiology indicate that there is a strong tradition of using native biota, especially for food and medicines and that there is an urgent need to invest in documenting this knowledge before it is lost forever[13].

[10] FAO 2008. Timor Leste National Action Plan to Combat Land Degradation.
[11] See e.g. www.laohamutuk.org/oil/Tasimane/SSb/EIA/WPFloraFaunaMar 2012.pdf
[12] See Article 12 of the Nagoya Protocol
[13] Collins, SWM. 2005. *The Ethnobotany of East Timor*. M.Sc Thesis, University of Ottawa: Canada; 2) Collins, SWM, Martins, X, Mitchell, A, Teshome, A and Arnason, JT. 2007. *Fataluku medicinal ethnobotany and the East Timorese military resistance.* Jour. Ethnobiology and Ethnomedicine 2007,3:5 doi:10.1186/1746-4269-3-5; 3) Erdmann, M.V. & Mohan, C. (eds) 2013. *A Rapid Marine Biological Assessment of Timor-Leste*, RAP Bulletin of Biological Assessment 66, Coral Triangle Support Partnership, Conservation International Timor-Leste, Dili. 166 p.

A further constraint to an emerging ABS system is that outreach by government to rural people – the main stewards of biodiversity, is still not undertaken systematically so that there is little awareness of potential benefits from native genetic resources to reinforce traditional knowledge or to help preserve it. Even where information is available there is no centralized and easily accessible repositories (including physical structures such as museums/herbariums and information structures such as databases) in which to store and access information related to biodiversity, including traditional knowledge. Consequently, that information is not easily available to inform decision making about access to genetic resources[14] and to negotiate terms with international and national organisations wishing to carry out scientific studies or bio-prospecting within its borders. A compounding factor affecting government attention and investments in the conservation and sustainable use of biological and genetic resources is the fact that few understand or acknowledge the value and potential of genetic resources as part of the national sustainable development agenda. The delays with processing in parliament of the Draft Biodiversity Act or the presently very low number of protected areas in the country speak for this. It has both historic reasons where most natural resources were 'occupied' and exploited by the external colonial powers Portugal and Indonesia, respectively, but also by the fact that until today little research capacity has been organised to assess such values and explore for business potential.
The lack of a national infrastructure to document biological and genetic resources means that knowledge is still preserved in overseas institutions, or in difficult-of-access specialist scientific media. Many past environmental assessments in the country, although undertaken by foreign entities, have included provisions for information sharing (usually with the Ministry of Agriculture and Fisheries) as well as training of counterpart staff and knowledge transfer (e.g. agreements to return photographic and preserved specimens to Timor Leste when a natural history museum and herbarium were established[15]). The Timor Leste Agriculture and Land GIS (ALGIS) system stems from this period. However, the ALGIS system is no longer actively maintained, and the benefits of most training programs have not been institutionalized. More generally, professional resources and capacities are very limited, making it difficult for the country to move systematically into new areas of potential biodiversity-based livelihoods, biotechnology and green economy options that would reinforce the retention of biodiversity. As Hinrich Kaiser argues, there does need to be a professional approach to systematically understanding the national biota and this needs to be institutionalised[16]

Barrier 3: Lack of practical experience and capacity with biodiversity governance instruments (including PIC and MAT) and field investigations in genetic resources and traditional knowledge: Since becoming independent in 2002, Timor Leste has devoted significant resources to developing human capacity, with many graduates being sent overseas for postgraduate training. However, the challenge of building a professional class of researchers, resource managers and policy makers within government and civil society is very high. For example, the National University still does not have any programmes in general biological sciences, environmental science or natural resource planning. More generally, interest, capacity and investments in biodiversity research, bio-prospecting and product development are significantly constrained in Timor Leste by the lack of dedicated institutions, national and international partnerships, and capacities and tools to apply ABS principles (e.g. through PIC/MAT agreements). Another important barrier is the lack of champions on ABS issues and of demonstrated partnerships between the local stewards of biodiversity and genetic resources and investigating / bio-prospecting institutions. Although, in the baseline laboratory systems are available – e.g. at UNTL, lack of latest technology and scientifically sound research procedures for screening genetic and bio-chemical properties prevent utilising the potential biological diversity and resources available in Timor Leste. The challenge of preparing for the implementation of the Nagoya Protocol in Timor Leste provides a new opportunity to focus on the professional training needs required for the country to move forward. The recent establishment of a Centre for Biodiversity and Climate Change within the Ministry for Commerce, Industry and Environment is a major step forward and may provide a public sector nucleus for national capacity building.

1.2) The baseline scenario or any associated baseline projects

Government baseline in support of the Nagoya Protocol

Despite a number of well-trained young professionals in both the lead Ministries concerned with implementing the various elements under the CBD related to genetic resources – specifically the Nagoya Protocol - and in the National University of Timor Leste (UNTL), there has been limited progress in establishing a national framework towards the fair sharing of benefits

[14] A GIS facility to support Timor Leste's responsibilities under the CBD is located in the Directorate for Biodiversity Protection and Restoration, but this database is still embryonic and needs substantial strengthening, ideally within a national centralized facility to guarantee integrity, completeness and sustained management. At the least, it should be linked to the ALGIS currently housed in MAF.
[15] As this institution would be new it would be most efficient to incorporate herbarium and museum within a single institution following the UK and US national museum models
[16] Kaiser H., Crother B. I., Kelly C. M. R., Luiselli L., O'Shea M., Ota H., Passos P., Schleip W., Wüster W. 2013a. Best practices: in the 21st century, taxonomic decisions in herpetology are acceptable only when supported by a body of evidence and published via peer-review. Herpetol Rev, 44(1): 8–23.

arising from the utilization of genetic resources, including through non-commercial and commercial research, thereby contributing to the conservation of biological diversity and the sustainable use of its components. This limited progress is mainly related to chronically low government budgets made available for developmental projects and specifically environment protection, including for research and policy development.

In the baseline, government programs enabling aspects for the implementation of the Nagoya Protocol in Timor Leste, namely assistance with legislation, the sustainable utilisation of genetic and bio-chemical resources through biological diversity information management, facilitation of research, as well as capacity building – as addressed in the *Alternative Scenario* described below, is worth over USD 2,200,000 in resources committed by government through the Ministry of Commerce, Industry and Environment (MCIE), the MAF and the UNTL under its agenda of national development. This includes the ongoing establishment in the UNTL of the ***National Database Centre*** and the collaborative ***National Centre for Climate Change and Biodiversity*** by MCIE and UNTL. The Data Base Centre is providing the hardware and the training for a single system to be used for education in the university and the storage and use of national statistics that could include those related to biodiversity as described in Component 2.1 of the Alternative Scenario. The National Climate Change and Biodiversity Centre is already working through an MOU with the MCIE to implement field projects and has taken on existing resources within the UNTL, which will constitute important baseline activities and co-funding to the GEF project. While not currently engaged in teaching, it is the basis for upscaling and outreach of a teaching concentration on traditional foods and agro-biodiversity planned in the UNTL ***Faculty of Agriculture***. The UNTL ***Faculty of Social Sciences*** is also commencing diploma programmes for rural women and these provide in-kind funding and partner basis for supporting training and outreach as proposed in Component 1.2 of the Alternative Scenario. Not included in the above baseline activities, is the ongoing work by the Government of Timor Leste towards getting the Draft Biodiversity Act through parliament during the lifetime of the project, as well as start of activities on acceding the Nagoya Protocol, which are key deliverables under Comp 1.1.

Baseline projects also include the USD 3.5 million GEF-funded *Securing the long-term conservation of Timor-Leste's biodiversity and ecosystem services through the establishment of a functioning National Protected Area Network and the improvement of natural resource management in priority catchment corridor*, to be executed by Conservation International through the Ministry of Agriculture and Fisheries and the Ministry for Commerce, Industry and Environment. Its targeted outputs on establishing national legislation for the National Protected Area Network (and associated by-laws) will provide important input to the development of the ABS national legal framework related to stakeholders' benefit sharing within the framework of protected areas, including through PES mechanism to monetarise the protection and sustainable utilisation of genetic resources, as well as its output on business plans for protected areas, which could include national modalities for access to and development of genetic resources held in these high biodiversity hotspots.

Additionally, the Timor Leste Ministry of Culture, and the Museum and Art Gallery of the Northern Territory in Darwin, Australia are currently exploring a cooperative agreement to include support for the establishment of a national natural history museum. Coordination between these organisations could include comparative studies, exchanges and the hosting of scientific expeditions, and could be extended to Charles Darwin University and the University of the Sunshine Coast. All of these organisations have a history of working in partnership with Timor Leste[17] (also footnote 13) and will be an integral part of the project baseline and co-funding partnership.

Baseline projects by Donor Partners and Civil Society Organisations:

The systemic problem of providing operational budgets for government agencies has contributed to a situation where actions are determined through external sources of funding, which are to a large extent channelled through government as the source of much of the professional expertise in the country. Much is still to be done in transforming the operations of these agencies so that national experts emerge and provide the technical day to day leadership that is required to advance institutional and individual capacity building. With few exceptions, identifying and building upon other programs and projects with whom this ABS Project can work requires a focus on capacity development and process rather than extra funds, or shared activities and locations. Nevertheless, from this perspective there are several projects with which this GEF Project will find close alignment and potential co-funding.

- **Private sector support to sustainable utilisation and bio-prospecting** is a potentially important but unknown area of baseline work in Timor Leste. Interest to provide co-funding and technical services to the GEF project by the Japanese firm Nimura Genetic Solutions (NGS) has been confirmed with UN Environment and are based on similar successful program support ongoing in Bhutan, Malaysia and more recently in Myanmar in capacity building, invtsments and transfer of technology in bioprospecting. As a result, the 'on-the-ground' partnership for bioprospecting work conducted in Malasia (including tested PIC, MAT etc), as well as its national ABS framework, is regionally known as one of the most advanced and applied.

[17] Cowie, Ian 2006. A survey of the flora and vegetation of the proposed Jaco-Tutuala-Lore National Park (undertaken for Birdlife International and the MCIE by the NT Herbarium, NT department of Natural Resources, environment and the Arts).

In Malaysia NGS's collaboration and support to the Forest Research Institute Malaysia (FRIM) as well as the Sarawak Biodiversity Centre (SBC) for over 10 years, has yielded over 27,000 potential strains of microbes from both marine and rainforest habitats of which some were patented through the World Intellectual Property Organisation - WIPO (4 patents for antibiotics from soil microbes with FRIM, and 4 patents for luminescent agents from star bugs with Olympus and Perak State Development Corporation). Through the facilitation of NGS with pharmaceutical and chemical companies, this generated royalties of over USD 500,000 to the three collaborating institutes in Malaysia.
Collaboration with the National Biodiversity Center in Bhutan – financially supported by the GEF 5 Nagoya Protocol Implementation Fund, involves collaborative research on the screening of biological resources since 2009 with an estimated value of USD 500,000 cash co-funding brought in. More recent collaboration with Quantum Pharmaceuticals Limited involves scoping research, product development and technology transfer for pain relief herbal products in Bhutan. The transfer of the material will/has been done on execution of a Material Transfer Agreement. Based on the scoping results, an PIC/MAT agreement will follow to secure fair and equitable sharing of benefits for the communities, the Quantum Pharmaceuticals Limited company as well as the User. An initial market assessment was also due to be carried out.
NGS company also provided financial and technical support in setting up and running 4 bioprospecting laboratories in Malaysia and Bhutan, for microbial research and basic bioassays, as well as chemical extraction from plant materials.
Most recently, NGS started work on a similar type of collaboration in Myanmar.

- The **World Vision** project *Building resilience to a changing climate and environment (BRACCE),* a USD 2.6 million project from 2015-2019, is taking an integrated landscape approach to food insecurity and climate change in the Ailue district near Dili.. By improving environmental and agricultural sustainability, introducing diversified forest-related income streams, and reducing the local demand for resources, this project seeks to improve household incomes and insulate local communities from the future effects of climate change. It will undertake a.o.: community-based mapping of land use and ownership and boundaries for forest restoration; and advocate to government to establish local government by-laws and mechanisms to assure community rights over land resources managed through Farmer Managed Natural Regeneration areas. While not directly concerned with genetic resources or biodiversity issues, the BRACCE project is expected to align closely with the ABS project through its focus on community-rights and access such as (land) resource ownership and advocacy on behalf of rural people. This will be a key forum for technical input to the national ABS govenance and legislation framework to be developed through the GEF project on Community Protocols for ABS (1.1.2).
- The **USAID** AVANSA Hortikultua Project is a five year, USD 19.2 million project designed to accelerate inclusive growth through increased productivity and profitability of the horticultural food chain by expanding market linkages and supporting economic growth by working with farmers, buyers and communities to improve income, nutrition and women's' empowerment. It has four primary components: (a) strengthening the horticulture value chain; (b)improving natural resources management; (c) improving nutrition and livelihoods; and (d) transitioning subsistence farmers to commercial growers. Through its focus on rural development and natural resources management the project offers considerable potential to this ABS project through combining incentives in terms of livelihood development, emphasising local ownership of resources and sharing of outreach staff, expertise and experiences, important under Comp 1.2 of the GEF project.

1.3) The proposed alternative scenario, GEF focal area strategies, with a brief description of expected outcomes and components of the project

The project approach built into its design is to support establishment of the national regulatory/governance framework for ABS under Component 1 – through outreach, capacity and high level engagement with policy makers and Parliament, whilst also as part of Component 2, using the promotional 'proof of concept' on the commercial potential of genetic resources, as well as through the new partnership and (bio-prospecting) research capacity being established, to generate that extra 'push' for national legislators to work on the successful accession to the Nagoya Protocol and adoption of its principles and provisions. **As indicated in Barrier 3, no project on ABS in Timor Leste would succeed in obtaining adequate central government support for accessing the NP, if not working in parallel in showing the benefit of doing so for national sustainable development, including on stimulating business and research interests by building capacity and starting pre-investments (even whilst being modest) in biodiversity research, bio-prospecting and product development.** Timor Leste as a young state, is still fully in a transitional phase where this multipronged approach of the project is an important GEF – incremental support to enable it to proceed towards both accession to the Nagoya Protocol, as well as the development of the national legal and institutional framework for ABS. Whilst the administrative framework established under Component 1 will be conditional as well as underpin the activities under Components 2, these activities will also cycle lessons learnt back into the review and refinement of the administrative framework for ABS. The elements and activities of the two Components are described below.

Component 1: **Establishment of national coherent legal and institutional framework on ABS including Traditional Knowledge**

This component has two targeted outcomes, the first related to 'a national coherent ABS framework', and the second one towards 'increased awareness and capacity on the provisions of the NP as well as the evolving national framework for ABS in Timor Leste'. The project will design, facilitate and start implementation of the national policy/regulatory and institutional framework to support implementation of the Nagoya Protocol through output 1.1.1. To begin, the project will undertake a gap

analysis of the existing legislative framework related to ABS, including analysis of local level legislation, followed by the actual drafting of the required institutional and legislative framework required to successfully start implementing various provisions given in the Nagoya Protocol.
Because confirmation of the Biodiversity Decree Law is a political process, the project will not directly engage in this activity, but will provide technical assistance and facilitate engagement of government, civil society and private sector stakeholders to produce a *White Paper* that will set out needed policies, governing regulations and administrative procedures specific to ABS for Timor Leste. It will also explain the advantages of the Draft Decree Law as well as the fit of the evolving national ABS framework with the Decree (which already includes clauses related to ABS) and as such minimise political risks and objection in moving towards Timor Leste's accession to the Nagoya Protocol as well as the confirmation of the Draft Biodiversity Act in Parliament. Through its national consultative process as well the contents and guidance of the White Paper, the Project will reinforce the institutional framework for ABS by assisting in the designation of a Competent National Authority (CNA), its National Focal Point (NFP), and its delegation with technical sector agencies (CSA). The project will help clarifying roles and responsibilities of the CNA and CSA (1.1.1) and to be decided through a broad national consultative process and in accordance with applicable national legislative, administrative or policy measures specific for the mandates of the agencies and sectors programs, including e.g. on granting and monitoring access to genetic resources, as well as to traditional knowledge. One of the critical functions of the CNA will be the promotion and monitoring of a nationally consistent and integrated approach to MAT & PIC procedures, which through project support under Output 1.1.3, will develop model agreements that facilitate the negotiation for monetary and non-monetary benefits between users and providers for genetic resources. This could involve sector agencies with specific areas of responsibility, e.g. cultivated plants, wild plants and animals, medicinal / cosmetic / industrial biological extractions, etc.

The project will enable at least two new of modified central government regulations and/or policies incorporating provisions on compliance, access, monitoring/checkpoints, protection of traditional knowledge and benefit sharing. Project policy for ABS policies and regulations will be especially important with regards local level dimensions. At the Suco (village) level – and possibly the sub-village communities *Aldeias* - local government by-laws and community customs and practices will be systemised, reviewed and revised where needed to support the design and implementation of national policies which (a) enable the model drafting of Community Protocols (1.1.2), as well as (b) ensuring that the national ABS framework as well as CNA respond to local socio-cultural conditions. Model Community Protocols will be drafted in close collaboration with local stakeholders, as part of the national obligation under Article 12 on the protection, access to and benefit generation to local resource holders of traditional knowledge. Timor Leste has strong and long-standing local customs and local by-laws, which need to be considered and incorporated in any national legislation enabling the implementation of the Nagoya Protocol.

To enable capacity building as well as implementation of the ABS framework, the project will develop *Standard Operating Procedure* manuals for CNA and CSA (Article 13) that cover clear guidance on the national operational framework related to a.o traditional knowledge, PIC and MAT, Community Protocols, monitoring, stimulation of research partnership and related investments etc. Importantly, the drafting and consultative process towards the White Paper, will be the essential mechanism to engage and convince central government decision makers to accede to the Nagoya Protocol (1.1.5), to get the Draft Decree Law through parliament, as well as clarify the national legal and institutional governance framework needed for the implementation of the Nagoya Protocol. As such the White Paper should be considered an 'academic draft or draft Bill'; however the project cannot take responsibility to passing the draft Bill in parliament. High-level consultations such as seminars with parliamentarians and policy makers are programmed under Output 1.1.4, which will build the case to accede the Nagoya Protocol as well as sustain their plans for consolidation of national research and data centers – specifically those related to biological resources, traditional knowledge and genetic resources, through presenting and discussing the economic potential and value of such resources for the country's sustainable development agenda, through collaboration with international partners, as well as private sector in commercial and non-commercial research. Finally, the project will support the GoTL with the consolidation of information required for formal accession to the Nagoya Protocol, including the compilation of documents, data, and conducting training and workshops where useful to enable the process (1.1.5). Besides benefitting greatly from the institutional capacity building to be conducted under Outcome 1.2, the guidance provided through the White Paper, willingness for acceding the Nagoya Protocol will be greatly enhanced by the promotional effect received from the 'proof-of-concept' through the bio-prospecting and (facilitation for) marketing work under Outcome 2.2, in collaboration with private sector and national research agencies.

The establishment of the national ABS framework will be enabled through outreach and capacity building, with as first step the establishment of an *Outreach and Institutional Development Plan* (Output 1.2.1) in the Tetun language to define stakeholder participation and capacity development needs consistent with Article 21 of the Nagoya Protocol. The plan is expected to facilitate understanding, willingness and adoption of the ABS legal framework throughout the government and help to consolidate policies, directives, as well as make the case on the potential role and value adding of genetic resources to national sustainable development. It will start by establishing a national multi-stakeholder network and implementation of an outreach campaign with national political, civil society and industry leaders (Output 1.2.2), as well as local traditional representatives

(e.g. towards Community Protocols) to raise awareness - with at least 50% over baseline, on ABS requirements, its potential benefits and the evolving national ABS framework. Once the national competent agencies have been identified and the national coordination mechanism agreed, additional institutional and staff capacity will be build (30% over baseline) with a minimum of 50 staff under Output 1.1.3 on the formal requirements, best practise and applicable model agreements on institutional, regulatory and implementation framework for ABS in Timor Leste, Training materials will a.o be based on existing materials such as the ABS Management Tool[18], as well as the White Paper and the National Operational Manual for ABS. The national Operational Procedures manual document will be submitted to the Government through the NCA, entered into the TLNDB, and lodged with the NP International Clearing House. These may be finetuned based on the experience gained during the implementation of the project. The analysis of the experience gained through other project activities, specifically the development of Protocols, model agreements, the 'proof-of-concept' bioprospecting demonstration activities (Outcome 2.2), as well as the data inventories for genetic resources and traditional knowledge (Output 2.1.3), also will consider levels of potential engagement and provide opportunities for industry and civil society to comment on the effectiveness of legislative and regulatory recommendations to deliver incentives and livelihood benefits.

Component 2: **Operationalisation of the Nagoya Protocol on research and monitoring for sustainable utilisation of genetic resources**

Rationale: Timor Leste takes a specific position in the Asia Pacific region, as indicated under Barrier 2, in largely lacking a national system and the needed institutional capacity for (a) centralised (biodiversity) data inventory, collation and repository, as well as (b) to be adequately responsive to the potential development value of genetic resources, as well as the proprietary knowledge of the natural biodiversity held by the country – specifically it rural people. Much of the existing biodiversity information, records and publications, including Traditional Knowledge and potential genetic resources/derivate, is held by foreign institutions, and existing national databases are incomplete and scattered over various institutions. A compounding factor – directly related to a weak institutional basis on protecting and sustainably utilising its biological resources and preventing the country to accede the Nagoya Protocol, is the perceived lack of recognition by government agencies and parliament of Timor Leste, specifically of the potential benefit of biodiversity and genetic resources towards meeting national development goals.
However this may change, as in the baseline, various national initiatives are being taken to consolidate exiting datasystems and non-commercial research capacity, which together constitute an excellent basis for GEF incremental support towards, *firstly*, a national process of acceding the NP, *secondly* enabling the implementation of the Nagoya Protocol with regards monitoring fair access and sustainable utilisation (the capacity to do so), as well as *thirdly* to jumpstart research in genetic resources, bio-chemical compounds and associated TK which, through the 'proof-of-concept approach, would benefit the previous two results.
Proposed activities and outputs under this Component 2 will help implementing the Nagoya Protocol, specifically related to provisions to be made by countries on monitoring the sustainable utilisation of Genetic Resources (Article 17) through enhanced access to biodiversity data, inventories and storage in efficient and effective ways, facilitating international collaboration and capacity building (Article 23), as well as towards stimulating and simplifying procedures for non-commercial research through national measures under Article 8.
While developed country museums and herbariums draw their rationale from a heritage of public science and culture, the establishment of new facilities such as here in Timor Leste – a LDC country, may derive greater strength of purpose and sustainability by tying themselves more directly to sustainable development goals and national poverty alleviation objectives.
Bioprospecting activities can theoretically contribute to sustainable development by providing incentives for conservation while developing technological capabilities that enhance long term opportunities for economic growth. Countries seeking to derive significant benefits from their biological resources must develop capabilities to provide value-added combinations of biological material, associated knowledge, and technical services. This requires moving beyond a gatekeeping or 'controlling through regulations only' approach to access and benefit sharing, toward a more comprehensive strategy focusing
on benefit creation and partnership building (Artuso, 2002[19]). The importance of this issue is underscored in Article 23 of the Nagoya Protocol on 'Technology Transfer, Collaboration and Cooperation', as well as Article 10 of the CBD, which calls upon each contracting party to "encourage cooperation between its governmental authorities and its private sector in developing methods for sustainable use of biological resources".

Based on this rationale, Component 2 targets attainment of two Outcomes, firstly, the 'enhanced institutional capacity for monitoring fair access and promoting research for sustainable use of genetic resources', and secondly, 'enhanced technological and business planning capacity for screening and commercialisation of genetic and bio-chemical compounds'.

[18] Geoff Burton and Jorge Cabrera, 2012: ABS MANAGEMENT TOOL - Best Practice Standard and Handbook, Implementing Genetic Resource Access and Benefit-Sharing Activities.
[19] Artuso, 2002, Bioprospecting, Benefit Sharing, and Biotechnological Capacity Building. In: World Development Vol. 30, No. 8, pp. 1355–1368

The project will technically support the expansion of the new Timor Leste National Data Centre (TLNDC), a joint facility of the GoTL and the UNTL, to include the storage of scientific and traditional knowledge on biodiversity and genetic resources, and its link to the existing national data bases (2.1.1). Once the NCA has been established at MCIE, the TLNDC - will support the Ministry by taking on some of the functions of the (international) *Clearing House Mechanism* through the planned national mechanism, and will complement other functions related to biodiversity resources management at UNTL, including a library, physical repository of specimens, and a biochemical and genetic research laboratory (see 2.2), and will reinforce the National Centre for Scientific Investigations (SNIC). Each of these facilities will be fully co-financed through partners, and will build on incipient facilities already in place at UNTL and within government. The national Clearing House Mechanism, technically supported through project outputs 2.1.1 and 2.1.2, will first of all be the 'information' checkpoint for monitoring the fair access and sustainable use of genetic resources, including to the records held in the TLNDC.

As a *first* step towards the GEF increment of national monitoring capacity for fair access and promotion of research (capacity) with the TLNDC, the project will facilitate the integration of the existing library of information on biodiversity and other environmental issues that is located in the National Centre for Climate Change and Biodiversity into the new database system, and it will facilitate the expansion of the physical and digital collection by seeking support and collaboration with interested international organisations who can provide information exchange, data protocols and capacity building (Articles 8a & 23) which would also enable Timor Leste to meet the provision of monitoring of GRs and associated TK (Article 17). Planning in the TLNDC for hardware expansion and extension to teaching places it in a strategic position to accommodate a number of data realms, including the proposed biodiversity storage and management functions, and expansion of the facility within the university will contribute to sustainability, as well as enable an significant increment towards ABS work such as non-commercial research in biological resources and its potential derivates, genetic resources and associated traditional knowledge found in Timor Leste. The TLNDC will also seek to either include or link to the Agriculture and Land Geographical Information System (ALGIS) managed by the Ministry of Agriculture and Fisheries and the GIS program under development within the Directorate for Biodiversity Protection and Restoration at MCIE. The *second* step in the data system will be the establishment of a physical repository for housing and curating existing and future plant and animal specimens – *which also will be fully co-funded*. This facility will be financially supported by Government through the combined interests of the MCIE, MAF and UNTL and private sector partners, using physical space provided by the UNTL. The Centre for Climate Change and Biodiversity will act as the institutional home for taxonomic specimens as well as an initial research base for the development of knowledge through education in biology, biochemistry and inter-disciplinary environmental science. The planned repository is to operate collaboratively with the expanded TLNDC and a biochemical- and genetic research laboratory, with the latter co-funded via private-public partnership (see under 2.2). Technical support and mentoring, including staff selection and training – as part of the incremental GEF support, is expected to be provided by the Museum and Art Gallery of the Northern Territory and the Government of the Northern Territory in Darwin, Australia, both which have already shown interest to do so.

To support maximising the fair access, proper use and monitoring of records on biodiversity, genetic resources, bio-chemicals and Traditional Knowledge held in these new information systems, the project will help to develop and disseminate protocols (2.1.2 & 1.1.2) for the collecting, cataloging, permitting and reporting of digital and hardcopy records, and the repository of specimens, the conduct of biological surveys (including ensuring that future investigations share reference collections and leave new documentation and benefits in the country), the documentation of oral history and other approaches to documenting and using traditional knowledge, as well as the curation of these data in the TLNDC. Standardized protocols will ensure that data is entered into the national database in an accessible and useful form for all stakeholders, as well as forming the basis for promotion and marketing of any special genetic resources, bio-chemical compounds or other characteristics that are emerging from the research. The project will assist key stakeholders, including students, university and government staff, to understand and be able to follow such protocols, which then can be applied more widely through the country. The project also will support twinning links between professionals in the country with those in Northern Australia and Indonesia; the Museum and Art Gallery of the Northern Territory has informally indicated its willingness to provide mentoring and training, including staff exchange, which would constitute significant project co-financing. Capacity building in these areas will help Timor Leste to gain experience in the negotiation and documentation of the MAT, which will provide access to the investigations and secure the subsequent flows of benefits to all parties[20]. Once formulated and adopted, these protocols, and model MAT/PIC, will be made publicly available on the Internet, as a function of the planned ABS Clearing House Mechanism (2.1.1).

In parallel with the incremental project support to the TLNDC and Center for Climate Change and Biodiversity, the project will also enable a minimum of two twinning partnerships with international scientific organisations (2.1.3) towards the following services: (i) institutional development of NDBPR and UNTL-TLNDC with regards the CHM/National Database (2.1.1), (ii)

[20] As noted elsewhere, Timor Leste does not currently have legal protection for intellectual property, an issue that needs to be addressed in terms of implementing the Nagoya Protocol. A draft Law is currently being discussed and it is expected that the working group involved in this process will be a partner in the project and will represent traditional custodians of genetic resources.

protocols on data management and access to TK (2.1.2), and (iii) co-funded collaborative survey and data exchange programs on biodiversity, genetic and TK resources of Timor Leste (2.1.3).
Available data from national and international biodiversity, genetic and bio-chemical resources and TK studies will be reviewed and entered into the database, so that Timor Leste has a permanent accessible record of these resources of the country, and so that decision-makers can assess the viability and potential impacts of new proposals for using biological resources, and have the background knowledge necessary for the formulation of PIC and MAT arrangements. These will include agreement towards new field investigations to assess the country's biological resources, including genetic resources and associated TK with potential for further trial/bio-prospecting or commodity development – supported though co-funding by international partners. There is a long history of cultural studies in Timor Leste, yet very few studies have focused on traditional knowledge and uses of native flora and fauna. The drastic changes to the country since 1975 and the youth of the post-independence population, which is now predominantly under 30 years old, means that documentation of remaining traditional knowledge is an urgent priority. Thus, although detailed analyses of traditional knowledge and the potential commercial application of Timor Leste's biota have not been carried out and will require significant resources and time[21] beyond the scope of this project, the incremental GEF support is to agree on model Community Protocols and other related code of conduct procedures, and through facilitation of the three co-funded inventories make a start with the national compilation of traditional knowledge in the geographic areas to be targeted. Besides generating additional information for trial and commodity development under Outcome 2.2, these investigations will enhance the professional capacity of the curatorial staff, consolidate institutional relationships, and enhance future collaboration. In addition, they will provide technical inputs to the creation of the operating procedure manuals on Prior Informed Consent (PIC) and Mutually Agreed Terms (MAT) under Component 1.
Its last Output 2.1.4 will assess existing and new opportunities for bio-discovery projects in e.g. the agricultural, crop protection, food/beverage, botanical, cosmetics or pharmaceutical industries identified, which links the work under 2.1 with the objectives of the next 2.2.

A key approach of the project is demonstrating and promoting the 'proof of concept' where private and public entities collaborate successfully on commercial and non-commercial (bio-) research. Using lessons learned from the demonstration field procedures, PIC/MUTs with local stakeholders , as well as the laboratory screening for genetic and bio-chemical resources, the project will deliver suggested policy, legislative and regulatory amendments in the form of a National Procedures and Operational Manual for Implementing ABS Safeguards, which will help the government to complete the national protocols necessary for implementation of the Nagoya Protocol. To this end activities under Outcome 2.2, will provide practical experience and promote ABS research in line with Articles 8 and 23, through co-funded laboratory and technology capacity building on screening for genetic and bio-chemical resources. To provide the capacity, proof-of–concept, as well as essential technological/scientific knowledge to explore the genetic and bio-chemical resources of Timor Leste's biodiversity, it has been agreed with the Japanese co-funding partner Nimura Genetic Solutions (NGS), that the biochemical- and genetic research laboratory (as part of the TLNDC) will be modelled on similar successful facilities and programming support provided by NGS in Malaysia and Bhutan[22] - see Outputs 2.2.1, 2.2.2. and 2.2.3. The fully co-funded laboratory will provide opportunity for on-the-job training to staff from the UNTL, support the genetic aspects of the work of the museum and herbarium, and undertake chemical compound screening for potential products for marketing possible commercial development. .

While it is not possible at this stage to definitively identify bio-resources with potential commercial properties, experience by Nimura Genetic Solutions, the detailed studies of the plants and animals in neighbouring countries[23], combined with the results of local surveys of medicinal plants in Timor Leste[24], give strong reason to believe that commercial development of the flora and fauna of Timor Leste is viable[25] and can be identified as part of the activities under this component. Based on the extensive experience of Nimura Genetic Solutions in working on bio-prospecting in the region, medicinal (or edible) plants with Studies of Traditional Knowledge have revealed many substance which have shown a steady demand from cosmetic and health product industries[26]. Additionally, seed companies are looking for new ornamental flower species to develop new flower varieties. Although Timor Leste is expected to have a relatively high diversity in marine sponge diversity and which are usually used for finding novel chemical compounds applicable for pharmacological use, the pharmaceutical industry has however been rather slow in bio-prospecting research for this group of organism. Algae (micro algae) have shown good prospects for discoveries

[21] For example, India has spent decades creating and maintaining a digital library on traditional knowledge (see http://www.csir.res.in/External/Utilities/Frames/career/main_page1.asp?a=tkdl_topframe.htm&b=tkdl_left.htm&c=..%2FHeads%2FTKDL%2Fmain.htm)
[22] See (a) www.ngs-lab.com; and (b) http://www.nbc.gov.bt/news/laboratory-training-on-different-methods-of-natural-product-extraction-focused-on-tlc-technique.html
[23] As an example, see Henderson, CP and IR Hancock 1989. *A guide to the useful plants of the Solomon Islands.* Ministry of Agriculture and Lands: Honiara.
[24] The pioneering work of Sean Collins and his colleagues from the University of Ottawa has identified a rich knowledge of medical ethnobotany in the Timorese population. Also, see references under Barrier 2.
[25] An early example of a genetic resource endemic to Timor is *Eucalyptus europhylla*, which contributed to an international genetically enriched forest plantation industry based on fast growing hardwood stock (Stephen Midgely pers. comm.).
[26] see Shalini, Bhalani 2002. Traditional knowledge of biodiversity in the Asia Pacific. GRAIN and Kalpavriksk: New Delhi: 38pp

related to their use for bio-fuel, health food and cosmetic products – and related species (yet) to be found in Timor Leste are expected to have similar properties and uses. This will be further assessed during the PPG and groups of organsisms selected for further screening during the project implementation. Key to this is establishing partnership between UNTL, government and international research agencies able and willing to invest in field surveys, bioprospecting and product marketing. Both JICA and the Japanese Science and Technology Agency financially support the SATREPS program (https://www.jst.go.jp/global/english/about.html), where Japanese universities collaborate with developing countries on genetic resources prospecting, including Kitasato University and the Kyoto IPS laboratory. Nimura Genetic Solutions has offered to help establishing partnership with these universities for program support to the GEF project during the PPG project design phase. As such there is good prospect already for strong and diverse partnership support to the GEF project and Timor Leste specifically on bioprospecting research, capacity building and related fields of work..

Whilst providing incremental support to the operations of the research laboratory at UNTL to enhance institutional capacity in bioprospecting (2.1.1), the project will enable co-funded partnership with national and international research institutions and private sector industries to conduct restricted assessment of genetic resources and screening for chemical compounds (2.2.2) on organsisms selected based on a.o the records and analysis conducted under Outcome 2.1.

Whilst already having an 'in principle' agreement between UN Environment and Nimura Genetic Solution, Output 2.2.1 seeks formal endorsement by the Government of Timor Leste through a Memorandum of Agreement on Technical Collaboration between MCIE-NDBPR, UNTL and Namura Genetic Solutions (NGS Japan) on a multiple-year collaborative research and capacity building program for bio-prospecting including on providing institutional support to the biochemical and genetic research laboratory at UNTL. As indicated above, good prospects exist to expand this partnership with additional agencies, including for possible subsequent marketing for product development. These need to be discussed during the PPG and confirmed with the Government of Timor Leste.
Permits to undertake bioprospecting or 'screening' activities as part of Output 2.2.2, will be provided by the NCA, on completion of a PIC and subsequently a MAT, and compliant with National Procedures, that will benefit stakeholders (monetarily or non-monetarily); protect intellectual property rights, and provide data for the National Database. The MATs will include agreements to report on potential for bio-discovery in the agricultural, crop protection, food/beverage, botanical, cosmetics or pharmaceutical industries identified.. Following the establishment of these agreements, the project will facilitate the implementation of bio-prospecting and screening for genetic and/or bio-chemical compounds, although all capital and research costs would be co-funded. The assessments will be based on approved work plans that will include: completion of PIC arrangements at each location; approved methodologies for specimen preservation and curation, photography and tissue sampling where applicable for taxonomic or bio-prospecting purposes; agreed processes on traditional knowledge, including documentation, testing the depth and veracity of TK, and assessment of proprietary rights, including customary rights; and protocols for sharing of knowledge and other matters related to potential benefit sharing mechanisms consistent with local customs. The weight of this Output 2.2.2 is however on supporting the development of staff capacity at the biodiversity repository and laboratory (described under Outcome 2.1 to investigate potential genetic resources and chemical compounds and to curate the results of the assessments in collaboration with scientific partners. Capacity building activities will include short-term visits by international professionals, exchange arrangements for specialist training overseas, and in-service training on-site at UNTL with external specialists – specifically by Nimura Genetic Solutions team. Capacity building, which will be funded through a formula of private and project funding (to be worked out in detail during the project preparation phase), will focus on the training of expert staff from the university who will operate the repository and laboratory (this capacity building will complement the training conducted through the Outreach and Institutional development Outcome 1.2.

Positive experience over the last 15 years by Nimura Genetic Solutions in Malaysia, Bhutan and recently in Myanmar on partnership building for both the actual screening as well as identification of potential genetic resources and bio-chemical compounds, has already led to various partnership and MUT agreements with entities towards product development (see Section 1.2 on baseline projects). During the PPG it will be determined whether there is adequate institutional support and funding capacity to expand the GEF project towards training staff of TL research and government sector agencies as well as corporate partners, towards bio-enterprise development for commercialisation of genetic and bio-chemical compounds of interest to national and international industries.

Through implementing these two components the project supports the goals of GEF BD Focal Area 3, Programme 8 "Implementing the Nagoya Protocol on Access and Benefit Sharing", as well as the following Aichi Targets:

- Target 1 (By 2020, at the latest, people are aware of the values of biodiversity and the steps they can take to conserve and use it sustainably)
- Target 16 (By 2015, the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization is in force and operational, consistent with national legislation)
- Target 19 (By 2020, knowledge, the science base and technologies relating to biodiversity, its values, functioning, status and trends, and the consequences of its loss, are improved, widely shared and transferred, and applied)

1.4) Incremental/additional cost reasoning and expected contributions from the baseline, the GEFTF, LDCF, SCCF, and co-financing

Project Component	Scenario without GEF project	Scenario with GEF project
1: Establishment of a national legal and governance framework for implementation of ABS in Timor Leste	Timor Leste has an administrative structure for implementation of the CBD, and a Competent National Authority (CNA) and National Focal Point for the Nagoya Protocol. The country also has relevant draft legislation, including a draft Biodiversity Law that deals specifically with NP issues. In the absence of the proposed project, the pending legislation will remain in draft form, the Nagoya Protocol will not be ratified, and implementing policies or regulations to support ABS will remain undeveloped.	By the end of the project, government and civil society stakeholders will have increased understanding of the CBD and the implications of the Nagoya Protocol. Competent Sector Authorities (CSAs) will have been designated and have incorporated ABS into their routine responsibilities through policy, planning and regulatory amendments, providing a model for replication at local levels of government. A "white paper" will have been produced to guide the government in the finalisation of the Biodiversity Law and formal accession to the Nagoya Protocol, addressing gaps in the ABS regime and revising national and local policies and regulations deemed necessary for effective application of ABS.
2: Institutional Development to manage a national inventory of the biodiversity of Timor Leste, including traditional knowledge, the use of genetic resources and the implementation of the Nagoya Protocol	Information on biodiversity and genetic resources in Timor Leste is widely dispersed and not readily accessible to most stakeholders. In the absence of project activities to enhance and share such knowledge, the country will remain disadvantaged in identifying potential products based on BD / genetic resources and in negotiating terms with organisations proposing scientific studies or bio-prospecting within its borders.	By the end of the project, a national biodiversity database and management system for storage of scientific and traditional knowledge, and an accessible physical repository (museum/ herbarium), will be established, providing decision-makers with the information necessary to establish priorities and implement actions related to access and benefit sharing of genetic resources. Furthermore, the collection, storage and protection of scientific and traditional knowledge related to biodiversity will be carried out according to agreed upon protocols and processes, and the country will have at least 10% more specimens (preserved animals, plants and tissue samples) collected and categorized and integrated into the database and physical repositories
3: Consolidation of the national commitment to the Nagoya Protocol through implementing selected access and benefit sharing models	In the absence of the proposed project, Timor Leste will continue to have very little practical experience or control over bio-prospecting or in developing protocols, agreements and products based on the fair use of its biodiversity and genetic resources. The country will remain severely constrained in its efforts to develop products based on BD / genetic resources that can benefit local communities and the country as a whole, and it will have no practical models or experience to guide its efforts to develop an ABS regime and accede to the Nagoya Protocol.	By the end of the project, government, the private sector, and civil society will have greatly increased capacity to assess scientific and associated traditional knowledge of biodiversity and its potential uses and to carry out bio-prospecting, laboratory management, and product trials. National policies, regulations and operating procedures / manuals on ABS will have been revised / strengthened as necessary based on the practical experiences and lessons learned at the demonstration sites. As a result, Public-private partnerships will be in place and actively pursuing commercial and non-commercial research and the development of products based on BD / genetic resources at demonstration sites, in compliance with clearly articulated ABS protocols

The design of the Project takes into account a review of Timor Leste's approach to implementing the Nagoya Protocol[27], which identified the progress that still has to be made to establish the full range of enabling conditions necessary in the country for the Protocol to be effectively implemented. Thus, the proposed project is focused on priority actions recognized by the government as essential steps to implement an ABS regime, and co-financing support from the government, development partners, the private sector and civil society will complement GEF-funded activities in achieving common objectives. The GEF will contribute USD 1,319,863 of the overall budget, and various co-financing partners will contribute an additional USD 3,800,000.

1.5) Global environmental benefits (GEFTF) and/or adaptation benefits (LDCF/SCCF)

[27] Burton, Geoff 2014. *Assessment of Timor Leste's approach to Implementing the Convention on Biological Diversity's Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization.* UNU: Institute for Advanced Sustainability Studies: 23 pp.

The Project will, together with other initiatives, help Timor Leste to address the threat to biodiversity and ecosystem services of deforestation and forest degradation by promoting ownership of the biodiversity in the ecosystems, and linking this, through awareness raising and potential opportunity, to incentives for action by rural community stewards. The project will expand knowledge of biological diversity; encourage and support the preservation of associated traditional knowledge; establish a government management framework for ABS of BD and genetic resources; and build new capacity to assess, store and access biodiversity knowledge. It will also promote bio-prospecting of potentially commercial genetic resources and in so doing, reinforce the recognized value of biodiversity and genetic resources for local livelihoods and the development of commercial products. It will thereby provide policy makers and local resource owners/users with clear incentives for protecting these resources and the habitats that sustain them.

By focusing on the demonstration of the value of biodiversity resources in areas outside of the existing Protected Area network, the project will also strengthen the argument for conserving biodiversity in the production landscape and for taking a landscape-level approach to biodiversity conservation that recognizes the need to integrate activities in both the protected and production landscapes. As a result, the project will help Timor Leste to reduce the loss of globally significant biodiversity[28] in forest ecosystems from land conversion, habitat degradation, soil loss and exotic species invasion; in river systems from habitat degradation due to erosion, sedimentation and changed hydrological cycles; in wetlands from sedimentation and exotic species invasion; and in inshore marine environments through sedimentation and pollution. In addition, the knowledge and professional capacity established under the project will be an asset not only to Timor Leste, but also to other regional countries such as Indonesia, while also expanding opportunities for concerted regional responses to biodiversity conservation in Indonesia, Timor Leste and Australia, which are already engaged in management of trans border conservation projects.

1.6) Innovation, sustainability and potential for scaling up

The Project is innovative in the way it approaches the development of the management framework in the government of Timor Leste, by recognising the need for multi-stakeholder and expert support for government agencies that have evolved to be sector-driven and competitive, rather than acknowledging that issues of biodiversity conservation require multi-sectorial and multi-level cross-cutting responses. This innovation is extended through the engagement of industry and civil society stakeholders in conservation and management of biological resources, rather than leaving the responsibility in the hands of a national level government alone; and in the encouragement of institutional arrangement that will ensure depth of knowledge of biodiversity in the community. This institutionalisation of knowledge will be achieved through support for educational institutions through the Project and the incorporation of new knowledge in training courses and research activities. By engaging with private enterprise through public-private partnerships, the project will also promote an approach towards investing in biological resources that is not found in many other tropical countries.

The Project is sustainable because of its focus on institutional strengthening in government and in tertiary education and because it will encourage engagement with rural communities which are presently poorly represented in decision making and whose traditional knowledge is also mostly discounted by economic planners. By linking the issues of biodiversity conservation and the management of the ABS regime to the National Database and Management System, which is already funded and supported through a cross-government commitment, and by facilitating the emergence of a library, physical repository of specimens, and biochemical and genetic research laboratory through national and private sector funding outside the project, it is intended that a feedback loop of expanding expertise and commitment will be built, based on success stories and lessons learnt that will also facilitate sustainability.

The Project has strong potential for up-scaling because it will establish an on-going process through institutional and professional education and training, including enhancement of international networks of relevant organisations. The demonstration activities to be supported by the Project at three sites, each of which represents a significant eco-region within Timor Leste, will provide models that can be replicated at many other sites within the country. In addition, these demonstration activities will establish a model framework for bio-prospecting and assessments of BD / genetic resources and associated traditional knowledge, which can be up-scaled into broader national policies and regulations.

2. Stakeholders. Will project design include the participation of relevant stakeholders from civil society organizations (yes ☒ /no☐) and indigenous peoples (yes ☒ /no☐)? If yes, identify key stakeholders and briefly describe how they will be engaged in project preparation.

The Table below lists stakeholders that have been consulted during the development of this PIF and who are expected to play a key role during the preparation phase of the Project.

[28] As noted earlier, ecosystems within the Wallacea region demonstrate high levels of endemism and species richness, so that reductions in biodiversity loss are globally significant.

Stakeholder	Role in Project Preparation
Ministry of Commerce, Industry and the Environment	The Biodiversity Directorate within the Ministry will act as one of the two national Executing Agencies for the project and will therefore oversee the development of the project design.
Ministry of Agriculture and Fisheries	The Ministry and its various departments will act as a consultative partner, technical advisor and outreach facilitator during the project design process.
National Centre for Biodiversity and Climate Change, UNTL	The Centre will act as one of the two national Executing Agencies for the project and will therefore oversee the development of the project design, in particular with regard to designing project activities for capacity development of government and civil society
National Centre for Information Technology, UNTL	The Centre will design project activities to incorporate ABS data sets into the national data base and other information management and outreach to stakeholders
Haburas Foundation / Friends of The Earth Timor Leste	This organization will help in the design of project activities related to community awareness raising and capacity building
Conservation International	CI's Timor Leste Programme will provide technical inputs related to sustainable use of biological resources and advocacy in relation to biodiversity and sustainability issues.
World Vision	World Vision's Timor Leste Programme will help in the design of community capacity building in relation to resource assessment and identification of livelihood options.
UNDP	UNDP's Timor Leste Country Programme will assist in developing a strategy to build the capacity of the National Centre for Biodiversity and Climate Change to address ABS issues.
ASEAN Centre for Biodiversity	The Centre will act as a consultative partner during the project design process
ABS Capacity Development Initiative (GIZ)	This partner will act as a consultative partner during the project design process
Museum and Art Gallery of the Northern Territory	This Australian scientific organization will help to design project activities related to establishing a national herbarium and museum
Nimura Genetic Solutions, Ltd.	This company will help to design project activities related to the development of bio-prospecting, additional research capacity and co-funding in Timor Leste
Stewards / Providers of Genetic Resources (i.e. local communities, farmers, protected area managers, etc.)	Focus group meetings in selected villages will be organised by the MCIE and mediated through village heads in order to explore the extent of local knowledge in relation to biodiversity and existing customary approaches to regulating use of resources. The focus groups will especially seek to distinguish views related to age and gender. Based on this the PPG will be able to finetune its approaches and budgeting to e.g. development of Community Protocols, the national legal framework for ABS, as well focussing field activities under 2.1.3 and 2.2 to those regions with adequate buy-in as well as being identified as biodiversity hotspots.

3. Gender Equality and Women's Empowerment. Are issues on gender equality and women's empowerment taken into account? (yes ☒ /no☐). If yes, briefly describe how it will be mainstreamed into project preparation (e.g. gender analysis), taking into account the differences, needs, roles and priorities of women and men.

During the project conception phase, efforts were made to ensure opportunities for both women and men to provide their perspectives on potential activities and priorities, and the project preparation phase will emphasize the importance of ensuring that Project activities will meet the needs of women as part of a fair and equitable understanding of access and benefit sharing of genetic resources. Timor Leste's cultural context is that of a new nation that guarantees equality of opportunity for women in its constitution and has a high level of participation of women in governance systems, yet has some of the highest rates in the world of maternal mortality in childbirth and illiteracy, poor health and poor nutrition among women. For this reason, the project will go beyond simply incorporating women's voices to ensuring that women play an active role in the project and enjoy tangible benefits from the project interventions. For example, the Project will address the issue of gender with the design of the regulatory framework in Component 1, ensuring consistency between this framework and Timor Leste's existing legal protections. Procedures to be agreed and formalized for the implementation of Prior Informed Consent and Mutually Agreed Terms will reflect not only the immediate *practical* needs of women and men; but also contribute, beyond government to the provision of new livelihood opportunities and other *strategic* development needs. Under Component 2, attention will be given to the need to understand the breadth and depth of traditional knowledge of environment and biodiversity resources, including the knowledge of both women and men (experience in other traditional societies, including for example in East Java, identifies women as the guardians of traditional knowledge of many species of medicinal plants[29]. Finally, as genetic resources are identified and understood in terms of customary ownership and stewardship, activities under Component 3 will seek to ensure that improved livelihood options and other benefits are available to women and men, and not lost to social (and cultural) *rent seekers.*

[29] Dr. Jim Davie *pers obs*

4 Risks. Indicate risks, including climate change, potential social and environmental risks that might prevent the project objectives from being achieved, and, if possible, propose measures that address these risks to be further developed during the project design (table format acceptable).

Risk	Level	Risk Mitigation Strategy
Possible shifts in government priorities and policy changes could prevent the establishment of an ABS regime and/or constrain the development of public-private partnerships on BD / genetic resources	Low/ Medium	The project will strengthen political commitment and support by raising the awareness of decision makers, institutions, and communities on the capacity of BD and genetic resources to provide economic benefits to resource owners / stewards and to commercial partners, and to contribute to science and national research capacities generally. The project also will strengthen the capacity and understanding of decision makers, institutions, and communities on the potential benefits of an ABS regime through targeted training modules and access to best practice tools and ABS success stories.
Uncontrolled exploitation of forests and other natural ecosystems continues to negatively impact marine and terrestrial ecosystems and their genetic resources	Medium	The project strategy aims at providing incentives for the protection of watersheds and forest ecosystems as the source of potentially valuable genetic resources, thereby reducing the pressure of encroachment and conversion to other destructive purposes
Limited coordination / communication between sectorial agencies and/or ministries	Medium	The project will support the development of inter-agency collaboration protocols, and it will seek to get all sectorial agencies with responsibilities related to BD and genetic resources to be designated as Competent Sector Authorities (CSAs) and to incorporate ABS into their routine responsibilities
Climate change impacts	Low	Climate change impacts are not expected to significantly impact the policy, regulatory, training and information related activities of the project. However, during the PPG phase, potential climate change impacts on BD / genetic resources at the demonstration sites will be assessed, and mitigation measures will be identified as necessary

5. Coordination. Outline the coordination with other relevant GEF-financed and other initiatives.

The GEF has supported two projects that precede and provide a springboard for the present project. One of these projects is the GEF Eligible Parties (LDCs & SIDs) for the *Revision of the NBSAPs and Development of Fifth National Report to the CBD - Phase II.* This project commenced in 2011 and completed the revised NBPSAP in February 2015 along with the fifth National Report to the CBD. The other project is the completed UNEP-GEF ASEAN Project *Building Capacity for Regionally Harmonized National Processes for Implementing CBD Provisions on Access to Genetic Resources and Sharing of Benefits*[30]. In Timor Leste, this project focused on promoting awareness and capacity building on ABS. It generated multi-stakeholder interest in the concept of ABS and also provided background reviews of the legislative and regulatory requirements for its implementation. The main findings from these activities have been incorporated in the background review for this document and also in the design of the increment in the alternative scenario, including continuing collaboration with the key national partners under the UNEP ASEAN project.

Timor Leste is currently involved with two Large Marine Ecosystem (LME) projects with GEF support: the *Indonesian Seas LME project* that covers the northern waters of the country is just beginning implementation, and the 2nd phase of the *Arafura and Timor Sea (ATSEA)* project, which covers the southern waters and is in its project preparation phase. Both of these initiatives provide a forum for work on transboundary marine issues, with the objective of ensuring ecosystem based management and conservation and use of biodiversity and fisheries through the implementation of regional Strategic Action Programmes (SAPs). The activities of the LME projects to assess coastal and marine biodiversity resources will contribute to the consolidation of information on biodiversity and genetic resources proposed under the ABS project.

The proposed project will run in parallel with the USD 3.5 million GEF-funded project *Securing the long-term conservation of Timor-Leste's biodiversity and ecosystem services through the establishment of a functioning National Protected Area Network and the improvement of natural resource management in priority catchment corridor*, to be executed by Conservation International through the Ministry of Agriculture and Fisheries and the Ministry for Commerce, Industry and Environment. The PIF for this four-year Project was submitted in August 2016 with the overall objective of developing a scalable strategy for the establishment of a national protected area network. The project aims to formally establish the Timor-Leste PA Network and strengthen the management of two key catchment areas as pilot sites to demonstrate how to manage protected areas and corridors outside PAs. The project also intends to build understanding, ability, and capacity of local communities to manage

[30] Gusmao, Marcal 2014. Building Capacity of regionally harmonized national processes for implementing CBD provisions on access to genetic resources and sharing of benefits – Timor Leste. UNEP-GEF-ASEAN Completion Report and Appendices

their own resources in accordance with the collaborative management requirements of the country. The proposed ABS Project will extend the knowledge base upon which this PA project is to be built, incorporating traditional knowledge and providing incentives for a national biodiversity conservation strategy that recognizes the need for sustainable use of the intrinsic values of land and ecosystems as a complement to the PA system. In a broader sense CI has strongly indicated other areas of potential collaboration, which will be detailed during the PPG on their project.

In addition, the regional GEF programme *Dugong and Seagrass Conservation Project* commenced implementation in 2016 through the international CSO Blue Ventures and in collaboration with the MCIE, the Ministry of Tourism and the new market development agency ZEESM TL. The project aims to enhance the effectiveness of seagrass ecosystems supporting globally significant populations of dugong, focusing initially on Atauru Island. This is the first project of a continuing association between Blue ventures and Timor Leste and will provide essential support in terms of technical assistance and capacity building in relation to the conservation and sustainable use of marine biodiversity.

Because MCIE is the primary or collaborative partner is each of these projects, coordination will be led through this agency, which is already working, closely on projects with MAF, and the University Centres and Faculties, Conservation International and Blue Ventures.

6. Consistency with National Priorities. Is the project consistent with the National strategies and plans or reports and assessments under relevant conventions? (yes ☒ /no☐). If yes, which ones and how: NAPAs, NAPs, ASGM NAPs, MIAs, NBSAPs, NCs, TNAs, NCSAs, NIPs, PRSPs, NPFE, BURs, etc.

The NBSAP 2015-2020 provides a clear road map for the implementation of Timor Leste's commitments to the Convention of Biodiversity of which it has been a member since 2007. The Vision is that by 2020 Timor-Leste's biodiversity and ecosystems are conserved and wisely used by all sectors, providing food security and contributing to poverty eradication and improved quality of life of Timorese People. In order to achieve the vision, five strategies have been identified which variously include objectives that relate to achieving the ratification and implementation of the Nagoya Protocol. The objectives relevant to the Nagoya Protocol as well as the proposed project are shown in the Box below.

Strategy and set Targets	**Objectives relevant to Nagoya Protocol**
Protecting Biodiversity and promoting sustainable use Target: By 2015, rehabilitation activities in critical watersheds and degraded lands have been undertaken and at least one million trees have been planted per year, providing sustainable livelihoods to local communities through ecosystem restoration activities.	• Enhance and develop a national biodiversity law and relevant environmental policies on nature conservation, pollution and other related concerns, including traditional laws • Implement sustainable livelihood activities for local communities, **promote traditional conservation knowledge and practices**, and enhance the role of women and youth in biodiversity conservation
Building climate-resilient ecosystems through effectively managing protected areas and reducing threats to biodiversity Target: By 2020, the status of biodiversity has improved through the safeguarding of ecosystems, species and genetic diversity in the 30 declared protected areas.	• Develop and implement a comprehensive and integrated agricultural management programme aimed at **maintaining plant genetic diversity**
Enhancing biodiversity and ecosystems services to ensure benefits to all Target: By 2020, ecosystem services have been enhanced through promoting economic values of biodiversity and ecosystems and promoting benefits sharing	• Develop and promote understanding of national policies on access and benefit-sharing arising from utilization of genetic resources, including biosafety measures
Enhancing implementation of the NBSAP through participatory planning, knowledge management and capacity building, including district and sub-district and community levels Target: By 2015, a national biodiversity monitoring and reporting system on biodiversity has been established, using the Clearinghouse Mechanism as a platform for information, knowledge management and networking.	• **Enhance technical and managerial capacity of officials and staff on biodiversity conservation and management** as laid out in the Strategic Action Plan (SAP) and the Capacity Building Plan on Protected Areas under the PoWPA Project of the MAF. • **Develop an integrated research programme for Timor-Leste** and intensify research efforts on the different aspects of forestry, protected areas, agriculture and other ecosystems, such as population studies, ecological studies, water quality assessment, and impact of alien invasive species • Maintain and put into operation the **Clearing House Mechanism (CHM)** as the platform for knowledge sharing and networking • **Document and promote indigenous and traditional**

	knowledge, techniques and practices for local communities, promote traditional conservation knowledge and practices, and enhance the role of women and youth in biodiversity conservation.

The proposed project is consistent with the, Draft Biodiversity Decree Law the Draft National Seed Policy and the Draft Law for Protected Areas, as well as the full body of environment related laws and policies comprehensively reviewed in the 2014 Report on UNEP-GEF Regional ABS Project[31]. In particular, the Draft Biodiversity Decree Law, prepared under the direction of the National Biodiversity Strategy and Action Plan (NBSAP), provides for implementation of the Nagoya Protocol through regulation to be made under Article 48. As the Decree Law is still in draft, its affirmation by parliament is a precursor to proceeding with the ABS Process. A recommendation from the 2013 Regional Project is that the Law is the best mechanism to proceed with the implementation of the Protocol and that this could be achieved through deferring application of those elements of the Law for which there is still uncertainty[32]. However, parliamentary ratification of the natural resources and land legal framework generally remains a problem.

In addition, the project supports the National Biodiversity Strategy and Action Plan of Timor-Leste (NBPSAP 2011-2020), specifically Strategic Action 16, which calls for actions to "Promote understanding and develop national policies on access and benefit-sharing arising from utilization of genetic resources, including biosafety measures", in particular through activities to "Conduct awareness-raising activities among policy makers, government and non-government stakeholders, including private sector and communities to ensure understanding of the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization (ABS)" and to "Conduct national and local consultations in developing national policies on ABS".

Timor Leste has made a number of commitments to the implementation of the CBD and the achievements of its targets. For example, the government has committed to create a Capacity Development Plan to enhance technical and managerial capacities for the conservation and management of the country's biodiversity, as well as a Communication, Education and Public Awareness Strategy (CEPA), based on the recognition that a well-informed public is the foundation for effective engagement and implementation of programmes and compliance to policies by the society. The Capacity Development Plan and the CEPA have informed the design of activities under Component 1. Under the CBD, Timor Leste has also committed to establish a Timor Leste Clearing House Mechanism (CHM) on biodiversity, which will be the mechanism for consolidating lessons learnt from the ABS Project. In the revised NPBSAP (2015), the design of the CHM has been presented along with several steps that have been taken to implement the facility; however, achieving operational status is still in process. The CHM offers a key area of partnership with this ABS Project, which proposes to facilitate its implementation by incorporating these functions into the National Database discussed under Component 2. The close working relationship that already exists between the MCIE and the National University will efficiently focus funding and support from the national government (possibly from Timor Leste's Petroleum Fund) and donor community and other international and regional organizations on a single database management system, linked to training and education in the university, expanding access and use and further ensuring sustainability.

7. Knowledge Management. Outline the knowledge management approach for the project, including, if any, plans for the project to learn from other relevant projects and initiatives, to assess and document in a user-friendly form, and share these experiences and expertise with relevant stakeholders.

The proposed project places knowledge management at the centre of its strategy, and its strategy to address the storage and management of both digital data and actual biological specimens will contribute substantially to the knowledge base for Timor Leste. By housing the project within the Centre for Biodiversity and Climate Change jointly run by MCIE and UNTL, project outputs and products are ideally situated to be converted into teaching and learning tools, and information generated by the project will be linked to the UNTL Timor Leste National Data Base which brings together in one location all the socio-economic data previously held by three sectorial organisations, as well as the MAF ALGIS and the information management systems within MCIE. Participatory and multi-stakeholder meetings will ensure access to information is maximized across the many stakeholder groups, including government, CSOs, and the private sector. Internationally, the project will establish a network of partnerships with international institutions based on a two way flow of scientific information, which will increase knowledge and assist in capacity building while also assisting in the establishment of a regulatory framework for potential commercial interactions involving biodiversity and genetic resources. Finally, collaboration with similar projects in the region is actively being sought with the support of the UNEP Regional Office in Bangkok.

[31] Felisbela Guterres Pires 2014. Appraisal of current laws and regulations relevant to the Nagoya Protocol in Timor Leste (Email: piresfelisbela@gmail.com)

[32] Burton, Geoff 2014. Assessment of Timor Leste's Approach to Implementing the Convention on Biological Diversity, Nagoya Protocol. Annex to the Completion Report of the GEF ASEAN Regional Project on ABS.

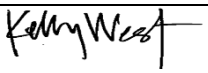
PART III: APPROVAL/ENDORSEMENT BY GEF OPERATIONAL FOCAL POINT(S) AND GEF AGENCY(IES)

A. RECORD OF ENDORSEMENT[33] OF GEF OPERATIONAL FOCAL POINT (S) ON BEHALF OF THE GOVERNMENT(S): (Please attach the Operational Focal Point endorsement letter(s) with this template. For SGP, use this SGP OFP endorsement letter).

NAME	POSITION	MINISTRY	DATE *(MM/dd/yyyy)*
Joao Carlos Soares	Director General of Environment, GEF OFP Timor Leste	Ministry of Commerce, Industry and Environment	13 May 2016

B. GEF AGENCY(IES) CERTIFICATION

This request has been prepared in accordance with GEF policies[34] and procedures and meets the GEF criteria for project identification and preparation under GEF-6.

Agency Coordinator, Agency name	**Signature**	**Date** *(MM/dd/yyyy)*	**Project Contact Person**	**Telephone**	**Email**
Kelly West, Senior Programme Manager & Global Environment Facility Coordinator Corporate Services Division UN Environment		July 10, 2017	Max Zieren, Task Manager & Regional Focal Point Asia	+66-2-288 2101	max.zieren@unep.org

C. ADDITIONAL GEF PROJECT AGENCY CERTIFICATION (APPLICABLE ONLY TO NEWLY ACCREDITED GEF PROJECT AGENCIES)

For newly accredited GEF Project Agencies, please download and fill up the required **GEF Project Agency Certification of Ceiling Information Template** to be attached as an annex to the PIF.

[33] For regional and/or global projects in which participating countries are identified, OFP endorsement letters from these countries are required even though there may not be a STAR allocation associated with the project.
[34] GEF policies encompass all managed trust funds, namely: GEFTF, LDCF, and SCCF