



Integrated Agro-ecosystem Approach for enhancing Livelihoods and Climate Resilience in Tuvalu

Part I: Project Information

GEF ID

10517

Project Type

FSP

Type of Trust Fund

GET

CBIT/NGI

☐ CBIT

☐ NGI

Project Title

Integrated Agro-ecosystem Approach for enhancing Livelihoods and Climate Resilience in Tuvalu

Countries

Tuvalu

Agency(ies)

FAO

Other Executing Partner(s)

Executing Partner Type

Other Executing Partner(s)

Ministry of Home Affairs and Agriculture (MHAA)

Executing Partner Type

Government

GEF Focal Area

Land Degradation

Taxonomy

Focal Areas, Land Degradation, Sustainable Land Management, Restoration and Rehabilitation of Degraded Lands, Sustainable Livelihoods, Income Generating Activities, Community-Based Natural Resource Management, Improved Soil and Water Management Techniques, Ecosystem Approach, Climate Change Adaptation, Climate Change, Climate resilience, Stakeholders, Private Sector, Individuals/Entrepreneurs

Rio Markers**Climate Change Mitigation**

Climate Change Mitigation 1

Climate Change Adaptation

Climate Change Adaptation 1

Duration

48 In Months

Agency Fee(\$)

224,747

Submission Date

3/20/2020

A. Indicative Focal/Non-Focal Area Elements

Programming Directions	Trust Fund	GEF Amount(\$)	Co-Fin Amount(\$)
LD-1-4	GET	2,112,655	5,594,744
LD-2-5	GET	253,098	670,256
Total Project Cost (\$)		2,365,753	6,265,000

B. Indicative Project description summary

Project Objective

To reverse land degradation, enhance local livelihoods and increase climate resilience through integrated agro-ecosystem approach in all the islands of Tuvalu

Project Component	Financing Type	Project Outcomes	Project Outputs	Trust Fund	GEF Amount(\$)	Co-Fin Amount(\$)
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Project Component	Financing Type	Project Outcomes	Project Outputs	Trust Fund	GEF Amount(\$)	Co-Fin Amount(\$)
1. Strengthening enabling framework for implementation of integrated agro-ecosystem approach	Technical Assistance	<p>1.1 Strengthened policies and planning mechanism for the agro-ecosystem approach throughout the country</p> <p>Indicators:</p> <ul style="list-style-type: none"> · All relevant policies and legislations reviewed · National Food Security Policy incorporating integrated agro-ecosystems approach to food production approved by the Cabinet · National LDN strategy and targets approved by the Cabinet • Improvement in capacity development score of the targeted groups (specific indicators and baseline to be ascertained after capacity assessment conducted during the project preparation phase) 	<p>1.1.1 National Food Security Policy developed</p> <p>1.1.2 National LDN strategy and target setting developed</p> <p>1.1.3 Training programmes on integrated agro-ecosystem approach and relevant practices implemented targeting government staff</p> <ul style="list-style-type: none"> - Government staff (10) at management/decision making level trained in integrated agro-ecosystem approach and planning process - Extension level staff (10) trained in extension methods for agroforestry and SLM practices - Nursery staff (8) trained in nursery management and production techniques/practices - 72 small holder farmers trained in agroforestry and SLM practices <p>1.1.4 Multi-sectoral and multi-stakeholder Land Degradation Neutrality (LDN) forum established</p>	GET	253,098	670,256

Project Component	Financing Type	Project Outcomes	Project Outputs	Trust Fund	GEF Amount(\$)	Co-Fin Amount(\$)
2. Implementation of integrated agro-ecosystem approach in the islands	Investment	<p>2.1 Local communities are applying integrated agro-ecosystem approach in the target area</p> <p>Indicators:</p> <ul style="list-style-type: none"> · At least 4 islands integrated agro-ecosystem management plans · 800 ha (31% of total land) under sustainable land management (includes 150 ha of restored degraded land) · At least 20% increase in income of the targeted 72 households (baseline to be set during the project preparation phase) · Eight nurseries in the country capable of producing 355,000 of seedlings every year • Carbon sequestered 	<p>2.1.1 Participatory integrated and whole island agro-ecosystem management plans prepared</p> <p>2.1.2 Agro-ecosystem management plans implemented</p> <ul style="list-style-type: none"> - Improved soil management and conservation measures implemented - Improved rain water harvesting and water conservation measures implemented - Agroforestry practices/systems implemented (including integration of livestock) - Combination of assisted natural regeneration and replanting for restoration of degraded lands carried out - At least 2 women centric value chains identified and supported for provision of improved livelihoods <p>2.1.3 Nurseries (for both native trees and tree crops) in the target island upgraded</p> <p>2.1.4 Inventory created for native tree and fruit tree species</p>	GET	1,800,000	4,766,770

Project Component	Financing Type	Project Outcomes	Project Outputs	Trust Fund	GEF Amount(\$)	Co-Fin Amount(\$)
3. Project coordination, monitoring and evaluation	Technical Assistance	3.1 Project implementation is supported by an M&E strategy based on measurable and verifiable outcomes and adaptive management principles	<p>3.1.1. M & E strategy developed with relevant stakeholders, clearly defining the expected outcomes, expected implementation timeframe, and objectively verifiable indicators and means of verification</p> <p>3.1.2. Food security and LDN target monitoring and reporting mechanisms established and relevant information shared through national and global platforms</p> <p>3.1.3. Best practices and lessons learned on integrated agro-ecosystem approach in the target islands of Tuvalu systematized and disseminated through national and relevant global platforms</p>	GET	200,000	529,640
Sub Total (\$)					2,253,098	5,966,666
Project Management Cost (PMC)						
				GET	112,655	298,334

Project Management Cost (PMC)

Sub Total(\$)		112,655	298,334
Total Project Cost(\$)		2,365,753	6,265,000

C. Indicative sources of Co-financing for the Project by name and by type

Sources of Co-financing	Name of Co-financier	Type of Co-financing	Investment Mobilized	Amount(\$)
Government	Ministry of Home Affairs and Agriculture (MHAA)	In-kind	Recurrent expenditures	400,000
Government	Ministry of Fisheries and Trade, (MFT)	In-kind	Recurrent expenditures	400,000
CSO	Live and Learn	Grant	Investment mobilized	165,000
Donor Agency	GCF	Grant	Investment mobilized	5,000,000
GEF Agency	FAO (Technical Cooperation Programme)	Grant	Investment mobilized	100,000
GEF Agency	FAO	In-kind	Recurrent expenditures	200,000
			Total Project Cost(\$)	6,265,000

Describe how any "Investment Mobilized" was identified

During the consultations with identified key partners, GCF and Live and Learn, FAO obtained initial understanding of potential for co-financing this project. As part of PIF formulation process, FAO has identified closely related activities and budget that will support this proposed project.

D. Indicative Trust Fund Resources Requested by Agency(ies), Country(ies), Focal Area and the Programming of Funds

Agency	Trust Fund	Country	Focal Area	Programming of Funds	Amount(\$)	Fee(\$)	Total(\$)
FAO	GET	Tuvalu	Land Degradation	LD STAR Allocation	2,365,753	224,747	2,590,500
Total GEF Resources(\$)					2,365,753	224,747	2,590,500

E. Project Preparation Grant (PPG)

PPG Required

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PPG Amount (\$)

100,000

PPG Agency Fee (\$)

9,500

Agency	Trust Fund	Country	Focal Area	Programming of Funds	Amount(\$)	Fee(\$)	Total(\$)
FAO	GET	Tuvalu	Land Degradation	LD STAR Allocation	100,000	9,500	109,500
Total Project Costs(\$)					100,000	9,500	109,500

Core Indicators

Indicator 3 Area of land restored

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
150.00	0.00	0.00	0.00

Indicator 3.1 Area of degraded agricultural land restored

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
150.00			

Indicator 3.2 Area of Forest and Forest Land restored

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)

Indicator 3.3 Area of natural grass and shrublands restored

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)

Indicator 3.4 Area of wetlands (incl. estuaries, mangroves) restored

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)

Indicator 4 Area of landscapes under improved practices (hectares; excluding protected areas)

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
650.00	0.00	0.00	0.00

Indicator 4.1 Area of landscapes under improved management to benefit biodiversity (hectares, qualitative assessment, non-certified)

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)

Indicator 4.2 Area of landscapes that meets national or international third party certification that incorporates biodiversity considerations (hectares)

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)

Type/Name of Third Party Certification

Indicator 4.3 Area of landscapes under sustainable land management in production systems

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
650.00			

Indicator 4.4 Area of High Conservation Value Forest (HCVF) loss avoided

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)

Documents (Please upload document(s) that justifies the HCVF)

Title	Submitted			
Indicator 6 Greenhouse Gas Emissions Mitigated				
Total Target Benefit	(At PIF)	(At CEO Endorsement)	(Achieved at MTR)	(Achieved at TE)
Expected metric tons of CO ₂ e (direct)	160000	0	0	0
Expected metric tons of CO ₂ e (indirect)	189000	0	0	0

Indicator 6.1 Carbon Sequestered or Emissions Avoided in the AFOLU (Agriculture, Forestry and Other Land Use) sector

Total Target Benefit	(At PIF)	(At CEO Endorsement)	(Achieved at MTR)	(Achieved at TE)
Expected metric tons of CO ₂ e (direct)	160,000			
Expected metric tons of CO ₂ e (indirect)	189,000			
Anticipated start year of accounting	2022			
Duration of accounting	20			

Indicator 6.2 Emissions Avoided Outside AFOLU (Agriculture, Forestry and Other Land Use) Sector

Total Target Benefit	(At PIF)	(At CEO Endorsement)	(Achieved at MTR)	(Achieved at TE)
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Total Target Benefit	(At PIF)	(At CEO Endorsement)	(Achieved at MTR)	(Achieved at TE)
Expected metric tons of CO ₂ e (direct)				
Expected metric tons of CO ₂ e (indirect)				
Anticipated start year of accounting				
Duration of accounting				

Indicator 6.3 Energy Saved (Use this sub-indicator in addition to the sub-indicator 6.2 if applicable)

Total Target Benefit	Energy (MJ) (At PIF)	Energy (MJ) (At CEO Endorsement)	Energy (MJ) (Achieved at MTR)	Energy (MJ) (Achieved at TE)
Target Energy Saved (MJ)				

Indicator 6.4 Increase in Installed Renewable Energy Capacity per Technology (Use this sub-indicator in addition to the sub-indicator 6.2 if applicable)

Technology	Capacity (MW) (Expected at PIF)	Capacity (MW) (Expected at CEO Endorsement)	Capacity (MW) (Achieved at MTR)	Capacity (MW) (Achieved at TE)
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Indicator 11 Number of direct beneficiaries disaggregated by gender as co-benefit of GEF investment

	Number (Expected at PIF)	Number (Expected at CEO Endorsement)	Number (Achieved at MTR)	Number (Achieved at TE)
Female	510			
Male	540			
Total	1050	0	0	0

Part II. Project Justification

1a. Project Description

1) Global environmental problems, root causes and barriers that need to be addressed

General context and background:

Tuvalu has a population of around 11,000 people on total surface area of 26 square kilometres. The country comprises of three reef islands (Nanumaga, Niutao, Niulakita), five atoll islands (Nanumea, Nui, Nukufetau, Funafuti, Nukulaelae) and one composite island (coralline atoll/table reef) (Vaitupu). Tuvalu belongs to the category of Least Developed Countries due to its vulnerability. It is one of the most environmentally fragile countries in the Pacific due to its low lying nature (the highest elevation on Tuvalu is only about four metres above sea level), poor geographic access, lack of fertile land and limited natural resource base in general, and the risks posed by climate change. Tuvalu's economy is very vulnerable to external shocks. All this has lead to an over-exploitation of land based and marine resources.

Global environmental problem:

Land degradation is one of the the most critical environmental problems faced by Tuvalu . The degradation refers to reduction in vegetation cover in agroecosystems, and loss of soil and soil fertility (erosion and sea water incursion). This has directly affected the productivity of the lands, impacting local livelihoods significantly[1]¹. Poor land use practices (refer below) have contributed to land degradation and the vicious cycle of resource depletion and land degradation. But these effects have been severely exacerbated by weather events, these events have resulted in increased soil erosion (through winds and storm surges). The soil erosion leaves the area exposed and makes the areas even more vulnerable to wind erosion. Severe weather events have also contributed to extensive damage to trees and shrubbery, leading to increased loss of vegetation cover interlinked with continuous inappropriate agricultural practices.

Root Causes:

The main drivers of land degradation in Tuvalu are listed below:

- Inappropriate and unsustainable agriculture practices; this includes clearing of vegetation using fires and clear cutting (for mono cropping), very poor soil conservation/management practices, and monocropping. This is critical as soils in Tuvalu are predominantly from carbonate reef-borne material and are quite young, they are

often poorly developed, lacking structure and texture and are often very porous with poor water holding capacity. Poor land use practices accelerate the deterioration of already vulnerable land and soil.

- Extreme weather events; islands of Tuvalu face seasonal storm surges (due to cyclones), sea sprays and salt water incursion (due to the islands' low lying nature and occasional king tides) and droughts. This affects the quality of land and soil. This is a driver that the project cannot address directly, but the project will ensure that the techniques, practices and crop varieties used are resilient to the mentioned threats.

Barriers:

The baseline and cofinancing projects described below have been working towards addressing the issue of land degradation and promoting sustainable land management in Tuvalu, in spite of these efforts, there still remain substantial barriers that are yet to be addressed;

1. Inadequate and weak policy framework to address land degradation and support the implementation of agro-ecosystem approach in the country

In spite of the fact that the country is facing severe land degradation issue, the process to develop a Land Degradation Neutrality strategy and target setting has not begun yet. This means there is no clear policy direction provided to the line Ministries to systematically address the problem. Similarly, food production processes are one of the key drivers of land degradation in Tuvalu, but the country does not have a food security policy. This also results in poorly coordinated government efforts to support sustainable food production processes and practices. This barrier will be addressed through Component 1.

2. Limited institutional capacities to support the implementation of integrated agro-ecosystem approach

At the management/decision making levels in key government institutions, there is a limited understanding of integrated agro-ecosystem approach. In addition, current government training programs do not include modules on integrated agro-ecosystem approaches. At the management/decision making levels in key government institutions, there is a limited understanding of integrated agro-ecosystem approach. This has implications on policy planning, strategizing, prioritizing and coordinate work plans of line department. Similarly, at the extension level, there are significant gaps in technical knowledge and skills to promote agroforestry and sustainable land management practices at community levels. Most of the extension officers have limited formal technical qualifications. To identify the specific areas of training requirements, capacity needs assessment will be conducted during the PPG phase. The indicative areas are; livestock management/production, soil preparation/management/conservation, intercropping patterns, extension methods to train local communities. This barrier will be addressed through Component 1.

3. Lack of experience and capacities at community level

Despite several initiatives on natural resource management, there are still significant gaps in understanding and capacities related to agroforestry practices, livestock production and management, soil conservation/management and primary product processing/value addition at the community level. In addition, limited extension services poses challenges to

mainstream and pass on knowledge to on-the-ground practitioners. During the project preparation phase, detailed capacity needs assessment at the community level will also be conducted to identify the specific gaps and needs. This barrier will be addressed through Component 1.

4. Lack of sectoral coordination for addressing land degradation and achieving LDN

The threats related to land degradation in Tuvalu have clear linkages with other sectors (e.g. environment, trade, etc), and at present, there is very minimal coordination and integration between the sectors, both at national and island levels. There are also instances of policies and programmes being conflicting and indirectly influence the continuing degradation of land and resources. This barrier will be addressed under Component 1.

5. Inadequate land use planning mechanisms

Majority of the land is owned and managed through the traditional system (for example: the Falekaupules, the traditional assembly of elders in each island and the Kaupules, the executive arm of the Falekaupules), the land use planning and monitoring processes are still limited, and this aggravates the ongoing unsustainable resource utilization practices and has prevented any coordinated efforts at the local level to change the utilization/management patterns. This barrier will be addressed through Component 2.

6. Lack of opportunities for market-oriented sustainable/alternative livelihoods

One of the major barriers in ensuring sustainable resource management at community level is the lack of adequate income opportunities for local populations living in and around the forests. It has been demonstrated around the world that with adequate economic incentives local communities would be willing to participate and engage in sustainable management of natural resources. The main resource based livelihoods in the project sites is related to agriculture (subsistence and semi-commercial), but there are not enough value chain focused efforts to diversity and improve livelihoods, this severely limits the economic benefits that can be derived by the local communities. The value chains that exist require further strengthening, especially in the area of market access and access to finance, and value-addition (primary and secondary processing). This barrier will be addressed through Component 2.

7. Insufficient existing data and knowledge, and management and sharing of data to inform appropriate decision making and planning

There is currently a lack of data on the status of land degradation, land use and land productivity. There is also a lack of information and knowledge on current and proposed interventions to address unsustainable production practices and restore degraded land, and a lack of knowledge of integrated, holistic approaches to sustainable land management, linking land and water resources conservation, food security, resilience, and sustainable livelihoods of farmers and communities. There is a need to compile and update data in order to mobilize support for the most critical areas and interventions. Further, as noted above, a pervasive problem is the lack of awareness and knowledge about these issues. Shared awareness and the ability to understand and implement good practices is key to better land management and climate response. A trained cadre of professionals are needed to implement GEF and related programs and build a strong knowledge base within the country. This barrier will be addressed through Component 3.

2) Baseline scenario and any associated baseline projects

The activities carried out by the **Ministry of Home Affairs and Agriculture** (MHAA) will form the main baseline for this project. The Department of Agriculture's work under the Ministry in all the islands during the project period is estimated to be around USD 400,000.

Extension Unit: The extension officers have carried out preliminary trainings on organic and conservation farming practices, and have created organic school garden for demonstration. These will act as the baseline for more community level capacity building and uptake of agroforestry and sustainable land management practices to be promoted through the project.

Agroforestry Unit: Supply of seedling/planting materials from the operational nurseries. This includes extensive coconut replanting. This will form the baseline for the upgrading of the nurseries and increasing the supply of seedling and planting materials, and the restoration activities.

Livestock Unit: Distribution of small livestock and livestock fencing materials. This will form the baseline for the activities related to integration of livestock into the intercropping patterns.

UNDP/GEF project 'Implementing a Ridge to Reef Approach to Protect Biodiversity and Ecosystem Functions' (GEF-5 Project)

The main aspects of the project that will form the baseline for this project are the resource inventory performed (soils characterized and hazards to land and water resources identified and incorporated into GIS area mapping), and the SLM interventions in three islands of Funafuti, Nanumea and Nukufetau.

UNDP/GEF project 'Increasing Resilience of Coastal Areas and Community Settlements to Climate Change'

The project has ended but the project had worked extensively at the community level developing adaptation plans and implementing community level action to protect ecosystems and natural resources from climate impacts. The work conducted under The lessons learnt from these experiences will aid in designing the Outputs under Component 2.

EU SPC project 'The Global Climate Change Alliance: Pacific Small Island States project in Tuvalu'

The project ended in 2015. The project with a budget of USD 500,000, focused on a) establishing integrated agroforestry demonstration sites in two islands, b) provide community level agroforestry training, c) capacity development of Department of Agriculture staff and d) supporting the process of holding stocks of national plant varieties. The work carried out under this project, and the impacts will be assessed during the PPG phase, and the progress on the ground will form an important basis for the agroforestry work under Component 2.

In addition, the following activities supported by other partners would form the part of cofinancing for this GEF project.

Co-financing sources	Brief description of co-funded baseline project activities	Type co-financing
FAO	FAO's in-kind support will be through staff time, provision of facilities and services.	In-kind
	FAO's Technical Cooperation Programme (Improved support to strengthen smallholder value chains in Tuvalu)	Grant
Ministry of Fisheries and Trade (MFT)	The Ministry's work on agrifood value chains will form cofinancing to the project (this includes working on addressing institutional and supply chain gaps)	In-kind
Live and Learn	The initiative works on increasing opportunities for agricultural skills development in technical and vocational education and training, increasing land productivity, and creating value chains in agriculture.	Grant
Tuvalu Coastal Adaptation Project	This Green Climate Fund (GCF) funded project will implement measures to reduce the impacts of climate-induced sea level rise and intensifying storm events on key infrastructure. This will have direct correlations to the protection of agroforestry sites established through this project.	Grant

3) Proposed alternative scenario with a brief description of expected outcomes and components of the project

Component 1: Strengthening enabling framework for implementation of integrated agro-ecosystem approach

Outcome 1.1: Strengthened policies and planning mechanism for the agro-ecosystem approach throughout the country

Output 1.1.1. National Food Security Policy developed: Tuvalu does not have a national food security policy. The policy to be developed will provide directions on food production in Tuvalu, and these will be guided by an integrated agro-ecosystem approach.

Output 1.1.2. National LDN strategy and target setting developed: The project will support the MHAA to formulate its first LDN strategy as well as the target setting.

Output 1.1.3. Training programmes on integrated agro-ecosystem approach and relevant practices implemented targeting government staff: Training programmes will be implemented at three different levels. Level 1: **Training targeting the management level staff in relevant government departments (all relevant sectors)** will be conducted on improving understanding of integrated agro-ecosystem approach and how to mainstream the approach into other development areas. Level 2: These trainings will target a) extension officers, building their capacity and knowledge to transform knowledge and skills to local communities, and also build their technical knowledge in livestock management/production, soil preparation/management/conservation, intercropping patterns, etc., **and b) Nursery staff on nursery management practices and seedling production techniques.** Level 3: Community level trainings will be conducted on agroforestry practices, livestock production and management, soil conservation/management and primary product processing/value addition. **These trainings will be organized and delivered with support from the local farmer associations. The training processes under this output will include production of specific training manuals targeting different groups, this will help in further training when there is staff turn over in the departments.**

Output 1.1.4 Multi-sectoral and multi-stakeholder Land Degradation Neutrality (LDN) forum established: A forum consisting all relevant government departments, island level government administrators, community representatives and NGOs/CBOs will be established and formalized. This forum will be coordinated by the Dept. of Agriculture, and will meet on periodic intervals. The forum will have the mandate to coordinate, integrate and provide guidance to all relevant sectoral partners to ensure effective implementation of strategies and measures to achieve LDN.

Under Output 1.1.3 and 1.1.4, the line Ministries targeted will be the Ministry of Home Affairs and Agriculture, Ministry of Public Works, Infrastructure, Environment, Labour, Meteorology and Disaster, Ministry of Fisheries and Trade, Ministry for Transport, Energy & Tourism, and Ministry for Health, Social Welfare & Gender.

Component 2: Implementation of integrated agro-ecosystem approach in the islands

Outcome 2.1: Local communities are applying integrated agro-ecosystem approach in the target area

Output 2.1.1. Participatory integrated and whole island agro-ecosystem management plans prepared: Under this output, integrated agro-ecosystem management plans will be developed at least for 4 islands in Tuvalu. **These plans will be developed under the auspice of community elders (Kaupules/Falekaupules- traditional assemblies), local farmer associations and through participation of local community members,** taking into account the local contexts and variables (each island will have certain specific/unique conditions).

Output 2.1.2. Agroecosystem management plans implemented: This output is the most critical part of the project. Soil management and conservation- This will include improved composting practices, top soil management and utilization of traditional techniques.

Rain water harvesting and water conservation- Tuvalu receives heavy rainfall during the cyclone season and then faces severe rainfall shortage for the rest of the year. Improved rain water harvesting and conservation will ensure more productivity from the agroforestry plots.

Agroforestry practices- Intercropping systems will be established utilizing native trees (Dwarf Coconut, Pandanus, Mangroves, Kanava, Gie, etc) and fruit tree crops (Cassava, Dwarf Banana, Salt Resistant Papaya, Breadfruit, Swamp Taro, Potatoes, etc). Livestock (poultry and pigs) will also be integrated into the intercropping systems.

Restoration of degraded lands- This will be done through a combination of assisted natural regeneration (where there is still the potential for accelerating restoration through this method) and replanting in areas with no under growth.

Value chains strengthening- The project will work on two agro-food value chains (to be identified during the PPG phase) to strengthen the initial parts of the value chain (primary production, primary and secondary processing) and facilitate improved access to finance and markets. This will increase local income and livelihood opportunities. The selection of the value chains will take into account the value chains' potential to benefit women in Tuvalu. Value chains that have potential to target both the local and international markets can be chosen. At regional level, Tuvalu could collaborate and potentially form partnerships with its Pacific Island neighbours to become joint suppliers of common goods such as noni juice and coconut virgin oil (this will be aided by the Pacific Island Countries Trade Agreement- PICTA and Pacific Agreement on Closer Economic Relations- PACER). Similarly, there is potential for promoting quality niche products (branded with Tuvalu logo) for export, for example: red toddy (a syrup produced from boiling the sap of coconut tree), and millionaire salad (healthy food that comes from the heart of a coconut tree- at the top where the leaves are located). Tuvalu's Treaty of Friendship with the United States of America is a potential market-outlet that can be explored for the niche products.

Output 2.1.3. Nurseries (for both native trees and tree crops) in the target island upgraded: The existing nurseries in the country do supply seedlings/planting materials, but they are severely limited. The nurseries will be upgraded to ensure supply of improved and increased number of seedlings/planting materials, to facilitate the establishment of more agroforestry sites and restoration of degraded lands.

Output 2.1.4. Inventory created for native tree and fruit tree species: An information/knowledge base will be created for all the native tree and fruit tree species, this will act as an important source for decision making on the combinations to be used in the intercropping sites.

Component 3: Project Coordination, and Monitoring and Evaluation

Outcome 3.1: Project implementation is supported by an M&E strategy based on measurable and verifiable outcomes and adaptive management principles.

Output 3.1.1. M & E strategy developed with relevant stakeholders, clearly defining the expected outcomes, expected implementation timeframe, and confirmation through objectively verifiable indicators and means of verification: A project M&E strategy will be developed in partnership with relevant stakeholders that clearly defines the expected results, the expected time frames for their achievement, and their confirmation through objective indicators and means of verification. Annual work plans and corresponding budgets will be developed based on expected results and their respective progress, including the progressive steps and milestones required for measurable achievements.

Output 3.1.2. Food security and LDN target monitoring and reporting mechanisms established and relevant information shared through national and global platforms: A regular planning, review and monitoring process will be developed for national and subnational LDN targets, and information on LDN targets will be shared through national and global platforms. **The monitoring process will also be institutionalized under the Department of Agriculture with additional training and setting up of systems.**

Output 3.1.3. Best practices and lessons learned on integrated agro-ecosystem approach in the target islands of Tuvalu systematized and disseminated through national and relevant global platforms: The project will support results-based implementation, lessons learned and dissemination of good practices, designed to ensure that project implementation is supported by an M&E strategy based on measurable and verifiable results and principles of adaptive management and knowledge management. A mechanism for dissemination and exchange of best practices and lessons for the replication of results will be developed, which will include: a) a communication and information strategy based on the preparation of information materials, socialization of activities and results, systematization of lessons learned and best practices, and dissemination through various communication media; and b) a project website to share experiences, disseminate information, highlight project outcomes and progress, and facilitate the replication of processes throughout the duration of the project.

4) Alignment with GEF focal area and/or Impact Program strategies

The proposed project is aligned with the GEF Land Degradation Focal Area, and specifically with LD 1-4 Integrated Landscapes and Resilience (INRM) **and LD-2 Enabling Environments for LDN and SLM**. The project, building on previous and other ongoing initiatives, will bring significant parts (some of them heavily degraded) of all the islands of Tuvalu under integrated agro-ecosystem management, ensuring increased resilience and sustenance of key ecosystem services. **To facilitate and sustain these changes, the project will initially work on significantly enhancing the policy and capacity environment in the country for SLM and achieving LDN.**

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

Component 1:

The project will strengthen cross-sectoral, multi-stakeholder collaboration for integrated land management planning and monitoring. This will be done through the formulation processes of Food Security Strategy and the LDN and target setting. Training programmes delivered and stakeholder consultations held, at different levels, through the GEF incremental resources will build on the previous government-funded training and capacity building initiatives. Without GEF resources, the Government and the communities of Tuvalu will not have the tools and sufficient knowledge and skills to implement integrated agro-ecosystem approach to reverse the land degradation which will negatively impact the environment and the livelihood.

Component 2:

Activities under this component will utilize the MHAA's investments with regards to provision of seedlings, planting materials, nursery materials, livestock, fencing materials, etc. GEF incremental resources will strengthen eight nurseries to ensure regular supply of seedlings and planting materials of indigenous tree species and diverse fruits/vegetables that are climate resilient and suited to the local conditions. In addition, GEF incremental actions on strengthening planning process on the islands builds on the efforts carried out by the GEF-5 project in creating resource inventory across the islands. GEF incremental resources spent on implementing the integrated agro-ecosystem management plans will build on the extension and other field level activities being carried out by the Department of Agriculture, existing the nurseries on the island, outreach activities carried out by Live and Learn and the coastal protection measures to be implemented under the GCP adaptation project. Co-financing through the FAO Technical Cooperation Programme will directly feed into the value chain strengthening activities carried out under Output 2.1.2. Without GEF incremental resources, 800 ha on the islands of Tuvalu will remain under the threat of continuous degradation, resulting in loss of vital ecosystem services and goods, severely affecting the livelihoods and well-being of the local community. Further, the nurseries would not have ability to supply the required seedlings and planting materials to ensure the local production systems have crops and trees that are locally adapted and are climate resilient.

Component 3:

GEF incremental funding will support the effective coordination of the project activities with other initiatives in the country. It will contribute to the generation and sharing of knowledge at the project level, and improved monitoring and access to land-use data. In particular, it will support monitoring and generation and dissemination of information related to the national food security and LDN targets. Furthermore, it will support exchange with other countries at the biome and ecoregion level, as well as regional/global exchange on sustainable land management.

Theory of Change: Tuvalu's UNCCD NAP highlights and documents the problem of land degradation, drivers of degradation and the directions to address the drivers in the country. The project analysis above is closely aligned with the NAP. The root causes of land degradation are the inappropriate and unsustainable agricultural practices and the impacts created is further exacerbated by extreme weather events. There are a variety of barriers that needs to be addressed to effectively address the causes of land degradation. This project will systematically address these barriers. NAP also mentions the need for integration at all levels and intersectoral coordination to address land degradation in Tuvalu, the project will adopt an integrated agro-ecosystem approach to promote integration at both national and local levels, and lay the groundwork to achieve LDN.

The project components are closely aligned with the National Agriculture Plan (2016-2023), which lists out clear goals and strategic outcomes that will aid in turning food production in Tuvalu more effective and sustainable (and thus reducing the land degradation).

Component 1 of this project is aligned with the Agriculture Plan's Outcome 1.1 Policy, legislation and regulatory framework strengthened for the long term development of the agriculture sector and Outcome 2.1 A strengthened and well-functioning Department of Agriculture-, and will improve the overall enabling framework (policies, capacities, and coordination/integration of sectors).

Component 2 of this project is aligned with the Agriculture Plan's Outcome 1.2 Land use planning and utilization for agricultural development enhanced, Outcome 1.3 Access to financing improved, Outcome 3.1 Increased domestic food production, Outcome 3.2 Application of good environmental standards and good agriculture practices, Outcome 4.1 Marketing systems for domestic agricultural produce strengthened, Outcome 4.2 Markets for new and emerging domestic products developed and supported and Outcome 4.3 Export potential of selected agricultural products investigated and developed where feasible-, and will improve land use planning, implement SLM practices, restore degraded lands, contribute to improved food production and livelihood improvement through value chain strengthening (improved access to financing and markets).

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

Overall, through the project, about 800 ha (ca. 31% of total land) will be brought under SLM resulting in significant reduction in land degradation, ensuring the sustained flow of key ecosystem services. This will include 150 ha of degraded lands that will be restored to provide quality ecosystem services. The project will result in reduced loss and degradation of key vegetation, and continued provision of key goods and services, especially in the context of local livelihoods.

Additionally, the project is expected to generate adaptation benefits by incorporating measures to increase the resilience of ecosystems and livelihoods to climate change.

7) Innovation, sustainability and potential for scaling up

Innovation: The agroforestry and sustainable land management practices/techniques to be implemented through the project have been tried successfully elsewhere and are not innovative in itself. Policy and strategy formulation on food security and LDN will be the first initiative for the country.

Sustainability: The sustainability of the project will be ensured through a) capacities developed at management/decision making level in key institutions, b) participatory governance structure at local levels and their ownership of the project results and sustenance beyond the project period; c) livelihood benefits (through market oriented value chains) generated through the project; and d) training programs and materials developed by the Project and MHAA will be adopted by MHAA and institutionalized for future training framework.

Scaling Up: This project will be implemented in all of Tuvalu (nine islands), the project approach and lessons learnt can be replicated in other atoll countries, in the Pacific, with similar ecological and socio-economic characteristics. This will be facilitated through the project's Output 4.1.3.

[1] Though specific data on land degradation in Tuvalu is not available. Many Pacific islands are experiencing the effects of land degradation. Countries with bigger islands like Fiji are experiencing soil loss at very high rates. Studies are revealing losses of between 20 and 70 tonnes per hectare per year (Source: SPREP).

1b. Project Map and Coordinates

Please provide geo-referenced information and map where the project interventions will take place.

The project will be implemented in all the nine islands of Tuvalu. Specific sites in each island will be determined during the project preparation phase. Tuvalu’s map is attached under Annex A (and a separate uploaded document).

2. Stakeholders

Select the stakeholders that have participated in consultations during the project identification phase:

Indigenous Peoples and Local Communities Yes

Civil Society Organizations Yes

Private Sector Entities

If none of the above,please explain why:

During the project preparation phase, the project will organize participatory workshops in each island convening all relevant stakeholders, including women and youth, to engage in the project design. The below table provides an overview of the stakeholders to be involved in the project preparation phase. The PIF development process involved consulting the relevant government and non-government partners at the national level.

In addition, provide indicative information on how stakeholders, including civil society and indigenous peoples, will be engaged in the project preparation, and their respective roles and means of engagement.

Stakeholders	Interest / Role in Project Preparation
Ministry of Public Works, Infrastructure, Environment, Labour, Meteorology and Disaster (MPWIELMD)	Ministry of the GEF operational focal point. Will play the key coordination role at the national level.
Ministry of Home Affairs and Agriculture (MHAA)	Main project executing partner. Will play the central role in coordinating with the local communities in the project preparation process.

Ministry of Fisheries and Trade (MFT)	Ministry working on agricultural value chains, will play a central role in designing the activities in relation to identification and strengthening of value chains under the project
Live and Learn	Cofinancing partner. Live and Learn is a NGO, working on agricultural skills development and vocational training. They will play a key role in designing the activities related to value chain strengthening.
Kaupules/Falekaupules	They are the traditional assemblies (elders) in the islands. They will play a key role in local mobilization and generation of interest in the project.
Local communities	Local communities will be involved in extensive consultations to understand their perspectives in the context of land degradation and potential involvement in the project implementation, ensuring ownership of the project design.
Farmer associations in project islands	The farmer associations in the islands are supported by the Department of Agriculture. These associations will be engaged throughout the project preparation and implementation, and their participation and roles will be further elaborated. These associations have a critical role in bring together the individual small holders, and ensuring that the project design takes into account the perspectives and experiences of the smallholders.
NGOs/CBOs	NGOs/CBOs like Tuvalu Association of Non Government Organizatios (TANGO) and Tuvalu National Council of Women (TNCW) will be engaged during the project preparation to ensure wider perspectives of all stakeholders are taken into account. TNCW will play a critical role in collecting information related to the gender analysis to be conducted during the PPG.
Private sector	Consultations will be held with private sector parties relevant to the value chain improvement activities, to enable designing the corresponding project outputs under Component 2.
Tuvalu National Private Sector Organization	Will play a key role in designing the project outputs/activities related to value chains. TNPSO is member (private sector actors) based organization that supports the development of businesses in Tuvalu.

3. Gender Equality and Women's Empowerment

Briefly include below any gender dimensions relevant to the project, and any plans to address gender in project design (e.g. gender analysis).

Given that Tuvalu is predominantly a subsistence economy with agriculture and fishing accounting for at least 80% of national income per capita, it is not a surprise that 75% of the labour force works in subsistence agriculture and the informal economy, female labour participation is about 47% percent in subsistence agriculture. Though there is no additional or extensive qualitative and quantitative information to adequately throw light on women's role in agriculture and agroforestry, it is understood from anecdotal evidence that women play a a critical role in traditional agriculture and agroforestry in Tuvalu. Women also play a dominant role in creation and production of traditional handicrafts (e.g. using shells). There is a National Gender Policy (2013), the policy focuses on; institutional strengthening, capacity building, women's economic empowerment, women in decision making and ending violence against women. There is still significant disparity in access to credit access, representation in community decision making and access to capacity development/knowledge development opportunities.

The project design phase will include a variety of activities to assess gender aspects and incorporate gender-responsive measures into all aspects of project implementation, including:

- A gender analysis with participating groups and communities, as well as other actors involved in agriculture/agroforestry, to assess gender gaps in terms of workload, differentiated needs between men and women, and access and control of resources and benefits;
- Assess women's participation in agriculture/agroforestry production activities, and linkages with livelihoods and other social conditions. Management plans developed under this project will take into account gender differentiated impacts of agro-ecosystem management plans, to avoid the development of gender blind plans. Women's use of ecosystem services will specifically be captured during the PPG. The project will ensure the active inclusion and leadership of women, so as to create a planning process that is adhered to and supported by women.
- Ensure that women and men have equal opportunities to participate in project activities, taking into consideration the specific conditions of both men and women (e.g. training workshops) and ensure that organizations representing women are included in project activities;
- Development of a strategy (that incorporates local knowledge and experience) to ensure that women and men have equal access to opportunities and benefits generated by project interventions, including technical knowledge and information, and access to productive resources, training and financial services;

Women will be key players on information dissemination, especially at the community levels. Local level women's groups will be used to share information.

Does the project expect to include any gender-responsive measures to address gender gaps or promote gender equality and women empowerment? Yes

closing gender gaps in access to and control over natural resources;

improving women's participation and decision-making; and/or

generating socio-economic benefits or services for women. Yes

Will the project's results framework or logical framework include gender-sensitive indicators?

Yes

4. Private sector engagement

Will there be private sector engagement in the project?

Yes

Please briefly explain the rationale behind your answer.

One of the main activities of the project (under Output 2.1.2) is to strengthen the identified value chains, this will involve working closely with the service providers and market operators. During the project preparation phase, once the value chains are identified, the private sector actors and the level of engagement will be further defined. In Tuvalu, given the size of the country and the population size, the scale of private sector is limited, however, the number of private businesses, including a few investors, have entered the country. Tuvalu has about 200 registered businesses. The sectors of focus are spread out across construction, restaurants, agribusiness, etc.

Accessing financing in country will be through the Development Bank of Tuvalu (DBT). Accessing investments from private sector parties, outside Tuvalu, will be through the Tuvalu National Private Sector Organisation (TNPSO) and its linkages with the Pacific Island Private Sector Organisation (PIPSO).

5. 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)

The following potential risks and mitigation measures have been identified, at this stage. These will be reviewed, updated and further substantiated during the project preparation phase.

Risks	Probability	Mitigation Measures
Lack of collaborative cooperation between key institutional stakeholders	Low	Cooperation and coordination between relevant institutional stakeholders will be essential for the project to achieve its stated goal and objectives. This will be achieved through involvement of all stakeholders from the beginning of the project preparation process and through establishment of a working group for the project implementation under the project steering committee. A communication strategy will also be developed and regular meetings and presentation of project results in different phases of the project implementation will be organized.
Unclear responsibilities of project stakeholders at national and specifically at island level	Medium	Clearly defined and prescribed responsibilities of different institutions as well as involvement of all of responsible institutions will be clarified during the project preparation. In addition, a formal technical working group will be established to support the PSC and the PMU.
Reluctance of local population to involve and take ownership of the project activities	Low to Medium	Local communities and their representatives will be effectively engaged from the onset of the project preparation process. Their perspectives and concerns will be taken into account in the project design, and sensitization activities carried out during the project preparation phase would communicate the socio-economic benefits to be delivered through the project.

Risks	Probability	Mitigation Measures
Changes in ecosystems and associated species due to gradual changes in climate and extreme weather events.	High	Tuvalu is one of the most vulnerable countries to climate change and a detailed climate analysis will be conducted during the PPG phase (the analysis will specifically focus on the effects of extreme weather events and changes in climate on crop and tree species). The crop and tree species used for restoration and agroforestry will be selected based on the local site suitability and their resilience to the most likely impacts of climate change (e.g. outbreak of pests and diseases, changes in rainfall, increased salt water intrusion, etc.).

6. Coordination

Outline the institutional structure of the project including monitoring and evaluation coordination at the project level. Describe possible coordination with other relevant GEF-financed projects and other initiatives.

Project Institutional Structure

The project will be implemented by FAO and executed by the Ministry of Home Affairs and Agriculture (MHAA) (operational partner capacity assessment will be conducted during the project preparation phase). MHAA will have responsibility for ensuring the overall coordination of project execution, as well as coordination and collaboration with the institutions, local community organizations, and other entities participating in the project. MHAA will also ensure coordination among government institutions / agencies.

The organizational structure of the project will consist of: 1) a National Project Steering Committee: composed of **the Ministry of Home Affairs and Agriculture , Ministry of Public Works, Infrastructure, Environment, Labour, Meteorology and Disaster, Ministry of Fisheries and Trade, Ministry for Transport, Energy & Tourism, and Ministry for Health, Social Welfare & Gender, FAO, and others (e.g.NGOs/CBOs, private sector entities)**, with the main function of guiding the implementation of the project, verifying and approving the annual work plans and budget, and providing strategic guidance to the overall execution of the project; and 2) a Project Management Unit (PMU) responsible for the day-to-day management of the project and for ensuring the coordination and execution of the project through the effective implementation of the annual work plans; the PMU will be composed of a Project Coordinator, an Administrative Assistant, and other short-term specialists (to be determined during the project preparation phase).

Coordination with other GEF projects



This project, especially at the project preparation phase, will closely coordinate with the below GEF project in Tuvalu:

- o UNDP/GEF project 'Implementing a Ridge to Reef Approach to Protect Biodiversity and Ecosystem Functions'. The project includes a substantial component on integrated land and water management that could provide very valuable lessons learnt and more importantly a base that this project could build on.

In addition, this project will also liaise and coordinate with other GEF projects in Tuvalu, during the PPG phase (for ensuring the design of the project does not overlap/duplicate efforts and promotes synergy where possible/relevant). These projects are:

- o GEFID 9512: Climate Resilience in the Outer Islands of Tuvalu

- o GEFID 9220: Facilitation of the Achievement of Sustainable National Energy Targets

- o GEFID 4714: Effective and Responsive Island-level Governance to Secure and Diversify Climate Resilience Marine-based Coastal Livelihoods and Enhance Climate Hazards Response Capacity

Coordination with other partners and projects

- o SPC and SPREP, as regional entities, have a myriad of regional interventions, with some activities in Tuvalu. During the PPG phase, elaborate discussions will be conducted with both the organizations for potential cofinancing and avoidance of any overlaps/duplication.

- o EU supported National Indicative Programme focuses on sustainable, more environmentally safe waste management system that operates effectively and efficiently. During the PPG phase, consultations will be conducted with the EU office in Fiji, to ascertain any new initiatives planned in Tuvalu to ensure synergy with this project.

7. Consistency with National Priorities

Is the Project consistent with the National Strategies and plans or reports and assessments under relevant conventions

Yes

If yes, which ones and how: NAPAs, NAPs, ASGM NAPs, MIAs, NBSAPs, NCs, TNAs, NCSAs, NIPs, PRSPs, NPFE, BURs, INDCs, etc

The project is consistent with the following national strategies, policies and plans;

National Action Plan to Combat Land Degradation and Drought: Specifically, the priority programme activities of rehabilitation of degraded land and establishment of sustainable land management plans.

Integrated Environment and Natural Resources Policy: Objective 7 Land-use and Food Security prioritizes increased and sustainable food production based on traditional and local knowledge.

TE KAKEEGA III National Strategy for Sustainable Development (2016-2020): One of the goals under the strategy is to ‘Maximize social and economic returns from the management and sustainable use of Tuvalu’s natural resources’, specifically the project is aligned to the strategic direction under Agricultural Development.

National Agriculture Sector Plan (2016-2023): The project components are closely aligned with the National Agriculture Plan (2016-2023), which lists out clear goals and strategic outcomes that will aid in turning food production in Tuvalu more effective and sustainable (and thus reducing the land degradation). Specifically, the project is aligned with Agriculture Goal #1 *Strengthened enabling environment for the agriculture sector* and Agriculture Goal #2 *Farmers have adopted more resilient, productive and environmentally sustainable farming practices and techniques*.

Tuvalu National Biodiversity Strategy and Action Plan (NBSAP)(2012-2016): The project is aligned to Theme #4 *Community Empowerment, Involvement, Awareness and Understanding and Ownership* and Theme #5 *Sustainable Use of Natural Resources of Tuvalu’s NBSAP*.

Te Kaniva Tuvalu Climate Change Policy (2012-2021): The project is aligned to Goal #1 *Strengthening adaptation actions to address current and future vulnerabilities* and will help to achieve key envisioned policy outcomes under this Goal, including: a) Resilience and livelihoods strengthened; b) Improving food security; and c) Recognition and adaptability of the inter-linkages of systems (ecosystems) in adaptations and disaster risk reduction activities to strengthen resilience.

8. 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 inventory created under Output 1.1.4 will consolidate and create a knowledge database of native tree species and fruit tree crops, this will play a central part in planning and decision making to implement agro-ecosystem management practices across the islands through this project and beyond. As described under Output 4.1.3, the project will support the development of a mechanism for dissemination and exchange of best practices and lessons for the replication of results in other similar atoll nations. The project will share information, data, lessons learned, etc. with donor funded projects in other atoll nations, the specific mechanisms for supporting such collaboration will be investigated during the PPG phase.

In addition to above, to ensure proper incorporation of lessons learnt and avoidance of any potential overlaps or duplication, documents under all relevant/related projects (both past and ongoing) will be collected and reviewed. Proper consultations with national and international stakeholders involved in these projects will be consulted during the PPG phase as well.

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): (Please attach the Operational Focal Point endorsement letter with this template).

Name	Position	Ministry	Date
Mr. Soseala Tinilau	Director	Department of Environment	3/4/2020

ANNEX A: Project Map and Geographic Coordinates

Please provide geo-referenced information and map where the project intervention takes place

Please refer to an uploaded document