PROJECT IDENTIFICATION FORM (PIF)
PROJECT TYPE: (CHOOSE PROJECT TYPE)
TYPE OF TRUST FUND: (CHOOSE FUND TYPE)

PART I: PROJECT IDENTIFICATION

Project Title:	**Implementing a 'Ridge to Reef' approach to protect biodiversity and ecosystem functions in Tuvalu (R2R Tuvalu)**		
Country(ies):	**Tuvalu**	GEF Project ID:[1]	5550
GEF Agency(ies):	UNDP	GEF Agency Project ID:	5220
Other Executing Partner(s):	Department of Environment, Ministry of Foreign Affairs, Trades, Tourism, Environment and Labour (FATTEL)	Submission Date: Resubmission Date:	August 13, 2013 September 6, 2013 September 12, 2013
GEF Focal Area (s):	Multi-Focal Area	Project Duration (Months)	60
Name of parent program (if applicable): For SFM/REDD+ ☐	Pacific Islands Ridge-to-Reef National Priorities - Integrated Water, Land, Forest & Coastal Management to Preserve Ecosystem Services, Store Carbon, Improve Climate Resilience and Sustain Livelihoods	Agency Fee ($):	338,656

A. INDICATIVE FOCAL AREA STRATEGY FRAMEWORK[2]:

Focal Area Objectives	Trust Fund	Indicative Grant Amount ($)	Indicative Co-Financing ($)
BD-1	GEFTF	1,400,000	1,500,000
BD-2	GEFTF	315,000	1,200,000
LD-3	GEFTF	1,893,448	2,500,000
IW-3	GEFTF	154,396	5,025,000
Total Project Cost		3,762,844	10,225,000

[1] Project ID number will be assigned by GEFSEC.
[2] Refer to the reference attached on the Focal Area Results Framework when filling up the table in item A.

B. INDICATIVE PROJECT FRAMEWORK

Project Objective: To preserve ecosystem services, sustain livelihoods and improve resilience in Tuvalu using a '**ridge-to-reef'** approach						
Project Component	**Grant Type**[3]	**Expected Outcomes**	**Expected Outputs**	**Trust Fund**	**Indicative Grant Amount ($)**	**Indicative Co Financing ($)**
1. Conservation of Island and Marine Biodiversity (BD Focal Area)	TA	1.1 Improved management effectiveness of system of conservation areas composed of existing and expanded Locally Managed Marine Areas (LMMAs)	1.1.1 National biodiversity surveys of terrestrial and marine fauna & flora completed, with specific targets on endemic species to develop the biodiversity component of the GIS-based management information system (as described in Output 4.1.1) 1.1.2 Existing marine conservation areas in the 10 locations expanded to cover 15% of Tuvalu by including more land and sea areas and fish spawning aggregation sites where approriate, building on completed assessments and additional National Biodiversity Surveys (as described in Output 1.1.1). Repeat assessments supported at midterm and project end to measure management effectiveness. Information incorporated into the GIS-based management information system (as described in Output 4.1.1) 1.1.3 Community management systems of marine conservation areas formalised following participatory approaches, with biodiversity focus to address threats, including climate change.	GEF TF	1,600,000	2,300,000

[3] TA includes capacity building, and research and development.

2. Integrated Land and Water Management (LD and IW Focal Areas)	TA	2.1 Integrated landscape management practices adopted by local communities	2.1.1 Resource inventory performed, soils characterized and hazards to land and water resources identified and incorporated into GIS area mapping, complementing Output 1.1.1 towards improving decision making in the management of production landscapes and maintenance of ecosystem services 2.1.2 Degraded forest, cropped and shoreline areas revegetated with native and suitable hardwood tree species (such as *Scaevola, Barringtonia, Calophylla*), and mangrove trees planted in 3 islands with suitable habitats (Funafuti, Nanumea and Nukufetau), towards improving hydrological functions and coastal resilience against climate impacts. 2.1.3 Agroforestry Integration Production implemented, including coconut rehabilitation and underutilized local crop species with involvement of *Kaupule*, NGOs and womens' organizations in about 3 islands towards improving livelihoods and securing food production 2.1.4 Algal blooms in Funafuti lagoon assessed to identify causes and impacts; remedial or measures to control occurrences and severity recommended and initially implemented	GEF TF	1,425,000	5,950,000
3. Governance and Institutions (All Focal Areas)	TA	3.1 Integrated approaches mainstreamed in policy and regulatory frameworks 3.2 Capacity on integrated approaches enhanced at the national and community levels	3.1.1 *Kaupule* conservation area management plans examined and documented in conjunction with Fisheries Department where appropriate, and used to inform national planning and development of regulations and legislation in National Policy in support of integrated approaches 3.2.1 Training manuals and modules on Integrated Coastal Management (ICM) and Integrated Water Resources Management (IWRM) that will include biodiversity status and assessments developed in collaboration with the regional R2R program support project 3.2.2 Trainings in integrated approaches such as ICM and IWRM provided at advanced and basic levels, with training packages developed specifically for Tuvalu and delivered to 3 islands benefitting the national	GEF TF	330,000	700,000

			government including 3 traditional councils and about 150 community participants; participated in related training activities conducted through the Pacific R2R Program			
4. Knowledge Management (All Focal Areas)	TA	4.1. Improved data and information systems on biodiversity, forests land management adaptation best practice	4.1.1 Improved GIS-based management information system installed for biodiversity, forests and climate change, land management and best practices that includes an electronic library to access past knowledge, including reports, data etc. in parallel with ongoing projects, e.g., NAPA II project. Years 1 & 2 to focus on collection of information and assessments, years 3 & 4 to focus on applications. 4.1.2 Knowledge products (videos, photo stories, flyers, brochures) on all focal areas and best practices developed and disseminated through print, broadcast and through *Kaupule*, schools, NGOs, women's and youth groups. All translated into Tuvaluan. 4.1.3: Systematic monitoring system established, with data sharing and joint training and survey activities for terrestrial and marine areas and integrated approaches; monitoring and evaluation results are fed to the R2R program through the regional program support project to facilitate lessons sharing and cross-country fertilization	GEF TF	222,000	450,000
				Sub-Total	3,577,000	9,400,000
				Project management cost	185,844	825,000
				Total project costs	3,762,844	10,225,000

C. INDICATIVE CO-FINANCING FOR THE PROJECT BY SOURCE AND BY NAME IF AVAILABLE, ($)

Sources of Co-financing	Name of Co-financier	Type of Co-financing	Amount ($)
National Government	Ministry of Foreign Affairs, Trade, Tourism, Environment and Labour (Dept of Environment)	In-kind	1,000,000
	Ministry of Finance	Grant	200,000
	Ministry of Natural Resources (Dept. Fisheries); Ministry of Home Affairs and Rural Development (Dept. Rural Development).	In-kind	1,075,000
Bilateral and Multilateral Agencies	Australian Agency for International Development (AusAID) and Tuvalu Association of NGOs (TANGO)	Unknown at this stage	2,500,000
	European Union	Unknown at this stage	2,500,000
	Japan International Cooperation Agency	Unknown at this stage	2,750,000
GEF Agency	UNDP	In-kind	200,000

Total Co-financing			10,225,000

D. INDICATIVE TRUST FUND RESOURCES ($) REQUESTED BY AGENCY, FOCAL AREA AND COUNTRY1

GEF AGENCY	TYPE OF TRUST FUND	FOCAL AREA	Country Name / Global	Grant Amount (a)	Agency Fee (b)[2]	Total c=a+b
UNDP	GEFTF	Biodiversity	Tuvalu	1,323,392	119,105	1,442,497
UNDP	GEFTF	Land Degradation	Tuvalu	520,534	46,848	567,382
UNDP	GEFTF	Climate Change	Tuvalu	1,764,522	158,807	1,923,329
UNDP	GEFTF	International Waters	Global (Tuvalu)	154,396	13,896	168,291
Total Grant Resources				**3,762,844**	**338,656**	**4,101,500**

[1] In case of a single focal area, single country, single GEF Agency project, and single trust fund project, no need to provide information for this table

[2] Please indicate fees related to this project as well as PPGs for which no Agency fee has been requested already.

E. PROJECT PREPARATION GRANT (PPG)[4] NOT APPLICABLE; NO PPG REQUESTED

Please check on the appropriate box for PPG as needed for the project according to the GEF Project Grants:

	Amount Requested ($)	Agency Fee for PPG ($)[5]
• No PPG required.	--0--	--0--
• (upto) $50k for projects up to & including $1 million	_____	_____
• (upto) $100k for projects up to & including $3 million	_____	_____
• (upto) $150k for projects up to & including $6 million	150,000	13,500
• (upto) $200k for projects up to & including $10 million	_____	_____
• (upto) $300k for projects up to & including $10 million	_____	_____

PPG AMOUNT REQUESTED BY AGENCY(IES), FOCAL AREA(S) AND COUNTRY(IES) FOR MFA AND/OR MTF PROJECT ONLY

TRUST FUND	GEF AGENCY	FOCAL AREA	Country Name / Global	(in $)		
				PPG (a)	Agency Fee (b)	Total c = a + b
GEF TF	UNDP	Biodiversity	Tuvalu	52,755	4,748	57,503
GEF TF	UNDP	Land Degradation	Tuvalu	20,750	1,867	22,617
GEF TF	UNDP	Climate Change	Tuvalu	70,340	6,331	76,671
GEF TF	UNDP	International Waters	Tuvalu	6,155	554	6,709
Total PPG Amount				150,000	13,500	163,500

MFA: Multi-focal area projects; MTF: Multi-Trust Fund projects.

PART II: PROJECT JUSTIFICATION[6]

[4] On an exceptional basis, PPG amount may differ upon detailed discussion and justification with the GEFSEC.

[5] PPG fee percentage follows the percentage of the GEF Project Grant amount requested.

A. PROJECT OVERVIEW:

Tuvalu is a newly independent Pacific nation (from 1978) between 5° and 11° South Latitude and just to the West of the International Dateline. Tuvalu consists of 4 uplifted coral islands and 5 atolls with many small coral islands on the atoll rims with maximum elevation of 5 m; all scattered over 900,000 km^2 of ocean. The total land area of 27 km^2 is small although some atoll lagoons are very large e.g. the Funafuti lagoon is 25 km by 18 km with some small patch reefs. The total population of over 10,500 makes Tuvalu one of the smallest countries in the world. The majority of Tuvalu's population is concentrated in Vaiaku, the largest island on Funafuti lagoon with very high population density (> 1,610 persons/km^2) whereas it is 222 persons/km^2 on the other populated islands (Niulakita, Nukulaelae, Nukufetau, Vaitupu, Nui, Niutao, Nanumaga and Nanumea). Coral reef fisheries on fringing reefs, reef patches and in the drop off zone constitute a major natural resource, along with offshore pelagic fishes, especially tuna. Soils on the coral islands are particularly poor consisting of coral sands with some enrichment of humus, especially in areas used to grow taro, once the staple source of carbohydrate.

Tuvalu is a Least Developed Country with a small and highly vulnerable economy, strongly linked to external economic influences (for example Tuvalu uses the Australian dollar as its currency). Government revenues are primarily derived from license fees from foreign tuna fishing vessels, the 'dotTV' internet domain, and income from the Tuvalu Trust Fund. Direct foreign aid and project activities also constitute a major source of revenue. The global economic crisis has reduced earnings from the Tuvalu Trust Fund and from foreign exchange earnings from Tuvaluan sailors working on ocean-going ships. In the 2010 MDG Country Report, Tuvalu is on track to achieve Goals 2, 4, 5 and 8; while they are behind on Goals 1, 3, 6 and 7. Thus Tuvalu faces many challenges due to the small population, land area and economy, spread over large areas of ocean, such that communication and contact with the more remote islands is difficult. In addition, global climate change will pose a particularly difficult problem for these islands which are predominantly less than 3 m above current sea level. Predicted changes in rainfall and storm patterns will increase development pressures. These threats make Tuvalu one of the most vulnerable island states in the Pacific; this proposed project will target some of these threats and seek to reduce vulnerability. The country's natural environment is extremely vulnerable based on the Environmental Vulnerability Index score of 367 – one among 17 SIDS in this category out of a total 47 SIDS scored.

ISLAND	STRUCTURE	POPUL'N 2002	POPUL'N 2012	DENSITY per km^2	ECONOMY
Nanumea	Coral atoll	664			Subsistence agriculture & fishing
Nanumaga	Raised coral platform	582		200	Subsistence agriculture & fishing
Niutao	Raised coral platform	663			Subsistence agriculture & fishing
Nui	Coral atoll	548		160	Subsistence agriculture & fishing
Vaitupu	Atoll & raised platform	1,591			Subsistence agriculture & fishing
Nukufetau	Coral atoll	586			Subsistence agriculture & fishing
Funafuti	Coral atoll	4,492	4,492	1,900	Government, airport, distribution
Nukulaelae	Coral atoll	393			Subsistence agriculture & fishing
Niulakita	Raised coral platform	35			Subsistence agriculture & fishing
TOTAL	ALL ISLANDS	9,554	10,619		

Biodiversity in Tuvalu has not been adequately assessed – in fact the lack of data about its natural resources, the extent of threats thereto have been recognized in various national reports. In terms of endemism, one species of lizard was identified. This will almost certainly increase if more thorough assessments using genetic comparisons are made of animal and plant species as these islands are separated by large distances from other land masses. There are few indigenous plants with about 65 native species, with the remainder being introduced. Birdlife is dominated by 20 species of seabirds with only 8 species of indigenous birds. There are also insects, land crabs and lizards, but no native mammals. The Tuvalu Marine Life Project (2011) reported 317 fish species in reef ecosystems alone, including 66 species that had not been listed previously for the archipelago. These

'new' species are all common coral reef species with a broad distribution. The total reef fish species for Tuvalu is currently 607 though it is estimated that it could go up to 711 species with greater sampling effort. This is equivalent to about 2/3 of the maximum known biodiversity recorded in the Coral Triangle (primarily Indonesia and Philippines). Given the relative area of coral reefs and nearshore areas of Tuvalu, the marine biodiversity in this country is quite impressive.

Tuvalu is a signatory to various UN Conventions. The NBSAP for 2012-2016 has been completed. Thirteen thematic areas, 5 of which are cross-cutting have been identified priorities. The NBSAP was formulated at a time when global consciousness of the impacts of climate change in low-lying islands has been growing. Thus, Climate Change and Disaster Risk Management was the first priority, followed by: Traditional Knowledge, Cultural Practices and Indigenous Property Rights; Conservation of Species and Ecosystems (Marine, Coastal, Land/Terrestrial) and Genetic Diversity; Community – Empowerment, Involvement, Awareness, Understanding and Ownership; Sustainable Use of Natural Resources; Trade, Biosecurity and Food Security; Waste Pollution Management; Management of Invasive Species. There are 5 cross-cutting themes that will support the above priorities. It is noted that the above diverse priorities provide guidance to the formulation of this proposal.

A related document, the Action Plan for Implementing the CBD's Program of Work on Protected Areas (POWPA) in response to the Aichi targets was completed in October 2011[7]. Current area of PAs, primarily marine, is estimated at 75.392 km^2 distributed in 10 islands/atolls which are mostly accounted for by 10 marine protected areas. Preparations are underway to expand its PA network. Only one (in Funafuti) was established by formal legislation with the rest through local actions and managed through traditional systems. The Conservation Areas Act of 1999 provides the legal framework that enables the *Kaupules* (local governments) to establish conservation areas. Currently, there is no established assessment and evaluation framework to evaluate the effectiveness of current management regimes of these conservation areas. The POWPA identified the following actions which will be supported by this proposed project: 1) assessing PA sustainable needs and technology needs; 2) assessing gaps in protected network area; 3) assessing policy environment and the values of protected areas; 4) assessing threats and opportunities for restoration; f) assessing equitable sharing of benefits and protected area governance. The indicative budget of $199,500 is needed to implement the POWPA is unfunded but which could be financed by this project.

Island/Atoll	Designation	Institutional Setting	IUCN Category	Designation Date	Area (km2)
Funafuti	Conservation Area	*Kaupule* / Department of Fisheries	VI	1/01/1996	35.95
Vaitupu	Conservation Area	*Kaupule*	Unset	1/01/2003	1.06
Nukulaelae	Fisheries reserve	*Kaupule*	VI	2006	1.46
Nanumea		*Kaupule*	Unset	2006	2.52
Nukufetau	Conservation Area	*Kaupule*	VI	2006	11.75
Nui		*Kaupule*	Unset	1997	6.673
Niutao		*Kaupule*	Unset	NA	0.522
Niulakita		*Kaupule*	Unset	NA	14.73
Nanumaga		*Kaupule*	Unset	NA	0.02
Vaitupu		*Kaupule* / Ministry of Home Affairs	Unset	NA	0.207
Total					74.892

Lifted from Tuvalu POWPA Report (2011).

Tuvalu prepared its National Action Plan to Combat Land Degradation and Drought in 2006 and no update has yet been undertaken. The priority program of activities included concrete actions such as the prevention of land degradation and rehabilitation of degraded land as well as soft measures such as providing support policy interventions, inventory and monitoring of land degradation and drought, formulation of sustainable land

[7] This is the first POWPA prepared by Tuvalu having missed the previous sequences.

management plans and the integration of traditional knowledge. The Action Plan also prepared project profiles, some of which form part of this proposal in the context of the R2R framework. Of specific relevance are the projects on water catchment development in Funafuti, protected area survey and integrated solid waste management in Funafuti.

Tuvalu is currently in the process of drafting an Integrated Water Resources Management Plan to address its pressing water-related stresses that have been exacerbated by climate change. The objectives of the IWRM Plan are to provide sufficient good quality freshwater for all and to protect all water resources to enhance environmental and human health. The ongoing UNDP-GEF Pacific IWRM project is already supporting some of the identified priorities such as conservation and protection of the freshwater sources and minimizing coastal pollution from domestic waste through the extensive use of waterless toilets. Other areas identified for inclusion in the IWRM plan will be supported by this project.

A.1. Project Description

The proposed R2R project focuses on the conservation of the natural environment and the maintenance, and where needed the rehabilitation, of ecosystems for the benefit of the people of Tuvalu. It is consistent with the strategies in a number of GEF focal areas: Biodiversity; Sustainable Land Management; International Waters. The project will link to the Pacific R2R program "Pacific Islands Ridge-to-Reef National Priorities - Integrated Water, Land, Forest & Coastal Management to Preserve Ecosystem Services, Store Carbon, Improve Climate Resilience and Sustain Livelihoods". The project will support the strengthening and development of a Tuvaluan system of marine conservation areas, similar to the Locally Managed Marine Areas (LMMAs) to effectively conserve about 15% of its coastline by the end of the project in 2018. It will seek to harmonize LMMA principles within Tuvalu's Policy and Legislation, develop Action Plans and implement selected priorities of these Plans in the nine islands. The Biodiversity-related activities will link with Integrated Land and Water Management in assessing resource status, revegetating damaged island and coastal 'forests'[8], improving or developing LMMAs governed by the *Kaupule* (Island Councils) to assist the recovery of degraded coral reefs and for protecting breeding fish populations, optimizing water use and addressing coastal pollution including algal blooms. The project will implement a 'ridge-to-reef' approach that integrates terrestrial and marine biodiversity with water and land management, jointly implemented by government and local communities.

A.1.1 The global environmental problems, root causes and barriers and baseline scenario

Global environmental problems, root causes and barriers

Biodiversity threats in Tuvalu owe largely to its low relief and small land area. The NBSAP noted that the threats identified in the National Strategy for Sustainable Development (NSSD) formulated more than a decade ago are still relevant up to this time. These include sea level rise as a result of climate change, rising population density particularly in Funafuti, decline in traditional resource management, unsustainable use of natural resources and poor waste management and pollution control. The growing urbanization in Funafuti, with a population density of 1,900 persons per km^2, has increased pollution loadings into the lagoon which is the only MPA established through legislation. Harmful algal blooms have been reported in recent years and these have threatened ecological balance and livelihoods of the local people. The implementation of the priorities identified in the NBSAP and POWPA are expected to be hindered by the high costs associated with the Tuvalu's geographic spread and isolation. Accessibility is quite limited and transport costs are prohibitive and economies of scale need to be identified by working with other ongoing projects. There is also lack of awareness of the positive linkages between ecosystem conservation and the impacts of climate change that could have provided the impetus for the public to support the former. As indicated above, the database on biodiversity and natural resources in general is very much lacking which this project intends to address. For a small country like Tuvalu, there is the dearth for qualified nationals to implement any project and the small bureaucracy is characterized by fast staff turnover.

[8] While Tuvalu does not have forests in the strict sense, there are significant areas of large salt tolerant trees on many of the islands.

Protected and managed marine areas have been declared relatively recently on all islands by the island councils *Kaupule,* but these have not been supported by biodiversity and status surveys[9], and most lack effective management plans. These conservation areas were developed by the communities to ensure sustainable harvests after recognition that there were clearly evident scarcities of many formerly common marine organisms such as grouper, snapper, algal grazing fishes, squirrelfish, drummers and turban shells. As these were established by the local government and the communities, they can be considered as locally-managed marine areas (LMMAs) and constitute a loose network. The Funafuti MPA is well documented, however, information on the status, management plans, and enforcement mechanisms of the other areas is lacking. A major activity of this prosed project will support the *Kaupule* to conduct extensive surveys of the ecological and socioeconomic status of all LMMAs in Tuvalu to share best practice management methods and determine ecosystem damage and socioeconomic problems to be rectified.

Marine fisheries continue to be the major source of protein in Tuvalu. All areas are exploited; atoll lagoons and patch reefs, the outer reef flat, reef crests and drop offs, and the open water for pelagic fishes such as tuna. The nearshore areas are of critical subsistence importance, particularly during trade wind and storm seasons. But as populations increased and with Western fishing technologies such as monofilament lines and nets, aluminum boats, diving masks and spearguns, were introduced, these nearshore areas suffered major stock depletions. The few resources of commercial importance, such as sea cucumbers (holothuroids), trochus shells and giant clams, were rapidly overexploited such that these are no longer prevalent and banned by government for exploitation. Fishermen report that large breeding sized serranids (grouper), lutjanids and lethrinids (snapper) and other target fish are now rare on reefs close to towns and villages. Resources in the offshore fishery are far less heavily exploited, except by foreign licensed tuna boats; predictions from SPC and CSIRO indicate that stocks may increase around Tuvalu with increasing climate change effects. Thus the only options for expansion of fisheries will be in deepwater areas for snapper and pelagic species, mainly tunas, within Tuvalu's EEZ. Aquaculture is not regarded as a viable option for these small islands. This project is responding directly to requests from residents of the islands of Tuvalu for improved management of coastal areas to protect breeding stocks, with a specific request to protect fish spawning aggregation sites. Threatened species such as turtles, humphead wrasse (*Cheilinus undulatus*), large reef cod, sharks, holothuroids, tridacnid and other shells require focus for conservation.

Vegetation on most islands of Tuvalu has been highly disturbed and outnumbered by introduced exotics however many plants constitute a critical ecological and cultural resource for the people. This is particularly true for the indigenous species, which have wide cultural value within the traditional subsistence economy. Trees provide shade for the people and animals, protection from wind and the desiccating effects of salt spray, act as land stabilizers by reducing erosion and saltwater intrusion, and importantly provide mulch for soil improvement for the growing of swamp taro *pulaka*. Hardwood trees were essential for the building of canoes and in housing. Land degradation accelerated during World War II, particularly when an airstrip was built on Funafuti through the best taro pits and by dredging large amounts of rubble and sand. These constitute a major environmental problem as they are seriously polluted and used as dump pits. The recent multi-million road project on Funafuti resulted in the clearing of vegetation estimated at 8.25 km^2, representing over 30% of the country's total land area. Land clearing has led to the opening up of development in marginalized areas. With no national land-use plan in place, landowners have a free hand in determining the use of their land.

Agriculture is suitable in approximately 18 km^2 or 67% of total land area. The infertile soils have led to an increase in the use of agricultural chemicals to enhance productivity. While crop yields increased from intensive chemical use, these have caused problems. Overuse of fertilizers and chemicals has caused land to become unsustainable for agriculture through changes in the physical and biochemical composition of the soil leading to land degradation. Consequently, farmers have abandoned their land and opened new lands for farming. Agriculture has also been vulnerable to climate change. Extensive drought in 1998 has destroyed staple crops such as pulaka (*Cyrtosperma spp)* that are usually grown close to the water-table in pits.

[9] Tuvalu Marine Life (TML), an Alofa Tuvalu project recently released a report on the status of fish biodiversity and assessment of marine resources in Tuvalu's lagoons. The report is based on surveys in Nanumea, Nukulaelae and Funafuti between April 27 and May 27, 2010. This proposed project will build on the findings of TML.

Water supplies and pollution are critical issues for the people of Tuvalu. These coral islands have no reliable above ground water storage supplies and no rivers or streams. Therefore the only sources of water are relatively regular rainfall and the freshwater lens that 'float' above seawater under each island. Thus these islands are particularly susceptible to variations in rainfall, such as the recent droughts in 2011-2012 that resulted in serious lack of drinking and washing water with significant losses of vegetable and fruit crops. There is no centralized sewage treatment system on any of the islands and the communities rely on domestic septic tanks; these however are often too small or a poorly maintained, such that sewage leaks into the groundwater and out to the sea. There is also ongoing direct disposal of human and animal feces into the coastal waters. The resulting high nutrient loading resulted in algal blooms as has been recorded in lagoons in Funafuti. Several donor projects have provided rainwater tanks to almost all households on the islands, but there is sometimes inadequate management of these with roof guttering blocked or not connected. Similarly, projects have trialed better septic tanks; these however rely on regular clearing and maintenance. The partner GEF IWRM (UNDP/UNEP) project has demonstrated the use of dry composting toilets with considerable success. These reduce pollution of groundwater and do not use freshwater for flushing.

Water quality measurements in Tuvalu in 2005 showed that groundwater is heavily polluted with bacterial count of over 130 coupled with phosphates of <10. The lagoon water is also polluted but at a lesser degree with bacterial count of over 62 and phosphates at the same level. These are much higher than the level of a control source, which is rainwater tank. A more recent study conducted in 2010 by a team of Japanese scientists focusing on the lagoon waters showed that coastal sediments exhibited 2.7-10.4 times more microbial biomass indicating chronic pollution of the lagoon. It was concluded that the source was from domestic water pollution via the following mechanism: during ebb tides, domestic wastewater leaking from bottomless septic tanks and pit toilets run off into the lagoon.

Climate change and sea level rise pose particularly serious risks for Tuvalu with threats to biodiversity, vegetation, including crop plants, human health, freshwater supplies and particularly through island erosion. The predicted rises in sea levels associated with global climate change threaten the very existence of the nation of Tuvalu with most islands, including the capital Vaiaku, being susceptible to inundation. Already there is serious shoreline erosion on many islands, which is being exacerbated by storm surges. Current predictions are for stronger cyclones which will result in seawater contamination of groundwater and loss of food crops. Already many swamp taro pits have been contaminated with salty groundwater. Ocean warming and increasing ocean acidification will threaten surrounding coral reefs with losses in coral cover, and variations in rainfall events may mean an increased incidence of drought.

Governance Context. There are two functional levels of government: the National government; and the traditional local Island Councils, the *Kaupule*, which have been recognised within the Fale*Kaupule* Act of 1997. The National Government is stronger with more resources (financial, technical and human capacity), while the *Kaupule*s have more traditional and local support. The Tuvaluan government has supported the *Kaupule* through the development of an Island Strategic Plan (ISP) for at least 5 of the 8 outer islands, with each supported by an island-driven development process, the Capital Investment Plan. However, only Vaitupu has developed a Capital Investment Plan. The *Kaupule* is the major island decision-making body consisting only of men above the age of 50 years; women, youth and other minority groups have no official representation. While the national government is acutely aware of international issues such as climate change, there is a risk that the *Kaupule* because of its local structure will overlook such issues or interpret them incorrectly and impede potential solutions. The UNDP is assisting in a process of support for the *Kaupule* and revising the *FaleKaupule* Act through the 'Support to Local Governance' project phase II (SLGII) with UNDP, which also seeks to ensure that women, youth, and the disabled and religious minorities are consulted and involved in decision making.

Baseline scenario and any associated baseline

Government. The annual Tuvalu government budget is approximately $32 million with approximately 6.4% allocated to natural resource management through the Department of Environment (DOE). This is equivalent to about $2 million per year which goes primarily to operational costs, including the payment of salaries of staff in undertaking their mandated functions, travel and other administration expenses. The entire range of operational and administrative functions for the Department of Environment provides an important baseline for the project

considering that the implementation of the various project components could only happen with the support of the national and local implementing entity. The portion of the recurring budget of the DOE that is counted is $200,000 per year, equivalent to $1,000,000 for the entire project. Other government agencies that will be involved in this project have indicated in-kind cofinancing of about $1,075,000. These include the Department of Fisheries and the Department of Rural Development. Partial matching funds will be provided by the Ministry of Finance and these will be programmed alongside the project during the PPG. In addition to the financial management services provided by this Ministry, the total cofinancing is estimated at $200,000.

Development Partners. A number of bilateral and multilateral agencies have been supporting the country to implement concrete activities in the areas of WASH (water, sanitation and hygiene) and climate change adaptation. These areas of support reflect the priority threats to the island country which include the serious lack of water for domestic and other uses, the diminishing and pollution of the freshwater lens and the extreme vulnerability to climate change impacts such as sea level rise, coastal erosion, among others. Available information from consultations during PIF formulation and revision are included below. The baseline projects from the various development partners will be ascertained during the PPG as most are in the process of programming future assistance.

- The European Union is expected to provide support for water resources management focusing on household and community storage of water for domestic use and minimizing pollution of groundwater and coastal areas through the installation of waterless (Ecosan) toilets. The expected total aid package is $5.5 million and about $2,500,000 is counted as cofinancing.
- JICA is programming up to $7 million for major remediation measures to protect Funafuti from sea level rise, including building artificial coastal dunes and pumping sediments into coastal areas behind the dunes. It will also include coastal stabilization through revegetation using fruit trees and coconuts. The relevant cofinancing is estimated at $2,750,000.
- The Tuvalu Association of NGOs (TANGO) which is the umbrella NGO organization has submitted a proposal to AusAID for a WASH project in three islands for a total amount of AUD 7 million ($6.5 M). It is expected that a decision will be made later this year or early next year. The objective of the project is to protect and conserve freshwater resources and increase capacity of local communities to manage waste water. It is estimated that the sanitation part of the project that would reduce pollution of the coastal areas will be in the order of $2,500,000.
- There are other development partners such GIZ and the Pacific Environment Community Fund but there is no available information at this time. The PPG will keep track of these potential donors.

A.1.2 Proposed Alternative Scenario with Expected Outcomes and Project Components

Component 1. Conservation of Island and Marine Biodiversity: The 9 widely distant islands and atolls of Tuvalu vary in their biodiversity status and ecosystem health; 8 of the islands have one or two small protected areas (‘Kogatapu’ or LMMAs) that have been established by the *Kaupule* (Island Councils), and there is one large nationally-recognized protected area, the Funafuti Conservation Area. The sites are selected based on Tuvalu’s NBSAP and POWPA. The NAPA II project is assisting communities define protected area boundaries, towards the NBSAP (2011) aim of having at least 15% of Tuvalu coastline under protected area status by 2015. This component addresses that aim by:

- assessing[10] the biodiversity, ecological and socioeconomic status of the protected and locally managed marine areas at the start and then after 2 and 4 years to determine status and indicate required action for rehabilitation and measure management effectiveness (in parallel with NAPA-II);
- using these assessments to develop best practice guidelines for Tuvalu to improve management plans and work with communities to expand these areas to reach the 15% target;
- expanding some of the protected and managed marine areas to constitute a ridge-to-reef component with adjacent land and fish spawning aggregation sites protected;
- building on the NAPA-II project creel surveys to assess the importance of fishing in island communities;

[10] This will build on the Tuvalu Marine Life report and other completed assessments in the Funafuti Conservation Area and other sites.

- incorporating best practice in protected area management into LMMAs on 8 islands and ensuring national government recognition through supporting and training community leaders.

The outputs in this component are sequential, with the delivery of the first feeding into the next output although there are clear overlaps. More importantly, the activities in this component will serve to implement the Conservation Areas Act of 1999 that has not been meaningfully implemented to date. As an initial step, the project will support terrestrial and marine biodiversity surveys on the 10 marine conservation areas and adjacent terrestrial areas by building on those that have been done, including the recent TML surveys. An accessible database will be created and inputted into a GIS-based information system specified in Component 4. The absence of data has hindered the appreciation of the country's natural resources and their effective management. The biodiversity values could be established with information from the surveys. Building on the collected information and the work to be done through the NAPA-II project of delineating the boundaries of the conservation areas, the NBSAP target of putting 15% of Tuvalu under some form of conservation and protection, will be assessed and identify the process for meeting the target. The marine conservation areas will be expanded to include adjacent land areas either for conservation or protection, whichever is applicable. At the same time, the project will look into the basis of the 15% target indicated in the NBSAP as the translation of this target into terrestrial and marine areas is not clear.

As indicated in the project overview, the management regimes in the marine conservation areas are all under Kaupule (local governments), except for two sites where national agencies have a joint role. The Conservation Areas Act requires the Kaupule to appoint a special committee to include all main parties involved or with interest in the conservation area including government departments and community representatives. In the isolated outer islands, the responsibility will likely rest with the communities. In Tuvalu as in most of the Pacific Island Countries (PICs), ownership of land (and sea) are primarily customary. In this context, the LMMA (Locally Managed Marine Areas) framework that has been successfully implemented in a number of PICs, e.g., Fiji, Solomon Islands and PNG, will be tested. An LMMA[11] is an area of neashore waters and its associated coastal and marine resources that is largely or wholly managed at a local level by the coastal communities, land-owning groups, partner organizations, and/or collaborative government representatives who reside or are based in the immediate area. The framework emphasizes local ownership, use and/or control following traditional tenure and management practices which may differ from one island to another even within the same country. In LMMA sites in Asia and the Pacific, communities decide on a suite of tools or regulations to manage their resources. On the marine space, specific areas within the may be declared as a full reserve (also called a sanctuary, no-take zone, MPA) and/or species-specific harvest refugia and institute regulations on fishign effort, gear or behavioral restrictions and seasonal restrictions.

An early and extensive application of the LMMA framework is in Fiji. An evaluation of the Fiji LMMA network in 2011 (Mills et al) found that although it is designed to help communities achieve local marine management objectives, it is also contributing a significant amount towards achieving the Fiji government commitment to protect 30% of inshore areas by 2020. The report recommeded the continuation and expansion of the FLMMA as resources permit.

Component 2: Integrated Land and Water Management:

This component will institute integrated land and water management employing the R2R approach and due consideration for biodiversity through the following:

- undertaking resource inventories and characterizing hazards to these resources;
- developing agroforestry by replanting degraded island and coastal forests with suitable hardwood and fruit tree species and, where appropriate, mangrove trees planted in at least 3 islands with suitable habitats by working with the *Kaupule*, NGOs and womens' organizations;
- assessing the causes and impacts of algal blooms in the Funafuti lagoon to identify and initially implement remedial measures; and

[11] http://www.lmmanetwork.org/

- implementing agroforestry integration production, including rehabilitation of coconut plantations and underutilized local crop species with the involvement of *Kaupule*, NGOs and women's organizations in about three islands.

This component will work outside the conservation areas and will initiate integrated land/seascape management in conjunction with adjacent marine conservation areas, where applicable. The overall approach will allow for the management of biodiversity within the broader landscape. The geographic focus will be the three islands of Funafuti, Nanumea and Nukufetau which have suitable terrestrial habitats interconnected with the coastal/marine areas. As with the first component, the first output is related to the generation of information to provide the basis for integrated planning and management. Inventories of land and water resources will be undertaken. The information generated will feed into the GIS-based information and management system specified in Component 4. The activities in Outputs 2.1.2 and 2.1.3 and to a certain extent those in Output 2.1.1 are directly related to the LD-3 which supports integrated watershed management and measures to avoid deforestation and forest degradation and improving management of agricultural activities through agroforestry. Output 2.1.3 is related to the latter, which will prioritize suitable sites within the vicinity of the landward boundaries of the marine conservation areas by undertaking agroforestry with the use of fruit trees, coconuts and suitable cash crops which will address livelihoods and food production objectives. On the other hand, activities related to Output 2.1.4 is in line with IW-3, specifically Outcome 3.2 on on-the-ground modest actions implemented in water quality, quantity, fisheries, among others.

Component 3: Governance and Institutions: The major objective of this R2R project and the entire program will be to provide training for government and community people in Integrated Coastal Management and Integrated Water Resources Management to raise awareness of a whole of ecosystem approach to natural resource management. The component will focus on:

- mainstreaming integrated approaches in policy and regulatory frameworks to inform national decisions;
- enhancing national and community capacity in understanding and implementing integrated approaches through appropriate trainings on ICM and IWRM;
- supporting government and NGO staff for post-graduate certificate level training; and
- implementing training for *Kaupule* and other community leaders in whole island conservation and management.

Component 4: Knowledge Management: This component will focus on strengthening existing data and information systems on biodiversity conservation, land management best practices, marine ecosystem management, and climate change threats and other potential risks. A special focus will be to integrate existing data and information in more user-friendly and accessible mechanisms and platforms and make these available for communities in the Tuvaluan language through the development of a GIS-based management and information system. Knowledge products will be developed and made accessible to all potential users.

Preliminary Outcome Level Indicators and Targets. The matrix below is preliminary and will be finalized during the PPG with the preparation of the Strategic Results Framework.

Outcome	Preliminary Indicators	Preliminary Targets
1.1 Improved management effectiveness of system of conservation areas composed of existing and expanded Locally Managed Marine Areas (LMMAs)	Status of management of a system of conservation areas Area coverage of conservation areas (marine and terrestrial) relative to national target of 15%	Adequate information on the status of biodiversity, flora and fauna and threats thereto are collected: to guide the management of conservation areas; made accessible to various stakeholders and fed into a structured data/information platform; serve towards future monitoring and evaluation Management systems, guided by best available information, in place for all 10 conservation areas with the direct involvement of communities and other stakeholders

		Total coverage of conservation areas (combined terrestrial and marine) in Tuvalu are in accordance with the national target of 15% as indicated in the NBSAP
2.1 Integrated landscape management practices adopted by local communities	Extent of adoption of integrated landscape management in priority areas	Adequate information collected on natural resources such as soils, land use, water, vegetation, etc, including status and threats, to form the basis for integrated landscape management, made accessible to various stakeholders and fed into a structured data/information platform and serve towards future monitoring and evaluation Integrated landscape management planning implemented in three priority areas, possibly in conjunction with marine conservation areas Participation of communities in planning and implementation in place in three priority sites Sustainable land management measures in place in priority sites through revegetation of degraded forest areas, shorelines and agroecosystems to improve climate resilience, increase livelihoods and secure food production Extent and causes of algal blooms in Funafuti lagoon ascertained and addressed through control of pollution discharges
3.1 Integrated approaches mainstreamed in policy and regulatory frameworks	Scope of enabling policies and regulations to include integrated approaches in natural resource management	Conservation area management plans integrate the influences from adjacent terrestrial and coastal areas Sectoral policies provide guidelines on integrated approaches in planning and implementation
3.2 Capacity on integrated approaches enhanced at the national and community levels	Level of capacity for integrated approaches in natural resource management in government and in communities	At least 3 participants from Tuvalu in regional trainings on ICM/IWRM delivered through the regional R2R program support project Training modules and manuals on ICM/IWRM prepared for use in Tuvalu Three Kaupules and at least 150 community members undergo trainings on ICM/IWRM
4.1. Improved data and information systems on biodiversity, forests land management best practice	Data and information systems on integrated natural resources management	GIS-based management information system utilizing collected data on biodiversity and other natural resources is developed, made accessible and guiding management and policy in Tuvalu and feeding into regional program coordination Awareness level among the general population on R2R greatly improved to mobilize participation

A.1.4 Incremental Cost Reasoning and Expected Baseline Contributions (GEFTF, LDCF/SCCF and co-financing)

The Government of Tuvalu has limited available internal resources to undertake the full range of environmental initiatives. As indicated earlier, the annual government budget is approximately $32 million which is largely employed in the areas of health, welfare, education and logistics; a major output is maintaining ships to service the 8 outer islands at large distances from the capital on Funafuti. The amount allocated to environmental and natural resource management initiatives constitute about 6.4% of the total. The amount from various

government ministries are indicated in Table C and are distributed across project components. In addition, the indicative baseline amounts from various bilateral and multilateral sources such as from AusAID, EU and JICA are indicative in the same table. The exact amounts and description of the baseline provided by these organizations will be verified during the PPG as programming missions of these development partners are ongoing as of the time of submission of this PIF.

The baseline scenario as described in section A.1.1 shows the limited baselines in the biodiversity-related activities. The indicative budget for POWPA Action Plan implementation of $199,500 has no funding from government or directly from any other development partners. This underscores the huge importance of the GEF grant to deliver the biodiversity-related commitments of Tuvalu.

As indicated, the projected baselines are in the areas of climate change adaptation, water resource management and pollution reduction reflecting the urgency of addressing water-related stresses and the need to protect the low-lying atolls from the impacts of climate change. Nevertheless, there are components of these project that could serve as baseline for the land degradation and international waters components of this project, which are described in section A.1.1 and the amounts reflected as cofinancing.

Overall, the GEF project will contribute hugely to delivering Tuvalu's commitments to Aichi targets and the action programs identified in the POWPA and NBSAP and the NAP. The protection of coastal waters and the freshwater lens from pollution as funded by the small IW grant will serve to strengthen the expected outcomes from the other focal areas.

A.1.5 Global Environmental Benefits (GEFTF, NPIF) and Adaptation Benefits (LDCF/SCCF);

The GEF project will protect and conserve Tuvalu's biodiversity, primarily in the marine sector in a way that is compatible with socioeconomic objectives of ensuring livelihoods, enhancing food production and also climate resilience. The proposed LMMA framework will be able to balance the objective of generating global environmental benefits by preserving biodiversity alongside other social and economic objectives. The project will also address land degradation that is a result of intensive agricultural practices, land clearing and land conversion. Concrete actions on the ground are expected to reverse land degradation. The reduction of pollution of groundwater and coastal areas will have positive impacts on biodiversity conservation.

From the development perspective, coastal and marine provides the main local source of protein and the major natural resource base for economic exploitation, both for local use and through foreign licensing agreements with foreign fishing nations. Exploitation at the local level is mainly for subsistence use. Fishing is carried out by men but women may also, from time to time, be involved in inshore and shallow water fishing. In recent years there has been a more regular commercial operation on Funafuti and traditional fishing methods have been modified or given way to more modern methods and gear.

Tuvalu's marine-based economy is under threat. The country is among the most vulnerable nations of the world in the face of global climate change and environmental degradation. This project will develop greater resilience in Tuvalu against these threats by: increasing ecological sustainability of terrestrial and marine ecosystems; reducing pollution and improving resilience to climate change threats by supporting on-going water provision measures (quality and quantity); and increasing resilience of ecosystems by supporting management of protected and conservation areas and increasing the area under protection. Importantly, the project will directly involve communities on the 9 islands by improving their understanding of ridge-to-reef management concepts and providing them with improved capacity to manage their fragile island environments in the face of climate change and increasing population pressures; and demonstrating effective conservation, energy use and land management measures at Tuvaluan demonstration sites.

Specific benefits for communities will be through increased production of fish and other resources derived from greater reproductive output from locally managed marine areas, and improving the quality of land and water resources. The project will also assist in bringing in best practice lessons from other Pacific islands on how to ensure adequate supplies of freshwater and reduce pollution of the underground aquifers. Finally the project will directly support the Government of Tuvalu in their ongoing efforts in environmental management, gender equality and minority group participation, and community involvement through capacity building.

A.1.6 Innovativeness, Sustainability and Potential for Scaling up

This project will adopt an innovative approach in emphasizing holistic management of island, coastal and marine resources through a 'ridge-to-reef' approach. The LMMAs in Tuvalu have been developed differently on each island with different management regimes. This project will assess how to integrate terrestrial and marine management and also bring them together into a network with similar or compatible management strategies. The starting model will be the national protected area on Funafuti. The national R2R project and through the Pacific Regional R2R program will implement R2R training at both advanced post-graduate training level as well as short courses for island councils, womens' groups, youth groups and government staff to ensure greater understanding of the need for whole of ecosystem management.

Although Tuvalu is a small country with limited environmental management capacity, it retains sectoral-based functions with separate departments managing environment, fisheries, agriculture and island community culture; this project will require that these sectors collaborate in sustainable development of protected areas on the islands and in working with communities to strengthen their access to more reliable land and seafood resources, and water supplies. The project will work closely with communities, especially with women and youth, to improve management plans for the protected areas and develop better vegetable and fruit crops; this training and the more reliable food sources will serve these island communities well into the future, and reduce their dependence on imported foods. Another feature of this project is the development of three demonstration sites illustrating better energy and water management to sustain food supplies. These will assist Tuvalu in applying for funding assistance into the future to expand these activities to all government buildings and eventually to households.

A.2 Stakeholders.

Identify key stakeholders (including civil society organizations, indigenous people, gender groups, and others as relevant) and describe how they will be engaged in project preparation:

a) Relevant government agencies: Ministry of Foreign Affairs, Trades, Tourism, Environment and Labour (FATTEL) specifically the Department of Environment which will act as the project focal point and direct link to the National Climate Change Advisory Board. The Ministry of Finance, the Ministry of Natural Resources (Department of Fisheries), the Ministry of Home Affairs and Rural Development (Department of Rural Development); Department of Planning and Budget and the Tuvalu Trust Fund are all key members of the National Climate Change Advisory Board and will be involved in implementing many components of the project and in ensuring financial stability;

b) Communities: The local communities will be key partners during project design and implementation. The Conservation Areas Act of 1999 specifically requires the involvement of communities and also owing to the fact that most of the land (and sea) under customary use. The LMMA framework that is proposed for adoption in this project is a community-centric framework with local residents making and carrying out decisions for themselves. Activities in Component 2 will directly work with communities.

c) Local governments: Fale*Kaupule*, which is the over-arching consortium of Traditional Island Councils – the *Kaupule* on each of the islands. All activities on the islands, with the partial exception of Funafuti, should be coordinated through the *Kaupule*; they have been involved in initial project formulation, and will be involved in detailed planning. In addition, organisations representing women on each island will be involved in this detailed planning and project implementation;

d) Non-governmental organisations (NGOs): TANGO - Tuvalu Association of NGOs; TNCW - Tuvalu National Council of Women; the Church organisations; Tuvalu Youth Development. Government services on the more remote islands are limited; therefore the NGOs will be critical for the implementation of projects on the ground;

e) International organisations: Global Environment Facility; UNDP; UNEP; FAO; World Bank. GEF funds for Pacific countries are being facilitated through the implementing agencies UNDP, UNEP and FAO to assist in biodiversity conservation, land management and climate change mitigation. The UNDP coordinates with UNEP and FAO to implement the Ridge-to-Reef Program and IWRM projects in the 14 Pacific countries.

f) Regional and sub-regional programmes: ADB; SPREP; USP; SPC- SOPAC. These agencies are assisting Pacific countries with other projects in parallel to the R2R program, therefore they will be consulted closely

to achieve complementary outcomes and avoid overlaps. These projects will provide co-financing for the R2R projects;

g) Other project donors and development partners; Australian Agency for International Development (AusAID); European Union; German GIZ CCCPIR Project; Pacific Environment Community Fund (PECF); Japanese Aid and JICA; World Bank (Fisheries project). These donor agencies are organising environmental themed projects in Tuvalu and many of their activities will be complementary to this project and contribute to co-financing;

A.3 Risk.

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	Rating	Risk Mitigation Measures
Changes in policy and decision makers, or events beyond the control of the Programme, could lead to changes in support for the R2R Project and Programme objectives of sustaining coastal and ocean ecosystem services through scaling up of on-the-ground work, partnerships and capacities	Low	R2R Programme and Project are in line with agreed strategies and strategic action programmes at regional, sub-regional and Tuvaluan national levels and is thus strongly anchored in existing policies. Strong stakeholder participation in the program will further reinforce support from policy and decision makers at all levels.
Potential conflicts between the participating government departments, agencies and other stakeholders could occur over the use and management of the financial and logistic resources.	Low	All participating government departments, agencies and other stakeholders will be invited to participate in the project coordination committee (the National Climate Change Advisory Board) to decide on projects, ongoing management and funding allocations
Kaupule and other NGOs may be overloaded with project activities and may withdraw participation.	Low	*Kaupule* and other NGOs have been involved in project conceptualization and will be called upon during design and for the implementation of many of the planned activities. Moreover, community participation will be supported through signed MoUs to ensure that communities are not disadvantaged and all activities will be totally funded. Project will go through the UNDP environment and social screening process to ensure social acceptance.
Co-financing partners may cancel activities that support project objectives and activities on sustainable coastal and ocean management.	Medium	All donor agencies will enter into signed agreements with the Government of Tuvalu although delays in project commencement and implementation may occur.
Environmental variability, such as cyclones, and climate change may compromise the Project thereby delaying or cancelling chances of achieving environmental activities.	Low	This project, and parallel GEF and other donor projects will be designed within the context of a changing climate through appropriate consideration of vulnerabilities and risks. The interventions are designed to mitigate the impacts of climate change. Relevant projects funded by LDCF upon which this project will work closely with are addressing directly CC impacts.

A.4. Coordination.

Outline the coordination with other relevant GEF financed and other initiatives:

The project will come under the responsibility of Ministry of Foreign Affairs, Trades, Tourism, Environment and Labour (FATTEL), specifically the Department of Environment which acts as the GEF and UNDP Focal Point. One of the most important modes of coordination will be through the *Kaupule* (Island Councils) which are recognized in Tuvalu through the Fale*Kaupule* Act 1997 as the focus for local government and community

involvement on all of the 9 islands. Virtually no project functions can proceed on the outer islands without their involvement. The financial aspects of all project activities in Tuvalu are directed through the Ministry of Finance Ministry of Natural Resources and the Department of Planning and Budget.

UNDP as implementing agency will execute this project through a national implementation modality (NIM). Implementation will be coordinated through the UNDP multicountry office in Fiji and through the UN Joint Presence Office in Funafuti. Technical oversight will be provided by the Regional Technical Advisor at the Asia Pacific Regional Center. Refer to additional information in section B.3.

The project will be closely coordinated with the following ongoing initiatives:

- The follow-on UNDP-GEF NAPA-II project for US$4.2 million is a 4 year project to start in 2014 and will be closely aligned with this proposed GEF STAR project. NAPA II plans to build resilience to climate impacts and support food security by enhancing traditional fishing combined with new sustainable fishing technology. Communities will be assisted to enhance locally managed marine protected areas and develop mechanisms to leverage international financing for climate change adaptation.
- The Pacific Adaptation to Climate Change (UNDP-GEF-SPREP) is a regional project which is implementing adaptation measures to increase the resilience of a number of key development sectors in the Pacific islands to the impacts of climate change. Tuvalu is on the 7 countries included in this regional initiative project.. The key development sector this project in Tuvalu is focused on water resource management. Awareness raising and capacity focused on sanitation, waste management and its linkages to healthy island ecosystems.
- The Pacific IWRM Demonstration Project (UNDP-GEF-SPC) in working in Tuvalu through a demonstration project entitled "Integrated Sustainable Wastewater Management (EcoSan)" for Tuvalu is quite relevant to Component 2 of this R2R proposal. The project has strengthened arrangements for improved wastewater management and mainstreamed IWRM into National Policy. The project has also successfully shared sanitation solutions with other Pacific countries. Key project results include: successful design and replication of sanitation solutions; successful engagement of Tuvaluan communities and government; development of a National IWRM Policy and Indicator Framework; reduction in sewage pollution across Funafuti and a reduction in freshwater use for sanitation uses. This Pacific IWRM 'Progress Snapshot' highlights results achieved to date.
- The Integrated Island Biodiversity Project (UNEP-GEF-SPREP) is supporting Tuvalu and 3 other PICs to carry out a range of activities with their local communities to produce and strengthen management actions to save threatened species and ecosystems and to help ensure sustainable use of natural resources. Of relevance to the R2R PIF is the integrated Ecosystem-based management approach which entails emphasizing the connectivity between systems such as between land and sea and people.
- The planned review of the Tuvalu NBSAP (UNEP-GEF) is an enabling activity to which the proposed R2R project will provide inputs. This enabling project responds to CBD COP decision X/10 on National Reporting, the Notification for 5th National Report and revision of NBSAPs and the AICHI Biodiversity Targets which will ensure that countries are in complicity with the 2011-2020 Strategic Plan for Biodiversity and Aichi Targets for biodiversity as agreed by countries in COP 10.

B. DESCRIPTION OF THE CONSISTENCY OF THE PROJECT WITH:

B.1 National strategies and plans or reports and assessments under relevant conventions, if applicable, i.e. NAPAS, NAPs, NBSAPs, national communications, TNAs, NIPs, PRSPs, NPFE, etc.:

Tuvalu was one of the first countries to sign the UN Convention on Biological Diversity (UNCBD) in 1992, and ratified it in 2002. In addition, Tuvalu is a signatory to the UNCCD and the UNFCCC. It is participating in other pertinent international initiatives such as the Millennium Development Goals (MDGs, 2000), the World Summit on Sustainable Development (WSSD, 2002), the 3rd World Water Forum (2003), and the review of the Barbados Programme of Action for Small Island Developing States (BPoA+10, 2004). This proposed project is specifically targeted at the UNCBD Aichi targets 1, 2, 4, 6 and 11 by promoting awareness of the values of biodiversity as well as steps that can be taken to conserve and use it sustainably; integrating biodiversity into national and local

development and poverty reduction strategies and planning processes; implementing plans for sustainable production and consumption and keeping the impacts of use of natural resources well within safe ecological limits; ensuring all fish and invertebrate stocks and aquatic plants are managed and harvested sustainably; and conserving coastal and marine areas through effectively and equitably managed systems of protected areas. The project also supports the Decision 11/COP.10 of the UNCCD at its 9th Plenary Meeting in October 2011 that "encourages eligible Parties, taking into account the cross-sectoral nature of land degradation, to use existing potential to harness synergies across the Global Environment Facility focal areas in order further to reinforce the importance of sustainable land management for integrating environment and developmental aspirations globally".

The Government of Tuvalu has developed three critical action plans that constitute the framework for this proposed project: National Biodiversity Strategy and Action Plan (NBSAP, 2012); the Tuvalu National Strategic Action Plan for Climate Change and Disaster Risk Management (NSAP 2012), Action Plan for the Implementing the CBD POWPA (2011) and the NAP (2006). All these national strategies and plans have been considered in designing the project with the various priorities highlighted in section A (Project Overview). The preparation and implementation of these policies and strategies was coordinated through the Ministry of Foreign Affairs, Trade, Tourism, Environment and Labour to build human capacity through addressing issues such as food security, land and water management that affect Tuvalu's natural resources and strengthen community resilience. This Ministry is the key focal point for GEF and other donor activities. The proposed project also directly supports the Tuvalu NBSAP, POWPA, NAP and NSAP all in the context of the overarching R2R framework.

The project will also be guided by the draft Water Resources and Sanitation Management Bill and the draft Integrated Water Resources Management Plan. Moreover the project will seek to strengthen these drafts and implement components of the building code to safeguard freshwater supplies and reduce sewage pollution. Tuvalu is particularly susceptible to droughts and from pollution of groundwater due to poorly maintained domestic sanitation systems. The National Fishing Corporation of Tuvalu (NAFICOT) recognizes that coastal fisheries are critical for food security of island communities, and resource conservation will be aided through the development of protected areas, provided with appropriate supporting legislation. Fisheries resources have been assessed through the Pacific Regional Oceanic and Coastal Fisheries Development Programme (PROCFish) with predictions that tuna and other offshore pelagic fish stocks are large and may increase with climate change, whereas coastal fish stocks are severely depleted and require strong conservation efforts. This programme supports the Tuvaluan Government strategy of strengthening the Tuvalu Locally Managed Marine Area network, in line with the UNCBD objective of conserving at least 15% of the coastline by 2018 to support sustainable livelihoods and protect global biodiversity.

B.2 GEF focal area and/or fund(s) strategies, eligibility criteria and priorities: This proposed project is specifically directed at key GEF priority focal areas, notably: Biodiversity; Land Degradation; International Waters. Under the GEF 5 STAR allocation, Tuvalu is entitled to allocate their funds within these categories above though given the level of allocation, it can apply the flexibility rule as it is doing in this proposed project. The Biodiversity focus is on Strategic Objective 1 'Improve Sustainability of Protected Area Systems' and Objective 2 'Mainstream Biodiversity Conservation and Sustainable Use into Production Landscapes, Seascapes and Sectors'. Both will function through activities to strengthen the management of the only declared marine protected area and mainstream biodiversity in to the Locally Managed Marine Areas (LMMAs) towards the Tuvalu target of at least 15% of its coastal area by the end of the project. The Land Degradation focus will be on Objective 3 – Reduce pressures on natural resources from competing land uses in the wider landscapte. The project will employ the integrated R2R approach in the management of land and water resources. The project is consistent with the International Waters Strategic Objective 3 with the testing of cross-focal area, and thus cross-sector, integrated management of coastal and island ecosystems and complements the INRM approach in the LD strategic framework. Of specific relevance is IW Outcome 3.2: On-the-ground modest actions implemented in water quality, quantity, fisheries, and coastal habitat demonstrations for 'blue forests' to protect carbon.

B.3 The GEF agency's comparative advantage to implement this project:
UNDP has the required on-the-ground operational, financial and technical capacities to effectively manage and guide this proposed project in Tuvalu under the umbrella of the United Nations Development Assistance

Framework, UNDAF (*2008-2012 UNDAF for the Pacific Sub-region*) and the extension UNDAF (2013-2017). The Tuvalu draft 2013-2017 UNDAF country results matrix indicates four priority outcomes, including "4.1 Environmental sustainability and sustainable energy are mainstreamed into regional and national policies, planning frameworks and programmes. Pacific communities effectively manage and sustainably use their environment, as well as natural and cultural resources" and "4.2 Pacific communities effectively manage and sustainably use their environment, as well as natural and cultural resources".

The UNDP national level support to Tuvalu is detailed in the *UNDP Sub-Regional Programme Document for Pacific Island Countries 2013-2017* with one focus being 'Environmental management, climate change and disaster risk management'. The Fiji Multi-country Office (MCO) based in Suva, will be the responsible UNDP unit for this project, and the office has the required capacity and staff in relevant areas: operational and financial services; and the Environmental Management & Financing Unit (6 staff). One staff member will function as the UNDP focal point for the project. The UNDP/GEF Regional Technical Advisor for International Waters in the Pacific in Bangkok, based at the UNDP Asia Pacific Regional Centre will technically oversee the project to ensure that it achieves its objectives in line with GEF guidelines. UNDP is the only GEF agency that has a full-time resident presence in Tuvalu, who will be the first point of interface with the Government of Tuvalu. The Tuvalu resident office is supported, operationally, administratively and technically by the Fiji Multi Country Office.

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

A. RECORD OF ENDORSEMENT OF GEF OPERATIONAL FOCAL POINT (S) ON BEHALF OF THE GOVERNMENT(S): (with Operational Focal Point endorsement letter(s)

NAME	POSITION	MINISTRY	DATE *(MM/DD/YYYY)*
Pepetua Latasi	Secretary and GEF Operational Focal Point	Department of Environment, Ministry of Foreign Affairs, Trades, Tourism, Environment and Labour (FATTEL)	August 8, 2013

B. GEF AGENCY(IES) CERTIFICATION

This request has been prepared in accordance with GEF/LDCF/SCCF policies and procedures and meets the GEF/LDCF/SCCF criteria for project identification and preparation.					
Agency Coordinator, Agency name	**Signature**	**Date** *(MM/DD/YYYY)*	**Project Contact Person**	**Telephone**	**Email Address**
Adriana Dinu UNDP-GEF Officer in Charge and Deputy Executive Coordinator		08/13/2013	Jose Erezo Padilla	+662 304 9100 ext 2730	jose.padilla@undp.org