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January 20, 2010

Dear LDCF/SCCF Council Member:

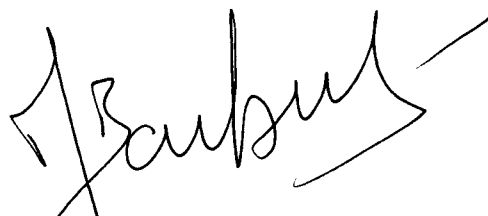
I am writing to notify you that we have today posted on GEF's website at [www.TheGEF.org](http://www.TheGEF.org), a Project Identification Form (PIF) for a full-sized project proposal from UNDP entitled ***Samoa: Integration of Climate Change Risk and Resilience into Forestry Management (ICCRIFS)*** for funding under the Least Developed Countries Fund (LDCF). This PIF has been posted for Council approval by mail. Council Members are invited to review the PIF and to submit their comments (in Word file) to the GEF Secretariat's program coordination registry at [gcoordination@TheGEF.org](mailto:gcoordination@TheGEF.org) by February 19, 2010.

Following the streamlined procedures for processing LDCF proposals (see Programming Paper for Funding the Implementation of NAPAs and the LDC Trust Fund, May 2006) and the new project cycle, Council members are invited to approve the following decision:

*The LDCF/SCCF Council reviewed the PIF entitled **Samoa: Integration of Climate Change Risk and Resilience into Forestry Management (ICCRIFS)** posted on January 20, 2010, and approves it on a no objection basis subject to the comments submitted to the Secretariat by February 19, 2010.*

In accordance with this decision, if the Secretariat has not heard from you in writing by February 19, 2010, we will assume that you approve the PIF. Council members will receive a copy of the draft final project document that will be submitted for CEO endorsement.

Sincerely,



cc: Alternates, GEF Agencies, Trustee



# PROJECT IDENTIFICATION FORM (PIF)

**PROJECT TYPE: Full-sized Project**

**THE LEAST DEVELOPED COUNTRIES FUND FOR CLIMATE CHANGE (LDCF) <sup>1</sup>**

**Submission Date:** 24 December 2009 & 15 January 2010

**GEFSEC PROJECT ID<sup>2</sup>:**

**GEF AGENCY PROJECT ID:** 4318

**COUNTRY(IES):** Samoa

**PROJECT TITLE:** Integration of Climate Change Risk and Resilience into Forestry Management in Samoa (ICCRIFS)

**GEF AGENCY(IES):** UNDP

**OTHER EXECUTING PARTNER(S):** Ministry of Natural Resources and Environment, Ministry of Agriculture and Fisheries

**GEF FOCAL AREA:** Climate Change

INDICATIVE CALENDAR (mm/dd/yy)	
Milestones	Expected Dates
Work Program (for FSP)	n/a
CEO Endorsement/Approval	Sept 2010
Agency Approval Date	Oct 2010
Implementation Start	Nov 2010
Mid-term Review (if planned)	Nov 2012
Project Closing	Nov 2014

## A. PROJECT FRAMEWORK

**Project Objective:** The objective of the ICCRIFS Project is to increase the resilience and adaptive capacity of Samoa's forest areas and communities depend on them for livelihoods to the threat of climate change through targeted adaptation interventions in (i) lowland agro-forestry and (ii) upland native forest sub-sectors.

Project Components	I, TA, or STA <sup>b</sup>	Expected Outcomes	Expected Outputs	Indicative LDCF Financing		Indicative Co-Financing		Total (\$) c = a+b
				(\$ a)	%	(\$ b)	%	
1. Review of national climate change adaptation policies and strategies to integrate lowland agroforestry and upland native forestry sub-sectors	I, TA	1.1 Climate risk and resilience are integrated in lowland agroforestry and upland native forestry policies, strategies and management techniques	(a) Guidelines and recommendations developed for climate resilient lowland agroforestry and upland native forest policies, strategies and management techniques  (b) Training for at least 20 official and project staff on climate risk analysis, adaptive policy and planning techniques  (c) Tailored climate early warning and information services created and at least 20 staff, and 30 community leaders trained on using climate information  (d) The Samoa Forest Resources Information System (SamFRIS) is updated and completed with climate information to model and monitor climate change impacts on native forest and agroforestry areas	240,000	10	240,000	10	480,000

<sup>1</sup> This template is for the use of LDCF Adaptation projects only.

<sup>2</sup> Project ID number will be assigned initially by GEFSEC. If PIF has been submitted earlier, use the same ID number as PIF.

			<p>areas. Training delivered to at least 20 officers</p> <p>(e) Guidelines for community forest fire prevention and management plans and techniques developed, with training for at least 30 Fire &amp; Emergency Services Authority (FESA) officers</p>					
2. Demonstration of policy and technical guidelines through piloting climate resilient techniques.	I, TA	2.1 Enhanced capacity of foresters and communities on climate-resilient agroforestry practices in lowland areas	<p>(a) Climate-resilient agroforestry guidelines are demonstrated in the mid-North Coast uplands on Upolu Island in at least 10 pilot villages (from Laulii to Falefa Villages), through the development and implementation of agroforestry management plans and the establishment of community conservation areas and nurseries</p> <p>(b) Training delivered for at least 20 agroforestry and conservation officers and 30 community leaders in at least 10 villages to practice climate resilient agroforestry</p>	1,050,000	44	1,050,000	44	2,100,000
	I, TA	2.2 Enhanced capacity of foresters and communities on climate-resilient forestry practices at upland native forests and protected areas	<p>(a) Climate-resilient upland native forestry guidelines are demonstrated in the mid-North Coast uplands, Lake Lanotoo and Vaiaata National Park and adjacent customary lands through the development and implementation of forestry management plans, and establishment of community conservation areas and nurseries</p> <p>(b) Training delivered for at least 20 forestry and conservation officers and 30 community leaders in at least 3 villages adjacent to the each of the following national parks: O Le Pupu-Pue National Park, Lake Lanotoo National Park and Vaiaata National Park</p>	770,000	32	770,000	32	1,540,000
3. Knowledge Management, Learning and Replication	TA	3. Project knowledge captured, disseminated and replicated through dedicated	(a) Lessons learned and best practices from pilot projects are collated and disseminated to communities, forestry & conservation officers, sectoral planners, policy and decision makers	100,000	4	100,000	4	200,000

		follow-up activities	(b) Project lessons and practices shared within and outside of the Pacific region and incorporated into the Adaptation Learning Mechanism (ALM)  (c) At least 1 national workshop is organized and knowledge generated is presented in regional events					
4. Project Management	I			240,000	10	240,000	10	480,000
<b>Total project costs</b>				A2,400,000		B2,400,000		4,800,000

<sup>a</sup> List the \$ by project components. The percentage is the share of LDCF and Co-financing respectively to the total amount for the component.

<sup>b</sup> TA = Technical Assistance; STA = Scientific & Technical Analysis

**B. INDICATIVE Co-Financing FOR PROJECT BY SOURCE AND BY NAME**  
(in parenthesis) if available, (\$)

Sources of Co-financing	Type of Co-financing	Project
Project Government Contribution	In-kind	500,000
GEF Agency(ies)	Grant	
Bilateral Aid Agency(ies)	Grant/Parallel AusAID, JICA, GTZ-SPC	1,700,000
Multilateral Agency(ies)	In kind, FAO	100,000
Private Sector	(select)	
NGO	In-kind, CI	100,000
Others	(select)	
<b>Total co-financing</b>		2,400,000

**C. INDICATIVE FINANCING PLAN SUMMARY FOR THE PROJECT (\$)**

	Previous Project Preparation Amount (a) <sup>3</sup>	Project (b)	Total c = a + b	Agency Fee
LDCF		A2,400,000	2,400,000	240,000
Co-financing		B2,400,000	2,400,000	
<b>Total</b>		4,800,00	4,800,000	240,000

**D. FOR MULTI AGENCIES/COUNTRIES (IN \$)<sup>1</sup>**

GEF Agency	Country Name	(in \$)		
		Project (a)	Agency Fee (b) <sup>2</sup>	Total (c) c=a+b
(select)				
(select)				
(select)				
(select)				
(select)				
(select)				
<b>Total LDCF Resources</b>		0	2	0

<sup>1</sup> No need to provide information for this table if it is a single country and/or single GEF Agency project.

<sup>2</sup> Relates to the project and any previous project preparation funding that have been provided and for which no Agency fee has been requested from Trustee.

<sup>3</sup> Include project preparation fundings that were previously approved and exclude PPGs that are waiting for approval.

## **PART II: PROJECT JUSTIFICATION**

### **A. STATE THE ISSUE, HOW THE PROJECT SEEKS TO ADDRESS IT, AND THE EXPECTED ADAPTATION BENEFITS TO BE DELIVERED:**

The decision to develop this follow-up FSP integrated adaptation project is premised on the recognition of the **inter-connectedness of climate change impacts and vulnerabilities** that make it difficult to address the forestry and environment sectors in isolation from all others, as clearly outlined in Samoa's National Adaptation Programme of Action (NAPA). This project seeks to enhance the resilience of forest ecosystems of Samoa, resilience meaning the capacity of a forest to withstand and absorb external pressures and return, over time, as close as possible to its pre-disturbance state. Samoa's forests are currently under threat due to landuse practices, and this is further exacerbated by risks arising from changing climatic conditions. Therefore, while adhering to the principle of additionality, this project will address both land-use and climate risks in an integrated way, in order to enhance resilience of forest ecosystem in the long term to the likely incidence of hazards such as forest fires, erosion and landslides, expansion of invasive species, etc. caused by extreme climatic events (such as cyclones and droughts) as well as gradual climatic changes (rising temperature, changing precipitation and moisture). Samoa's forests are the vital source of prime material and food, supporting livelihoods of rural communities. By enhancing the resilience of forest ecosystems, this project seeks to reduce the vulnerability of communities to climate change and enhance the sustainable use of forestry resources.

#### **Problem and associated root causes:**

##### Climate-induced impacts on Samoa's forestry resources:

The vulnerability of Samoa's natural resources, as outlined in Samoa's NAPA, First (2007) and Second (2009) National Communications under the UNFCCC, and the Climate Risk Profile (CRP, 2007), includes an analysis of current and future climate risks for Samoa. Significantly, the CRP confirms evidence that the effects of climate change are already being felt in Samoa. Observed trends include: increased maximum air temperatures; increased frequency in extreme daily rainfall events; sea level rise of 5.2 mm/yr; and maximum hourly sea level increasing at a rate of 8.2 mm/yr.

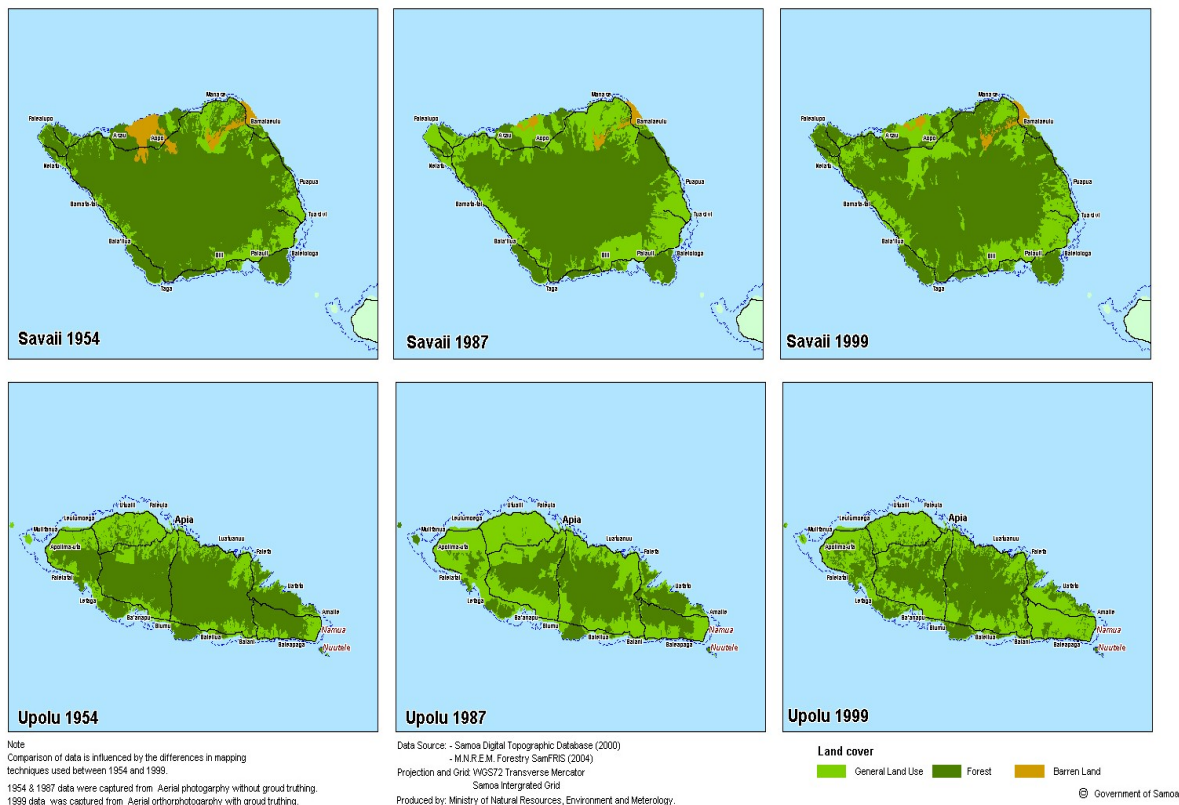
Specific impacts on forestry resources include the recorded extensive cyclonic damage to Samoa's forest resources, and the ineffective recovery actions taken to date, further compounded by the increasing risks of drought and forest fires (see CRP, 2007). These impacts have increased soil erosion, further threatening Samoa's unique biodiversity, and reduced the effectiveness of existing watershed management and traditional harvesting. Cyclones Ofa and Val in 1990 and 1991, respectively, caused damages that were measured to three times the Gross Domestic Product of 1990 (National Climate Synthesis Report, 2004). However, the economic analysis of the cyclone damages have not factored in the loss of ecosystem services that these forests provide. More frequent sporadic rainfall events and floodings were recorded in urban Apia over the past decade, inherently linked with forestry and water-shed management upstream of the city. Prolonged periods of drought, usually lasting three months or more, with increased risk of forest fires, have already been recorded in areas such as Aopo, Asau and Falealupo, with the first four major forest fires occurring during the drought/dry periods of 1982-83, 1997-98, 2001-02 and 2002-03. More intensive extreme climatic events are projected in Samoa, with further damaged forest canopies exacerbated by the current lack of climate change risk integration within the forest sub-sectors.

##### Current land-use practices affecting vulnerability of forests

The Government of Samoa (GOS) has quantified and monitored impacts on forest resources in its Samoa Forest Resources Inventory Survey (SamFRIS) 2003. Results from the forest survey and mapping indicate that Samoa still has approximately 60% forest cover (69% of Savaii and 46% of Upolu), but that much of the forest has been severely degraded by recent cyclones and has a very open, patchy canopy. There are now very few areas of closed canopy forest remaining in Samoa, with the most intact areas remaining in sheltered valleys and on some of the small offshore islands. Another finding is that secondary forests and invasive species are becoming increasingly widespread throughout Samoa, as a result of disturbance from cyclones and agricultural activity. Samoa's two main islands, Upolu and Savaii, currently have 34% of natural native forest cover that is under a series of threats,

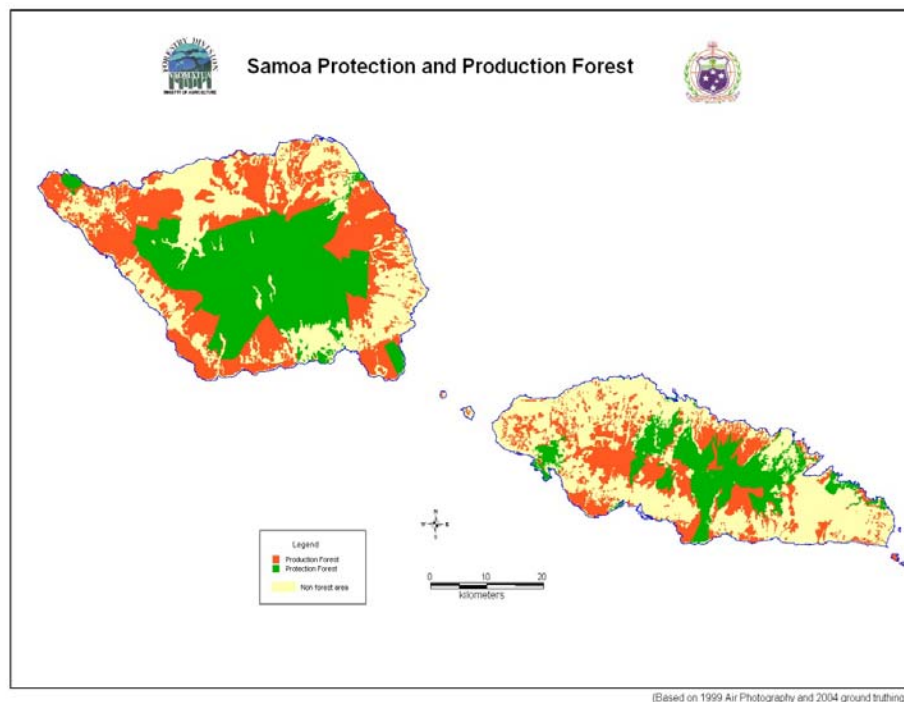
including climate change impacts. Forest degradation, fragmentation and the reduction of biodiversity in the past forty (40) years has increased the vulnerability of these remaining forests to climate change impacts. Commercial deforestation, non-sustainable agricultural expansion for livestock development and taro export purposes have led to serious degradation of forest resources and plantation lands, thus making many coastal communities in Samoa less resilient to the projected changes associated with climate change and sea level rise. The non-sustainable removal of the forest canopy through clear-felling for timber extraction, especially in the drier North-West areas of Savaii, exacerbated further this serious impact of droughts and increased fire risks. Extensive fires further retard forest succession rates, destroy plantation forests, disrupt ecosystems, pollute the air, destroy vital infrastructures, are a risk to human life and undermine attempts to secure sustainable food security regimes. Pristine indigenous rainforests are rarely susceptible to bushfires, however, non-sustainable logging practices in the past have severely increased the environmental, socio-economic and cultural risks.

#### Samoa Forest Cover Change (MNRE, Forestry SamFRIS, 2004)



The management of Samoa's forestry resources is determined by the land tenure system, which is comprised of government-owned (12%), freehold (6%) and mainly customary lands (82%). Conservation or Protected Forest Areas have only recently begun to be put into practice in the South Pacific region. In 1978, with the establishment of the O Le Pupu-Pue National Park in Togitogiga, Samoa became the first Pacific Island nation to create a National Park. Since 2000, two new national parks have been established, including Mauga o Salafai, the first to be located on Savaii, and Lake Lanoto'o towards the summit of Upolu. The total protected forest area consists of existing and proposed national parks and nature reserves, community conservation areas, areas of more than 30% slope and water catchment areas defined as critical. Currently, management plans are being developed for individual NPs and Reserves, but there is no overall protected areas strategy as highlighted in the recent Key Biodiversity Area Gap Analysis (2009). National Parks are under the management of Forestry Division (FD), whereas Reserves and Community Conservation Areas are under the Division of Environment and Conservation. The National Biodiversity Strategy and Action Plan (NBSAP) targets 15% of land area to be protected, increasing from the current 9%, and includes all 3 types of protected areas. Past forestry practices involved the planting of non-native species as fast-growing hardwoods proved unsuccessful because of their susceptibility to cyclone damage and forest fire. There is a need to identify more native forest areas, through consultation with communities on customary land, in order to establish vital community conservation areas that represent all forest types.

In the freehold lands commercial land use includes planting of food crops, but extensive clearing of often secondary forests has taken place primarily for expansion of cattle grazing. Traditional land-use practices in customary land in the past were relatively sustainable, however clearing for agricultural expansion and livestock production has placed additional pressure on Samoa's forest resources. In addition, the management of community conservation areas by customary landowners has met with some difficulty due to the lack of capacity building and access to income generating opportunities. There is a Community Forestry Programme that over the past 15 years involved around 150 villages, encouraging the planting of Samoan native trees (approximately 500 or more trees per village), however, the programme has not taken into consideration current and projected climate impacts, and FD resources are limited to increase the capacity of remaining villages. Over the last 10 years, FD has moved away from being involved in commercial logging and issuing of licences to more conservation-oriented forestry practices. This emphasis on SLM and SFM needs to be expanded in light of climate change impacts.



There are 4 Forestry Stations (2 on Upolu and 2 on Savaii). These are under FD, dealing with management of National Parks and community forestries. These stations provide extension services, such as advisory services on spacing and planning forest plantations and woodlots, as well as seedling production. Each station has its own nursery. The services offered from these stations are currently insufficient, given the shortages in supplying plants and the lack of knowledge on the cultivation of species that are climate-tolerant and economically viable. There is further need to establish community nurseries to supply extra seedlings, especially those that are adapted to drought, fire resistant, etc.

The management of Samoa's forestry resources are guided and/or assisted by the following policy frameworks: National Forest Policy (NFP), the National Biodiversity Strategy & Action Plan (NBSAP), draft Forest Management Bill and Spatial Information Agency Bill (2009). Designed to help regulate commercial and non-commercial logging practices, a Code of Best Logging Practice was introduced, however, today, permits for commercial logging are no longer being issued.



## **Desired changes in landuse practices**

To enhance the resilience of Samoa's forest to current and anticipated climate change impacts, there is a need to rapidly enhance functional diversity and functional connectivity across forest landscapes, by avoiding fragmentation and enhancing forest canopy coverage. This can be reached by rehabilitating areas damaged by cyclones and forest-fire and unsustainable land-use practices using a combination of native species that are more resistant to the increasing incidences of damage caused by cyclones and drought. In the community forest areas, existing native forest areas need to be identified and community conservation areas need to be established, including implementing community forest management practices in woodlot and agro-forestry areas that involve sustainable non-commercial logging practices, intercropping techniques enhancing soil and water conservation, developing business opportunities and market systems to support climate-resilient cash crops, as well as implement fire prevention and control plans at the community level. In both the government-owned forest areas and the customary lands, forest management practices needs to adopt a landscape approach that recognizes anticipated climate change risks, instead of the current practice focusing on individual wood lots, plantations and protected areas.

## **Current barriers to integrate climate-resilience into agrofirestry and forestry practices**

Existing forestry policies, production and management practices have been inadequate to ensure long-term sustainable use of forest resources and have completely lack the consideration of climate change risks. The project intends to address, amongst others, the following policy, institutional and capacity gaps in the current forestry practices:

- lack of awareness, knowledge and data on climate impacts in forest areas
- lack of climate information (shorter and longer term projections) tailored to forestry management and integrated into forestry monitoring systems (SAMFRIS) , as well as into forestry policies, management and monitoring practices. Lack of capacity of forest managers to use climate data.
- ineffective legislation and control of land-use practices, and lack of integration of climate change risk (e.g. the 2009 Forestry Management Bill does not make reference to the impacts of climate change on forests, only mentions the role of forests in emission mitigation)
- long-standing practice of planting non-native species that are more prone to cyclone damage, drought and forest fires
- inadequate control of invasive species, and lack of knowledge on how climate change impacts them
- inefficient forest fire control plans and practices and lack of management capacity,
- lack of knowledge on climate-resilient species and their nursery and cultivating practices
- insufficient capacity of forestry stations to provide plant supply and extension services to communities
- lack of communal forestry plans and nurseries
- lack of knowledge on climate change impacts on agro-forestry farming systems and supplementary livelihood and income earning activities in forest areas (e.g. bee-keeping, recreation and ecotourism), as well as techniques to adapt to the changing climatic conditions
- lack of incentives and market mechanisms to encourage sustainable and climate-resilient agro-forestry practices
- lack of systematic dissemination and replication of previous adaptation projects related to forestry management (e.g. the CBDAMPIC Project [2002-2005] conducted in Saoluafata Village)



Although much has been accomplished in Samoa in disaster risk management during the past 20 years, communities in Samoa are still facing increasing and additional challenges in terms of addressing climate-related disaster risk. There is now a need to strengthen the capacity of Samoan communities to build further resilience to the impacts of climate change and extreme weather events, especially in rural communities.

### **How the project will address these issues**

The Government of Samoa (GOS) has been systematically implementing projects identified during, and aligned with, the NAPA process, using a combination of funding sources (LDCF, SCCF, bilateral funding). Projects are underway in the health, agriculture, coastal management and water sectors, involving the respective line ministries. This project, focusing on lowland and upland forest areas and related communities, forms an integral part of the set of NAPA follow-up activities. These NAPA projects are interlinked through crosscutting activities, such as the application of Climate Early Warning Systems (CLEWS), developed through enhancing services of the Meteorology Division and tailoring climate information to policymakers and practitioners in each sector, including the upland native forest and lowland agroforest sectors.

The project will pursue responses that are robust to a range of observed and anticipated climate change impacts integrated with no-regret conservation and sustainable forestry measures to enhance resilience of forest ecosystems, the communities that depend on them, in Samoa. It will bridge top-down and bottom-up approaches through linking the implementation of policy changes with on-the-ground adaptation measures in affected rural areas, adjacent to protected forest areas, with the active involvement of local communities. It will build adaptive capacity in public administrations and rural communities, in order to enhance the resilience of forest ecosystems and rural livelihoods, that depend on forest ecosystem services. Based on the review of the recently developed National Forestry Policy (NFP, 2007), and related policy frameworks and management practices, guidelines will be developed on climate-resilient forestry practices, capturing institutional and technical aspects.

The policy and management guidelines that will be revised, developed and implemented in the demonstration areas, will cover, amongst others, the following aspects in order to induce a shift in current forestry practices:

- Review of the relevant policy frameworks (e.g. NFP, NBSAP, Forest Management Bill) to enhance the effectiveness of land-use regulations and related policy instruments
- The use of climate information tailored to forestry sector practices (short and longer term projections)
- Management plans of protected areas and their possible extensions, in order to enhance coverage and diversity of native forests and reduce their fragmentation
- Identification of native forest species resilient to cyclones, droughts and forest fire, techniques of their protection, reproduction and management
- Monitoring techniques of climate and related environmental and land-use impacts on forest areas updated with additional training of FD staff, based on the review and update of SamFRIS.
- Climate impacts on invasive species and techniques to control them will be assessed
- Forest fire prevention and control techniques improved by setting up community forest-fire prevention and control plans, through FESA, and training of volunteer fire-fighting crews in drought-prone areas
- Agro-forestry techniques (with species that are likely to thrive under a range of expected climate conditions) that enhance sustainable land use and resilience to climatic effects (e.g. further enhancement and application of the Taungya agroforestry system, using mahogany, teak, *poumuli* and sandalwood intercropping with food crops; planting trees for firewood together with food crops using agroforestry systems such as informal intercropping, alley cropping, field boundaries and woodlots; application of soil and water conservation techniques, etc.)
- Management plans and techniques for community forests and conservation areas
- Nursery techniques suited to the changing climatic conditions, establishment and running of community nurseries that reflect the climate change resilience built within demonstration sites

- Forestry Stations and extension services and community outreach activities to include advices on resilient species and best practices for employing forestry adaptation strategies.
- Techniques and plans to systematically record, disseminate and replicate good practices

During the implementation of a regional project, Capacity Building for the Development of Adaptation Measures in Pacific Island Countries (CBDAMPIC 2002-2005), some community-based forest management adaptation measures were carried out in the villages of Saoluafata, Manunu, Sauniatu. These included climate change and DRR awareness raising, replantation of watershed areas and forest rehabilitation with nursery. However, the activities have not been continued and replicated after the project. Following a thorough problem analysis as to the lack of sustainability of the previous project, these villages will be involved in the planned demonstration area in the northern coast of Upolu, and will provide a good basis to further enhance forestry management adaptation measures, and replicate them in adjacent areas with similar topography, landscape and land use.

This project will be implemented jointly by the Ministry of Agriculture and Fisheries (MAF) and the Ministry of Natural Resources and Environment (MNRE), including the Forestry Division (FD) and Division of Environment and Conservation (DEC), Fire & Emergency Services Authority (FESA) and Disaster Management Office (DMO). The involvement of regionally-based organizations (i.e. SPC, SOPAC, Conservation International) and other UN agencies (such as FAO) will allow the application of proven forest adaptation techniques and approaches.

### **Expected adaptation benefits**

The project is expected to support the the integration of climate risk and resilience into relevant agroforestry and forestry policies and practices, including environmental and meteorological data to better respond to current and anticipated climate change impacts in Samoan rural communities depending on forestry resources for their livelihoods. The policy and management guidelines and recommendations to be developed will provide a knowledge basis for the application of enhanced forestry techniques under a range of anticipated climate change scenarios.

The project will facilitate the testing and implementaiton of these guidelines in selected demonstraion areas and pilot communites, combining scientific techniques (such as climate change projections, GIS mapping and remote sensing) with grassroots participation and community-based appraisal of climatic hazards. Based on these capabilities, the target communities will develop communal risk reduction plans as part of their overall forest management plans. Small-scale adaptation measures will, therefore, be prioritized to effectively reduce the risk of rapid- and slow-onset climate-induced impacts. The prioritized adaptive measures will be matched with the the skill and resource level of the affected communities. The participatory vision of this exercise will ensure that all pilot communities acknowledge the existing and anticipated climate change risks, as outlined above, and address them in a timely and well-informed manner. The project will support a cross-section of livelihoods in different forest ecosystems, with expected livelihood benefits, such as improved food security, sustainable use of timber and other forest products and reduced exposure to disasters.

The project seeks to enhance institutional capacities of relevant line Ministries and their specialized departments, including their district and local level representatives and field staff. Institutional capacities will be strenghtened to integrate climate resilience into sectoral policies and operational plans, as well as to deliver technical tasks related to forestry management and monitoring. The policy changes will aim at supporting an enabling environment for the implementation of on-the-ground demonstration measures, therefore strenghtening institutional structures to address climate risk in the longer term.

### **B. DESCRIBE THE CONSISTENCY OF THE PROJECT WITH NATIONAL/REGIONAL PRIORITIES/PLANS:**

The project fits into the overall programmatic approach of the GOS to address climate change adaptation as outlined in its NAPA, Second National Communications, National Environmental Management Strategy (1994), Strategy for the Development of Samoa (SDS) (2008-2012), as well as the Pacific Islands Framework for Action on Climate Change 2006-2015.

The project will be also effectively linked with the National Biodiversity Strategic Action Plan (NBSAP, 2001), and protected area (PA) management plans and PA development plans, in order to enhance forest conservation efforts through reducing the additional risks and impacts posed by climate change. The knowledge management component of the project will ensure systematic capturing, wide dissemination and replication of the lessons learnt and good practices generated.

Samoa's NAPA includes nine project profiles, namely water, commercial forestry, health, climate, agriculture, landuse planning, coastal ecosystems, environment/biodiversity/forest ecosystems and tourism, which outline priority and urgent adaptation activities in these most vulnerable sectors. Recognizing that existing projects are contributing to the implementation of several of the NAPA project profiles, the GOS has initiated a strategic approach to the implementation of its NAPA (see NAPA Strategy for Implementation, August 2008 update), aiming to avoid duplication and to ensure each of the sectors and/or sub-sectors are funded through the most appropriate avenue.

The NAPA priorities for Samoa are clearly linked with the Strategy for the Development of Samoa (SDS, 2008-2012). The SDS provides a four-year roadmap for development activities in key sectors which are at risk due to the additional climate change impacts, as recorded above. The SDS focuses on six priority strategic areas, with the overall vision of a better quality of life for every Samoan. Successful community adaptation to climate change is integral for this SDS objective, with the importance of building more sustainable livelihood services in all communities being achieved in the shortest possible time. There are strong synergies between the SDS priorities and the activities to be carried out through this project.

The CCA/UNDAF Goal for Samoa is "To support the Government of Samoa's national development vision with a focus on reducing poverty and vulnerability through the improvements in basic services, increasing community participation in decision making, increasing income generating opportunities, maximizing opportunities of globalization and promoting natural resource management and environment sustainability..." by increasing resilience and adaptive capacity to climate change impacts. This LDCF funded Project is directly linked to the Samoa Country Programme goal to ensure the sustainable management of natural resources. This project will also contribute to meeting the main national targets under Goal 7 of the Millennium Development Goal Report for Samoa on the integration of sustainable development principles into national policies whilst helping to achieve both food security and strengthened resilience in upland native forests in the process.

#### **C. DESCRIBE THE CONSISTENCY OF THE PROJECT WITH LDCF ELIGIBILITY CRITERIA AND PRIORITIES:**

Consistent with the Conference of Parties (COP-9), the project will implement priority interventions in Samoa's NAPA and, therefore, satisfies criteria outlined in UNFCCC Decision 7/CP.7 and GEF/C.28/18. The project requests the LDCF Fund to finance the additional costs of achieving sustainable development imposed on the LDCF-eligible countries by the impacts of climate change. It is exclusively country-driven and it will integrate climate change risk considerations into forestry management related to the following priority intervention areas eligible under LDCF guidelines: food security, natural resource management and community level adaptation. The project focus of expanding the resilience of natural and social systems against climate change hazards; monitoring of conditions for and development of response strategies and measures to respond to the adverse impacts of climate change; and improving local awareness and understanding of the necessity and benefits of preparedness for climate change risks are aligned with the scope of expected interventions as articulated in the LDCF programming paper and decision 5/CP.9.

The GOS, recognizes the "principle of balanced access" (LDCF Programming Paper, p.5) and the catalytic nature of GEF funding. Through the PPG phase and following a programmatic approach, the full costing and feasibility of the proposed interventions will be elaborated with the specific intention of addressing the remaining urgent priorities within these NAPA priority areas. It is recognized that not all of the proposed interventions will be funded through this specific project, but a selection based on costing and country driven priorities. The GOS anticipates that there will also be a need for further interventions identified in the course of this project implementation that may be supported through follow-up projects, the national budget and development partner assistance, as part of co-financing. Finally, the logistics of the project lend themselves to an integrated approach.

#### **D. OUTLINE THE COORDINATION WITH OTHER RELATED INITIATIVES:**

The commercial lowland and native upland forests of Samoa have been identified as key conservation priorities in the NBSAP, especially in light of the potential negative impact on surrounding marine resources, especially if not sustainably managed with improved climate resilient management techniques being introduced. This FSP Project is linked to (i) the ongoing and proposed development activities of the SDS, Environment Sector Investment Plan expended in the following 4-10 year period, (ii) Samoa's recent initiative to expand its Protected Areas (PAs) , (iii) AusAID's proposed Agroforestry Project, (iv) the current GEF-UNDP SGP and MAP-CBA projects building capacity of local communities in Samoa, (v) LDCF funded ICCRA&HSS Project also focussing on climate change adaptation, (vi) the GEF Forestry and Protected Area Management Project, implemented by FAO on Savaii Island, (vii) the GEF Sustainable Land Management Project (2007-2011) (viii) the JICA funded PAM Project in two established National Parks and Reserves on Upolu Island and (ix) the Aus-Aid funded NAPA4 Project, especially its forest fire component incorporated in the outputs of this proposal, and the (x) GEF-UNDP regional PACC Project where Samoa is implementing coastal adaptation measures, as well as the (xi) MAF Fruit and Vegetable Strategy (2009) that has been designed to increase food security in Samoa.

#### **E. DESCRIBE ADDITIONAL COST REASONING:**

LDCF funds will expand on, and complement, existing baseline programmes and projects, and are closely aligned with development priorities at the selected demonstration areas. The additional activities required to integrate climate-resilience into the lowland agroforestry and upland native forest management strategies and guidelines are based on the following baselines:

##### **Component 1 - Review of national climate change adaptation policies and strategies to integrate lowland agroforestry and upland native forestry sub-sectors**

Baseline: The conservation and management of forest ecosystems in Samoa are pursued through various policy and planning frameworks (NFP, NBSAP, SamFRIS, EMS, SDS), but currently they do not effectively integrate climate risk considerations. Although some climate risk data and climate change modeling are available, they are not systematically included in lowland agroforestry and upland native forest management and planning. SamFRIS was created in 2004 using aerial photo images from 1999 complemented through ground-proofing and fed to a GIS system. SamFRIS included some information on climate zones but in a coarse and partial way. Training was provided to FD personnel through FAO. While SamFRIS provides a good framework for the monitoring of forestry resources in Samoa, it is today outdated and does not integrate information on current and projected climate conditions.

JICA is conducting a "Project for Enhancing Management Capacity for National Parks & Reserves of Samoa". The project provides various trainings relevant to protected area management such as ecological survey techniques, landscaping techniques, management plan formulation and awareness techniques to MNRE staff, but does not integrate dealing with climate risks. This project provides a good foundation for capacity building to integrate climate change consideration. The three-year project will be completed in March 2010 and the project extension is currently under consideration, synergies and co-financing arrangements can be created for the development and implementation of this FSP.

Forestry planners and managers, disaster management professionals and traditional communities are presently not able to efficiently translate climate risk projections into resilient planning and investment decisions that have a good cost-benefit ratio and, therefore, translate them into long-term resilience benefits for communities. Some past and current forestry practices in fact have contributed to making these islands more vulnerable to climate change impacts and natural disasters (i.e. planting of exotic tree species that are more susceptible to cyclonic damage &/or forest fires than native tree species). Currently the laboratories and 4 forestry stations of the Forestry Division are under-equipped, and lacking the knowledge and techniques to cultivate and supply climate-resilient seeds and seedlings for forest rehabilitation, community forestry and agroforestry production.

Adaptation alternative: LDCF funding will enable the review of existing policy frameworks to integrate climate resilience, and the further development of a climate early warning system (CLEWS) that ensures the systematic collection, analysis and dissemination of climate risk information for practical tasks related to lowland

agroforestry and upland native forest management planning. The project will support the update of SamFRIS using satellite imagery and advanced GIS techniques, enhancing and expanding the layer containing information on current and projected climatic changes to develop climate modeling and monitoring tools for the forestry sector

. The project will support the review and development of the management plans of protected areas, in order to integrate climate risks. The functions and capacity of the FD laboratory and forest stations will be enhanced in order to provide extension services to communities on climate-resilient agroforestry techniques. Technical and planning staff at the national and district level will be trained in climate risk analysis, hazard mitigation and adaptive planning. Additional LDCF funding will be used to assess, prioritize and demonstrate anticipatory, adaptive and innovative measures in forestry management, agro-forestry practices, and associated land-use planning and zoning in a set of pilot villages. LDCF funding will strengthen the understanding of hazard and vulnerability dynamics in these pilot villages and develop guidelines for agroforestry and resilient land use planning, natural hazard mitigation and native forest management, based on the review and application of regional and national experiences.

## **Component 2 – Demonstration of policy and technical guidelines through piloting climate resilient techniques**

Baseline: Current community-based approaches to address climate change risks in Samoa are in their infantile stages, piecemeal and outside of a framework of best practices that needs to be developed and adopted as a comprehensive approach to climate risk reduction. Livelihoods and coping ranges within the pilot communities continue to deteriorate as a result of sea level rise, increasing exposure to severe climatic events including cyclones, floods and even drought, and ongoing soil erosion due to poor land use practices and exposed forest canopies. Communities lack the awareness on climate change trends and impacts, and the capacity to plan and undertake agroforestry practices that are resilient to climate change. The current fire fighting system has limited resources (e.g. number of fire trucks and stations, water supply, appropriate equipment, and manpower), and communities lack the awareness and capacity on forest fire prevention and control.

Adaptation alternative: LDCF funding will enable priority climate risk reduction and climate change adaptation measures in these pilot villages, based on the revised agroforestry and forestry management policies, strategies and guidelines. These guidelines and plans will integrate a suite of innovative agroforestry management, land use planning and native forest management measures, which are based on additional technical analysis delivered under Component 1. The project will support the improvement and expansion of the ongoing Community Forestry Programme, through the integration of cyclone and drought resilient species, planning and community training of their cultivation. LDC-F funds will be used to pilot an appropriate community forestry model including woodlots, agroforestry areas, and community reserves with community nurseries and supportive extension services implemented. The model will be based on environmental and socio-economic assessments, in order to provide incentives for viable and sustainable business practices. In order to reduce the occurrence and mitigate the adverse impacts of forest fires, community-based forest fire plans and standard operational procedures will be developed and implemented, with the vulnerable communities involved and with the assistance and guidance of the Fire & Emergency Services Authority, Ministry of Agriculture and Fisheries of Samoa

The design of demonstration measures within this project will be aligned with local conditions at the respective pilot sites. This moves the scope of the project towards support of natural protective structures and ecosystems, diversification of climate-resilient natural resources and crops, land zoning and management of natural buffer-zones, and improved information flows from climate early warning systems. Envisaged demonstration components of the project will focus on long-term resilient practices of agroforestry management, soil and forest vegetation management, and optimization of watershed management. Starting from a pilot at selected districts and protected areas with their adjacent communities, the project will provide the basis for replication to other districts.

### **Component 3 - Knowledge Management, Learning and Replication**

**Baseline:** The current knowledge about climate risk management approaches in Samoa is not systematically captured and analyzed. Although various autonomous and ad-hoc planned adaptation measures have been adopted on the islands and their individual communities (with mixed results), the lessons from these initiatives are neither systematically evaluated nor disseminated. Other adaptation projects in Samoa (e.g. ICCRA&HSS, PACC, SGP-CBA) incorporate knowledge management components through similar approaches, but are still in early stages to generate lessons learnt and good practices. Therefore, access to knowledge emerging from different adaptation projects and approaches remains mostly informal, and the flow of useful information that could potentially increase the quality of adaptation planning nationwide remains limited. A first National Climate Change Summit held in May 2009 in Samoa was a very useful event to disseminate climate change information, but remains an occasional activity with plans by GOS to repeat in coming years. As there is presently no solid knowledge management mechanism that would allow the systematic capturing and dissemination of lessons learned from different climate change adaptation projects in Samoa, there is no way for different government departments, community leaders and adaptation planners in other SIDS to learn from the experiences of this NAPA follow-up FSP project.

**Adaptation alternative:** The lessons generated through this project will be highly relevant to rural lowland and upland districts throughout Samoa and to other SIDS. The project will therefore include targeted knowledge sharing activities within Samoa and beyond, and ensure dissemination of lessons learned through the global Adaptation Learning Mechanism (ALM) platform. Through these targeted knowledge management measures, LDCF funding will ensure that project lessons and experiences are integrated into the ALM's archive of good practices, which will, together with the respective entries from other GEF-funded projects in Pacific SIDS (e.g. the SCCF-funded PACC, SGP-CBA), assist in developing a critical mass of adaptation experience in coastal and inland areas in SIDS. Project-related information will be made accessible to climate change adaptation practitioners through the ALM's web-based interface, on-line dialogues and printed material.

#### **F. INDICATE THE RISK THAT MIGHT PREVENT THE PROJECT OBJECTIVE(S) FROM BEING ACHIEVED AND OUTLINE RISK MITIGATION MEASURES:**

The project proposes a complex set of activities focusing on the mainstreaming of climate change adaptation into forestry policies, plans and management practices, and on the parallel development of individual, institutional and technical capacity in communal demonstration sites in pilot villages. Lack of coordination between the national policy level and the communal demonstration levels may impact on project timelines. There is also a risk of limited technical capacity at government departments involved and at the demonstration sites to monitor project lessons and synthesize their value for policy-related processes. To mitigate against these risks, the project will engage government officials at the national, district and local levels from relevant departments of MAF and MNRE to formalize a multi-agency group responsible to oversee the project and its deliverables. Active engagement of local communities will be ensured through the involvement of traditional leadership, women's group and supporting community-based organizations. This will call for people committed to the project for its duration with contingency plans in case personnel linked with the project during its lifetime leave for other assignments. To ensure that project timelines are met, project activities will establish structural linkages to ongoing government operations in rural and coastal zone development (e.g. relevance to Coastal Infrastructure management [CIM] Plans) and ensure that the project timeline is synchronized with milestones in ongoing government planning processes.

#### **G. DESCRIBE, IF POSSIBLE, THE EXPECTED COST-EFFECTIVENESS OF THE PROJECT:**

The formulation of Samoa's NAPA was based on a multi-criteria ranking and participatory processes, which has outlined the adaptation in forest areas and forestry practices amongst the immediate priorities yielding the highest immediate cost-benefit ratio. The main alternative to community based adaptation options in Samoa's lowland and upland forest areas are large-scale government management plans undertaken by government staff, which represent a more costly, higher investment and less effective option, considering the remoteness of the areas, the interlinks with rural communities living adjacent to protected areas, and the complex traditional communal land tenure system in Samoa. As the project builds on existing baseline programmes of line agencies, and aims at catalyzing additional public as well as private sector investments for climate change adaptation, it is designed in a spirit to develop adaptive capacity at the different levels rather than perform solely top-down regulatory and state-

driven management options. Furthermore, the project will be designed with a comprehensive knowledge management and replication function in mind that will only be successful if the selected adaptation options are low-cost, easily adaptable by communities throughout the country, and efficient in increasing people's livelihood resilience, but this may also require finding adaptation synergies with relevant mitigation technologies within both the agricultural and forestry sectors. During the PPG implementation phase, the proposed outputs under this PIF will be further elaborated and their cost-effectiveness will be assessed. When the final proposal is submitted for CEO endorsement, it will contain the necessary justifications for cost-effectiveness, hopefully enhanced by these proposed mitigation technologies (e.g. biomass gasification, coconut biofuels, etc.) helping to further justify the cost-effectiveness of this FSP Project.

**H. JUSTIFY THE COMPARATIVE ADVANTAGE OF GEF AGENCY: N.A.**

**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 [country endorsement letter\(s\)](#) or [regional endorsement letter\(s\)](#) with this template).

NAME	POSITION	MINISTRY	DATE ( <i>Month, day, year</i> )
Taulealeausumai Laavasa Malua	Chief Executive Officer	Ministry of Natural Resources and Environment	December 4, 2009

**B. GEF AGENCY(IES) CERTIFICATION**

This request has been prepared in accordance with GEF policies and procedures and meets the GEF criteria for project identification and preparation.

Agency Coordinator, Agency name	Signature	Date	Project Contact Person	Telephone	Email Address
Yannick Glemarec UNDP/GEF Executive Coordinator	<i>Y. Glemarec</i>	December 24, 2009	Gabor Vereczi, Regional Technical Advisor – Climate Change Adaptation, UNDP	+685 23670	gabor.vereczi@undp.org