

United Nations Development Programme

Country: Samoa

PROJECT DOCUMENT¹



Project Title: Integration of Climate Change Risks and Resilience into Forestry Management in Samoa (ICCRIFS)

Executing Entity/Implementing Partner: Ministry of Natural Resources and Environment

Implementing Entity/Responsible Partners: United Nations Development Program

Programme Period	2010 - 2014	Total resources required:	US\$ 4,930,000
Atlas Award ID:	00061539	Allocated resources:	US\$ 4,930,000
Project ID:	00077990	GEF	2,400,000 (LDCF)
PIMS #	4318	Other: Donor	2,060,000 (Parallel)
Start date:	28 February 2011	In kind contributions	470,000 (GoS)
End Date	31 March 2015		
Management Arrangements	NEX		
PAC Meeting Date	22 Nov 2010		

Agreed by Ministry of Finance: Hon. Faumuina Tiatia Liuga

Date/Month/Year

Agreed by Ministry of Natural Resources and Environment: Hon. Paamoetaulua Lealaiauloto Paito
Dr Faale Tumaalii

Date/Month/Year

Agreed by UNDP Resident Representative: Nileema Noble

Date/Month/Year

¹ For UNDP supported GEF funded projects as this includes GEF-specific requirements

UNDAF Outcome 4: The mainstreaming of environmental sustainability and sustainable energy into regional and national policies, planning frameworks and programmes; and Pacific communities sustainably using their environment, natural resources and cultural heritage

UNDP Strategic Plan Environment and Sustainable Development Primary Outcome:
Promote climate change adaptation

UNDP Strategic Plan Secondary Outcome: Strengthened capacity of developing countries to mainstream climate change adaptation policies into national development plans.

Expected CP Outcome(s):

4.1.1. & 4.2.1 The environment-economic-governance nexus demonstrated through community-based natural resource management and use that supports implementation of gender-sensitive national policies as well as the mainstreaming of environment into national plans.

Expected CPAP Output (s)

4.2.1.1 Protected and conservation area management and governance systems strengthened

4.2.2.1. Engendered MDG-based village and local level sustainable development plans developed and implemented by communities

Brief Description

Samoa is experiencing increasing climate change-induced damage to human and economic development in key sectors, with adverse effects already experienced by its village communities. There is a high risk that further climate-change related damage will strongly impact on the country's economy, social infrastructure and natural environments, and significantly affect the livelihoods of rural communities. The combined effects of sea level rise, increased frequency and intensity of tropical cyclones, coastal erosion, disease impacts on crops, drought, spread of invasive species and reductions of fresh water supply seriously undermine Samoa's forestry and agro-forestry resource base and the related livelihood opportunities of its communities. Climate change exacerbates current environmental pressures on forestry resources, due to clearing and encroachment in native upland forestry areas, unsustainable landuse practices in lowland agro-forestry areas, coupled with lack of understating and knowledge of government institutions and rural communities on current and potential impacts of climate change on forestry resources and effective adaptation options. Through this project, the Government of Samoa (GoS) will strengthen institutional capacities to systematically identify and address the climate change-driven risks for the management of native forests and agroforestry areas, in order to increase the resilience of rural communities and protect their livelihoods from dynamic climate-related damage, pursuant to the attainment of Samoa's Millennium Development Goals (MDGs). The Least Developed Countries Fund (LDCF) resources will be used to achieve the following closely interrelated outcomes:

a. Climate change risks and resilience are integrated into forestry policy frameworks

- Revised national forestry policy and plan through enhanced institutional coordination
- Development of forestry-tailored climate early warning and information systems
- Development of a Forest Fires Prevention Strategy and Manual
- Training of government officers on climate risk analysis, adaptive policies and planning techniques

b. Climate resilient agro-forestry and forestry techniques are demonstrated in lowland agroforestry and upland native forest areas

- Detailed vulnerability assessments in native upland forest ecosystems and lowland agroforestry areas and preparation of site-specific adaptation plans using climate early warning and information systems
- Rehabilitation of degraded native forestry areas using climate-resilient native species, introduction of climate resilient crops and cultivation techniques, climate-sensitive grazing land management techniques and training of farmers
- Promote linkages with sustainable livelihood support mechanisms, value added produce and products
- Capacity and coordination strengthening of national and community stakeholders

c. Project knowledge and lessons learned are captured, analysed and disseminated

- Lessons learned and best practices are generated and shared between local communities, and national and regional stakeholders through appropriate mechanisms
- Feeding of on-the-ground experience to inform policy mainstreaming processes
- Development of a project communication and awareness raising strategy involving range of media
- Project experience in forestry adaptation is transmitted to education institutions to incorporate knowledge generated in training materials, curricula and school programs

This initiative will be implemented through the active engagement of all relevant line ministries including the Ministry of Natural Resources and Environment (MNRE), Ministry of Agriculture and Fisheries (MAF), Ministry of Finance (MoF), Fire and Emergency Services Authority (FESA), Ministry of Women, Communities and Social development (MWCSO) and Ministry of Foreign Affairs and Trade (MFAT), thereby ensuring cross-sectoral coordination throughout the policy-making, capacity building and implementation activities. The community-level implementation will be delivered through the engagement of community leaders in the selected project areas, with the support of national Non-Government Organizations (NGOs) active in rural development and environment issues. The active involvement of regional organizations, such as the Secretariat of the Pacific Regional Environment Programme (SPREP) and the Secretariat of the Pacific Community (SPC), will ensure provision of regional expertise on the technical and policy aspects of the initiative.

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List of Acronyms

ACD=	Aid Coordination Division
ACEO=	Assistant Executive Officer
ACEOFD=	Assistant Chief Executive Officer, Forestry Division
ADB=	Asian Development Bank
AFAP=	Agroforestry Adaptation Plan
ALM=	Adaptation Learning Mechanism
APR=	Annual Project Report
AusAID=	Australian Assistance for International Development
AWP=	Annual Work Plan
CBA=	Community-Based Adaptation
CCA=	Climate Change Adaptation
CBCA=	Community-Based Conservation Areas
CCM=	Carbon Credit Mechanisms
CCSDP=	Community Centred Sustainable Development Programme
CDC=	Cabinet Development Committee
CEF=	Clean Energy Fund
CEO=	Chief Executive Officer
CIM=	Coastal Infrastructure Management
CePaCT=	Centre for Pacific Crops and Trees
CI=	Conservation International
CLEWS=	Climate Early Warning System
CRP=	Climate Risk Profile
DEC=	Division of Environment and Conservation
DLSE=	Department of Lands, Survey and Environment
DMO=	Disaster Management Office
DRR=	Disaster Risk Reduction
EA=	Executing Agency
EC=	European Community
EIA=	Environmental Impact Assessment
ENSO=	El Niño Southern Oscillation
EU=	European Union
FAO=	Food and Agriculture Organization
FCP=	Forest Conservation Project (JICA)
FD=	Forestry Division
FE=	Final Evaluation
FESA=	Fire and Emergency Services Authority
FFPM=	Forest Fire Prevention Manual
FMS=	Forestry Management Strategy
FMT=	Financial Management Tool
FNC=	First National Communication
FSP	Full-Sized Project
GDP=	Gross Domestic Product
GEF=	Global Environment Facility
GEF-PAS=	Global Environment Facility - Pacific Alliance of Sustainability
GIS=	Geographic Information System
GoS=	Government of Samoa
GTZ=	German Agency for Technical Cooperation
IA=	Implementing Agency
ICCRA&HSS=	Integrating Climate Change Risks in the Agriculture and Health Sectors in Samoa

ICCRIFS=	Integration of Climate Change Risks and Resilience into Forestry Management in Samoa
IFES=	Integrated Food and Energy System
IPCC=	Inter-Governmental Panel on Climate Change
IR=	Inception Report
ITD=	Information Technology Division
IW=	Inception Workshop
IWRM=	Integrated Water Resource Management
JICA=	Japan International Cooperation Agency
KBA=	Key Biodiversity Area
LDC=	Least Developed Country
LDCF=	Least Developed Country Trust Fund
LMD=	Land Management Division
M&E=	Monitoring and Evaluation
MAF=	Ministry of Agriculture and Fisheries
MCS=	Micro Credit Scheme
MD=	Meteorology Division
MDG=	Millennium Development Goal
METI=	Matuaileoo Environment Trust Inc.
MFAT=	Ministry of Foreign Affairs and Trade
MNRE=	Ministry of Natural Resources and Environment
MoF=	Ministry of Finance
MoH=	Ministry of Health
MTE=	Mid-Term Evaluation
MWCSD=	Ministry of Women, Community and Social Development
NAP=	National Action Plan (for Land Degradation)
NAPA=	National Adaptation Programme of Action
NBSAP=	National Biodiversity Strategy and Action Plan
NCCCT=	National Climate Change Country Team
NEMS=	National Environmental Management Strategy
NFAP=	Native Forestry Adaptation Plan
NGHGAS=	National Greenhouse Gas Abatement Strategy 2008-2018
NGO=	Non-Government Organization
NHS=	National Health Services
NISAP=	National Invasive Species Action Plan
NIWA=	National Institute of Water and Atmospheric Research
NPCCC=	National Policy for Combating Climate Change
NPSFM=	National Policy on Sustainable Forest Management
NRMT=	Natural Resource Management Tool
NWRAP=	National Water Resources Allocation Policy (draft)
NWRM Act=	National Water Resources Management Act (2007)
NWRMS=	National Water Resources Management Strategy (2007-2017)
NWRMP=	National Water Resources Management Plan
OAA=	Office Administrative Assistant
OECD	Organisation for Economic Cooperation and Development
OUM=	Oceania University of Medicine
PAB=	Project Assurance Body
PACC=	Pacific Adaptation to Climate Change
PACE-SD=	Pacific Centre for Environment and Sustainable Development
PAM=	Protected Area Management
PB=	Project Board
PC=	Project Coordinator
PD=	Project Director
PES=	Payment for Environmental Services
PGEP=	Pacific Growers Export Partnership

PIC=	Pacific Island Country
PIR=	Project Implementation Review
PM=	Project Manager
PMU=	Project Management Unit
PPCR=	Pilot Programme for Climate Resilience
PPG=	Project Preparatory Grant
PTR=	Project Terminal Report
PUM Act=	Planning and Urban Management Act (2004)
PUMA=	Planning and Urban Management Agency
RCU=	Regional Coordinating Unit
SAFTP=	Samoa Agroforestry and Tree Farming Program
SamFRIS=	Samoa Forestry Resources Inventory Survey
SAPS=	Silvo-Agro-Pasture System
SBAA=	Standard Basic Assistance Agreement
SBS=	Statistics Bureau of Samoa
SCCF=	Special Climate Change Fund
SDS=	Strategy for the Development of Samoa 2008-1012
SFA=	Samoa Farmers Association
SGP=	Small Grants Programme
SIA=	Spatial Information Agency
SIDS=	Small Island Developing State
SLM=	Sustainable Land Management
SLR=	Sea Level Rise
SME=	Small Medium Enterprise
SMP=	Sustainable Management Plan
SNC=	Second National Communication
SPA=	Strategic Priority on Adaptation
SPBD=	South Pacific Business Development
SPC=	Secretariat for the Pacific Community
SPREP=	Secretariat for the Pacific Regional Environment Programme
SRF=	Strategic Results Framework
SRIM=	Soils Resources Interpretation Manual
ST	Samoa Tala (dollar)
STA=	Samoa Tourism Authority
SWA=	Samoa Water Authority
TOAF=	Technical Officer Agroforestry
TONF=	Technical Officer Native Forestry
TOR=	Terms of Reference
TR=	Tripartite Review
TST=	Technical Support Team
TTR=	Terminal Tripartite Review
UN=	United Nations
UNDAF=	United Nations Development Assistance Framework
UNDP=	United Nations Development Programme
UNDP-CO=	United Nations Development Programme Country Office
UNFCCC=	United Nations Framework Convention on Climate Change
USP=	University of the South Pacific
WB=	World Bank
WIBDI=	Women in Business for Development Inc.
WRD=	Water Resources Division

SECTION I: ELABORATION OF THE NARRATIVE

PART I: Situation Analysis

1.1 Context

1. Samoa comprises two main islands and a number of small islands and islets (see Figure 1). Its climate is typical of small tropical islands. The rainfall and humidity are usually high, with distinctive wet and dry seasons on the leeward (north-western) sides of the main islands, Upolu and Savaii. Temperatures are high and generally uniform throughout the year. Samoa experiences southeast trade winds almost all times of the year. However, severe tropical cyclones occur during the summer months of November to March. Samoa is also vulnerable to anomalously long dry spells that coincide with the El Niño phenomenon.
2. The 2006 census² by the Samoa Bureau of Statistics (SBS), showed a net total population of 179,186 (an increase of 1.5% from 2001). Samoans are of Polynesian ethnicity, living in 330 mainly near the sea villages on Upolu and Savaii and the smaller islands of Manono and Apolima. At current prices, Samoa's Gross Domestic Product³ (GDP) for March 2010 was Samoan Tala (ST) 1,433 million (down by 0.7% from the previous 12 months) with main composition of services sector 53%, secondary sector 27% and the primary sector 10%. According to the Governor⁴ of the Central Bank of Samoa, one of the immediate challenges facing Samoa's economy is to revive agricultural production 'which has been on a declining trend for some time now'. About 70% of Samoa's population and infrastructure are located in the coastal area.

Figure 1 – The Islands of Samoa



3. 60% of Samoa's land surface, or 171,073 hectares is still covered by forests⁵, mostly under customary land ownership, providing key sources of livelihood for rural

² GoS. 2007. Census of Population and Housing. Statistics Bureau of Samoa (SBS).

³ SBS. 2010. Gross Domestic Product, March.

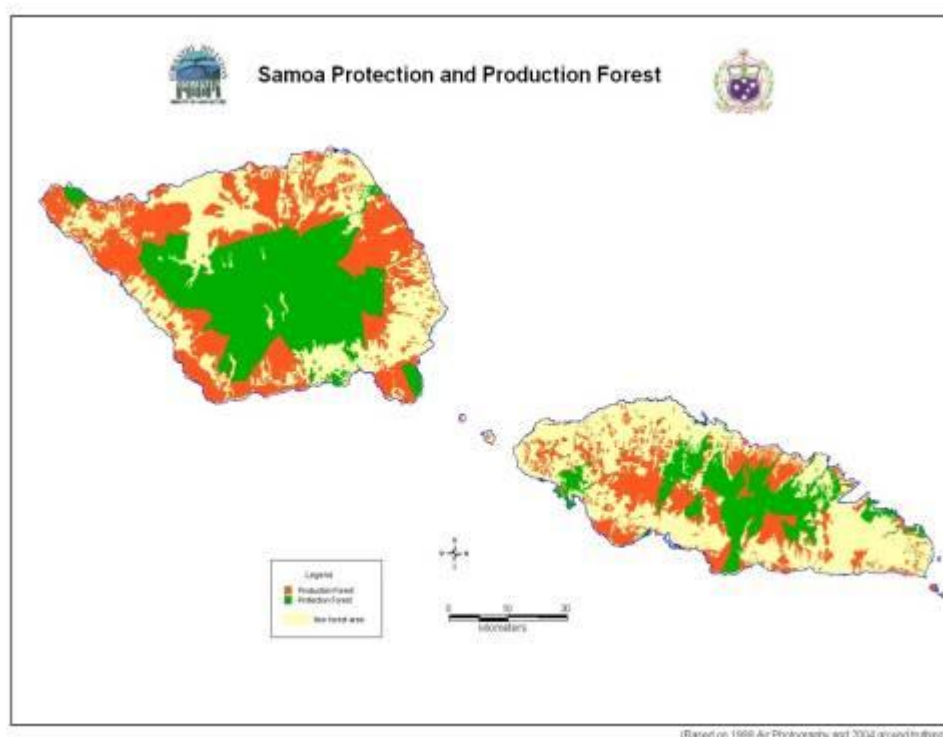
⁴ Central Bank of Samoa. 2010. Quarterly Bulletin, December 2009.

⁵ GoS. 2004. Samoa Forest Resources Inventory Survey. Ministry of Agriculture, Forestry and Fisheries.

communities. The forest is an economic and cultural resource and a source of social benefits to local communities supplying food, wood and medicine. It also offers environmental benefits providing habitats for animals and plants, regulating water resources, providing soil protection and moderating climatic conditions. There are also commercial opportunities based around forests such as ecotourism, bio-prospecting and carbon trading. Samoan forests have offered a sense of spirituality, and are an intimate component of the faaSamoa (Samoan way)⁶.

4. The management of Samoa's forestry resources is largely determined by the land tenure system which is comprised of Government-owned (12%), freehold (6%) and mainly customary lands (82%).

Figure 2 – Estimated Lowland Areas for Development and Upland Areas for Conservation (MNRE, Forestry Division)



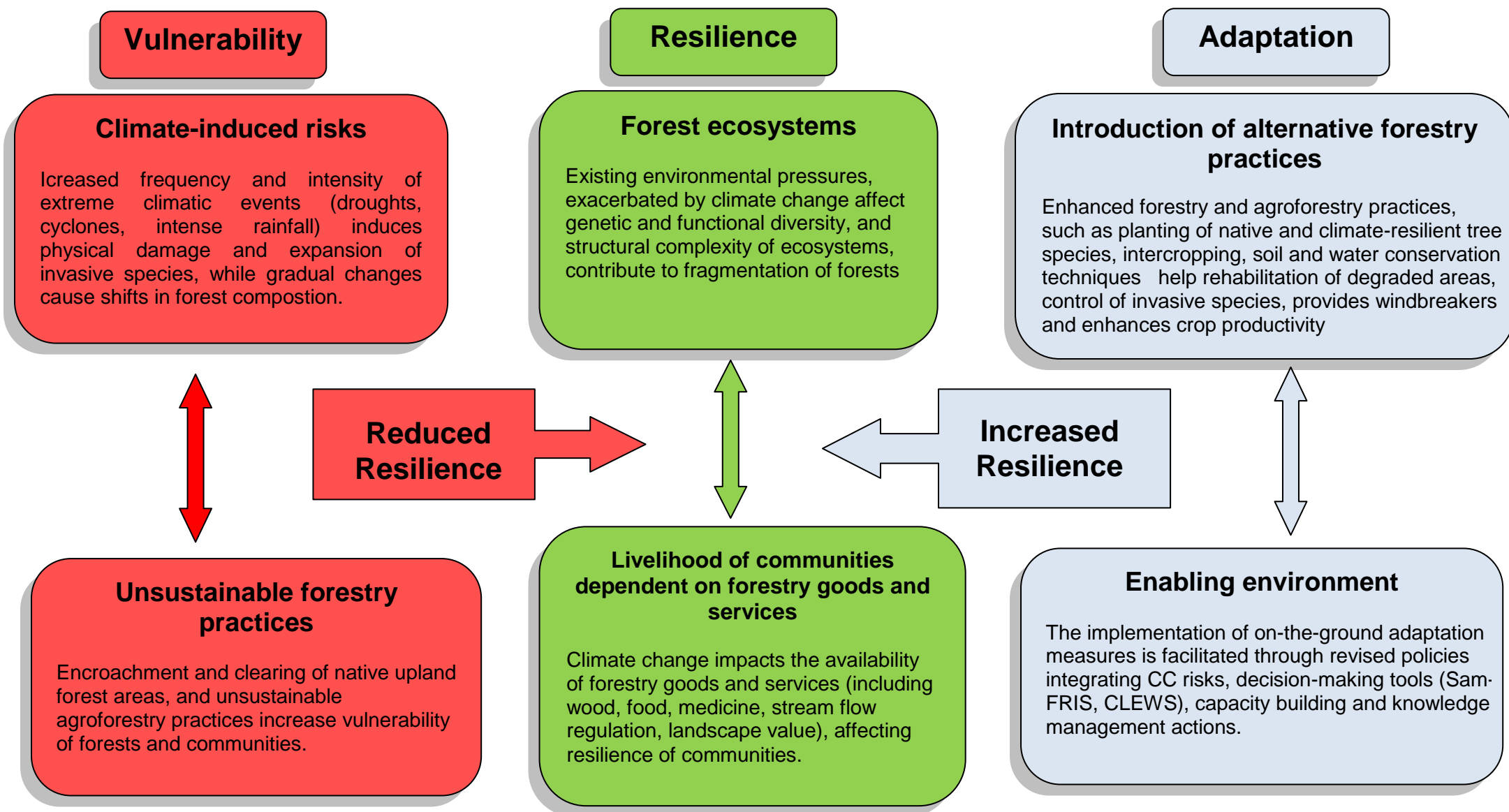
5. In 1978, Samoa became the first Pacific Island nation to create a National Park with the establishment of the O Le Pupu-Pue National Park at Togitogiga. Since 2000 four new national parks have been established - Lake Lanoto'o (270 ha) inland from Apia on Upolu Island; and Mauga o Salafai (4,050 ha), Lata (2,160 ha) and Asau/Falelima (1,350 ha) on Savaii Island.
6. The key policy framework for forestry is the National Policy on Sustainable Forest Management, with the objective of promoting the sustainable development agroforestry in the lowland (below 600 m elevation) community forest areas where village plantations and production forests already exist, and to conserve the remaining native forests in the upland areas (slopes above 600m).

⁶ MNRE, 2007 Policy Statement on Forestry, MNRE

1.2 Problem Statement: key vulnerabilities of Samoa's forests and forest-dependent communities to climate Change

7. As illustrated in Figure 1. below, Climate change poses a set of climate-induced risks to forests, which exacerbate current pressures due to unsustainable forestry and land-use practices. The combined effects of these reduce the resilience of forest ecosystems, which in turn affect the resilience of the livelihood of communities dependent on forestry goods and services. The adaptation option is to introduce a set of alternative forestry practices adjusted to changing climate regimes, and supported by an enabling environment through policy changes, institutional strengthening, capacity building and knowledge management actions.

Figure 3 – Linkages between vulnerability, resilience and adaptation options in forestry



8. Many of the climate change risks and hazards faced by Samoa, its vulnerability, and possible response measures have been recognized and well-documented in a number of reports including, among others, the National Development and Environment Management Strategies⁷ (NEMS); Samoa's First National Communication⁸ (FNC) to the United Nations Framework Convention on Climate Change (UNFCCC); the National Adaptation Programme⁹ of Action (NAPA); the Asian Development Bank (ADB) Report¹⁰ 'Samoa – Country Environmental Analysis'; the Fourth Assessment Report¹¹ of the Inter-Governmental Panel on Climate Change (IPCC); Strategy for Development of Samoa¹² (SDS); the Second National Communication¹³ (SNC) incorporating the Climate Risk Profile¹⁴ (CRP) for Samoa; the ADB Climate Change Implementation Plan¹⁵ for the Pacific; and the Report¹⁶ of a recent World Bank (WB) mission to Samoa in relation to preparing Samoa's Pilot Programme for Climate Resilience (PPCR). As a Least Developed Country (LDC) and a Small Island Developing State (SIDS) in the middle of the vast Pacific Ocean, Samoa is particularly vulnerable to the adverse effects of climate change.
9. The influence of climate change on Samoa manifests itself in more frequent and extreme rainfall events, longer dry spells and drought events, rising sea levels, increased frequency of extreme winds and extreme high air and water temperatures¹⁷. Best estimates of long-term changes in the average climate for Samoa indicate that by 2050 the sea level is likely to have increased by 36 cm, annual average rainfall by 1.2 %, extreme wind gusts by 7% and maximum ambient surface temperatures by 0.7 °C (Ibid). The observed long-term trend in relative sea level for Apia is 5.2 mm/yr, but the maximum hourly sea level is increasing by approximately 8 mm/yr, a rate far in excess of the observed local and global trends in mean sea level. For Apia, an hourly sea level of 1.8 m above mean sea level is currently a 100-year event. It will likely be at least a four-year event by 2025. Thus extreme high tides/sea levels are likely to become more frequent, and with increased severity, in the future.
10. In summary the key climate-related vulnerabilities and their effects on forestry and agro-forestry ecosystems include:
 - Drought - increasing frequency of erratic rainfall and low rainfall associated with the El Niño phase of the ENSO lead to household water shortages and increasing stress on groundwater resources, and increased risks of forest fires. Dry periods are more common during the months of April to October, particularly at the rain-shadow north-western areas of both the main islands, Upolu and Savaii. Prolonged periods of drought, usually lasting three months or more, with increased risk of forest fires, have already been recorded on Savaii Island in Aopo, Asau and Falealupo villages, with the first five major forest fires occurring during the drought/dry periods of 1982-83, 1997-98, 2001-02, 2002-03 and September 2010. Extensive forest fires further retard

⁷ Taule'alo, T.I. 1993. National Environment and Development Management Strategies. SPREP & Department of Lands, Surveys and Environment ().

⁸ GoS. 1997. First National Communication to the UNFCCC. DLSE.

⁹ GoS. 2005. National Adaptation Programme of Actions. MNRE.

¹⁰ Hay, J. & Suaesi, T. 2006. Samoa – Country Environmental Analysis. ADB

¹¹ IPCC. 2007. Climate Change 2007. Contributions of Working Groups I, II and III. Cambridge University Press.

¹² GoS. 2008-2012. Strategy for the Development of Samoa. MoF.

¹³ GoS. 2009. Second National Communication to the UNFCCC. MNRE

¹⁴ Young, W. 2006. Climate Risk Profile for Samoa. MNRE-MD.

¹⁵ ADB. 2009. Mainstreaming Climate Change in ADB Options. Climate Change Implementation Plan for the Pacific 2009-2015.

¹⁶ World Bank. 2010. Samoa – Pilot Programme for Climate Resilience. Mission Report, July.

¹⁷ Young, 2006, Climate Risk Profile of Samoa

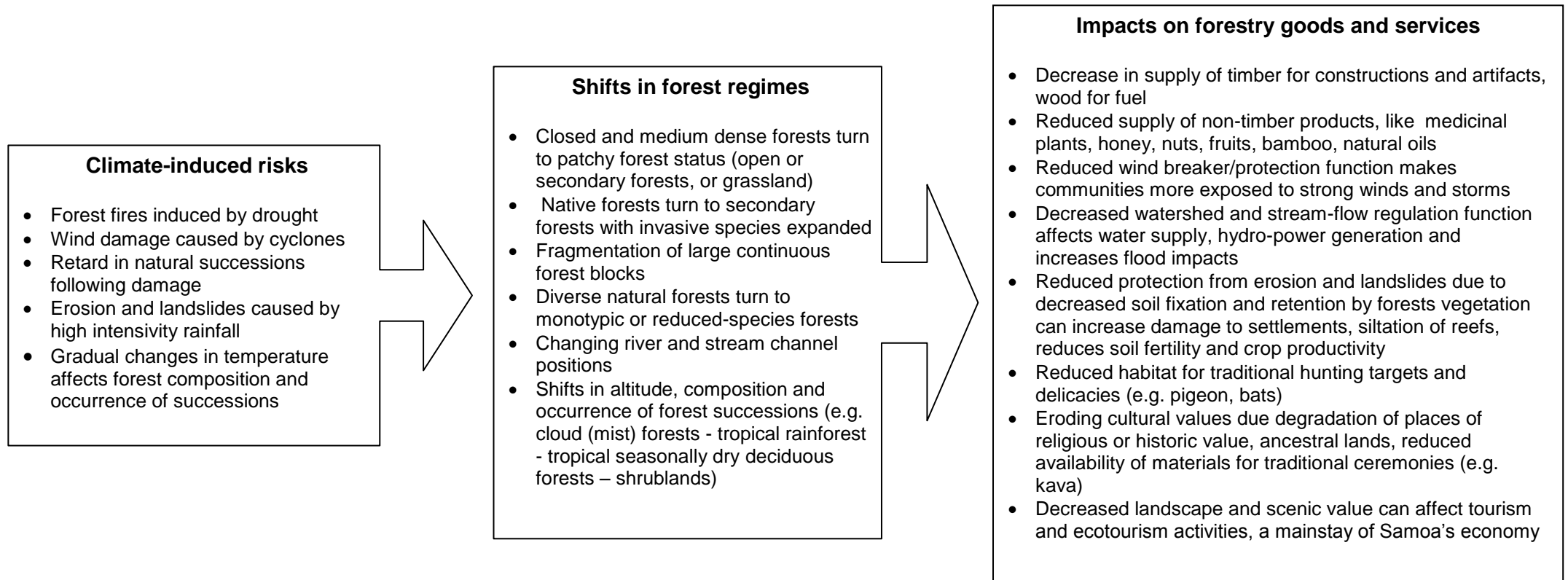
forest succession rates, destroy plantation forests, disrupt ecosystems, pollute the air, destroy vital infrastructure, are a risk to human life and undermine attempts to secure sustainable food security regimes. While pristine indigenous rainforests are rarely susceptible to bushfires, damaged areas covered with secondary growth or invasive species increase the risks of bush fires during dry periods.

- Cyclones – the strong winds associated with cyclones result in severe destruction of vegetation, crops and infrastructure while the heavy rains result in flooding that again causes damage and increases the incidence of vector-borne and water-borne diseases. Tropical Cyclones Ofa (1990) and Val (1991) devastated Samoa causing damage estimated to be about three times that of the GDP, and were especially impacting on Samoa's forest and agroforestry areas.
- More frequent intense rainfall events and associated floodings have been observed in urban Apia over the past decade, inherently linked with poor forestry and watershed management upstream of the city.
- Increasing heat stress on human beings, plants and animals.
- Gradual changes in surface temperature and humidity can affect the composition of forest ecosystems, and the occurrence and extent of forest successions (e.g. cloud forests might move to higher altitudes, and their extension might be reduced in limited areas of mountain ridge tops).
- Impacts in low-lying coastal areas (erosion, saltwater intrusion and coastal inundation caused by sea-level rise, changing intensity of tidal patterns and storm surges), can force people to move further inland and uphill, further clearing forested areas.

11. The impacts of the above-mentioned extreme climatic events (especially cyclones, droughts) on forest ecosystems, and the ineffective recovery of natural forests, have increased soil erosion and the expansion of invasive species, further threatening Samoa's unique biodiversity, and forests' functions in providing ecosystem services and goods to rural communities (e.g. watershed and stream-flow regulation). The impacts of climate-induced risks on forest resilience are complex, ranging from reduced genetic, functional and landscape biodiversity to the fragmentation and reduced connectivity of forest areas (see Figure 5). The recovery of natural forests after mayor disturbances caused by cyclones or forest fires depends on a number of factors, including the presence and survival of large remnant trees that represent biological legacies and serve as important nuclei for regeneration¹⁸ as seed sources and habitat for seed dispersal agents. More of these extreme climatic events are projected for Samoa, with further damage to forests and related ecosystems being exacerbated by the current lack of climate change risk integration within the policies and plans of the forestry sector.
12. Climate change-induced hazards cause shifts in forest regimes which can increase vulnerability of communities by compromising the availability of forest goods and services (figure 4)

¹⁸ Elmqvist T, Wall M, Berggren AL, Blix L, Fritioff S, Rinman U. 2001. Tropical forest reorganization after cyclone and fire disturbance in Samoa: remnant trees as biological legacies. *Conserv. Ecol.* 5:10.

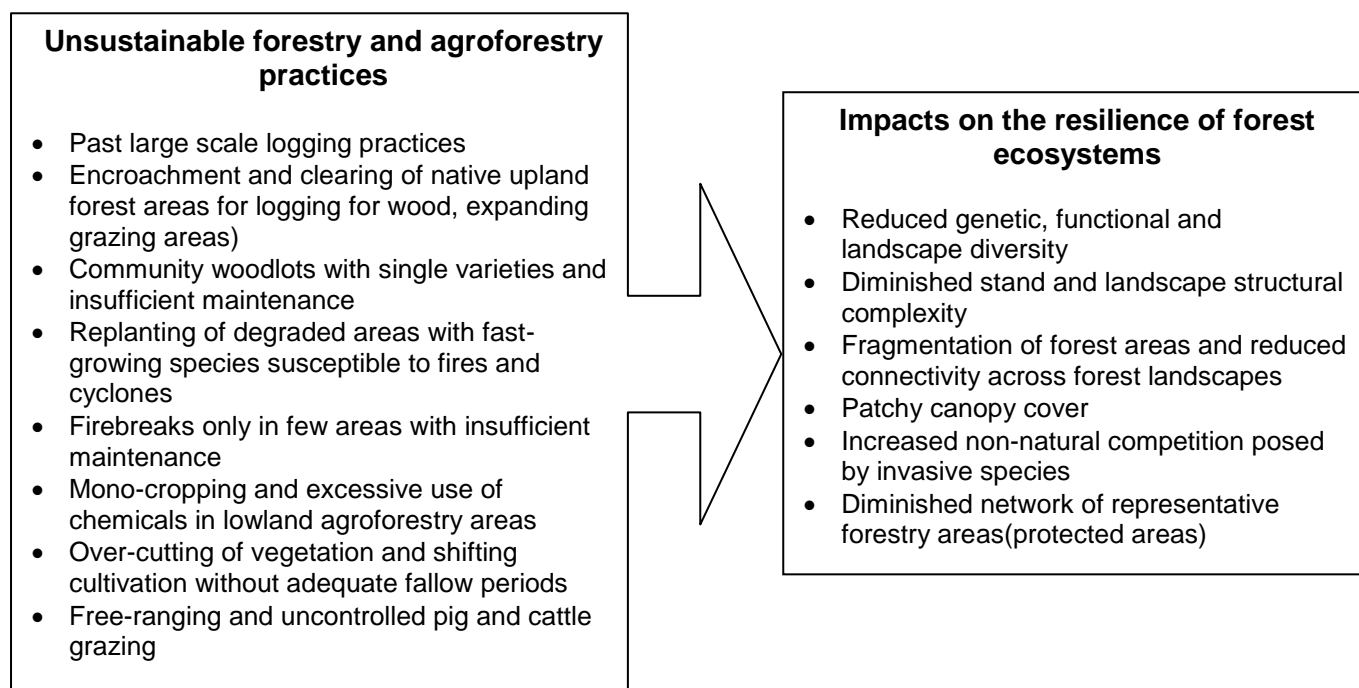
Figure 4 – Impacts of climate-induced forest regime shifts on forestry goods and services,



1.3 Resilience of forests and impacts of unsustainable forestry and landuse practices

13. Current unsustainable land-use practices in Samoa affect the resilience of forest areas and resources in Samoa, making forests more vulnerable to the observed and anticipated impacts of climate change. The the conjunction effect of landuse pressures and climate change impacts, thus results in the alterationnn and reduction of forest ecosystem services and goods.

Figure 5 – Unsustainable forestry practices and their effects on forest resilience¹⁹

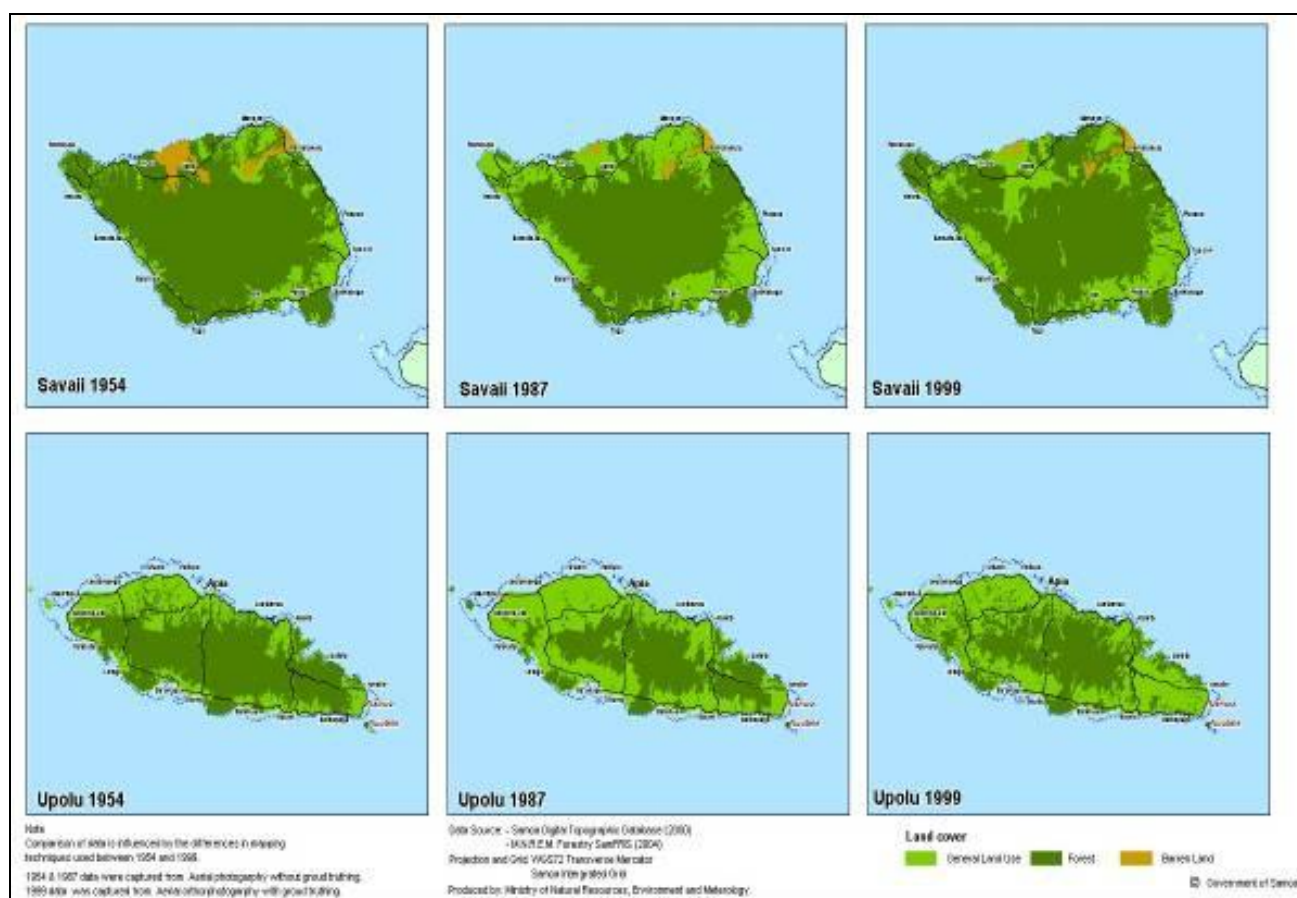


14. The GoS has monitored and quantified changes in forest resources in its Samoa Forest Resources Inventory Survey²⁰ (SamFRIS). The results indicate that Samoa still has approximately 60% forest cover (69% of Savaii and 46% of Upolu), but much of the forest has been severely degraded by recent cyclones and has a very open, patchy canopy. There are now very few areas of closed canopy forest remaining in Samoa, with most of the remaining intact areas being 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 non-sustainable agricultural activity. 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 40 years has increased the vulnerability of these remaining forests to climate change impacts (see Figure 2).

¹⁹ List of forest resilience factors derived from mpson, I., et al., 2009. Forest Resilience, Biodiversity, and Climate Change. A synthesis of the Biodiversity/Resilience/Stability Relationship in Forest Ecosystems. Secretariat of the CBD, Montreal, p.7-8

²⁰ GoS. 2004. Samoa Forest Resources Inventory Survey. Ministry of Agriculture, Forestry and Fisheries.

Figure 6 – Samoa Forest Cover Change (Source: SamFRIS)



15. Commercial deforestation in the past, the continued non-sustainable agricultural expansion for crop production and livestock development have led to serious degradation of native forest resources and plantation lands, thus making many coastal and inland communities in Samoa less resilient to the projected changes associated with climate change.
16. Between 1978 and 1990, 20% of all forest loss was attributed to large scale commercial logging operations, with 97% of all logging taking place in Savaii. In 2007 a ban was imposed by the government on commercial logging, nevertheless small scale illegal logging still happen, and currently there are 3 small sawmill operations registered, using portable machines and catering for local use. The Draft Forest Management Bill created in 2010 is currently undergoing review and enactment process, and aims at enhancing regulations and incentives for more sustainable logging practices, amongst other through restructure the relationships between landowners and forestry operators to give landowners more control over operations on their land and profits, support native forest conservation initiatives, the commercial plantation and farm agroforestry operations through remove legislative disincentive or obstacles.
17. The bulk of forest clearance, especially in lowland and midland areas, has been due to land clearance for agriculture. The rate of forest clearance was extremely high between 1977 and 1990, when Samoa lost 1/3 of lowland forests. Since the 1990, the government has embarked on efforts to slow down the rate of extraction though

at present it stands at 3% per year.²¹ With lowland forests almost gone, families have begun to clear mid-slope areas of forest partly for subsistence purposes and partly to expand their sources of monetary income (cash crops), presenting a serious threat to mid-slope forest areas. The expansion of the agricultural frontier takes the form of small and uncoordinated advancements. Its root causes are the lack of alternative income opportunities and the inability of existing formal and informal institutions to define and enforce off-limits areas.

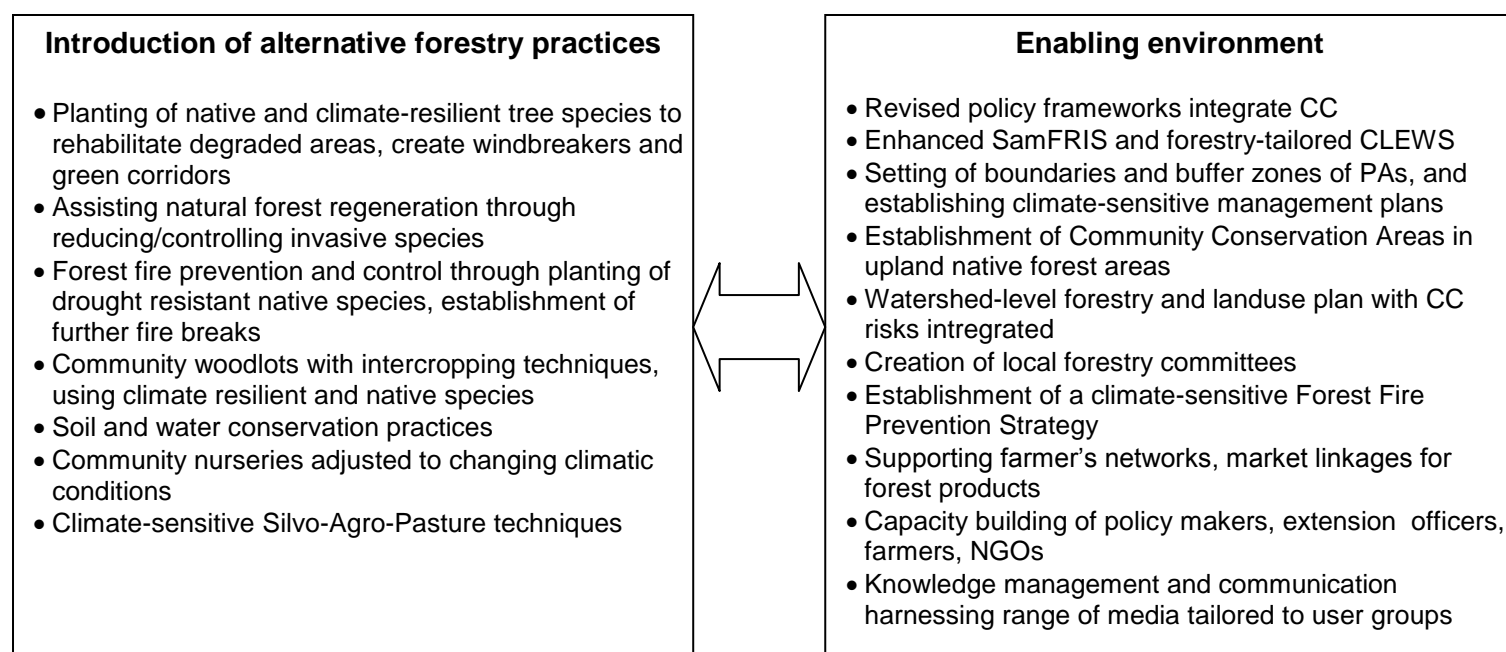
18. A lack of knowledge about adequate techniques and soil conservation measures for agriculture in slopes and rainy areas compounds the damage from land clearance. Forest clearance is usually accompanied by poor soil conservation management practices, overcutting of vegetation and shifting cultivation without adequate fallow periods, all of which rapidly results in reduced yields and ultimately crop failure.
19. The majority of land is under community ownership and community structures have proven ineffective in defining areas for expansion of cultivars, off-limit areas and the enforcement of their own regulations. After having witnessed the impact of the last decades of forest clearance, the villages' formal and informal structures for decision making have become more aware of the damage being done and the need for alternative land use practices. In spite of the efforts by various projects and organizations (e.g. the GEF-UNDP SLM, NGO activities), most communities in Samoa are still unsure about how to tackle the problem, particularly how to define and implement a transition period towards a more sustainable land and forestry resource use. Technological advances also play a role in creating further incentives for forest clearance. One of them is the availability of genetically modified varieties. For example, the major cash crop, taro (*Colocasia spp.*), which was devastated by the taro leaf blight disease in 1993, has been reintroduced as a leaf blight resistant variety, which in turn has recreated incentives for its cultivation. Large areas of forest has been cleared for this crop. Another factor is the increasing availability of portable chainsaws, a technological advance that has facilitated significantly the task of clearing forest patches by individuals.
20. Clearing of forests for the expansion of grazing areas and the uncontrolled cattle and pig grazing are recurring issues in communities in Savaii and Upolu. It is a common practice in most villages in Samoa to leave pigs and cows to wander freely and graze. The practice of free ranging has led to damage of the flora in these villages through the constant rooting of pigs, and trampling of vegetation by cattle.
21. Part of the government's rural development programme, access roads were build in the 80s with provisions provided to maintainance, which lead to further encroachment of mid and upland areas

²¹ Conservation and management of threatened lowland and upland forests of Savaii, threat analysis for GEF Project Concept, 2005

1.4 Adaptation solutions

In order to enhance the resilience of forest ecosystems and communities dependent on them, there is a need to introduce alternative forestry and agro-forestry practices supported by an enabling environment through provision of sector-tailored climate information tools, supportive policy framework, capacity building and knowledge management actions linking bottom up and top down approaches. The aim of the alternative forestry practices is to reach a combined effect of enhancing resilience of natural forests (assisting natural regeneration, enhancing coverage of native species, reducing loss of seed dispersal agents and old growth seed trees, as well as fragmentation of forest areas), and reducing threats caused by unsustainable land use (e.g. reducing incidence of man-made forest fires, encroachment due to clearing for crops and grazing, etc.).

Figure 7 – Adaptation solutions



1.5 Barriers to building climate resilience

Lack of institutional capacity to integrate climate information and risks to forestry related policies and management processes

22. Although there are various CC adaptation projects underway in Samoa in key sectors such as agriculture, education and health that have relevance to building adaptive capacity in the long-term, the enabling environment to effectively engage stakeholders in such programmes is still lacking. The institutional and human capacities to collect and assess climate information in Samoa, and to develop and implement CCA interventions, are still in their early stages of development. Likely future changes in the climatic system and related risks are not explicitly reflected in the policies and strategies that influence forestry management. The lack of climate risk assessment in relevant policies (e.g. environment and water resources management) and programmes is a major constraint to achieving and sustaining the

MDGs²², particularly Goal 1 on poverty reduction²³. This is due in part to the fact that climate change concerns in Samoa are relatively new, as well as the lack of capacity of GoS to address a recognized deficiency in the relevant policy and institutional environment. An integrated framework and targeted capacity building for assessing, planning, implementing, monitoring, and evaluating climate change risks in lowland agroforestry and upland native forestry is, therefore, urgently needed.

23. Climate change has been integrated into the current SDS; the NAPA was completed in 2004, the National Policy²⁴ on Combating Climate Change (NPCCC) was approved in 2007 and the National Greenhouse Gas Abatement Strategy²⁵ 2008-2018 (NGHGAS) was approved in 2008. However, considerable effort is still required to ensure the climate change policy documents are well understood and applied by Government officials in the planning of other programmes and projects. Nevertheless, there is still a good foundation on which to build. MNRE, for instance, has utilized the NAPA as the main document for developing national CCA projects. Further details describing the relevant climate change-related policies and legislation in Samoa, along with the associated climate change institutional relationships are presented in Annex 3.
24. Currently there is a lack of updated and comprehensive spatial information management tools for decision making in forestry policies and practices. The Samoa Forestry Resources Inventory System (SamFRIS) is largely outdated, based on aerial photos of 1999 and ground-surveys carried out in 2004. It centers on forest classification information by location, and does not integrate climatic variables, nevertheless its GIS based system can serve as a good basis to do such integration. Training has been provided to FD staff, but due to on-going staff turnover current capacity is rather limited.
25. There is currently very limited understanding of the use of climate information in the forestry sector. Development of sector-tailored climate early warning and information system (CLEWS) is an evolving process in Samoa, spearheaded by the Meteorological Division through the NAPA 1 project dealing with agriculture and health sectors. The evolving system integrating soil, landuse, crop and climatic information can serve as good basis to develop forestry tailored CLEWS linking with SamFRIS, and serving a range of user groups, including forestry planners, extension officers and farmers as well.
26. Both the Planning and Urban Management Agency (PUMA) and the Spatial Information Agency (SIA) of MNRE have a role in strategic monitoring of some climate change issues (e.g. coastal and river erosion) and provision of information (e.g. update of Geographic Information System [GIS] maps) extended to forestry and agroforestry areas. But again they do not have adequate resources for on-going monitoring, including routine purchase and analysis of satellite imagery, and upgrading of mapping equipment and software.
27. The National Policy on Sustainable Forestry Management NPSFM, only refers marginally to climate change through statements promoting carbon trading under the objective for forest sustainable development, but there are no provisions for climate change risks and hazards related to the forestry. Likewise the Sustainable Forest Management Bill 2010, currently tabled in Parliament, enforces the NPSFM

²² www.undp.org/mdg/

²³ UNDP (2007). Poverty Reduction in Samoa. UNDP Report, Apia.

UNDP & GoS. 2010. Samoa: A Report on the Estimation of Basic Needs, Poverty Lines and the Incidence and Characteristics of Hardship & Poverty. Apia.

²⁴ GoS. 2007. National Policy for Combating Climate Change. MNRE

²⁵ GoS. 2008. National Greenhouse Gas Abatement Strategy 2008-2018. MNRE

and deals mainly with the sustainable development of forests. Outside of the Forestry Division and MNRE in other government agencies, and amongst villages and farmers there is only limited awareness and understanding of both documents. Based on a mid-term review of NPSFM a new National Forest Sector Plan (NFSP 2012-2014) will be formulated next year, which represent an opportunity to mainstream climate change considerations into forestry practices and related policy instruments, including the application of the SFM Bill.

28. In 1978, Samoa became the first Pacific Island nation to create a National Park with the establishment of the O Le Pupu-Pue National Park at Togitogiga. Since 2000 four new national parks have been established - Lake Lanoto'o (270 ha) inland from Apia on Upolu Island; and Mauga o Salafai (4,050 ha), Lata (2,160 ha) and Asau/Falelima (1,350 ha) on Savaii Island. Currently, management plans are being developed for the individual national parks, but there is no overall protected areas management strategy. This was highlighted in the recent Key Biodiversity Area (KBA) Gap Analysis²⁶. A further basic challenge is the lack of detailed catastral surveys to establish clear protected area boundaries. Also, land use regulations are poorly enforced in adjoining customary lands being used for agro-forestry purposes.
29. The current approach to climate change by the GoS is largely on a sectoral basis, although there are deliberate efforts to integrate cross-sectoral adaptation measures through the NAPA process and the National Climate Change Country Team (NCCCT), as an inter-ministerial coordination mechanism. Cross-sectoral coordination of adaptation responses and related sustainable forestry resources management (e.g. water resources, agriculture, land use planning) is very limited. Similarly, coordination and creation of synergies with related national policy frameworks and their implementation mechanisms (such as NBSAP, NAP, IASS, WRMS), has faced institutional barriers due to limited staff and often competing agendas.

Lack of awareness and knowledge of climate change impacts and of alternative forestry and agroforestry practices suited to changing climatic conditions

Samoa's Second National Communication recognizes the vulnerability of terrestrial ecosystems and forests in Samoa, and points out specifically the adverse impacts of climate change on cloud (mist) forests, tropical seasonally dry (deciduous) forests and shrublands. At the same time the report also highlights that "There is a need for more research to understand the vulnerability of biological systems and the role each species plays in the ecosystem to better understand the risk and possible ecosystem and /or species". Currently there is very limited information and understanding on the impacts of climate change on forestry ecosystems, and without this understanding, the results of ongoing efforts to introduce forest conservation and sustainable landuse practices can be jeopardized by risks posed by climate variability and change.

30. There is little information exchange among rural communities facing similar problems and between rural communities and the GoS that would provide a sustained source of heightened community awareness, consideration of practical adaptive solutions, avoidance of past and current mistakes and ability to capitalize on successes. Fundamentally, GoS needs to strengthen public policy to guide climate-aware development, organize communities effectively to recognize and confront their vulnerabilities, and channel resources to help the communities to implement community-based solutions that enhance climate resilience

²⁶ GoS. 2009. Key Biodiversity Areas Gap Analysis. Conservation International (CI) and MNRE.

31. While there are a number of community-based agroforestry-related projects run by NGOs or the Forestry Division, their current limited outreach does not permit wide awareness and application of sustainable agroforestry-techniques, climate change risk and information is not integrated to current practices being promoted. A Community Forestry Programme, run by the FD, has over the past 15 years worked with about 150 villages to promote the planting of Samoan native trees (some 500 or more trees per village). However, the programme has not taken into consideration current and projected climate impacts. Moreover, FD resources are inadequate to increase the capacity of remaining villages. In recent years, the FD has focussed less on plantation forests for commercial harvesting and more on conservation-oriented forestry practices.
32. Currently there are four Forestry Stations (two on Upolu and two 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 drought and fire resistant.
33. The lack of knowledge and awareness on alternative practices amongst communities is also exacerbated by some misbeliefs. For example, it is believed that to restrict the grazing area of pigs and cattle will cause them stress, weight loss and increased susceptibility to diseases. Thus communities continue the harmful free-grazing practices, not realizing that restricting access to sensitive areas do not have an impact on animal productivity.
34. The sectoral NAPA projects in Samoa are in their early stages, and the experience generated has limited outreach so far. The SGP-CBA programme is entering to stage when communication and knowledge management activities starting to produce interesting material (e.g. a community participatory video), and can have potential for broader dissemination. Due to the lack of systematic knowledge management activities, past climate change-related projects and demo applications (e.g. the Canadian funded CBDAMPIC) have not resulted in systematic follow up and replication activities. MNRE has established a website (www.mnre.gov.ws), managed by its Information Technology Division (ITD), and carried project documents and progress reports. However, there is a shortage of qualified technical staff to prepare good practice reports and case studies for posting and subsequent updates. There is also limited capacity to integrate experiences in regional and global platforms, such as ALM. The government nevertheless has made efforts to create fora and means of information exchange, for example by convening the first National Climate Change Summit in 2010, co-organized by MNRE and UNDP.

PART II: Strategy

2.1 Project Rationale and Policy Conformity

35. Samoa's national development priorities are set out in the SDS (2008-2012), a four-year roadmap for development activities in key sectors. The SDS is currently in its fourth cycle. The goals and strategies are organized into three priority areas: Priority Area 1: Economic Policies; Priority Area 2: Social Policies; and Priority Area 3: Public Sector Management and Environmental Sustainability, with an overall vision of an 'improved quality of life for all'. Adaptation to climate change is integral to achieving this objective. The national environmental priorities for the current SDS period included numerous climate change activities, based on the NPCC, the NAPA and the NGHGAS.
36. A wide range of stakeholders participated in the consultative process for the NAPA, leading to identification of nine priority sectors, as well as recommendations concerning resources to be allocated to climate change risk management, including adaptation. The NAPA objectives are: '(1) to develop and implement immediate and urgent project based activities to adapt to climate change; (2) to protect life and livelihood of the people, infrastructure and environment; (3) to incorporate adaptation measures and goals into national and sectoral policies and goals; and (4) to increase awareness of climate change impacts and adaptation activities in communities, civil society and Government'. Samoa's NAPA²⁷ was submitted to the UNFCCC Secretariat in 2005. (see Annex 4 for more details on the Strategy for the Implementation of the NAPA). Through extensive stakeholder consultations, nine sectors - ranked as: (1) Water, (2) Forestry, (3) Health, (4) Climate, (5) Agriculture, (6) Landuse Planning, (7) Coastal, (8) Biodiversity and (9) Tourism - were identified in Samoa's NAPA as requiring priority actions. For NAPA implementation, it was decided firstly to establish a national Climate Early Warning System (CLEWS) to provide the sectoral climate information to guide planning and decision-making. The Climate Sector would therefore become an integral part of all interventions. Secondly it was agreed to adopt an integrated approach linking a number of sectors or subsectors in the same project to include a wide range of stakeholders, disciplines and experiences. This is approach not only reflected the cross-sectoral nature of climate change but also empowered local communities to participate in community-based adaptation actions, brought together different development partners and Government to provide financial support, and promoted a cooperative and 'whole of Government' approach to address climate change impacts at the national level.

Table 1: The Nine Project Profiles identified in Samoa's NAPA

Priority	Sector	Project Profile
1	Water	Securing Community Water Resources
2	Forestry	Reforestation, Rehabilitation and Community Forest Fire Prevention Program
3	Health	Climate Health Cooperation Program
4	Climate Services	Climate Early Warning System
5	Agriculture	Agriculture & Food Security Sustainability

²⁷ GoS. 2006. Strategy for the Implementation of the National Adaptation Programme of Actions. MNRE, April (last updated August 2008)

6	Landuse Planning	Zoning & Strategic Management Planning
7	Coastal	Implementing Coastal Infrastructure Management (CIM) Plans for Highly Vulnerable Districts
8	Biodiversity	Establishing Conservation Programmes in Highly Vulnerable Marine & Terrestrial Areas in Communities
9	Tourism	Sustainable Tourism Adaptation Program

Note: Shading indicates the project profiles related to ICCRIFS

37. The NAPA project profiles were restructured by grouping similar sectors and activities in an integrated manner depending on the original priority ranking and investment availability (see Table 1 for details of the ICCRIFS project components). As climate change encompasses all sectors (with the education sector being added in August 2010 - see PPCR), it is anticipated that this integrated approach will bring different sectors, disciplines and interested parties together to address climate change, sharing sectoral resources and individual experiences. It will also provide the opportunity for different development partners to invest in similar adaptation initiatives, raising the necessary co-financing. In the case of the ICCRIFS project, this is demonstrated by the Australian Agency for International Assistance (AusAID) and the Japan International Cooperation Agency (JICA) supporting parallel sectoral adaptation, agroforestry and native forestry projects. Also critical to the integrated approach is the role of the climate information services sector that operates the CLEWS and provides the sectoral climate reports and other information as a core component of each sectoral adaptation initiative.
38. The proposed ICCRIFS and other GEF-funded NAPA projects are part of the current LDCF and GEF-Pacific Alliance for Sustainability (GEF-PAS), aimed at providing greater certainty for funding of environmental programmes in PICs. They complement the national activities of the regional Special Climate Change Fund (SCCF)-funded PACC and the Integrated Water Resources Management (IWRM) projects. Aligning these projects in a programmatic manner maximizes the degree of learning and replication of high-impact adaptation solutions. The key focus of the regional IWRM and PACC projects in Samoa are water resources and coastal adaptive management, respectively; both programmes are highly complementary to the ICCRIFS, and its community-based interventions within the 4 water catchments in the ICCRIFS Project Site. ICCRIFS will build on the tools being developed through NAPA 1, ICCRAHS, such as CLEWS and SRIM, for example, to strengthen climate resilient project implementation and monitoring in the forestry sector.
39. The proposed project will forge linkages with the NAP on Land Degradation, through addressing land-use issues in both lowland agroforestry and native upland forestry areas and promoting sustainable forestry management practices as no-regret and ecosystem-based adaptation measures. It will also contribute to achieving targets outlined in Samoa's NBSAP, by the establishment of community-based conservation areas, as extension of Samoa's existing protected area's system in upland native forests and supporting the control of invasive species to enhance coverage of native forest species that are more resilient to current and anticipated climate change impacts.
47. Strong linkages will be made with other national projects, including those where UNDP is the Implementing Agency (IA). These include the Sustainable Land Management (SLM) project, ICCRA&HS, the UNDP/GEF-Small Grants Programme (SGP) and the Strategic Priority on Adaptation

(SPA)-funded CBA Programme²⁸. These programmes address natural resources, climate change adaption and community development issues. The lessons from these on-going programs will be applied to the implementation of the proposed project. Lessons from the project will, in turn, be entered in the UNDP-GEF's ALM platform. Similar linkages will be made with parallel programmes funded by other development partners, including JICA, AusAID and the WB.

48. There are examples in Samoa of benefits from the engagement and empowerment of local communities in small-scale adaptation activities (e.g. national park management, coastal protection, wetland rehabilitation, water resources conservation and tree planting). A Poverty-Environment Partnership²⁹ report on poverty and climate change highlighted that for adaptation to be effective, it is especially important to empower civil society to participate in the assessment of risks and the design and implementation of adaptation activities. CBA to climate change, for example, enhances the adaptive capacity of communities, and the ecosystems on which they rely. This LDCF project will ensure coordination with CBA mechanisms at the local level through close collaboration and partnerships between the GoS and communities.
40. The ICCRIFS Project has been developed in line with the Programming Paper for Funding the Implementation of the NAPAs. Under this LDCF Programming Paper, each of the two thematic areas for intervention is eligible for funding under the LDCF. The project's focus of expanding the CLEWS and SRIM, for example, into the agroforestry sector to accommodate climate change risks, and improving local awareness and understanding of communities and other key stakeholders about the necessity and benefits of preparedness for climate change risks, is aligned with the scope of expected interventions as articulated in the LDCF Programming Paper and Decision 5/CP.9. As climate impacts fall disproportionately on the poor, the project recognizes the link between adaptation and poverty reduction (GEF/C.28/18, 1(b), 29).
41. By addressing climate change and adaptation, the project will be implemented as a nexus of strong linkages between national stakeholders (GoS and communities), regional organizations, and development partners, as shown in Figure 5 below. Partnerships with regional agencies, namely SPC, SPREP, University of the South Pacific (USP) and CI, will provide technical advice of specific lowland and upland forestry and biodiversity, water resource management issues, and identification of drought tolerant crop species for agriculture. Linkages with project development partners such as JICA, European Union (EU), AusAID, United Nations (UN) Agencies, National Institute of Water and Atmospheric Research (NIWA), WB, etc. will support training, resource management techniques, community awareness raising, disaster risk management and/or project funding.
42. The GoS, together with its development partners, has made a commitment of US\$ 2.5 million towards parallel co-financing activities in the context of this project. With financial support of the LDCF, the GoS and community stakeholders will prepare and implement the national framework for climate-resilient lowland agroforestry development and upland native forestry conservation, enhancing the necessary

²⁸ CBA Programme. <http://www.undp-adaptation.org/projects>

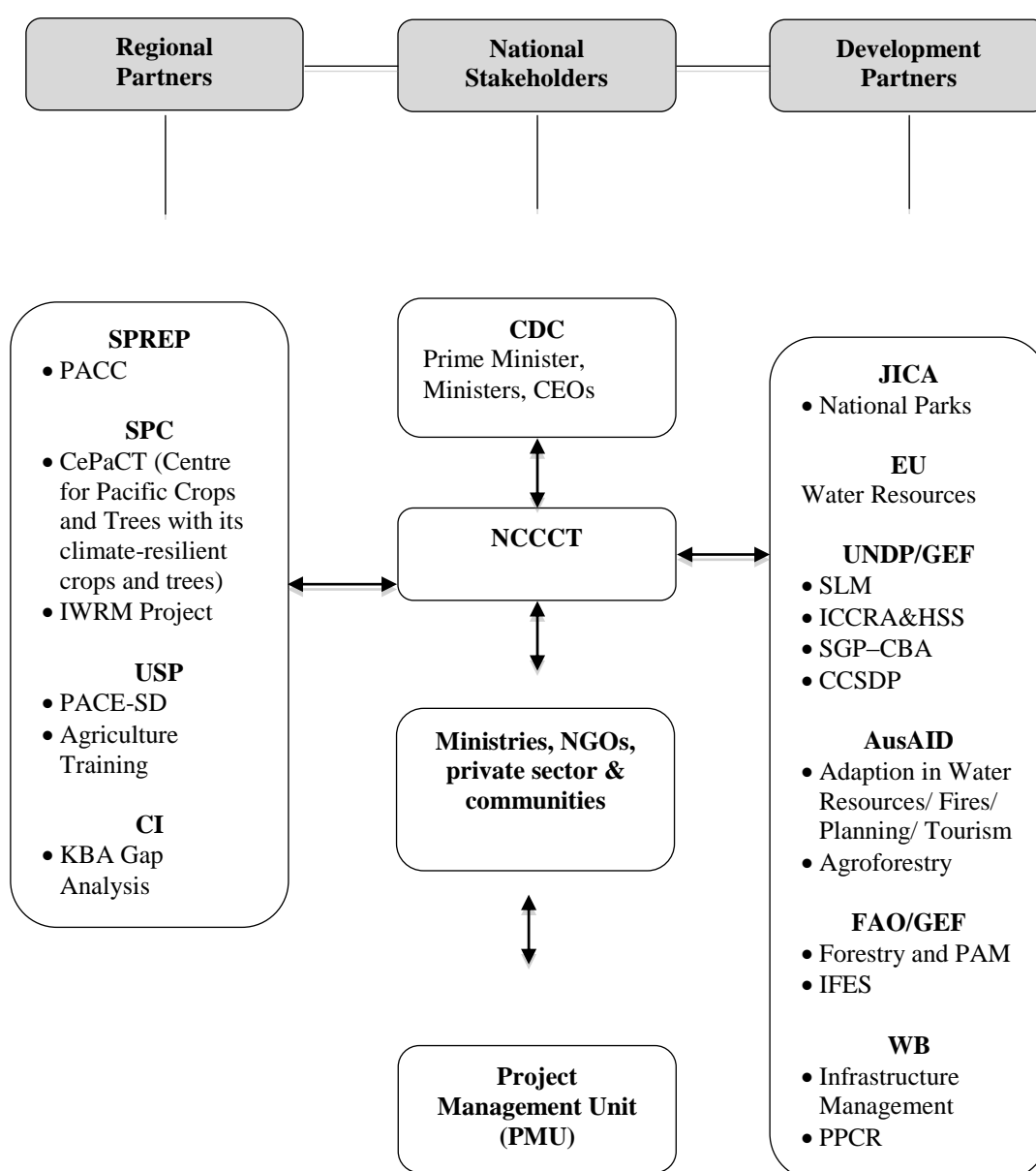
²⁹ Poverty-Environment Partnership, 2003. Poverty and Climate Change: Reducing the Vulnerability of the Poor through Adaptation. UNDP, UNEP, World Bank, ADB, GTZ, DFID, OECD, EC on behalf of the Poverty-Environment Partnership. <http://www.energyandenvironment.undp.org>

human, institutional, and ecological adaptive capacity to address the growing impacts of climate change in the forestry sectors.

2.2 Country Ownership: Country Eligibility and Country Drivenness

43. The proposed project is consistent with Samoa's national development priorities as outlined in the SDS, Samoa's NAPA, National Communications to the UNFCCC and the MDGs. Samoa, one of the 48 LDCs, ratified the UNFCCC in 1992 and is eligible for financial assistance from LDCF through the GEF-PAS Programme. This Project has been endorsed by the Cabinet Development Committee (CDC) and supported by the MFAT as the GEF Political Focal Point, MNRE as the GEF Operational Focal Point, and the MoF as the national financial focal point. Strong links have also been established with national stakeholders (e.g. communities through the MWCSD, NGOs and civil society), regional organizations (e.g. SPREP, SPC, CI and USP) and development partners (e.g. UN Agencies, AusAID, JICA, EU and WB) (refer Figure 5 below).

Figure 8 – Agency Linkages for Climate Change Risk Management

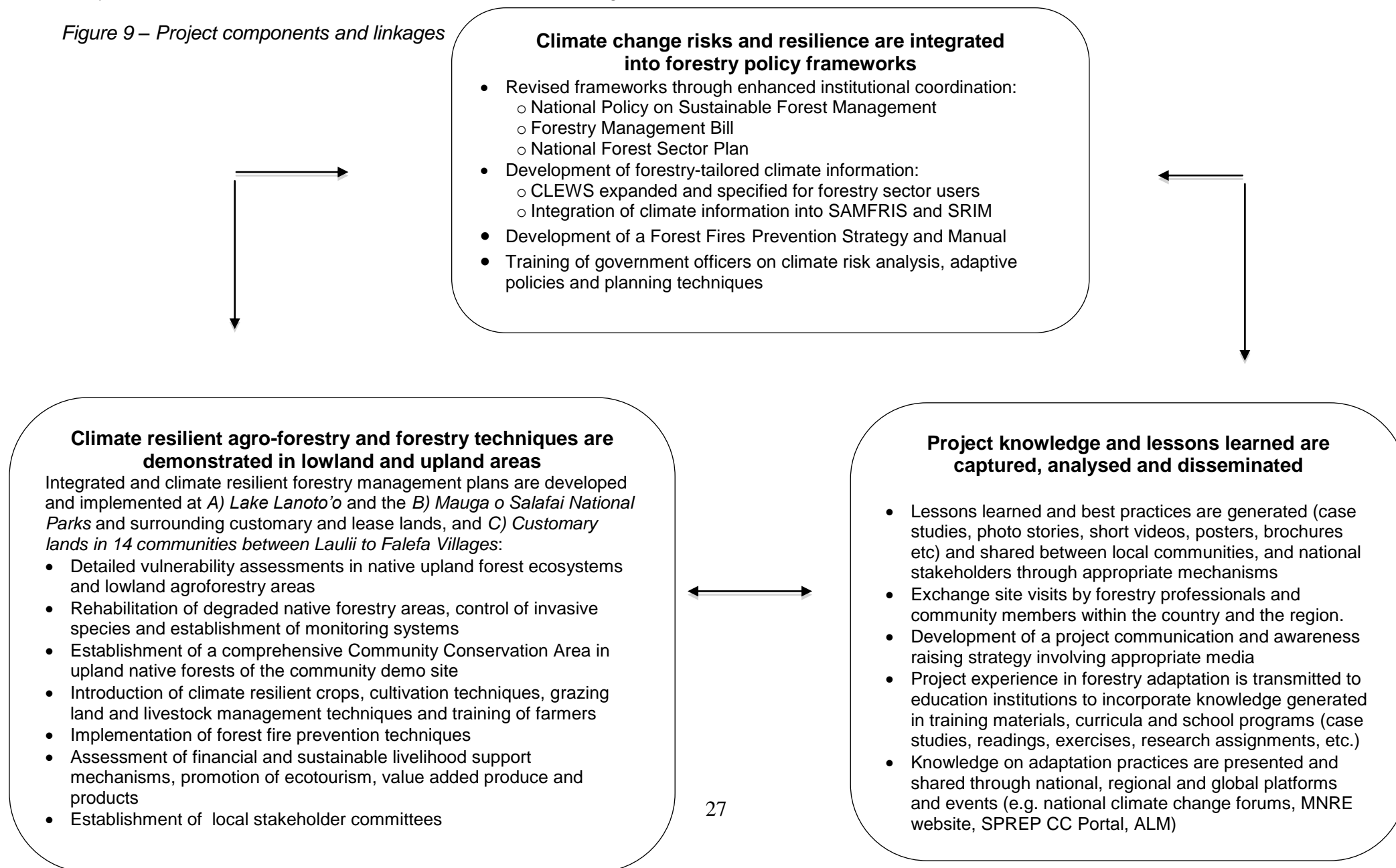


44. This project has emerged from the Samoa NAPA document, which was completed in 2005. The methodology used to develop the NAPA was a widely consultative cross-sectoral process involving stakeholders at the national and community levels, identifying the nine project profiles and associated sectors as shown in Table 1 above. It was formulated in accordance with Samoa's national development priorities, as outlined in the SDS, and took into account the provisions of the NPCCC and the NGH GAS, including a recent Cabinet Decision for a Carbon Neutral Economy by 2020 (September, 2010).
45. Consistent with the Ninth Conference of Parties (COP9), the project will implement priority interventions in Samoa's NAPA in fulfillment of the criteria outlined in UNFCCC Decision 7/CP.7 and GEF/C.28/18. It will catalyze and leverage additional co-financing resources from bilateral and other multilateral sources. The project requests the LDCF to finance the additional costs of achieving sustainable development imposed on an LDCF-eligible country by the impacts of climate change. It is country-driven, cost-effective, and will integrate climate change risk considerations into lowland agroforestry and upland native forestry management plans and national development planning, which are priority interventions that are eligible under LDCF guidelines.
46. The proposed ICCRIFS project focuses on (i) building stakeholder capacity to increase resilience against and identify options to address climate change risks; (ii) enhancing community capabilities to develop and implement response strategies and measures to respond to the adverse effects of climate change; and (iii) improving local awareness and understanding of communities and other key stakeholders about the necessity and benefits of preparedness for climate change risks, as articulated in the LDCF programming paper and decision 5/CP.9. As climate impacts fall disproportionately on the poor, the project recognizes the link between adaptation and poverty reduction (GEF/C.28/18, 1(b), 29).
47. The proposed project will pilot interventions that a country-driven process has deemed urgent and immediate, and in this respect, it meets the eligibility criteria of the LDCF as outlined in the LDCF guidance paper. It is consistent with the Government-endorsed UNDP CPAP. Responding to the needs of Samoa, UNDP will extend support to (i) improving capacity to mainstream environmental sustainability, which covers priorities identified in the NAPA; and (ii) strengthening community capacity to adapt to environmental changes and demands on natural resources.
48. During the Project Preparatory Grant (PPG) phase, Gos officials and representatives of communities, NGOs, private sector and regional organizations were consulted on their experience of climate change and the effects on the agroforestry sectors in Samoa. Project issues and ideas were also discussed and how the different groups can participate in the ICCRIFS Project planning and implementation. Further consultations with a number of key stakeholders that were not possible during the PPG phase will be conducted during the inception stage of the project. A summary of inputs from the stakeholder consultations is presented in Annex 5.

2.3.Design principles and strategic considerations

49. The project uses a closely inter-linked approach of the following three components, including a) policy and institutional strengthening in the forestry sector, b) demonstration of community-based adaptation measures in lowland agro-forestry and native upland native forestry areas, and c) systematic capturing, analysis and dissemination of lessons learnt, as illustrated in Figure 9 below.

Figure 9 – Project components and linkages



49. The project has been designed through a process of close stakeholder consultation and engagement led by GOS through MNRE and its Forestry Division (see section 2.9 Stakeholder Involvement Plan and Annex 5 Community Consultations Feedback). The project builds on the existing development baseline and seeks to secure on-going interventions against current and future climate risks, particularly in the fields of land use planning, coastal protection and development, as described in detail under each separate project outcome in Section 2.4 below. Sustainability and replication considerations have also been integrated into the project design by ensuring that the project is closely aligned with key national policies and priorities that are most relevant to integrating climate change adaptation into development planning and investment decisions. GOS priorities also include strengthening good governance and democracy across the country. With the government's broader development agenda in mind, the project has chosen to build the capacity of planners and decision-makers in a number of Ministries and Divisions related to forestry management, land and water use and planning, community development in rural areas, as well as traditional village leaders and community constituencies in order to enable decision-making based on appropriate information and knowledge about climate change risks and adaptation options in forestry and agro-forestry related development and conservation efforts in Samoa. The project will further strengthen the enabling environment for climate-sensitive planning and investment decisions by enhancing climate early warning and information systems and anchoring climate risk reduction measures in key national policies on environment, forestry, water, agriculture, disaster risk reduction, land use, amongst others (see *Annex 2 Government Institutions, Policy and Legislation Relevant to the Project*).
50. Closely linked to the policy and institutional strengthening outcome, locally prioritized adaptation measures will be demonstrated in upland native forestry areas (both NPs and CBCAs) and in lowland agro-forestry areas on customary lands of rural communities. These adaptation measures will be implemented within the process of establishing comprehensive Native Forestry Adaptation Plans (NAFAP) for the upland areas and Agro-forestry Adaptation Plans (AFAP) for the lowland areas, through detailed vulnerability assessments and participatory planning processes, supporting protected area management plans and sustainable land-use planning processes. The adaptation plans in the upland native forestry and lowland agroforestry areas will be developed and implemented in an integrated fashion with a strategic approach for providing enhanced livelihood options in lowland areas in order to prevent encroachment and clearing of native forest areas, as a no-regret conservation measure to increase resilience. Strategic considerations have been incorporated in the selection of the demo sites as well. For example the establishment of a consecutive CBCA involving upland areas of 14 villages from Laulii to Falefa at the North-Coast of Upolu will be in effect an extension of the O le Pupu Pue National Park adjacent on the southern slopes of the island. This will aim to extend protective status on both sides of the highest mountain range of Upolu island, protecting its remaining native upland forests, and contributing to the NBSAP target of the GOS of extending the coverage of the protected area system of the country and enhancing its management. Through the selected demo areas, the project will target to develop and implement climate-resilience management plans/systems in around 10,000 H of native forestry areas (NPs and CBCAs in customary upland areas), and 20,000 Ha lowland agroforestry areas, as a result of the on-the-ground adaptation interventions and the institutional capacities developed. The demo activities will directly involve 26 villages and over 2000 households and farmers, building their capacity to identify climate-induced risks in their forestry and agro forestry areas and implement adaptation measures.
51. Knowledge management is an integral part of the project, through a dedicated

outcome, which is not stand alone, rather encompasses a set of outputs and activities that will facilitate linkages between the national policy and community-level implementation and technical work. This will be pursued through systematically capturing, analyzing and disseminating experiences, good practices and lessons learnt through a range of knowledge products, media and communication channels targeting national and local project stakeholder and the broader Samoan public. Knowledge management activities will also strive to share the experience generated through ICCRIFS more broadly in the Pacific region and with the international development and climate change community using regional and global platforms.

52. The project builds on the existing development baseline and strives to create synergies with ongoing and pipeline initiatives. Its major sources of co-financing are in-kind and parallel co-financing from the Government of Samoa, and from regional development partners, such as AusAid and JICA supporting the Government in NAPA implementation, agroforestry development and forestry conservation efforts.
53. The project aims at delivering its expected outcomes through forging strategic partnerships and co-management arrangements between the national government agencies, local village governance structures (including both traditional and contemporary leadership), as well as civil society grassroots organizations and networks (especially NGOs active in rural development, agriculture and environmental fields). For the development and implementation of the lowland agroforestry and upland native forestry adaptation and management plan, village, district and inter-district level committees will be formed in the 3 proposed demo areas, involving village representatives (chiefs, women and youth groups), government officers and NGOs. Grassroots organizations and programmes (METI, WIBDI, FSA, Community Forestry Programme by FD) and their networks will be actively involved in the project implementation, in order to harness and further strengthen existing expertise and skill base and to facilitate maintenance and replication of project results at the local community level.

UNDP's Comparative Advantage

54. Globally, UNDP plays a primary role in ensuring the development and management of capacity building programmes and technical assistance projects, drawing on its experience in human resources development, integrated policy design and implementation, institutional strengthening, and non-governmental and community participation, as well as on its network of country offices and its inter-country programming experience. The proposed project is aligned with UNDP's comparative advantage, as articulated in the GEF Council Paper C.31.5 "*Comparative Advantages of GEF Agencies*", in the area of capacity building, providing technical and policy support as well as expertise in project design and implementation. At the national level, UNDP has focused on developing and supporting projects intended to assist the country to develop its own capacity for environmental management for sustainable development and poverty alleviation.
55. UNDP is well placed to lead the ICCRIFS project initiative because of its involvement in a wide variety of concurrent GEF-PAS and related projects as Implementing Agency in Samoa, particularly the NAPA follow up projects in agriculture, health, coastal and tourism sectors (financed through LDCF and SCCF), as well as the community-based adaptation projects through the SPA-financed Global CBA and the AusAid-funded MAP-SGP-CBA projects. UNDP is also the Implementing Agency for the GEF-funded project on Samoa's Capacity Building and

Mainstreaming of Sustainable Land Management, from which experience can be drawn for the efforts of enhancing resilience of agro-forestry practices under ICCRIFS. UNDP's Community Centred Sustainable Development Programme (CCSDP) is another example of targeted development support to rural communities of Samoa, being implemented in partnership with MWCSD, MNRE and National NGOs such as Women in Business and South Pacific Business Development. UNDP has continually supported Samoa's national policy development and has strengthened Samoa's national capacities and partnerships to ensure attainment of on-going sustainable development initiatives and programmes. The proposed ICCRIFS project will continue the mainstreaming of climate change into national policies and development plans, which is one of the key outputs articulated in the Pacific United Nations Development Assistance Framework³⁰ (UNDAF) under Outcome 4 on Environmental Sustainability. The Common Country Assessment/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...'. As such, the ICCRIFS Project is in line with this goal. The excellent long-term working partnership between the UNDP-MCO and the MNRE was highlighted in the current UNDP Country Programme Action Plan,³¹ signed in April 2007, where the majority of investment was allocated to the environment sector.

56. UNDP's comparative advantage in the implementation of the ICCRIFS Project also lies in the effective facilitation of partnerships with fellow UN Agencies, regional organizations (CROP agencies, NGOs), development partners, as well as its long-standing experience in the fields of policy support and capacity development in Samoa. During the PPG phase, through UNDP liaison, technical experts of specialized UN and regional organizations, such as FAO, SPC, SPREP or CI have been engaged. As an advocate of the MDGs and their integration into national sustainable development processes, UNDP is able to backstop implementation of the ICCRIFS Project on the basis of a strong history supporting climate change and environmental programmes in Samoa. The UNDP-MCO based in Samoa with its programme staff experienced in environmental, policy and community development issues, along with the presence of a UNDP Regional Technical Adviser for Climate Change Adaptation, who is also based in Samoa, UNDP is well placed to provide the institutional and technical support required for this project.

2.4 Project Goal, Objectives, Outcomes, and Outputs/Activities

57. The Goal of the ICCRIFS Project is to *Integrate climate change risk and resilience enhancement into forestry management in Samoa* while its Objective 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 interventions in lowland agroforestry and upland native forestry areas.*

The project targets the following 3 closely interrelated outcomes:

- a) Climate change risks and resilience are integrated into forestry policy frameworks
- b) Climate resilient agro-forestry and forestry techniques are demonstrated in lowland and upland areas
- c) Project knowledge and lessons learned are captured, analysed and disseminated

³⁰ UNDAF. 2008. United Nations Development Assistance Framework 2008-2012.

³¹ UNDP. 2007 Country Programme Action Plan 2008-2012

58. The three outcomes and their output areas outlined below are not sequential: policy development and capacity building, demonstration project implementation, and the capture of knowledge and lessons learnt will be carried out in parallel, mutually reinforcing and closely linked. Through this structure, the project aims at bridging top-down and bottom-up approaches by linking the implementation of policy changes with on-the-ground adaptation measures in selected project areas and using the community-based adaptation process to inform higher level policy processes, while building adaptive capacity amongst public administrations, rural communities and civil society organizations.

OUTCOME 1: Climate risk and resilience integrated into lowland agroforestry and upland native forestry policies, strategies and management techniques

Without LDCF intervention (project baseline)

59. Climate change and its impacts on forest ecosystems and agro forestry areas, and the ability to manage emerging risks in the context of uncertainty are currently poorly understood by Government agencies and more generally by local communities in Samoa. Despite the various national climate change related frameworks (such as NAPA, SNC, National Climate Change Policy, Climate Risk Profiles), the implementation of policy and on-the-ground adaptation measures is still at its early stages, being pursued through a first set of recently initiated sectoral projects (health, agriculture, coastal sector) and a number of community-based adaptation projects.
60. Endorsed by the CDC in 2007, the current NPSFM recognizes two components of the forestry sector – (i) native and (ii) plantation forests. But except for the statements promoting carbon trading under the objective for forest sustainable development, there are no provisions for climate change risks and hazards related to the forestry sector included in the policy. Likewise the Sustainable Forest Management Bill 2001, currently tabled in Parliament, enforces the NPSFM and deals mainly with the sustainable development of forests. Except for a few senior GoS officials, most of the stakeholders, particularly communities, have only limited awareness or understanding of both documents.
61. The NPSFM will undergo a review after 3 years of implementation, and based on that a new National Forest Sector Plan (NFSP 2012-2014) will be formulated, making very timely the climate change mainstreaming support of this project. Without the LDCF intervention, policy frameworks and their implementation strategies and instruments will continue omitting the current and potential risks of climate change; an important opportunity will be missed to address climate risks during the NPSFM review and the development of a new NFP, therefore continue hindering systematic institutional adaptation responses, and the development of the needed capacity to undertake them.
62. The strategies outlined in the NPSFM aiming at forestry conservation and the development of economically viable agroforestry systems on farms is being pursued through a number of projects (such as the planned AusAID Samoa Agroforestry and Tree Farming Program -SATFP, or the JICA Forest Conservation Project - FCP). While these can be useful pursuing no-regret sustainable forest management options, their results can be seriously compromised in the long term due to the lack of integrating climate change risks and resilience, and modifying forestry practices accordingly.
63. The main spatial information tool for forestry planning and management, the SamFRIS was created in 2004 using aerial photo images from 1999, complemented

through ground-truthing and rectified for a GIS system. It included some information on climate zones but deals mainly with forest classification by location and used by the FD for planning and monitoring. Training was provided to FD personnel through FAO but due to on-going staff turnover, only a limited number of senior FD staff are familiar with it and have access to the system's database. 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. While its revision is planned under the JICA Forest Conservation Project, without the LDCF intervention it will be just applied to selected protected areas, and will miss the opportunity to interlay with climate information provided by CLEWS, as well incorporating other adaptation related tools (such as the Soil Resources Interpretation Manual - SRIM being developed through ICCRAHS)

64. The Soils Resources Interpretation Manual (SRIM) was first developed for Samoa in 2009 under the GEF-funded ICCRA&HSS project for the agriculture sector. The main focus is to match crop types against soil characteristics and climate conditions in order to achieve climate-resilient agriculture development. The assessment results of what crops grow best in which areas throughout Samoa will be presented on GIS maps and the SRIM for Agriculture is expected to be completed by the end of 2010. While a small number of food, fodder and energy tree species have been included in the initial assessment, most of the native trees have not been considered.
65. While the main form of energy for rural communities is biomass, energy trees are not formally promoted as cash agroforestry products in Samoa. Energy crops/trees will improve community livelihoods by providing an alternative income stream for farmers, if matched by complementary investment in bio-energy production. The Integrated Food and Energy System (IFES), developed by the FAO, is a very good example of an agroforestry planning tool with great potential for Samoa. Likewise, the integration of forests, agriculture and pastures is another agroforestry tool, as in the SilvoAgriPasture System (SAPS), with potential for local agroforestry development. Livestock production is extremely popular in Samoan agriculture, but is also the most significant threat to the protection of watersheds and upland native forestry areas as existing watersheds and native forests are being continually cleared to create new pastures. The inclusion of fodder trees and pastures would promote sustainable livestock farming in lowland areas at the same time as the protection of CBCAs in upland areas.
66. Effective adaptation responses in the management of forestry resources requires cross-sectoral coordination (e.g. water resources, agriculture, land use planning). The initial sectoral NAPA projects have been instrumental in supporting national coordination in climate change issues, through the National Climate Change Country Team chaired by MNRE. Without the resources provided through this project, the Forestry Sector and national institutions involved (e.g. Forestry Division, Department of Environment and Conservation, NGOs) will not be able to effectively integrate into national CC coordination processes, pursuing the revision of forestry policy frameworks to incorporate climate risks, create synergies with related national policy frameworks and their implementation mechanisms (such as NBSAP, NAP, IASS, WRMS).
67. A number of natural resource management policy frameworks and related tools (NRMTs) have been developed for Samoa (See Annex 5) and include the NBSAP and the KBA Gap Analysis for the conservation of terrestrial and marine biodiversity, the National Action Plan (NAP) to address Land Degradation, the National Invasive Species Action Plan (NISAP) (2008-2011), National Water Resources Management Act (2008) and the National Water Resources Management Strategy (NWRMS) (2008-2011) with its legally-binding National Water Resources Management Plans (NWRMPs). The NBSAP has been the main national biodiversity planning

document since it was produced in 2001 and has since been updated to reflect changes in Samoa's environment while the KBA Gap Analysis was completed by CI in 2010, mapping the important biodiversity areas for conservation. The NBSAP and KBA Gap Analysis are particularly relevant to the ICCRIFS project as most of the key species and habitats they identify are found in upland customary land areas. Without this project, the above-mentioned processes will not be informed from climate risk and resilient perspectives, and their long-term objectives might be compromised due to expected climate change impacts. The ICCRIFS project will be instrumental to pursue no-regret adaptation measures that will enhance the long-term resilience of forest ecosystems, through effectively linking with these policy frameworks.

68. The National Policy on Landuse Planning has a focus on promoting sustainable use of Samoa's land resources so that they can best meet the needs of both present and future generations. Samoa's NAP was approved in 2006, aimed at combating land degradation and mitigating against the effects of drought. Both documents note the need for better management of agricultural lands and to promote agroforestry and alley cropping plantations on low-sloping grounds to reduce soil erosion. They also note the need to promote planting of trees along riverbanks to promote conservation of agro-soil on degraded lands within watersheds, sustainable agro-land use practices in hilly-sloped areas in villages that have limited flat lands, as well as organic farming to strengthen food-security programmes to ensure sustainable livelihoods of communities. There is a need to build capacity for the implementation of these proposed measures, with climate risks integrated to ensure that these efforts will be sustainable in the long term. The ICCRIFS project will serve to further these approaches in a climate-sensitive way.
69. The GEF-funded project on Samoa's Capacity Building and Mainstreaming of Sustainable Land Management is in its 2nd year of implementation. The project aims at building institutional capacity through mainstreaming Sustainable Land Management in the newly developed Natural Resources Management Act, including agricultural sectoral plans. The demo areas of the project are located and limited to Savaii in the Asau and Vaipouli areas. In Asau a training center has been established to ensure that capacity development to train framers in SLM practices are carried out as a measure of reversing land degradation on a continuous and up-scaled basis. The Vaipouli area serves to demonstrate sustainable management of water resources through water-catchment level management. The SLM project provides useful experience for agroforestry management, but does integrate systematically climate risk information and on-the ground application is limited to 2 sites in Savaii, nevertheless synergies will be established with ICCRIFS to exchange info on land use practices and make them more resilient to current and anticipated climate changes.
70. NISAP was formulated in 2008, and identified a number of invasive species that are also found in the ICCRIFS project site. They include Albizia, silk tree, Merremia, and mile-a-minute. Others such as the African rubber tree, mint weed, Leucaena and African tulip are also likely to be present. The DEC, with its limited resources, has carried out different measure to control the spread of Merremia and myna birds with limited success. With the exception of the DEC staff, there is limited awareness and understanding of the NISAP among FD staff, other GoS officials and communities. Lack of funding has been a major obstacle. Besides the NISAP, the Pacific Invasive Learning Network has supported the capacity building of PICs to reduce the impact of invasive species on biodiversity and sustainable development. Merremia has been identified by villages in project site as a major concern so that whatever activity is carried out in these areas will have to take this into account. DEC experience show that manual cutting of the vine is labor intensive and costly but is the most effective so far. Currently there is very limited knowledge on how climate

change might affect the spread of invasive species, posing further risks for native forests. Without the LDCF resources the implementation of NISAP and related efforts to control invasive species might be jeopardized by long term impacts of climate change, and opportunities will be missed to adjust invasive species control practices and needed capacities accordingly.

71. NWRMS was developed in 2007 to operationalize the National Policy on Water Resources, in line with the Water Resources Management Act 2007. The WRMS promotes the sustainable management of water resources and recognizes that one of the main threats to the quantity and quality of water in Samoa is the uncontrolled clearance of forests within watershed areas. Except for Water Resources Division (WRD) staff, there is only limited stakeholder awareness and understanding of the NWRMS, particularly among rural communities. The EU-funded IWRM project supports the implementation of the Water Resources Strategy under the WRD of MNRE. The project has prioritized water intakes throughout the country and four of these intakes are located in the ICCRIFS community project site. The WRD has over the years worked closely with villages and the FD in the conservation of important catchment areas in Upolu and Savaii. The villages of Laulii, Solosolo, Leusoalii and Falefa have been involved in this project. In addition, an agro-forestry trial has been established in the Faleaseela water catchment area. ICCRIFS will build on these experiences and support the further expansion of tree-planting and watershed management activities within the Laulii-Falevao demo site and the at the Lake Lanotoo and Mauga o Slafai NP demo areas.
72. Currently there is very little awareness and knowledge of government departments on the use of financial and market mechanisms, tools and initiatives to support climate-sensitive forestry conservation and agro-forestry development, such as Payment for Environmental Services (PES), Clean Development Mechanism (CDM), REDD, Pacific Growers Export Partnership (PGEP), or available micro-credit schemes. UNDP is initiating a regional project to support REDD+ readiness in under-supported countries in the Pacific region, including Samoa, with funding from the Ministry of Foreign Affairs of Japan. This present a good opportunity to raise awareness on market-based climate finance mechanisms, that can be linked to efforts enhancing forest conservation and resilience through ICCRIFS.
73. CLEWS was developed under the ICCRA&HSS project to provide the CLEWS for Samoa through the provision of regular climate reports of forecasts and trends to the agriculture and health sectors. To enhance the collection and quality of the climate data, the national weather observation network was upgraded with the installation of a number of new automatic weather stations. Without LDCF intervention, the CLEWS will not provide information customized to the needs of forestry planners and practitioners, consequently they will not be able to develop capacity to integrate mid-term seasonal forecasts and longer term climate projections in strategic and management decisions, and in related advisory and extension services provided to communities.
74. In the lack of a comprehensive Forest Fire Prevention Strategy and adequate capacity and resources to implement it, the national Fire and Emergency Services Authority is under-equipped to prevent and control forest fires which are exacerbated due to prolonged and intense droughts. Without developing a systemic forest fire prevention capacity, Samoa's forests will continue to experience increased exposure and vulnerability to climate-induced droughts and consequent forest fires. FESA has fire prevention responsibility within the limits of the Apia township. Although it has assisted combat forest fires in the past, the main focus of its work has been on the protection of buildings and homes. Forest fire prevention is an important aspect of the FD and more recently the Disaster Management Office (DMO), although the latter is more concerned with the loss of lives and properties as a result of forest fires. FESA can offer basic training in fire fighting but has no

specific expertise in forest fire fighting which has over the years been a specific responsibility of the FD under the Forest Act. FESA currently pursues enhancing forest fire prevention and control capacity through the AusAID-funded NAPA 4 Adaptation project. The following are the NAPA 4 planned activities and ICCRIFS complementarities:

- Draft a national forest fire prevention strategy: this activity will depend on the ongoing review of the National Fire Plan. ICCRIFS will provide support to integrate climate change risk and resilience considerations, linked with the Climate Early Warning System to be tailored to forestry management purposes.
- Fire prevention mechanisms developed and related training and awareness-raising conducted: NAPA4 aims at revamping the existing fire station at Asau (Savaii), build and equip 2 new ones next to existing forestry stations at Togitogiga (South-central coast of Upolu, and Maota in Savaii). Planned capacity building activities will involve training of forestry extension officers as volunteer fire fighters, conducting public awareness-raising (TV&radio ads on forest fire prevention, community awareness workshops, installation of fire gauge signs and conduct of forest fire prevention drills) targeting the villages in the service area of the above 3 fire stations. ICCRIFS will contribute to integrate climate change considerations in the training and awareness raising materials, and extend the community awareness activities to the project pilot villages, in collaboration with FESA.

Without the ICCRIFS project, an opportunity will be missed to engage the new fire prevention and fighting services in order to extend preparedness and control of forest fires at ICCRIFS demos sites and pilot villages

75. The overall awareness and capacity of forestry planners to systematically analyze climate risks and incorporate climate change into forestry plans and practices will remain very limited, which can have serious impacts on forestry resources management if climate change is not considered into the long term planning cycles of forestry management.
76. Without LDCF intervention, the above-mentioned policy and capacity gaps will persist. Policy makers, development planners and disaster management professionals will not be able to efficiently interpret and integrate climate risk scenarios and adaptive measures into concrete forestry-related policies, plans and programs. Forestry sectoral planners, policy makers and vulnerable communities living in forest areas will not be able to anticipate climate change impacts and integrate these concerns into policy revision, financial planning, decision-making processes and actions.
77. Above all, without the LDCF intervention, Samoa's forestry and agro-forestry resources will be continuing to degrade under current human pressures exacerbated by climate change, compromising the effects of ongoing capacity development, forestry conservation and agroforestry development efforts, and the livelihoods of rural communities of Samoa that depend on forestry resources.

LDCF intervention (adaptation alternative)

78. The LDCF will support capacity building among stakeholders in the forestry sector on climate change related policy formulation and the identification and development of adaptive management strategies. It will fund training and capacity building activities for national planners and policy advisors on climate change related policy development, their inter-sectoral linkages and incorporation into national development plans. Through the policy development process, linking with demo activities, awareness will be raised among communities and NGOs on the nature of the strengthened policy provisions and, in particular, the main responses to climate change within the forestry sector. Public officials at all levels will be better able to

implement policies that support community-based adaptation initiatives. Technical experts will assist the project in policy development and capacity building, with an emphasis on improved institutional coordination between the key sectors of climate, forestry, agriculture, environment, fire services, water, education, health and community. The linkages between the ICCRIFS and other national projects will also be identified to promote the synergies between the various climate change related interventions.

79. The existing NPSFM with its strategies, the Forestry Management Bill will be revised and a new National Forest Sector Plan will be developed to integrate climate risks and resilience. This will include responses to climate-induced hazards and their consequences.
80. Improved coordination among the relevant GoS agencies (MNRE, MAF, MWCS and FESA) will ensure that the revision of NPSFM is consistent with related policies on agriculture production, biodiversity protection and forest fire prevention. The linkages between these agencies, the private sector and rural communities will be institutionalized to promote dialogue on the effectiveness of the forestry and associated policies to guide the planning and implementation of adaptation measures. Greater stakeholder involvement in policy development and preparation will be promoted through combining top-down and bottom-up approaches..
81. SamFRIS will be revised to reflect climate impacts on forestry, where the tree species and varieties will be classified by the soils and climate conditions. These will then be cross-checked against the forest resources on the ground to establish a climate-based forestry classification system. Training will also be conducted on the new SamFRIS for forestry planners, GoS officials and project staff, looking at the assumptions and issues involved and the application of the new system for forestry planning and monitoring, including the use of the GIS maps. The SamFRIS update will be supported through the JICA Forest Conservation Project by undertaking aerial surveys on forestry vegetation cover. The ICCRIFS project will provide resources for the integration of climate variables and layers in a common GIS-based SamFRIS and related user applications.
82. Project resources will be used to draw from the experience of developing the Agriculture SRIM under the ICCRA&HSS, and integrate information on agroforestry areas in SamFRIS, in order to develop one comprehensive and integrated GIS based system and tools for forestry and agroforestry planning and management. Training will be conducted for forestry planners, GoS officials and project staff on how to use and apply the forestry-relevant information integrated from SRIM to identify the most suitable location-specific tree species for agroforestry and native forestry. Based on the new integrated system, GIS maps will be developed by the MNRE-SIA staff and this tool will be also utilized in the proposed AusAID Agroforestry Programme (SATFP) to determine the best selection of climate resilient trees.
83. With LDCF resources, available tools and processes for natural resources management, vulnerability assessment and adaptation planning, financial, livelihood enhancement and marketing approaches, as well as monitoring techniques will be systematically analyzed, and training provided to build capacity of government departments, NGOs and community leaders involved.
84. Awareness raising and training will be conducted on forestry-related policy frameworks and processes (NBSAP, KBA Gap Analysis, NAP, NISAP and NWRMS), as well as the above-mentioned tools, so the forestry and environment planners, extension officers and project staff can effectively link these in the climate change mainstreaming processes for the review of NPSFM and FMB, and the development of the new, climate resilient NFSP. These tools and the capacity build around them will support the implementation of demo activities in lowland

agroforestry and upland native forestry areas, under Outcome 2. A manual will be prepared on the above tools and processes, reflecting the demo experience, in both English and Samoan language, tailored to different audiences, such as forestry planners and members of rural communities.

85. LDCF resources will be used to create synergies with initiatives that are linked through policy processes and applying similar tools, such as FAO/GEF Forestry and PAM Project, JICA National Parks Project, the current Sustainable Land Management (SLM) Project, the UNEP/GEF Regional Invasive Species Project, the EU Water Project, IWRM Project and the proposed UNDP/GEF5 Project on Land Degradation.
86. CLEWS and related climate information services will be extended to the forestry sector through LDCF funds. The relevant climate parameters will include temperature, rainfall, humidity, soil moisture and the trends in extreme events such as cyclones, droughts and floods. MD staff will be trained in the collection and analysis of climate data and the preparation of climate reports for the forestry sector. Forestry planners, GoS officials, project staff and communities will also be trained in the interpretation and analysis of climate information, as well as their prioritization for and application to the planning and implementation of adaptation activities. The Forestry CLEWS is strongly linked to the ICCRA&HSS project (agriculture and health) the PACC Project (coastal) and the AusAID-funded NAPA 4 Adaptation Project (water resources, forest fires, landuse planning and tourism).
87. The project will support the preparation and application of a Forest Fire Prevention Strategy and related manual (FFPM), integrating climate risk information and linked with CLEWS. It will set out the functions and responsibilities for the different agencies, communities and individuals, and prescribe relevant climate-resilient responses for each group of actors. Training will also be conducted for FESA officials, forestry planners and project staff on the application of the FFPM to forest management and fire prevention, both at the national and local levels. The FFPM output of the project will build on the Forest Fires component of the NAPA4 Project.

Outputs and Indicative Activities

88. The following outputs and indicative activities serve to enhance overall institutional capacity of the Forestry Division and institutional coordination with related Ministries and Divisions, through revising existing forestry policy frameworks, developing and building capacity on planning and decision making tools integrating climate risks. These measures are aiming at creating an enabling environment to support the implementation of the on-the-ground adaptation interventions under Outcome 2, develop decision making tools covering the country's entire forest areas, policy frameworks and related institutional capacity that will facilitate the upscaling and replication of climate-resilient forestry practices nationwide:

Output 1.1. Revised policy frameworks (National Policy on Sustainable Forest Management, Forestry Management Bill), and new National Forest Sector Plan developed with climate change risks integrated

Indicative activities:

- Conduct detailed stocktaking assessment, climate change and capacity gap analysis on the implementation and effectiveness of the current forestry policy frameworks, related strategies, plans and instruments

- Set up a policy dialogue and forum through NCCCT and relevant institutions to discuss the initial findings, agree on mainstreaming targets and approaches.
- Further consultations on reviews required for integration of CC into forestry-related policies.
- Modification of NPSFM and FMB, NFSP and policy instruments for CC integration, establish clear linkages with related policy frameworks
- Application of modified policy frameworks and instruments in the upland and lowland demo sites, capturing of feedback experience to inform policy process, introduce further adjustments
- Drafting revised policy documents, final consultations
- Official approval process of revised policies (by Cabinet Development Committee).

Output 1.2 Forestry-tailored climate early warning and information system developed

Indicative activities:

- CLEWS expanded and specified for forestry sector users (*see detailed Activity Areas and Task lists for developing a forestry tailored CLEWS in Annex 6*):
 - Adjustment of current climate services, knowledge and infrastructure to forestry use (based on work undertaken during the ongoing NAPA 1 ICCRHAS, agriculture and health sector)
 - Development of additional data collection capacity for forestry application (installation of automated weather stations for data recording in selected forestry areas, establishment of forest climate risk database) required as base-line data for CLEWS
 - Development of climate-forest knowledge and application tools (such as Cyclone Track Atlas, Fire-weather index, GIS map layer analysis, GIS forest-climate reference and display tool, etc.)
 - Training on interpretation and use of CLEWS, stakeholder interactions, support for policy planning and provision of climate information services (protocols and scheduled delivery methods for climate-forestry bulletins and advisories, and delivery pathways to all relevant stakeholders)
- Integration of climate information into SamFRIS
 - Assessment of current information gaps (including territorial coverage, climate, soil and vegetation info and variables) in SamFRIS,
 - Overlaying climate information from CLEWS (adjustments of data bases, GIS applications)
 - Incorporation of information from the Soil Resources Interpretation Manual, (SRIM) where appropriate, being developed through ICCRAHS
 - Conduct of ground truthing surveys where needed
 - Preparing updated SamFRIS with user-friendly interfaces and presentations and GIS maps by SIA staff
 - Training of FD and related department on the use of SamFRIS in forestry planning, management, extension and community advisory services

Output 1.3 Climate-sensitive Forest Fires Prevention Strategy Developed

Indicative activities will involve integrating climate change risk and resilience considerations, linked with the Climate Early Warning System to be tailored to forestry management purposes, into the Forest Fire Prevention Strategy to be developed under NAPA4, based on the ongoing review of the National Fire Plan. Based on the strategy, ICCRIFS will support the integration of climate risk considerations in the training and awareness raising materials, and extend the community awareness activities planned through NAPA 4 to the ICCRIFS project pilot villages, in collaboration with FESA. These activities will involve TV&radio ads on forest fire prevention, community awareness workshops, installation of fire gauge signs and conduct of forest fire prevention drills

Output 1.4 Government officers are trained on climate risk analysis, adaptive policies and planning techniques delivered

Indicative activities:

- Workshops and technical briefs of FD, DEC, MAL and other relevant departments related to the above output areas, tools and strategies, including:
 - the natural resources management policy frameworks and related tools (NBSAP, KBA Gap Analysis, NISAP, NAP, NWRMS)
 - vulnerability assessment and adaptation planning techniques
 - sustainable land use and forestry management techniques (including IFES and SAP)
 - awareness raising on financial and livelihood support policy tools and mechanisms
 - continued feedback on the application of the above techniques and tools at the demo sites through knowledge management activities (as in Outcome 3)
- Compilation of guidance notes on the natural resources management, adaptation, financial and livelihood support policy tools and mechanisms in forestry and agro-forestry sectors in both English and Samoan languages.
- Set up a dialogue with higher level policy making and planning circles, such as the Economic Development and Planning Division (MoF), in order to create linkages with the SDS implementation and review on climate change

OUTCOME 2: Climate resilient agro-forestry and forestry techniques are demonstrated in lowland and upland areas

The project aims at fostering a shift from current unsustainable forestry and agro-forestry practices towards a more sustainable and climate resilient system with forestry techniques adjusted to current and anticipated changes in climatic conditions. To this end, the project aims at implementing alternative forestry management approaches and techniques, as listed in table 2, in the demonstration sites, supported through creating an enabling environment to build institutional and technical capacities. The 3 outcomes of the project are closely interrelated, where outcomes 1 and 3 serves to create this enabling environment, through policy changes and institutional strengthening, provision of decision making tools with climate factors integrated (CLEWS, SamFRIS), capacity building, and a set of knowledge management activities linking policy and community level interventions. The implementation of the on-the-ground measures will take place through developing adaptation plans as integral part of management plans of native upland forest areas (NPs, CBCA), and lowland agroforestry areas through whole-of watershed approach and participatory processes. Local level institutional coordination structures will be established (village, district and demo-area committees) involving village leaders, NGOs and government representatives to ensure local ownership and effective delivery of actions.

Table 2. Current landuse and forestry practices and alternatives to be introduced by the project in lowland agroforestry and upland native forestry areas:

Lowland agro-forestry in customary lands		
Current land-use practices	Deficiencies from CC resilience point	Alternative agro-forestry management approaches to be introduced by the project:
<ul style="list-style-type: none"> • Small-scale and subsistence production of staple crops (taro, bananas, vegetables and coconuts) • Mono-cropping of traditional crops (taro, banana) with plots of single crops shifted round 4 years intervals • Very limited use of mixed cropping techniques (just few locations with application of alley cropping and contour planting) 	<ul style="list-style-type: none"> • Villagers are forced to further clear and encroach to natural forests, due to crop failure associated with climate impacts (droughts, floods and water-logging) • Reduced vegetation cover enhances erosion and landslide risks due to heavy rainfall events associated with climate change • Degraded forests more exposed to cyclone and wind damage, and are further susceptible to climate change-induced forest fires 	<p>Agro-forestry system diversification to reduce crop failures during climate induced extreme weather events and maintain functional connectivity across the forest landscape.</p> <ul style="list-style-type: none"> ○ Taungya agroforestry system, intercropping food crops with high value trees, like mahogany, teak, <i>poumuli</i> and sandalwood; ○ Intercropping with locally-available clumping varieties of bamboo ○ Soil and water conservation techniques (mulching, hedging, mixed cropping, terracing, protection of stream banks through vegetation planting)

		<p>Climate-resilient and enhanced grazing land and cattle management techniques introducing Silvo-Agro-Pasture System (SAPS), with the focus on managing dry season fires, to reduce fire risks to forests. (expected to increase in frequency and intensity during climate change induced droughts).</p> <p>Reducing forest degradation from fires:</p> <ul style="list-style-type: none"> • Integrated forest fire management (controlled land clearing and burning) • Designating and training of fire control volunteers, awareness raising and training of communities • Application of climate early warning system for forest fire prevention, installation of forest gauge signs in villages. • Replanting of degraded areas with drought-resilient species
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Upland native forestry areas on public lands (NPs) and customary lands

Current forestry management practices	Deficiencies from CC resilience point	Alternative forestry management approaches to be introduced by the project :
<ul style="list-style-type: none"> • Inefficient farming and grazing land management practices affected by climate change induced impacts prompt further clearing of upland forests, resulting in degradation and fragmentation of native forest areas. • Lack of enforcement of protected status in protected areas (NPs, community-based conservation areas), given the lack of clear boundaries, incentives, valuation of ecosystem services, and coordination for community collaboration • Control of invasive species and rehabilitation of degraded areas is limited to a few spots, 	<ul style="list-style-type: none"> • Degraded and fragmented forests more exposed to cyclone and wind damage, susceptible to drought-induced forest fires • Reduced landscape connectivity reduces the capacity for natural regeneration (old seed trees and seed dispersers), • Patchy canopy cover more susceptible to wind damage, and heavy rainfall causing erosion and landslide risks • Increased competition posed by invasive species 	<ul style="list-style-type: none"> • Rehabilitation of degraded areas and control of invasive species through assisting natural regeneration of native forests and planting of native and climate-resilient tree species. Extend native forestry coverage to increase connectivity between large habitat patches. • Engagement with communities and cattle raisers to enhance resilience and effectiveness of agroforestry farming and grazing systems in upland forestry areas and adjacent lowland areas. • Establishment of local NP and CBCA committees involving adjacent land leasers and villages • Forest fire prevention and control through planting of drought resistant native species , establishment of

- Forest fire prevention and control measures, limited to clearing of fire breaks only in a few areas.

- further fire breaks,
- Training of fire fighters and volunteers, awareness raising and early warning information for communities and extension officers.

The demo interventions will directly benefit the following areas and populations:

Native upland forests:

- Lake Lanotoo NP: 477 Ha
- Mauga o Salafai NP: 5,974 Ha
- Community upland forest in Laulii-Falevao area: 4,000 Ha

Lowland agro-forestry areas:

- 14 villages Laulii-Falevao area: 10,000 Ha
- 4 Villages next to Lake Lanotoo: 3,612 Ha
- 8 villages next to Mauga o Salafai: 7,984 Ha

N. of population and households/farmers³²

- 14 villages Laulii-Falevao area: 10,440 persons, 1,271 households
- 4 Villages next to Lake Lanotoo: 2280 persons, 268 households
- 8 villages next to Mauga o Salafai: 4025 persons, 533 households

Without LDCF intervention (project baseline)

47. Climate change and frequency of extreme climatic events, such as prolonged droughts, excessive rains and tropical cyclones, are projected to continue to increase, along with land degradation and forest fires. It is thus highly likely that the current range of baseline interventions will be insufficient to reduce forest vulnerability. Without LDCF intervention, climate change will not be adequately integrated into current and planned agroforestry development and native forestry conservation projects, and the potential for improved climate-resilient livelihood options for local communities will not be fully realized.
48. The Key Biodiversity Areas Gap Analysis (KBA), supported by Conservation International and SPREP has been carried out through a 2 years process, finished in 2010. The analysis has identified 8 terrestrial KBAs and 7 marine KBAs as priorities for conservation effort in Samoa. The 2 National Parks identified as demo areas for this project are included. The upland forestry area of the community demo site on Upolu was not included due to lack of data on threatened species that trigger a KBA. The summary report includes a set of recommendations for further research to increase understanding on species, their biology and conservation; establishment and further refinement of site management, further refinement of KBAs through adding additional biological and social criteria; and effective engagement with communities to enhance management of KBAs on customary land through collaborative efforts between governments, donors, NGOs and community groups. Currently there is limited awareness and understanding of how the results of this analysis can be used for enhanced NP and forestry planning and management. Consequently, the recommendations in the KBA analysis have not been followed up systematically, although a number of projects are using the KBA analysis to identify priority sites for future conservation effort.
49. The current capacity of the FD is very limited to service the protected areas and agroforestry areas, with only 4 stations that cannot meet demand for supply of native tree species. Similarly, there is very limited capacity to monitor forest ecosystems (with only one surveillance trail in the O le Pupu Pue NP). The main forestry information system, the SAMFRIS is outdated and lacking the full integration of climate information. Consequently, without enhancing FD's capacity to assess and implement systematic adaptation measures, forestry resources will

³² 2006 SBS Census

continue to degrade, affected by cyclone damage, drought and forest fires, and expansion of invasive species, amongst others.

50. Subsistence agriculture is practised by the majority of rural farmers on small plots with few exceptions. When the soil fertility of existing farm plots is exhausted, the land is laid fallow and new plantation land cleared from the virgin bush. Traditional crops are cultivated (e.g. taro, bananas, coconuts) mainly for domestic use, although surplus products are often sold in the Apia or roadside markets. Livestock farming is very popular but practiced through poor grazing land management. There are limited agricultural inputs to soil fertility improvement, crop production supply (seeds, planting material), irrigation techniques, so large areas of lowland areas are under-developed. With current massive on-going migration of economically active workers, the shortage of agricultural labor is becoming a major challenge in the agricultural sector (i.e. about 50% of Samoans currently reside overseas because of the above mentioned difficulties further exacerbating cultural erosion (see State of Environment Report, 1993).
51. The cultivation of plantation forests has not been practiced extensively as most rural households rely on the native forests for their timber/wood requirements. All the plantation forests that were planted by the GoS in the 1970s on leased customary lands have been handed back to the villages, but many had been abandoned or poorly managed. The FD has been promoting the development of community woodlots, through its Community Forestry Program initiated in the early 1980's, but there has been limited commitment by the farmers involved who relied on the FD for supply of seedlings and monitoring. Only round half of the 1000 farmers registered to date in this programme are still active, and the programme has been operating with a very modest budget in recent years. There is still largely a lack of awareness by local farmers of the technical issues and properties related to the various tree species and cultivation techniques. The main species planted under the Community Forestry Program have been *Flueggea flexuosa* (poumuli) and *Swetenia macrophylla* (Brazilian mahogany), and native species such as *Pometia pinnata* (tava), *Terminalia richii* (malili), *Syzygium inophylloides* (asi toa), *Calophyllum neo-eudicium* (tamanu) and *Intsia bijuga* (ifilele). Currently there is little understanding on how changing climatic conditions affect the cultivation and production of these and other tree species. With only a small market for wood products, there is little incentive for farmers to plant their own trees, but instead log the native trees on their lands as needed. Without LDCF intervention, unsustainable woodlot management practices and consequently encroachment to native forestry areas will continue, further increasing vulnerability of agro forestry and forestry areas to current and anticipated climate change impacts and risks.
52. Above all, without LDCF intervention, communities dependent on agro forestry activities in the demo areas will be lacking knowledge and information on climate risk assessments, available adaptation options, consequently traditional farming practices and livelihoods will continue suffer from climatic variations and change, causing landslides, soil erosion, declining yields. Moreover, the scope of current initiatives will not be broadened to include climate change considerations into national and local planning efforts, focusing on the protection of livelihoods. Livelihoods and coping strategies among rural communities will thus continue to deteriorate as a result of the impacts of droughts, excessive rains, tropical cyclones and forest fires. This will severely constrain subsistence agriculture, forestry development and water resources management.
53. In the past there have been intents to set up CBCA (terrestrial and marine) with varying levels of success. There have been some limited and initial assessments and community consultations were carried out supported by international and regional organizations (CI and SPREP, respectively) and national NGOs (O le Siosiomaga Society Inc.). Management plans have been drawn up for some CBCAs

(e.g. Uafato), and scattered implementation actions have been carried out driven by local champions and availability of limited funds (e.g. Falealupo Canopy Walkway as an ecotourism attraction). In reality, community involvement has been limited, in most areas with no clear commitment. This was due to lack of securing funds for tangible implementation of follow-up actions and lack of clear incentives and sustainable business models linked with livelihood benefits. Even the scattered implementation actions have been discontinued and decaying such as the Falealupo Canopy Walkway and Uafato Community Centre. As a result, most of these CBCAs only exist on paper. Without the LDCF intervention, these past CBCA efforts will remain ineffective and dysfunctional, without clear community commitment and institutional support, lacking a model for participatory management plan, informed on climate risks through decision making and management tools (such as V&A assessments, CLEWS, rehabilitation and forest fire prevention plans), This will present an impediment to the implementation of no-regret conservation measures that can enhance resilience of forests, exposing upland forestry areas in customary land to further climate change risks, that will result in further fragmentation and degradation of native forests.

54. Past and current agroforestry and forestry projects have been promoting particular farming techniques (e.g. NGOs promoting, permaculture, organic farming or bamboo planting), addressing native and agro forestry areas separately, but whole of watershed approaches will not be pursued systematically, aiming at enhancing resilience of lowland and upland forestry areas of communities in an integrated fashion. For example, METI established a bamboo experimental plot at the Valilele Permaculture Farm, in order to determine suitable varieties for different uses (shoots to eat, leaves as fodder, trunk as construction material). The NGO has been promoting bamboo planting and providing planting material to its farmer members. METI has been also experimenting with constructions (chicken shelter, fale) using bamboo as building material. Through an EU-funded Permaculture project, demo plots are being established in 10 pilot villages, including Lufilufi village, part of the ICCRIFS demo area in Northern Upolu. These experiences are very valuable to ICCRIFS, but still applied in a pilot basis in Samoa, does not explore the full potential of using such techniques to enhance resilience to climate induced impacts, and provide livelihood benefits at the same time.





Figure 10 – Vailele Permaculture Farm (METI)

- Bamboo experimental plot and nursery
- Intercropping banana, bamboo and sandalwood tree
- Low-cost chicken shed prototype built from bamboo

55. Samoa's Protected Areas System on public lands is relatively young, various national parks lack clear establishment of boundaries, including Lake Lanotoo and Mauga-o-Salafai NPs selected as demo sites for the ICCRIFS project. Only Ole Pupu Pue National Park and Mount Vaea Scenic Reserve have established management plans under the JICA PAM Project. Invasive species, such as *Merremia peltata*, is being controlled through planting trees that create shade and surpass growing of *Merremia*. It is being carried out only in few areas, given limited FD capacity. Monitoring of forestry ecosystems is not systematic, only one surveillance trail has been established in Ole Pupu Pue NP through the PAM Project. Currently there is a lack of capacity to systematically conduct flora and fauna surveys in existing trails, but there is also a need to extend these activities to other protected areas. The JICA Forest Conservation Project, serving for co-financing ICCRIFS will support the establishment of boundaries for the Lake Lanotoo and Mauga-o-Salafai NPs through catastral surveys, and develop comprehensive management plans, but without LDCF resources, these plans will not be informed systematically on climate change risks, and FD staff and extension services will not have the capacity to interpret climate reports from CLEWS and SRIM and modify management plans and practices accordingly. Consequently, resilience of native forests in NPs to climate change risks will decrease, with potential further degradation and fragmentation of native forest coverage. Currently there is a lack of understanding and valuation of forestry ecosystem services and related incentives to encourage conservation of upland forest areas and reduce encroachment. Visitor facilities (trails, signage, rest areas, some interpretive materials) have been introduced only to the Ole Pupe Pue NP and Mt. Vaea Scenic Area by the JICA PAM project. Currently there are no user fee schemes in place in Samoa.

56. During the PPG phase linkages has been established with the Pacific FAO office in order to explore linkages with the FAO GEF-PAS Forestry and Protected Area Management Project (FPAM), which is a sub-regional project involving 4 PICs, Fiji, Samoa, Vanuatu and Niue. The development objective of the FPAM is "to enhance the sustainable livelihood of local communities living in and around protected areas". Its Global Objective is to "strengthen biodiversity conservation and reduce forest and land degradation". Synergies will be created especially with the FPAM technical components on community-based conservation management, mechanisms for sustainable protected area financing and sustainable land management in forest margins.

With LDCF intervention (adaptation alternative)

57. LDCF resources will be used to enhance information on sensitive forest ecosystem and key biodiversity species, and understanding on how they can be impacted under different likely climate change scenarios, using the enhanced information tools, such as CLEWS and SAMFRIS, combining with existing forestry ecosystem assessment tools and processes (such KBGA). To this end, project resources will be used to train forestry officers in gathering and interpreting ecological data in order to make informed forestry management decisions. With the support of CI, ecological surveys in the community demo native upland area of the project will be conducted to serve as a baseline of information for the establishment, management and monitoring of a Community-based Conservation Area. Further assessments will be carried out to gather information on how threatened species can be affected under different climate change scenarios, especially considering the most vulnerable forest ecosystems (such as the cloud forests sensitive to changing temperature and humidity ranges). CI will also assist in training in the assessment of ecosystem services provided by native forestry areas.
58. Based on the initial consultations and analysis during the PPG phase, detailed and site-specific vulnerability assessments will be carried out in the demo areas, with the active involvement of local communities, civil society organizations and government offices. This will serve to establish adaptation plans for upland native forestry areas and lowland agro forestry areas, integrated into the processes of developing management plans for NPs, establishing a CBCA in upland community lands, and integrated land use plans in lowland agro-forestry areas. The demo processes will serve to build systemic capacity of FD, DEC and related institutions, and to inform the policy review processes describe under Outcome 1.
59. Through the LDCF interventions government officers, community leaders and other stakeholders will be familiarized on the forestry related management tools, in order to develop and implementation the site-specific and climate-sensitive management plans with adaptation options integrated in the demo areas. The adaptation plans will be supported by the various stakeholders (see Figure 5 above), utilizing the knowledge and skills acquired from tools and capacity building delivered under Outcome 1, complemented with specific trainings on climate-resilient forestry and agroforestry methods
60. Agroforestry Adaptation Plan (AFAP) for lowland agroforestry development in the project areas will be formulated with the active participation of local communities and NGOs, in customary lands at the Laulii-Falevao area and in the villages adjacent to Lake Lanoto'o and Mauga o Salafai National Parks. Village groups in the project areas will be organized, civil society networks will be established and extensive awareness raising among communities involved will be conducted in order to ensure the key players are fully knowledgeable of climate-risks, adaptation techniques and related assessment, planning and implementation techniques. This will be the basis for the design of the agroforestry demo activities, including identification and prioritization of site-specific appropriate adaptation measures in each pilot village. The demonstration activities will be built on current subsistence practices and traditional knowledge, enhanced through climate-resilient techniques.
61. Based on the climate reports from the CLEWS and SRIM, the appropriate mix of climate resilient crops and trees will be selected in order to address individual and community needs for food security, livelihood support and alternative income generation. For this purpose, mixed cropping techniques will be introduced applying high value trees, such as the sandalwood, and energy trees (following the IFES approach). The mixed cropping techniques can provide effective ground cover, help prevent soil erosion, contribute to sequester carbon dioxide, create an alternative income stream for farmers and help promote energy security if appropriate

technologies are made available (i.e. biomass gasification). Pasture and tree fodder for livestock will be integrated into the agroforestry mix, based on the SAPS, in order to improve existing practices and conserve remaining upland forests.

62. Linkages will be established with related rural livelihood support projects, such as the AusAid Samoa Agroforestry Project to promote complementary initiatives to diversify livelihoods, through small business development opportunities (processing of crops, timber and non-timber forest products), and market linkages for value-added crops and livestock products. The sustainability of the interventions will be also ensured through establishing community nurseries, to secure the continuous supply of climate, resilient plants. The purpose of these livelihood support activities will be to enhance productivity of current agroforestry areas, thus preventing communities to further encroach to native forestry areas due to clearing for agriculture and grazing land and wood.
63. The ICCRIFS project will build on the experiences generated by METI on application and production of bamboo varieties, further enhancing understand on bamboo varieties and their production techniques that area resilient to climate change and suitable to Samoan conditions. ICCRIFS will support the replication of intercropping techniques using bamboo, as a means of providing wind-breaks, enhancing moisture retention in the soil and improve soil properties, making agroforestry plantations more resilient to climate-induced impacts.
64. Relevant fire prevention options, based on the new FFPM, will be introduced. These include identifying fire resistant tree species, setting the tree spacing and fire breaks and strengthening forest fire fighting capacities (professional and volunteer forest fighters)
65. Soil and water conservation will be promoted through holistic farming systems, to retain soil fertility, reduce soil erosion, increase the canopy cover and improve water retention in the ground.
66. A Native Forestry Adaptation Plan (NAFAP) for upland native forestry conservation in the project areas (both CBCAs and National Parks) will be formulated in order to enhance long-term resilience of native forests, through rehabilitation of degraded areas and planting of climate-resilient native species, control of invasive species, fire prevention arrangements and reducing encroachment by neighboring community and land leasers.
67. Further joint activities to support the climate-sensitive management of protected areas will be pursued through ICCRIFS, including vulnerability assessments, the use of climate information for adaptive planning, and the introduction of climate-resilient forestry management techniques on native forest ecosystems, integrated within the process of developing and implementing Protected Area Management Plans, supported by the JICA Forest Conservation Project. The Native Forestry Adaptation Plan that will be developed for the ICCRIFS project sites (Lake Lanotoo and Mauga o Salafai NPs, as well as the upland CBCA to be established in Northern Upolu) can be replicated in other protected areas of the country using the resources from the JICA FCP.
68. Synergies will be created with the GEF-FAO FPAM project during the ICRRIFS implementation through involving the FAO project team in the project technical advisory groups, especially considering the following technical components of FPAM: strengthen capacity of community-based conservation management, development of mechanisms for sustainable protected area financing, sustainable land management in forest margins. The ICCRIFS project will support common objectives through enhancing information and capacity on climate risk assessments and adaptation planning.
69. LDCF funds will allow capacity of FD and the communities involved to effectively monitor the upland forest areas, control invasive species and prevent forest fires.

Outputs and Indicative Activities

Figure 11 – Location of the ICCRIFS Project Demonstration Sites



Falevao Villages), and in the villages adjacent to Lake Lanoto'o (Uplou) and Mauga o Salafai (Savaii) National Parks

Indicative Activities:

- Detailed and site-specific vulnerability assessments and adaptation planning through consultative processes with local communities
- Establishment of demonstration lots in each pilot villages, to train on climate resilient agro forestry techniques, applying climate resilient and value added crops and tree varieties (such as intercropping techniques using high value trees, mix of food and energy crops, bamboo varieties)
- Application of CLEWS, SAMFRIS and SRIM in the selection of climate-resistant crop and tree varieties.
- Introduction of soil and water conservation techniques (mulching, hedging, mixed cropping, terracing, protection of stream banks through vegetation planting)
- Adapt management of community forests through planting native trees to create green corridors to support biodiversity conservation, serve as wind breaker and erosion control
- Promote intercropping techniques using non-clumping varieties of suitable bamboos
- Establishment of community nurseries using nursery techniques suited to the changing climatic conditions (using CC resilient plants and propagation techniques) for continuous supply of plants, and supported with a business model
- Introduction of climate-resilient and enhanced grazing land and cattle management techniques introducing Silvo-Agro-Pasture System (SAPS) to enhance forest coverage.
- Introduction of forest fire prevention techniques, establishing fire control volunteer teams.
- Promote linkages with related projects supporting small businesses on crop and wood processing and market links
- Provide technical assistance and continuous training for pilot communities on the above techniques through organizing workshops, meetings and site visits involving government officials, extension services, NGOs, regional and international experts.

Output 2.2 Climate-resilient agroforestry techniques are demonstrated in upland native forestry areas in customary lands at the mid-North Coast lowlands on Upolu Island (from Laulii to Falevao Villages), and at Lake Lanoto'o (Uplou) and Mauga o Salafai (Savaii) National Parks

- Carry out detailed vulnerability assessments on forest ecosystems and key biodiversity species considering current climate change impacts and a range of potential climate scenarios. Extend KBA to the upland customary land areas at Laulii to Falevao Villages.
- Support the development of NP management plans pursued through the Forest Conservation Project through integrating climate risk assessments and adaptation options
- Establishment of a consecutive Community-based Conservation Area, involving upland native forestry areas of 14 communities between Laulii to Falevao villages, as an extension of the O Le Pupu Pue National park on the Southern slopes of Upolu. Analyze the experience with the previously established CBCA at Laulii (currently dysfunctional), and organize

- community consultations to raise awareness, gain community commitment and engage in forestry planning and management.
- Rehabilitation of degraded areas and assisting natural regeneration, through control of invasive species through planting of native and climate-resilient tree species, using the updated SAMFRIS inter-laid with climate info through CLEWS.
 - Engagement with communities and cattle raisers in leased areas adjacent to park, to introduce climate-resilient and enhanced grazing land and cattle management techniques introducing Silvo-Agro-Pasture System (SAPS) with the focus on managing dry season fires, to reduce fire risks to forests.
 - incentives and change behaviors towards supporting forestry conservation amongst local communities.
 - Raise awareness on additional options and create linkages with related initiatives (e.g. payment for ecosystem services options, carbon sequestration, REDD + Readiness) to provide further incentives for communities to protect forests.
 - Establish local NP and CBCA committees involving adjacent land leasers and villages, in order to coordinate integrated forestry management and adaptation measures, similarly to the example of the O Le Pupu Pue national park
 - Support the implementation of forest fire prevention strategy and management plan especially for areas that are prone to drought and fire hazards, through links with the NAPA 4 project forest fire component Implement forest fire prevention and control techniques, like planting drought resistant native species, establishment of further fire breaks. Provide training for fire fighters and procure proper equipments and safety clothing (protective clothing).
 - Establish systematic data gathering and monitoring processes, through a combination of ground surveillance activities (surveillance trails and plots) supported by the enhanced forestry and climate information management tools (SamFRIS, CLEWS). Introduce community-based monitoring programmes and techniques, linked with environmental education activities at CBCAs.
 - Provide technical assistance and continuous training for officers and extension services of FD and pilot communities on the above techniques through organizing workshops, meetings and site visits involving NGOs, national, regional and international experts.

OUTCOME 3: Project knowledge captured, analyzed and disseminated

Outputs and activities under this outcome principally serve to facilitate the systematic capturing, codification and dissemination of lessons learnt from project implementation from early stages of assessments, consultations and planning throughout the policy changes and delivery of on-the-ground actions. A range of knowledge products will be developed and disseminated tailored to different user groups, and based on a communication strategy. The communication strategy will aim at broad distribution of technical experience and good practices amongst end users (farmers in the demo areas, and more broadly through farmers' and NGO networks, extension services and other means), linked with capacity building and technical assistance delivered by the project and related initiatives, in order to facilitate uptake and replication of knowledge generated. Importantly the experience and lessons generated will be systematically fed to the policy mainstreaming processes, informing national planners and policy makers, in order to ensure top-down and bottom up linkages between efforts to create an enabling policy and

institutional environment and to implement community-based adaptation measures. KM activities form key part of the project sustainability and replication strategy, through engaging grassroots networks and education institutions.

Without LDCF intervention (baseline)

70. Without LDCF intervention, the technical guidelines, lessons learnt and good practices generated from the project will have impacts only limited to the communities and the government officers directly involved in the projects. Lessons from successful community-based adaptation interventions will not be systematically documented, synthesized, and communicated to wider audiences. Therefore, valuable experience generated from the proposed project would remain inaccessible to users and planners in other communities and countries facing similar challenges. This can compromise in general the replicability and long-term sustainability of the project results.
71. Without LDCF resources, lessons learnt and good practices will not be captured and disseminated systematically, which can hinder the implementation and linking of the outcomes and output areas of the project, most importantly the effective implementation of adaptation measures in the lack of systematic analysis of V&A assessment results, the review of forestry policies in the lack of informing the process from the demo experience, and the widespread training and information of national stakeholders involved in the lack of a comprehensive dissemination activities through user-oriented means.
72. Opportunities will be missed to raise awareness amongst the broader public on climate change impacts on Samoa's forestry resources and on adaptation options, if project resources do not support the development and implementation of a comprehensive communication strategy and plan.
73. MNRE has established a website (www.mnre.gov.ws), managed by its Information Technology Division (ITD), and carried project documents and progress reports. However, there is a shortage of qualified technical staff to prepare project reports for posting and subsequent updates. There is also limited capacity to integrate experiences in regional and global platforms, such ALM.
74. Without LDCF resources, the project experience will not inform education activities and programmes at the different level, and another important opportunity will be missed to provide enhanced education for future generation of the general public and of forestry professionals. Without systematically sharing lessons learnt, what works best and what does not, the different government departments, NGOs involved in rural development and forestry conservation projects will continue to experiment in an isolated fashion, with a potential risk of duplicating existing efforts and might repeating past mistakes.
75. Given that this project is one of the first initiatives in the region to implement a combination of on-the-ground adaptation measures and policy changes in the forestry sector, it will be key to share the experience more broadly between communities of Samoa, in the Pacific region and with broader user and professional circles. Without LDCF resources supporting systematic knowledge management activities, the replication of project results will be seriously limited, as it has been experienced with some of the past projects (e.g. the CBDAMPIC project that involved communities in the proposed demo area, but have not resulted in systematic follow up and replication activities)

With LDCF intervention (adaptation alternative)

76. The project will improve the collection and exchange of knowledge and thus enhance the replication and upscaling of successful forestry coastal management and adaptation to climate change, both within Samoa, and more broadly in the Pacific and globally.
77. LDCF resources will be used to develop a comprehensive communication and awareness programme with broader national level outreach raising awareness on the importance of forestry resources of Samoa, their vulnerability to CC and adaptation options. The range of dialogue options among stakeholders will include national workshops, school climate change programs , radio and TV programmes, and the on-line dissemination and sharing of project information.
78. The project will create linkages with ongoing efforts to integrate CC into school curricula (ongoing WB project to create syllabus and training material for primary education on CC issues), as well as with higher level education institutions, such as USP to incorporate project experiences into professional education of future agriculture and forestry experts.
79. LDCF resources will support the development of a range of knowledge management materials (e.g. brochures, audio-visual materials), tailored to different user groups, especially targeting rural communities, using simply forms and Samoan language to transmit the project experience.
80. The ICCRIFS project will serve to engage USP Alafua Campus located in Samoa, and its agricultural specialists, in order to create linkages with education and research activities. The Soil Science Department of offers courses on soil science and has expertise to do soil research and analysis. USP can assist in soil studies at ICCRIFS site as part of practical training for students. There is also potential to collaborate in preparation of case studies and other technical requirements of ICCRIFS.
81. Experiences in agro forestry and forestry adaption will be shared between Pacific Island Countries and other SIDS, in order to support similar projects elsewhere and create linkages with regional and international initiatives.

Outputs and indicative activities

Output 3.1 Lessons learned and best practices are generated and shared between local communities, and national stakeholders through appropriate mechanisms.

Indicative activities:

- Development of case studies, photo stories, short videos, posters, brochures etc., in both English and Samoan languages
- Establish and regularly update a project website linked to MNRE website
- Organization of exchange site visits by forestry professionals and community members within the country and the region.
- Development of a project communication and awareness raising strategy involving appropriate media
- Preparation of technical briefing notes on adaptation implementation and experience aiming at higher level policy makers (ministerial, Cabinet), in order to inform forestry-related policy mainstreaming processes
- Organization of at least 2 national dissemination workshops on project results (a mid-term and final event)
- Presenting project results in appropriate national events and forums (e.g. World Environmental Day, National CC Summit)

- Information provided to stakeholder groups in demo villages (including women and youth, church groups) through community meetings and outreach programmes..

Output 3.2 Project experience in forestry adaptation is transmitted to education institutions to incorporate knowledge generated in training materials, curricula and school programs, as appropriate

Indicative activities:

- Incorporation of project case studies and technical reports into agriculture and forestry related professional training (readings, exercises, research, etc.)
- Undertaking of collaborative research and training activities in the demo areas
- Incorporation of forestry related adaptation experience and general awareness raising materials into the ongoing CC curricula development project funded through WB
- Conducting CC and forestry related education activities in primary and secondary schools of the demo villages of the project, providing KM and training materials to teachers.

Output 3.3 Knowledge on adaptation practices are presented and shared through regional and global platforms and events

Indicative activities:

- Incorporation of project lessons learnt in the Adaptation Learning Mechanism (ALM), the SPREP Climate Change Portal, MNRE website and other appropriate web-based platforms
- Sharing of project results in relevant regional events related to forestry management and climate change adaptation

2.5. Key indicators, risks and assumptions

82. The project strategy dovetails with various on-going government-led initiatives in the fields of agroforestry development, forestry conservation, land use and water resources management, and the achievement of planned project outcomes will depend on strong engagement with the project by its key stakeholders, particularly the different departments and divisions within MNRE, as well as effective inter-sectoral coordination with other relevant Ministries (such as MAF, MWSCD). A key project assumption is that the government will implement its programmes and co-financing projects on time, with effective coordination between project teams. The outcome aiming at integrating climate resilience into forestry-related policies is based on the assumption that the National Forest Policy will undergo a review next year following 3 years of implementation, and serve as a basis to develop the new Forestry Management Plan (part of MNRE Corporate Plan) for the 2012-2014 period. Delays in these policy processes can affect climate change mainstreaming efforts and effective linkages with other technical processes, such as developing forestry-tailored climate info services, as well as using the opportunity to trial the revised strategies and plans at the community-level demo implementation. Other risks include turn-over of government staff working with the project, which is disruptive in itself, which may also result in loss of the additional capacity developed through the project.

83. Institutionalization of project results at the local level will depend on a continuous engagement of the project team with village leaders and community groups. The project also assumes that there will be continuous and strong community support for the project and that communities will perceive real added value in engaging with the project. The consultations during the PPG phase showed a good commitment and interest of village representatives; the momentum needs to be kept up through the project inception phase with the challenge of managing stakeholder expectations and also find appropriate ways of securing tangible benefits for local communities. The project's ultimate success, including the up-scaling and replication of demonstrated adaptation measures, depends partly on national and local government authorities and traditional leaders taking the necessary steps to incorporate project recommendations on climate risk reduction into forestry and agro-forestry related policies and plans. There is always a risk that the highest-level decision-makers and planners may not prioritize climate change adaptation over more immediate and visible development priorities.
84. The project also assumes that major climate-induced hazards and extreme events (e.g. extended drought, forest fires, cyclones) does not cause major damage to the targeted forestry areas, eliminating or damaging rehabilitation and forest conservation efforts in upland areas, and do not cause irreparable damage to the demonstration lots and nurseries to be established under the project.
85. Through the National Climate Change Country Team, chaired by MNRE, the lead government agency in NAPA implementation, the project will be able to ensure strong coordination between the relevant MNRE departments, and other line ministries involved. Good communication and constant engagement with key stakeholders will be key to ensure their support and active involvement, at the national, demo area and village levels, ensuring the timely delivery of planned project outputs. As part of the knowledge management activities, a project communication strategy will be devised tailored to particular stakeholder groups. The stakeholder involvement plan developed during the PPG phase will be further expanded during the inception phase, with any additional strategies needed to ensure good engagement of stakeholders at the national and local levels. This will also include management of community expectations as well as leveraging additional resources for activities that are priorities for local communities but fall outside the scope of this NAPA follow-up project. The status of project risks will be periodically assessed through the project monitoring procedures, and the project implementation strategy adjusted as needed.
86. The main indicators of the project refer to tangible impacts, such as the extent of forestry and agroforestry areas and number of communities that will directly benefit from enhanced climate resilience through as a combined effect of policy changes, on-the-ground adaptation implementation and knowledge management activities. Success of the project will be measured through the integration of climate risk planning into key forestry-sector policies and plans, and the capacity built within government institutions and communities throughout the mainstreaming and demo implementation process. Indicators for the demo outcome will measure the number and type of on-the-ground measures implemented in the target villages and protected forestry areas. The success of knowledge management efforts will be measured through the volume and type of knowledge products developed and disseminated at the national, regional and global level, facilitating the exchange of project experiences. Objectives and outcome indicators and targets are provided in

the Project Results Framework in Section 3. Key risks and assumptions are summarized in the UNDP Risk Log in Annex 7.

2.6 Cost-effectiveness

87. Strengthening the resilience of communities dependent on forestry and agro-forestry resources has been identified across various priorities through the process of developing Samoa's NAPA through which alternatives have been considered and consensus was built on priority areas and actions. The mainstreaming of climate risks into policy frameworks proposed in the project is embedded into planned policy review and development processes (review of the National Policy on Sustainable Forest Management, and development of the National Forest Sector Plan), and based on existing institutional structures and process, thus offering a cost-effective alternative for climate change mainstreaming efforts. The project builds on ongoing climate change adaptation efforts, especially considering the CLEWS and climate-information services tailored to forestry sector, further strengthening capacity and technological based of the Samoan Meteorological Service, building on the process initiated through the ICCRAHS project, also funded by LDCF.
88. The demo activities proposed in the project treat the lowland agro-forestry and upland native forestry areas in an integrated way, with the principle approach of enhancing livelihoods in lowland areas, in order to prevent encroachment and unsustainable use of upland native forests. An alternative way of enforcing protection of native upland forests is to increase field capacity, patrolling and enforcement functions of the Forestry Division, but it can be argued that it is less cost-effective, given the high costs involved in maintaining and equipping a largely extended field staff that should patrol large and difficultly accessed forest areas. Investing in this approach will still not resolve the root causes of vulnerability, which is increasing pressure on forestry resources by adjacent communities. Without the active engagement of communities in collaborative actions providing livelihood incentives, the problems will remain.
89. The project places emphasis in providing incentives to communities for forestry conservation, in form of raising awareness on options and create linkages with related initiatives (e.g. ecotourism, Payment for Ecosystem Services approaches, REDD+ Readiness). There have been a number of CBCAs established in Samoa (including one at Laulii village, within the North-Upolu demo site), but experience shows that these mostly exist on paper, and their management is ineffective or non-existence, due to the lack of comprehensive management plans that would involve incentives for community collaboration and maintenance of these protected areas.
90. The introduction of climate resilient crop and tree species, enhanced agro forestry techniques with value added and energy crops, and enhanced grazing area and livestock management, will be carried out with the active engagement of international and regional specialized agencies (such SPC and FAO), as well as national NGOs, with proven experience in introducing and maintaining such techniques to communities in the Pacific and in Samoa. For example, the Samoan NGOs METI and Women in Business have successfully introduced bamboo intercropping techniques and organic farming systems to a number of communities and families, and the project will further build on these experiences, through integrating climate risk factors and tailoring to the project sites. SPC, through its Centre for Pacific Crops and Trees (CePaCT) has a long-standing experience with plants suited to different environmental and climatic conditions in the region, and will

be engaged in the technical activities and related capacity building of the project, linked with their Samoa Country Programme Strategy.

91. Integration of climate risk into forestry and land use planning processes, being informed by tailored climate information services will reduce physical exposure to climate risks in a cost-effective way, and help avoid the additional costs that are resulting from mal-adaptive land use, forestry and agro-forestry practice.
92. At the operational level, cost effectiveness of the project is reflected through the following characteristics:
 - Throughout the project, LDCF resources will be aligned with the financing and delivery of project Outputs that have competitive procurement components to ensure best value for money. In this regard, the programme will apply best practices identified by other, ongoing climate change adaptation projects in Samoa (e.g. ICCRAHS, PACC, SGP-CBA). An example is the procurement of additional equipment, hardware, software and related services for the extension of CLEWS for the forestry sector, based on recent and ongoing processes undertaken through the ICCRAHS project.
 - This project will utilize existing government structures and processes for implementation, such as forestry and agriculture extension services, procedures of the Internal Affairs Division of MWCSD coordinating with village leaders, and engagement of local village governance structures (Matais –chiefs, the Pulinuu – government representative, Women's groups representatives), as initiated through the PPG phase. By building on existing government and institutional structures, the programme will also harness in-kind support and contributions from offices at the national and local levels (office space, staff time, communications, etc.)
 - The project will be closely built on existing baseline programmes of line agencies, and harness existing delivery mechanisms (national and local project teams and coordination mechanisms)
 - The bulk of programme financing will be directed to community-level activities and connect directly to local opportunities for the procurement of goods and services.

2.7 Sustainability and Replicability

93. The project was designed through close consultation with key stakeholders (see section 2.9 and Annex 5: Community Consultations Feedback). It has the full support of GOS and other key stakeholders as it addresses urgent and immediate adaptation priorities identified through the NAPA. The project is strongly anchored in several major national policies and programmes; the proposed sectoral policy and plan reviews, enhanced climate information system, related training of policy makers and planners is designed in way to archive systemic changes with a view to build long-term institutional capacities. The policy changes and institutional capacities built will create an enabling environment that can facilitate the replication of agroforestry and forestry adaptation plans developed and the locally designed adaptation measures implemented in other rural areas and communities of Samoa.
94. Part of the institutional strengthening strategy is the establishment of village and district level committees in the demo areas, and the active involvement of grassroots organizations and programmes (METI, WIBDI, FSA, Community Forestry

Programme by FD) and their networks in the project implementation, to ensure maintenance and replication of project results amongst communities.

95. The sustainability of the climate-resilient forestry and agroforestry techniques will be pursued within the development and implementation of comprehensive lowland agroforestry and upland native forestry adaptation plans, anchored into protected areas and land use management processes. These adaptation plans will have as integral part the setting up of incentives and business models, promoting linkages with market based climate finance approaches (such as the REDD+ Readiness Programme for the Pacific), as well as promoting enhanced livelihood options and small local business, through introducing value added crops and trees and linking with initiatives supporting local agroforestry processing businesses (e.g. Samoa Agroforestry Project). The demo areas selected are representatives to other rural communities of Samoa, in terms of exposure, vulnerability, existing pressures due to unsustainable and ineffective agroforestry and forestry practices; therefore the techniques to be introduced in the demo areas and the experience generated will have high replicability in other watersheds and protected areas of the country.
96. The continuation and replication of adaptation measures will be ensured also through incorporating them in the budgetary planning related to the National Forestry Sector Plans to be developed. Another important vehicle will be the farmers' networks (METI, WIDBI, SFA, FD Community Forestry Programme) through their constant membership, management structures and support activities.
97. Outcome 3 dealing with knowledge management has been designed as key part of the sustainability and replicability strategy of the project, through systematically documenting and disseminating good practices, linking with education institutions and programmes, securing broad dissemination of project results and the transmission of know-how and experience to next generations of community practitioners, government planners and policy makers.

Part III: Project Results Framework

<p>This project will contribute to achieving the following Country Programme Outcome as defined in CPAP or CPD:</p> <p>4.1.1. & 4.2.1 The environment-economic-governance nexus demonstrated through community-based natural resource management and use that supports implementation of gender-sensitive national policies as well as the mainstreaming of environment into national plans.</p>
<p>Country Programme Outcome Indicators:</p> <p>4.2.1.1.1 Indicator: Participatory Rural Appraisals (PRAs) conducted which contribute to village visions and human development profiles on population retention, income generation and sustainable livelihoods.</p> <p>4.2.2.1.1 1 Indicator: Increased number of village sustainable development activities addressing climate change and environmental challenges including natural disasters.</p>
<p>Primary applicable Key Environment and Sustainable Development Key Result Area: Promote climate change adaptation</p>
<p>Applicable SOF Strategic Objective and Program: Least Developed Countries Fund (LDCF)</p>
<p>Applicable SOF Expected Outcomes: N/A</p>
<p>Applicable SOF Outcome Indicators: N/A</p>

Project Goal	Integration of climate change risk and resilience into forestry management in Samoa.				
	Indicator	Baseline	Target	Sources of verification	Risks and Assumptions
<p>Project Objective³³: Increase the resilience and adaptive capacity of Samoa's forest areas and communities reliant on Samoa's forestry resources.</p>	<p>Ha of increase in forest coverage in upland forestry areas composed by climate resilient native species³⁴</p> <p>Ha of increase in forest coverage in lowland</p>	<p>To be defined through the update of SamFRIS during 1st year of the project</p>	<p>To be defined according to the baseline to be set up during 1st year of the project</p>	<p>SamFRIS aerial survey and ground-truthing of sample plots³⁷.</p> <p>Calculation of planted and rehabilitated area based on</p>	<p>Major climate-induced hazards (e.g. drought, forest fires, cyclones) does not cause mayor damage to the targeted forestry areas</p> <p>Project stakeholders are able to perceive</p>

³³ Objective (equivalent to Atlas output) monitored quarterly ERBM and annually in APR/PIR

³⁴ Native species involve tree species such as Pometia pinnata (tava), Terminalia richii (malili), Syzygium inophylloides (asi toa), Calophyllum neo-ebudicum (tamanu) and Intsia bijuga (ifilele), Canaga odorata (mosooi), as well as shrubs, such as matalafi, masame. The forest restoration activities (like facilitating natural regeneration through control of invasive species, replanting native species) will aim at least 80% in composition of native species.

Project Goal	Integration of climate change risk and resilience into forestry management in Samoa.				
	Indicator	Baseline	Target	Sources of verification	Risks and Assumptions
	<p>forestry areas composed by climate resilient and high-value species³⁵</p> <p>Number of farmer organizations/networks and farmers in Samoa who have increased their adaptive capacity through a) implementing forestry and agroforestry adaptive measures b) receiving climate information services on a regular basis and c) receiving information on good adaptive practices and participating in knowledge sharing activities</p>	<p>Rural communities in Samoa lack the capacity to integrate climate-resilient management techniques into their forestry use and agroforestry management practices</p>	<p>By the end of the project</p> <p>a) 4 farmers' organizations/networks (METI, WIDBI, SFA, FD Community Forest Programme) and at least 1000 farmers in the 26 pilot villages are implementing adaptive practices</p> <p>b) at least 2000 farmers are receiving climate and forestry information services on a regular basis</p> <p>c) at least 3000 farmers receiving information on good adaptive practices and participating in knowledge sharing activities³⁶</p>	<p>number of seedlings used and spacing of planting.</p> <p>Field visits, surveys, inspections and reports</p> <p>Assessment s and technical reports on adaptation measures implemented</p> <p>Training reports and Qualitative-based surveys (QBS)</p> <p>GIS based information on</p>	<p>reductions in vulnerability over the time-scale determined by project duration</p> <p>Institutional linkages between agencies involved in the project and other relevant ministries and NGOs is functional and supportive</p> <p>Strong communication and information links with rural communities are built and sustained by the Government and NGOs</p>

37 There were 544 sample plots (size: 100X20 meters each) established for the 2004 ground survey for SamFRIS. There is detailed information on species composition and forest coverage on each plot. These plots will be used in the 2010 update, and will be adjusted or further plots established to monitor the 3 project demo sites.

35 *Flueggea flexuosa* (poumuli) and *Swetenia macrophylla* (Brazilian mahogany), *Tectona grandis* (teak), *Santalum* spp (sandalwood and *Bambusa* spp (bamboo)

36 Targets are based on information on n. of households (one farmer per household) in the 26 pilot villages (as per CBS Census 2006) , n. of members of 4 participating farmers' organizations/networks (METI, WIDBI, SFA, FD Community Forest Programme)

Project Goal	Integration of climate change risk and resilience into forestry management in Samoa.				
	Indicator	Baseline	Target	Sources of verification	Risks and Assumptions
				status of forests (SAMFRIS) End of project evaluation report	
Outcome 1³⁸: Climate risk and resilience integrated into lowland agroforestry and upland native forestry policies, strategies and management techniques	<p>National Policy on Sustainable Forest Management and Forestry Management Bill revised to integrate CC risks, and new National Forest Plan and Forest Fire Prevention Strategy developed with adaptation options incorporated</p> <p>Existence of forestry and climate information tools</p> <p>Number of government officers and farmers regularly receiving climate early warning and forestry information services</p>	<p>Forestry policy frameworks do not integrate climate risks</p> <p>SAMFRIS is outdated and does not include only limited climate info. CLEWS is not tailored to the forestry sector</p> <p>Officers and end users does not receive tailored climate and forestry information supporting forestry and agroforestry practices</p>	<p>By the end of year 2 the NPSFM is revised and based on that a new National Forestry Sector Plan and Forest Fire Prevention Strategy developed. By the end of year 3 the Forest Management Act revised to reflect the policy changes.</p> <p>By the end of year 2, SamFRIS is updated with climate information integrated from forestry tailored CLEWS</p> <p>By the end of year 3 at least 50 officers (including FD, MDEC, MAF, MET Division and their extension officers and local representatives) and at least 2000 farmers (at pilot villages and through farmers' organizations) receiving climate early warning and forestry information services</p>	<p>National forestry policy documents and management plans</p> <p>Forestry climate reports including CLEWS procedures and information products</p> <p>Revised SAMFRIS</p> <p>Training workshop reports</p>	<p>Officers and communities are receptive and collaborative for the CLEWS to be expanded to the forestry sector and its application is supported with good communication at the different levels</p> <p>Appropriate staff members are selected for training by their ministries and staff turnover does not negate training benefits</p> <p>Competing mandates and lack of coordination between relevant government</p>

³⁸ Outcomes (equivalent to ATLAS activity) are monitored annually in the APR/PIR.

Project Goal	Integration of climate change risk and resilience into forestry management in Samoa.				
	Indicator	Baseline	Target	Sources of verification	Risks and Assumptions
					department does not delay policy review and approval process.
Outcome 2 Climate resilient agro-forestry and forestry techniques are demonstrated in lowland and upland areas	<p>Existence of climate-sensitive management plans in the NPs and CBCA</p> <p>N. of district level committees established and functioning</p> <p>Number of farmers participating in climate-resilient landuse and forestry planning</p>	<p>Currently there are no management plans for the Lake Lanotoo and Mauga o Salafai NPs.</p> <p>There was a past attempt to establish a CBCA only at Laulii village, only exist in paper and</p>	<p>By the end of year 2 climate-sensitive management plans are prepared for the Lake Lanotoo, Mauga o Salafai NPs, and a CBCA established with similar management plan for the upland areas of the 14 villages between Laulii-Falevao</p> <p>By the end of year 1, 3 district-level committees established at village adjacent to Lake Lanotoo and Mauga o Salafai NPs and at community demo area between Laulii-Falevao villages, involving village leaders, gov. officials and NGO reps.</p>	<p>Project progress reports</p> <p>Formal M&E protocols of the project</p> <p>Forestry Management Plan documents</p> <p>Evaluation reports</p>	<p>Communities are receptive and supportive of adaptation measures</p> <p>Networks between national organizations exist and local communities providing training and management support for project initiation are built and sustained</p>

Project Goal	Integration of climate change risk and resilience into forestry management in Samoa.				
	Indicator	Baseline	Target	Sources of verification	Risks and Assumptions
	processes, and n. of farmers implementing adaptive forestry and agroforestry practices	<p>dysfunctional</p> <p>Currently the only protected area with a committee involving adjacent villages is at the O le Pupu Pue NP in Samoa</p> <p>Communities currently lack awareness, physical and financial resources and leadership to anticipate climate change risks and implement adaptive solutions</p>	By end of the year 2 at least 1500 farmers participating in climate-resilient land-use and forestry planning processes, and by the end of the project at least 1000 farmers are implementing adaptive agroforestry and forestry practices in the participating 26 pilot villages	<p>Communities feedback on utility of demonstration project through meetings and interviews</p> <p>Field evaluations on demo plots</p>	<p>Extreme climatic effects and changing environmental conditions do not harm adaptation efforts</p> <p>Climate-resilient trees and crops suitable for lowland agroforestry in Samoa are available and affordable.</p>
Outcome 3: Project knowledge and lessons learned are captured, analyzed and disseminated	<p>Number of knowledge management products generated and disseminated</p> <p>Number of farmers receiving tailored knowledge management products on good adaptive practices and participating in</p>	The analysis and dissemination of adaptation lessons learnt is very fragmented and limited to a number of incipient projects	<p>Starting from year 2 of the project, at least 5 lessons learned and best practices consolidated every year in form of case studies, experience notes, brochures, photo stories or audio-visual materials and disseminated directly to communities and through appropriate media</p> <p>By the end of the project at least 1500 farmers in the pilot villages, and 1500 farmers involved in farmers' organizations/networks receive knowledge</p>	<p>KM products</p> <p>Community feedback on the usefulness of awareness and technical information materials (interviews, surveys)</p>	<p>Project stakeholders are willing to collaborate in sharing and analyzing honestly their experience, including challenges and lessons learnt.</p> <p>Urgent administrative and technical project tasks do not distract</p>

Project Goal	Integration of climate change risk and resilience into forestry management in Samoa.				
	Indicator	Baseline	Target	Sources of verification	Risks and Assumptions
	<p>knowledge sharing activities.</p> <p>Number of national, regional or international events and platforms, where project experience is presented</p>		<p>products and participate in knowledge sharing activities.</p> <p>Project experience and KM materials are presented in at least 2 national workshops, 2 regional events, and in at least 2 international web-based platforms</p>	<p>Project documents and reports</p> <p>Meeting reports, web site contents</p>	<p>project team in collating and communicating project experience.</p> <p>Managers of regional and international events and web platforms are supportive to receive and portray project experience.</p>

Part IV: Total Budget and Workplan

AWARD ID: 00061539					PROJECT ID: 00077990						
AWARD TITLE:	Integrating Climate Change Risks & Resilience into Forestry Management in Samoa										
BUSINESS UNIT:	WSM10										
PROJECT TITLE:	Integrating Climate Change Risks & Resilience into Forestry Management in Samoa										
PIMS#:	4318										
IMPLEMENTING PARTNER (EXECUTING AGENCY)	Ministry of Natural Resource & Environment (MNRE)										
SOF (e.g. GEF) OUTCOME/ATLAS ACTIVITY	Responsible Party/ Implementing Agent	Fund ID	Donor Name	Atlas Budgetary Account Code	ATLAS Budget Description	Amount Year 1 (USD)	Amount Year 2 (USD)	Amount Year 3 (USD)	Amount Year 4 (USD)	Total (USD)	See Budget Note:
OUTCOME 1: CLIMATE RISK & RESILIENCE INTEGRATED INTO LOWLAND AGROFORESTRY & UPLAND NATIVE FORESTRY POLICIES STRATEGIES & MANAGEMENT TECHNIQUES	MNRE	62160	LDCF	71200	International Consultants	109,000	92,000	68,000	26,000	295,000	a
				72200	Equipment (CLEWS)	50,000	0	0	0	50,000	b
				71300	Local consultants	9,000	8,000	8,000	5,200	30,200	c
				75700	Workshops and trainings	1,000	1,000	1,000	1,000	4,000	d
				71600	Travel	3,000	3,000	3,000	1,500	10,500	e
				72500	Supplies	1,000	1,000	1,000	1,000	4,000	f
				74200	Audiovisual & Print Production Costs	1,500	1,000	1,000	1,000	4,500	g
				Total Outcome 1		174,500	106,000	82,000	35,700	398,200	
OUTCOME 2: CLIMATE RESILIENT AGRO-FORESTRY & FORESTRY	MNRE	62160	LDCF	72100	Contractual services	85,000	85,000	85,000	85,000	340,000	h
				71200	International Consultant	40,000	40,000	54,500	44,000	178,500	i

TECHNIQUES ARE DEMONSTRATED IN LOWLAND & UPLAND AREAS				71300	Local consultants	32,700	32,700	32,700	32,700	130,800	j
				75700	Workshops and trainings	44,250	44,250	44,250	44,250	177,000	k
				71600	Travel	24,000	24,000	24,000	24,000	96,000	l
				72200	Equipment	215,000	75,000	75,000	75,000	440,000	m
				72300	Materials and goods	60,000	60,000	60,000	60,000	240,000	n
				74200	Audiovisual & Print Production Costs	11,000	11,500	11,500	14,000	48,000	o
OUTCOME 3: PROJECT KNOWLEDGE CAPTURED, DISSEMINATED & REPLICATED	MNRE	62160	LDCF	Total Outcome 2		511,950	372,450	386,950	378,950	1,650,300	
				71200	International Consultant	0	12,000	12,000	0	24,000	p
				71300	Local consultant	10,500	10,500	10,500	10,500	42,000	q
				75700	Workshops and trainings	3,500	3,500	3,500	2,000	12,500	r
				74200	Audiovisual & Print Production Costs	3,000	3,000	2,500	2,500	11,000	s
				71600	Travel	2,000	6,000	6,000	2,000	16,000	t
				72500	Office Supply	1,500	1,500	1,500	1,500	6,000	u
				Total Outcome 3		20,500	36,500	36,000	18,500	111,500	
OUTCOME 4: PROJECT MANAGEMENT	MNRE	62160	LDCF	71300	Local consultant	43,750	43,750	43,750	43,750	175,000	v
				71600	Travel	7,500	7,500	7,500	7,500	30,000	w
				72200	Equipment & Furniture	15,000	0	0	0	15,000	x
				72500	Office Supplies	5,000	5,000	4,000	3,000	17,000	y
				74100	Professional services	0	3,000	0	0	3000	z
				Total Management		71,250	59,250	55,250	54,250	240,000	
LDCF PROJECT TOTAL						778,200	574,200	560,200	487,400	2,400,000	

**Summary of
Funds:**³⁹

	Amount Year 1	Amount Year 2	Amount Year 3	Amount Year 4	TOTAL Y1-Y4
LDCF	778,200	574,200	560,200	487,400	2,400,000
Government of Samoa	125,000	125,000	125,000	95,000	470,000
AusAid	312,500	312,500	312,500	312,500	1,250,000
SPC	3,750	3,750	3,750	3,750	15,000
JICA	187,500	187,500	187,500	187,500	750,000
CI	5,000	0	0	0	5,000
UNDP	10,000	10,000	10,000	10,000	40,000
TOTAL	1,421,950	1,212,950	1,198,950	1,096,150	4,930,000

Budget Note	Description of cost item
	OUTCOME 1:
a.	Output 1.1, 1.4 Forestry Policy and Planning Specialists @\$3000/week for 17.5. Output 1.2 Climate Early Warning System Specialist, equivalent 69 weeks input @ 3000/week for. Output 1.2 Soil Resources Information Specialist @\$3000/week for 11.5 weeks. See ToRs in Annex 1 and detailed task list for CLEWS in Annex 6
b.	Output 1.2 Automated weather stations to be installed at project demo forest areas, hardware for data base management
c.	Output 1.2 GIS technician for SamFRIS @ \$650/week for 24 weeks Output 1.3 Forest Fire Prevention Specialists @ \$650/week for 24 weeks. See ToRs in Annex 1

³⁹ Summary table should include all financing of all kinds: GEF financing, cofinancing, cash, in-kind, etc...

d.	Workshops and consultations to gather information for forestry policies and strategies development, training on climate information and policy issues
e.	International travel to Samoa by international consultants, local travel in Upolu and Savaii islands by international and national consultants, project team and technical specialists for CEWS installation and ground-truthing tasks.
f.	Supplies for training workshops and consultations
g.	Audiovisual & Print Production costs related to communication, advocacy and training including: revised forest fires prevention strategy and manual, revised policy documents, climate information guides, manuals and reports
	OUTCOME 2
h.	Output 2.1 Contractual services with national NGOs (METI, WIDBI, SFA). See ToR in Annex 1
i.	Output 2.1 Agro-forestry specialist @\$3000/week for 23 Output 2.2 Ecosystem-based Adaptation and Protected Areas expert @\$3000/week for 23.5 weeks. 2 International expert's fee @3,000/week for 14 weeks for the mid-term evaluation end of Year 2 and for the terminal evaluation in Year 4. USD 10,000 allocated for their travel and DSA. See ToRs in Annex 1
J.	Outputs 2.1 and 2.2: 2 technical officers; 1 for agro-forestry & 1 for native forestry @\$220/week for 192 weeks; (USD\$84,000). Outputs 2.1 and 2.2 Community project field assistants at the village level, 26 persons (one per pilot village) @\$120USD/week and 15 weeks per person, 390 men-week in total See ToRs in Annex 1.
K.	Trainings and workshops to demonstrate CC resilient agro-forestry techniques, use of climate information services at the 26 pilot villages
L.	Travel costs by boat between Upolu and Savaii Islands to establish and monitor pilot sites in 26 villages around Samoa. The travel budget will support frequent visitation by the project staff, government counterparts, technical experts and consultants to all 26 pilots sites that are widely spread out the country.
m.	Equipment: USD\$70,000 - 2 vehicles to facilitate access to pilot areas for demo activities by project team, experts and NGOs partners and transport of materials. Government will provide fuel and maintenance costs. USD\$260,000 – Tools: wheelbarrow, spades, planting fork, crowbar etc.(USD\$10k per village- 26 villages); USD\$40,000 - NP: 10,000 per year
n.	Materials & Goods: materials for planting, access and monitoring trail maintenance at demo sites, USD\$208k - 8k per village; USD\$32k – National Parks
o.	Audio visual& Print Production costs: Signage (village demo sites, NP areas, trails)
	OUTCOME 3
p	Outputs 3.1. and 3.2 Knowledge Management and Communications Specialist @3,000/week for 8 weeks. See ToR in

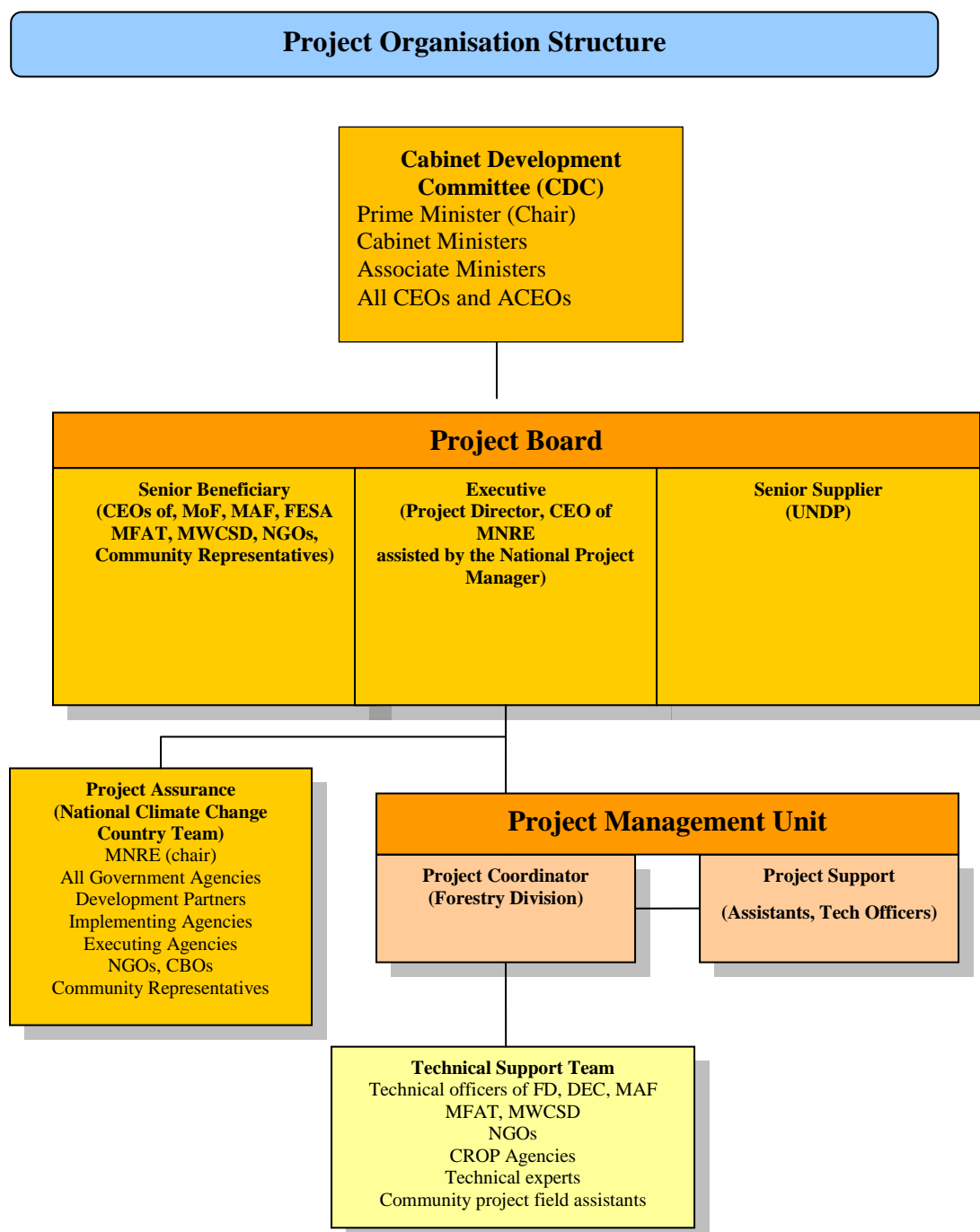
	Annex 1
q.	Outputs 3.1, 3.2, 3.3 Communication and knowledge management officer @\$220/week for 192 weeks. See ToR in Annex 1
r.	Workshops & training to share and disseminate knowledge captured & Inception Workshop in year 1.
s.	Audiovisual & Print production costs: Knowledge management materials and products – brochures, posters, DVDs, media materials, etc
t.	Travel costs: organizing exchange site visits between demo areas and pilot villages in Samoa, organizing a study tour for project staff and key community representatives visiting relevant project sites and organizations in 2 Pacific Island Countries, sharing of project results in relevant regional events related to forestry management and climate change adaptation.
u.	Office Supplies such as stationeries (inks cartridge, papers, etc)
	Project Management
v.	PMU: a) 1 National Project Coordinator @\$750/week for 192 weeks; b) 1 Administrative Assistant @\$162/week for 192 weeks. See ToRs in Annex 1.
w.	Travel for senior PMU staff for preparatory and monitoring visits to demonstration villages between Upolu and Savaii islands including initial stakeholder consultations in Year 1. Includes 3 visits/per village/year.
x.	2 laptops, 1 printer and fax machine and office furniture for Project Coordinator and Assistant.
y .	Office supply - stationeries
z.	Nim audit in year 2.

PART V: Project Management Arrangements

98. The project will be implemented over four years beginning in February 2011, with MNRE as the Executing Agency (EA) and its Chief Executive Officer (CEO) as the Project Director (PD). The UNDP will serve as the GEF Implementing Agency (IA). MNRE and UNDP will jointly monitor and evaluate all project activities. The project will be governed in accordance with the Guidelines, GEF Rules and Procedures and GoS operational principles.
99. Establishing an effective project management structure is crucial for the ICCRIFS's success (see Figure 8). At the national level, the CDC is the highest-level decision-making authority and the highest overseeing body for all development projects. It is chaired by the Prime Minister, with membership comprising all Cabinet Ministers and Associate Ministers, GoS CEOs and Assistant Chief Executive Officers (ACEOs). The CDC must approve all new projects and endorse all progress reports as provided by the Project Board.
100. As project EA, the MNRE will have responsibility for facilitating project coordination with other relevant ministries and stakeholders in Samoa. The EA will ensure the timely and effective delivery of project outputs and the proper use of project resources and will appoint the Project Manager (PM) responsible for overall project management, and will have direct control over the agroforestry and native forestry aspects of the project. The PM will be responsible for delivery of outputs as indicated in the Strategic Results Framework (SRF), as well as the management of project information as appropriate. In addition the PM will ensure provision of high-quality expertise and inputs to the project and also be responsible for day-to-day operations.
101. The EA will also appoint the Project Coordinator (PC) who will be responsible for the overall planning and implementation of the project, coordination with the PM and other stakeholders and for the preparation of reports (including financial reports) to UNDP and the Project Board (PB). The PC will be responsible to PM for the effective implementation of the project. As far as possible the PC will give due consideration to previous and on-going projects, as well as studies and reports relating to the forestry-related management tools.
102. National Climate Change Country Team (NCCCT): The Project Assurance Body (PAB) is the existing NCCCT. It is the highest overseeing body at the project level for all climate change projects and will ensure that the ICCRIFS project is aligned with the GoS's broader climate change, environmental and development objectives, as well as being complementary to the achievement of the MDGs. It usually meets at least 2-3 times per year, chaired by the CEO of MNRE. Other members of the NCCCT will include all the CEOs of Government ministries and corporations, development partners, and representatives of IAs, EAs, NGOs, private sector and communities.
103. The Project Board will be responsible for making executive management decisions related to the project. It will comprise the Chief Executive Officer (CEO) of MNRE, who will chair the PB, the UNDP as Senior Supplier (representing the interests of the parties concerned which provide funding and/or technical expertise to the project) to provide guidance on the technical feasibility and support of the project. CEOs of MoF, MAF, FESA, MFAT, MWCSO, NGOs, and Community Representatives (Chairs of District-level Committees to be established at the 3 demo sites) will act as the Senior Beneficiary to ensure the realization of project benefits from the beneficiaries' viewpoint. The PB shall provide guidance to the Project Manager (PM) when needed, including proposing project revisions. The PM will be the Assistant CEO, Forestry (ACEOF) of MNRE and will be responsible to the PD. Reviews will be undertaken by the PB at designated decision points during the running of the project, or as necessary when raised by the PM. These will help ensure quality programming occurs. The PB is also consulted by the PM for decisions when project tolerances have been exceeded.

The PB will meet at least once per quarter. It will be the main decision-making body of the project. The work of the PB will be guided by the continuous review, alignment and approval of Annual Work Plans (AWPs), which will be endorsed by the Implementing Partners (MNRE and MAF) and UNDP. The approved annual and quarterly work plans will be the instruments of authorization through which the PM will deliver results.

Figure 12 – Project Organization Structure



104. Project Management Unit (PMU):

- 1 PC,
- 1 Technical Officer, Agroforestry (TOAF),
- 1 Technical Officer, Native Forestry (TONF), and
- 1 Office Administrative Assistant (OAA)
- 1 Communication and Knowledge Management Officer (CKMA)

105. The EA will provide office space with basic amenities (such as electricity and water) for the PMU including the TST. PMU staff will be funded by the project throughout its duration to ensure delivery of results as specified in the SRF. The PC will be responsible for delivery of outputs as indicated in the SRF; and channeling the flow of results and knowledge from the project to the PB and relevant project stakeholders as appropriate. In addition the PC will ensure provision of high-quality expertise and inputs to the project and also be responsible for day-to-day operations.

106. The Technical Support Team (TST) will consist of Technical officers of relevant Department and Ministries (FD, MAL, DEC, MFAT, MWCSD), NGOs, CROP Agencies, as well as the technical experts hired by the project.

107. The Technical Support Team (TST) will consist of Technical officers of relevant Departments and Ministries (FD, DEC, MAF, MFAT, MWCSD), NGOs (METI, WIDBI, Farmers' Association), CROP Agencies (SPC, SPREP), the community project field assistants, as well as the technical experts hired by the project.

108. In order to ensure effective implementation of the community-based adaptation measures, community coordinators will be appointed in the pilot villages, and district and inter-district committees will be set up in the 3 demo areas, involving village representatives (chiefs, women and youth groups), government representatives (national and village level), as well as NGOs active in the areas.

Terms of Reference for Key Project Groups, Staff and Sub-contracts can be found in Annex 1.

109. Financial Arrangements:

MNRE will Be responsible for the financial control of the project through UNDP;

- Sign-off on all budget and work-plan revisions and maintain project accounts and financial responsibility;
- Work with the project and assume responsibility for entering into necessary work arrangements with other national, state and regional organizations for efficient and effective project implementation;
- Support the project by providing guidance and authority to engage services consistent with the objectives of the project; and
- Receive advances equivalent to the financial needs of the project as indicated in the quarterly work plans provided.

110. Funds will be released to the MoF, who will be responsible for the initial warrant and disbursement of funds in accordance with the work plan and the project document. Further cash advances will be contingent upon timely reporting of expenditure by the MNRE to the UNDP-CO, Samoa.

Part VI: Monitoring Framework and Evaluation

111. Project M&E procedures will be designed and conducted by the project team and the UNDP-CO, in accordance with established GoS and UNDP-GEF procedures. The Project Results Framework in Part III contains objectives and outcomes level indicators for evaluating project implementation, along with their corresponding means of verification. These provide the basis on which the project's M&E system will be built.
112. Audit on project will follow UNDP audit policies and UNDP Financial Regulations and Rules.
113. The following sections outline the principal components of the M&E Plan. Indicative cost estimates related to M&E activities are shown in Table 3.

Table 3: Indicative Monitoring and Evaluation Work Plan and Corresponding Budget

Type of M&E activity	Responsible Parties	Budget US\$ excluding project team staff time	Timeframe
Inception Workshop (IW)	Project Manager (PC) UNDP Country Office (CO) UNDP-GEF Regional Coordination Unit (RCU)	\$5,000	Within first two months of the appointment of PD and Project Manager
Inception Report	Project Manager (PM) and PMU staff UNDP CO	None	Immediately following IW
Measurement of Means of Verification for Project Purpose Indicators	PC under close supervision of PD will oversee the hiring of specific institutions and delegate tasks and responsibilities to relevant PMU members	To be finalized in Inception Phase and Workshop.	Start, mid and end of project
Measurement of Means of Verification for Project Progress and Performance (measured on an annual basis)	Project Board (PB) chaired by CEO of MNRE PB with overseeing by UNDP-CO and PD; Measurement of progress conducted by MNRE, MWCSO and MAF	To be determined as part of the Annual Work Plan's preparation.	Annually prior to Annual Project Report and Project Implementation Review and upon completion of the implementation of the annual work plans
Annual Project Report (APR) and Project Implementation Review (PIR)	PC and PMU staff UNDP-CO UNDP-GEF	None	Annually
Tripartite Review (TR) and Terminal Tripartite Review (TTR) Reports	GEF Operational Focal Point UNDP-CO PC	\$5,000	Every year, upon receipt of APR
PB Meetings	PC PB Members UNDP-CO	\$1000	Following Project IW and subsequently at least once a year
Annual status reports /seminar /workshop	PC and PMU staff	\$5,000	To be determined by Project Team and UNDP
Technical reports/	MNRE, FD, MWCSO, MAF, PM and	\$10,000	To be determined

knowledge and advocacy material	PMU staff, UNDP External consultants as needed		by Project Team and UNDP
Mid-term External Evaluation	PC and PMU staff UNDP-CO, UNDP-GEF RCU, External Consultants (i.e. evaluation team)	\$25,000	At the mid-point of project implementation.
Final External Evaluation	PC and PMU members UNDP-CO UNDP-GEF RCU External Consultants (i.e. evaluation team)	\$25,000	At the end of project implementation
Lessons learnt and shared at international level	PMU and UNDP	Will cover from Outcome 3	Yearly
Audit	MoF and UNDP	\$ 3000	Yearly
Visits to field sites (UNDP staff travel costs to be charged to IA fees)	UNDP-CO UNDP-GEF RCU (as appropriate) PB Members	n/a, financed through IA fees	Yearly
TOTAL INDICATIVE COST Excluding project team staff time and UNDP staff and travel expenses		\$USD 79,000	

Monitoring and Reporting

Project Inception Phase

114. Work Plans and Progress Reports: Annual and quarterly work plans will be the main management instruments governing the implementation of the project. The project will prepare an AWP with well-defined result indicators, using the standard format for UNDP-supported projects. AWP's will be appraised and endorsed by the PD/MNRE and UNDP. Quarterly work plans will also be prepared, consistent with the AWP's. Upon approval, the annual and quarterly work plans will be an instrument of authorization to the PC for implementation of the project. Human resources mobilization and procurement plans will be added to the AWP as annexes and be subject to review and endorsement by the PD and UNDP.
115. A Project Inception Workshop will be conducted, with participation of the PD, PM, PC, MNRE and other relevant ministries and implementing partners of the PB, co-financing partners, the UNDP-CO and representation from the UNDP RCU, as well as UNDP Headquarters, as appropriate. The results of the Inception Workshop will be documented in an IR.
116. A fundamental objective of this Inception Workshop will be to finalize preparation of the project's first operational AWP on the basis of the project's SRF. This will include reviewing the SRF (indicators, means of verification, and assumptions) and imparting additional details as needed. On the basis of this exercise, the AWP will be finalized with precise and measurable performance indicators, and in a manner consistent with the expected outcomes for the project.
117. Additionally, the purpose and objective of the IW will be to: (i) introduce project staff to the UNDP-GEF expanded team which will support the project during its implementation, namely the UNDP-CO and responsible RCU staff; (ii) detail the roles, support services, and complementary responsibilities of UNDP-CO staff vis à vis the Project Team; (iii) provide a detailed overview of UNDP-GEF reporting and M&E requirements, with particular emphasis on the annual PIRs and related documentation,

the APR, TR Meetings, as well as mid-term and final evaluations. Equally, the IW will provide an opportunity to inform the Project Team on UNDP project-related budgetary planning and execution (i.e. FACE Forms), budget reviews, and mandatory budget rephrasing.

118. The IW will also provide an opportunity for all parties to understand their roles, functions and responsibilities within the project's decision-making structures, including reporting and communication lines, and conflict resolution mechanisms. The TOR for project staff and decision-making structures will be reviewed again, as needed, in order to clarify each party's responsibilities during the project's implementation phase.

Monitoring Responsibilities and Events

119. A detailed schedule of project review meetings will be developed by the project management, in consultation with project implementation partners and other stakeholders, and incorporated into the PIR. Such a schedule will include: (i) timeframes for TRs, PB Meetings, and other relevant advisory and/or coordination mechanisms; and (ii) project-related M&E activities.
120. Day-to-day monitoring of implementation progress will be the responsibility of the PC, based on the annual and quarterly work plans and associated indicators, with overall guidance from the PD. Project Team members will inform the PM and UNDP-CO of any delays or difficulties faced during implementation so that the appropriate support or corrective measures can be adopted in a timely and remedial fashion.
121. Quarterly monitoring of implementation progress will be undertaken jointly by the PC and UNDP-CO through quarterly progress and financial reports, and the meetings of the PB. This will allow parties to take stock and to troubleshoot any problems pertaining to the project in a timely fashion to ensure smooth implementation of project activities. The project's performance indicators will be fine-tuned in consultation with stakeholders at the IW, with support from the UNDP-CO and UNDP-GEF RCU. Specific targets for the first year of implementation will form part of the AWP and will be used to assess whether quarterly implementation is proceeding at the intended pace. Targets and indicators for subsequent years would be defined annually as part of the internal evaluation and planning processes.
122. Tripartite Review (TR) provides the tool for annual monitoring of the project and for international overseeing of the project and consists of the three signatories to the project document - UNDP, MNRE and the GEF Operational Focal Point. The project will be subject to TR at least once every year. The first such meeting will be held within the first twelve months of the start of full implementation. With support of the PM and PC, the PD will prepare an APR and submit it to UNDP-CO and the UNDP-GEF regional office at least two weeks prior to the TR for review and comments. The TR has the authority to suspend disbursement of funds if project performance benchmarks are not met, based on delivery rates and qualitative assessments of achievements of outputs.
123. The Annual Project Report (APR) will be used as one of the basic documents for discussions in the TR meeting. With support of the PM, the PD will present the APR to the TR, highlighting policy issues and recommendations for the decision of the TR participants. The project proponent will also inform the participants of any agreement reached by stakeholders during the APR preparation on how to resolve operational issues. Separate reviews of each project component may also be conducted, if necessary.
124. The UNDP-CO and the UNDP-GEF RCU, as appropriate, will conduct yearly visits to the project field sites (based on an agreed upon schedule to be detailed in the project's IR and AWP) to assess firsthand the project progress. Any member of the NCCCT may also accompany the visit, as decided by the NCCCT. A Field Visit Report will be prepared by the UNDP-CO and circulated no less than one month after the visit to the

Project Team, all PB members and UNDP-GEF.

125. Terminal Tripartite Review (TTR) is held in the last month of project operations. With support of the PC, the PD is responsible for preparing the TTR Report and submitting it to UNDP-CO and UNDP-GEF RCU. It shall be prepared in draft at least one month in advance of the TTR, in order to allow review, and will serve as the basis for discussions in the TTR. The TTR also considers the implementation of the project as a whole, paying particular attention to whether the project has achieved its stated objectives and contributed to the broader environmental objective. It decides whether any actions are still necessary, particularly in relation to sustainability of project results, and acts as a vehicle through which lessons learnt can be captured, to feed into other projects under implementation or formulation.

Project Monitoring Reporting

126. The PC, in conjunction with the UNDP-GEF extended team, will be responsible for the preparation and submission of the following reports that form part of the monitoring process. The following Items (a)-(f) are mandatory and strictly related to monitoring, while (g) and (h) have a broader function. Their frequency and nature is project specific, to be defined throughout implementation.

(a) Inception Report (IR)

127. The IR should address the following issues, and others deemed necessary: (i) review and finalize project institutional arrangements, including the role and responsibility of various participants for achieving the project outcomes; (ii) review and finalize project management arrangements of the project, including reporting lines; (iii) review, agree on and finalize the M&E framework for the implementation of the project; (iv) re-confirm and coordinate all co-financing sources with the project work plan; (v) review, and where necessary identify additional project risks and prepare a detailed risk management strategy for project implementation; (vi) prepare a detailed work plan for the first year of implementation and prepare a budget revision if necessary; (vii) update on progress to date on project establishment and start-up activities; and (viii) update of any changed external conditions that may affect project implementation.
128. The preliminary first draft IR will be shared with the UNDP-CO and UNDP-GEF as soon as available and before a final draft IR is to be prepared. The final draft version is to be circulated to all stakeholders at least two weeks before the IW, for discussion and endorsement at the IW. The agreed final project IR will be sent to stakeholders no later than two weeks after the national Inception Meeting. It will include a detailed First-Year AWP, divided in quarterly timeframes, detailing the activities and progress indicators that will guide implementation during the first year of the project. This AWP includes the dates of specific field visits, support missions from the UNDP-CO or RCU or consultants, as well as timeframes for meetings of the project's decision-making structures. The IR will also include the detailed project budget for the first full year of implementation and any M&E requirements to effectively measure project performance during the targeted 12 months.

(b) Annual Project Report (APR)

129. The APR is a UNDP requirement and part of UNDP-CO's central overseeing, monitoring, and project management. It is a self-assessment report by project management to the CO and provides input to the CO reporting process, as well as forming a key input to the TR. An APR will be prepared on an annual basis prior to the TR, to reflect progress achieved in meeting the project's AWP and assess performance of the project in contributing to intended outcomes through outputs and partnership work.
130. The format of the APR is flexible, but should include the following:

- An analysis of project performance over the reporting period, including outputs produced and, where possible, information on the status of the outcome;
- The constraints experienced in the progress towards results and the reasons for these;
- The three (at most) major constraints to achievement of results;
- AWP, Country Assistance Evaluation, and other expenditure reports generated;
- Assessment of whether the lessons learnt were being widely published on MNRE project websites and ALM websites and/or being reported at CCA meetings nationally and regionally; and
- Clear recommendations for future orientation in addressing key problems.

(c) Project Implementation Review (PIR)

131. The PIR is an annual monitoring process mandated by the GEF. It has become an essential management and monitoring tool for project managers and offers the main vehicle for extracting lessons from on-going projects. Once the project has been under implementation for a year, a PIR Report must be completed by the UNDP-CO, together with the PMU. The PIR Report can be prepared anytime after the review period and ideally prior to the TR. The PIR Report should then be discussed in the TR so that the result would be a PIR that has been agreed upon by the project, the executing agency, UNDP-CO and the concerned RCU.
132. The individual PIR Reports are collected, reviewed, and analyzed by the RCUs prior to sending them to the focal area clusters at UNDP-GEF headquarters. The focal area clusters supported by the UNDP-GEF M&E Unit analyze the PIR Reports by focal area, theme and region, for common issues/results and lessons.
133. The focal area PIR Reports are then discussed in the GEF Interagency Focal Area Task Forces in or around November each year, and consolidated reports by focal area are collated by the GEF Independent M&E Unit, based on the Task Force findings.
134. The GEF M&E Unit provides the scope and content of the PIR. In light of the similarities of both APR and PIR, UNDP-GEF has prepared a harmonized format for reference.

(d) Quarterly Progress Reports

135. Short reports outlining main updates in project progress will be provided quarterly to the local UNDP-CO and the UNDP RCU in Bangkok by the PMU.

(e) Periodic Thematic Reports

136. As and when called for by UNDP, UNDP RCU or project financing partners, the PMU will prepare specific thematic reports, focusing on specific issues or areas of activity. The request for a thematic report will be provided to the project team in written form by UNDP and will clearly state the issue or activities that need to be reported on. The resulting reports can be used as a form of lessons learnt exercise, specific overseeing in key areas, or as troubleshooting studies to evaluate and overcome obstacles and difficulties encountered. UNDP is requested to minimize its requests for thematic reports and, when such are necessary, will allow reasonable timeframes for their preparation by the Project Team.

(f) Project Terminal Report (PTR)

137. During the last three months of the project the Project Team will prepare the PTR. This comprehensive report will summarize all activities, achievements and outputs of the

Project, lessons learnt, objectives met, or not achieved, structures and systems implemented, etc. and will be the definitive statement of the Project's activities during its lifetime. It will also lie out recommendations for any further steps that may need to be taken to ensure sustainability and replicability of the Project's activities.

Independent Evaluations

138. The project will be subjected to at least two independent external evaluations as follows:

(g) Mid-Term Evaluation (MTE)

139. An independent MTE will be undertaken at the end of the second year of implementation. The MTE will determine progress being made towards the achievement of outcomes and will identify course correction if needed. It will focus on the effectiveness, efficiency and timeliness of project implementation; will highlight issues requiring decisions and actions; and will present initial lessons learnt about project design, implementation and management. The findings of this review will be incorporated as recommendations for enhanced implementation during the final half of the Project's term. The consultancy will be organized by the UNDP-CO and the TOR for the MTE will be prepared by the UNDP-CO, based on guidance from the RCU and UNDP-GEF.

(h) Final Evaluation (FE)

140. An independent FE will take place three months prior to the TTR meeting, and will focus on the same issues as the MTE. The FE will also look at impact and sustainability of results, including the contribution to capacity development and the achievement of global environmental goals. The FE should also provide recommendations for follow-up activities. The consultancy will be organized by the UNDP-CO and the TOR will be prepared by the UNDP-CO, based on guidance from the UNDP-GEF RCU.

Learning and Knowledge Sharing

141. Results from the project will be disseminated within and beyond the project intervention zone through existing information sharing networks and forums.

142. The project will identify and participate, as relevant and appropriate, in scientific, policy-based and/or any other networks, which may be of benefit to project implementation through lessons learned. The project will identify, analyze, and share lessons learned that might be beneficial in the design and implementation of similar future projects.

143. Finally, there will be a two-way flow of information between this project and other projects of a similar focus.

PART VI: Legal Context

144. This Project Document shall be the instrument referred to as such in Article I of the Standard Basic Assistance Agreement (SBAA) between the GoS and UNDP, signed by the parties on 5 September 2008. Samoa's IA shall, for the purpose of the SBAA, be referred to as the Government Co-operating Agency as described in that SBAA).

145. This document together with the CPAP signed by the Government and UNDP which is incorporated by reference constitute together a Project Document as referred to in the SBAA and all CPAP provisions apply to this document.

146. Consistent with the Article III of the Standard Basic Assistance Agreement, the

responsibility for the safety and security of the implementing partner and its personnel and property, and of UNDP's property in the implementing partner's custody, rests with the implementing partner.

147. The implementing partner shall:

- a) put in place an appropriate security plan and maintain the security plan, taking into account the security situation in the country where the project is being carried;
- b) assume all risks and liabilities related to the implementing partner's security, and the full implementation of the security plan.

148. UNDP reserves the right to verify whether such a plan is in place, and to suggest modifications to the plan when necessary. Failure to maintain and implement an appropriate security plan as required hereunder shall be deemed a breach of this agreement.

149. The implementing partner agrees to undertake all reasonable efforts to ensure that none of the UNDP funds received pursuant to the Project Document are used to provide support to individuals or entities associated with terrorism and that the recipients of any amounts provided by UNDP hereunder do not appear on the list maintained by the Security Council Committee established pursuant to resolution 1267 (1999). The list can be accessed via <http://www.un.org/Docs/sc/committees/1267/1267ListEng.htm>. This provision must be included in all sub-contracts or sub-agreements entered into under this Project Document.

Annexes

Annex 1 Terms of Reference for Key Project Groups, Staff and Sub-Contracts

A. National Climate Change Country Team (NCCCT)

The current NCCCT will serve for project assurance purposes, meeting 2-3 times a year or, if necessary, meetings may be held more frequently. It is the highest overseeing body at the national level body for climate change projects, chaired by the CEO of MNRE, and has the following membership:

- MNRE CEO (Chair)
- All Government Ministries and Corporations
- NGO Representatives
- Community Representatives
- Private Sector representatives
- Development Partners
- Project Implementing Agencies
- Project Executing Agencies

Responsibilities

- Ensure that climate change is efficiently and effectively addressed at all sectors, integrating climate change issues into all policies;
- Establish policies to define the functions, responsibilities, and delegation of powers for the implementing agencies and the PMU;
- Provide overall guidance on budget management and project activities;
- Facilitate coordination of project activities across institutions;
- Review project activities and their adherence to the workplan set forth in the project document;
- Take decisions on the issues brought to its notice by members
- Provide advice and guidance on efficient and timely execution of the project; and
- Initiate remedial action to remove impediments in the progress of project activities that were not envisaged earlier.

B. Project Board (PB)

Based on the approved annual work plan (AWP), the PB may review and approve project quarterly plans when required and authorizes any major deviation from these agreed quarterly plans. It is the authority that signs off the completion of each quarterly plan as well as authorizes the start of the next quarterly plan. It ensures that required resources are committed and arbitrates on any conflicts within the project or negotiates a solution to any problem between the project and external bodies. In addition, it makes the final appointments of the PC and the PMU staff and all consultants.

The membership of the PB is as follows, but it can co-opt members as deemed necessary and can invite technical experts as required:

- MNRE CEO (Executive – Chair), assted by PM
- CEOs of MoF, MAF, FESA, MFAT, MWCSD, NGOs, Community Representatives (Senior Beneficiary)
- UNDP (Senior Supplier)

The PB will normally meet quarterly, including at the time of the Inception Phase and final completion of the Project. It may also meet exceptionally as needed. The primary task of the

PB will be to set up policies and provide guidance and direction for the Project. Specific responsibilities of the PB are as follows:

- Policy and institutional coordination at the national level - provide overall policy guidance to the implementation of the project and facilitate effective communication and decision-making between the IA and key stakeholders;
- Monitor project implementation to ensure that it remains in-line with the approved project document, goals, objectives and financial rules and regulations of UNDP-GEF;
- Ensure the project objectives and outputs are achieved as outlined in this project document;
- Provide overall guidance and direction to the project, ensuring it remains within any specified constraints;
- Address project issues as raised by the PC;
- Provide guidance and agree on possible countermeasures/management actions to address specific risks;
- Conduct regular meetings to review the Project Quarterly Progress Report and provide direction and recommendations to ensure that the agreed deliverables are produced satisfactorily according to plans;
- Appraise the Project Annual TR Report, make recommendations for the next AWP, and inform the PB about the results of the review;
- Review and approve end project report, make recommendations for follow-on actions;
- Assess and decide on project changes through revisions;
- Assure that all project deliverables have been produced satisfactorily; and
- Review and approve the Final Project TTR Report, including lessons learnt

C. Project Director (PD)

The PD is the CEO of MNRE, responsible for overseeing project implementation and ensuring that the project goal, objectives, outcomes and outputs are achieved. Specific responsibilities include the following:

- Ensure that GoS inputs to the project is forthcoming in a timely and effective manner;
- Supervise consultants and monitor and assess their outputs; endorsement from the PD essential for release of consulting payments;
- Supervise and provide guidance to the PC in project implementation; and
- Report to the PB on progress of the project

Qualifications

- Familiar with climate change and adaptation issues in Samoa and the main actors and stakeholders in this field;
- Proven experience in the implementation of projects regarding CCA and DRR;
- Proven ability to lead multi-disciplinary technical teams; and
- Excellent working knowledge of spoken and written English.

D. Project Manager (PM)

The PM will be the MNRE ACEOFD, responsible to the PD for the overall administration, management, coordination, implementation, monitoring, and reporting. The PM may act as the Executive of PB, in the absence of the CEO of MNRE; and will head the PMU, supported by the PC, PMU staff and the Technical Support Team of Consultants.

Responsibilities

- Ensure effective partnership with the MAF, MWCSO and other implementing partners in the project;
- Ensure that project activities are integrated and coordinated with the established operations of the MNRE;
- Develop and maintain close linkages with relevant GoS agencies, UNDP-GEF, NGOs, civil society, international organizations, and implementing partners of the project; and
- Supervise and lead the PMU in discharging their duties at an optimum level through ensuring efficient and effective resources utilization.

With the support of the PC, the PM will:

- Oversee establishment of the PMU with systems for the sound management of all project activities, implementation arrangements with partner agencies and financial disbursements;
- Prepare detailed annual breakdowns of the work plan for all project objectives;
- Identify resource requirements, responsibilities, task outlines, performance evaluation criteria, and work plans based on the project document and project progress;
- Develop detailed and measurable quarterly performance indicators for each project output at the outset of the project based on the project document;
- Prepare quarterly work plans, which include indications of the extent to which the previous quarter's activities have contributed to the project's overall objectives;
- Finalize detailed TOR for project staff and consultants;
- Submit, as required, Annual Performance Review (APR) to tTR meetings;
- Direct and supervise the establishment of project administration procedures for all staff, subcontracting organizations/individuals, and participating agencies;
- Approve quarterly status and financial reports for comment and approval by the PB;
- Approve six-month budget forecast requests for approval by the PB; and
- Oversee implementation of PB directives.

Qualifications

- Understanding of climate change, adaptation, food security and disaster risk management issues in Samoa, and the main actors and stakeholders in these fields;
- Proven experience with the implementation of development projects, particularly in the fields of meteorology, disaster risk management and CCA;
- Proven ability to manage, monitor, and troubleshoot comparable projects;
- Excellent working knowledge of spoken and written English; and
- Ability to travel as appropriate.

E. Project Coordinator (PC)

The PC will report to the PM and work under the supervision of the PM and UNDP management. The PC will lead the Project Team through the planning, implementation, and delivery of policies, reports, knowledge products, and other results approved in the project document and annual work plans. S/he will provide overall operational management for successful execution and implementation of the programme. S/he will be responsible for financial management and disbursements, with accountability to the GoS and UNDP. In carrying out her/his responsibilities, s/he will advocate and promote the work of adaptation to climate change in Samoa and will also closely work and network with relevant GoS agencies, the private sector and NGOs.

Tasks:

- Facilitate the day-to-day functioning of the PMU;

- Manage human and financial resources, in consultation with the project's senior management, to achieve results in line with the outputs and activities outlined in the project document;
- Lead the preparation and implementation of the annual results-based work plans and logical frameworks as endorsed by the management;
- Coordinate project activities with related and parallel activities both within MNRE and with external implementing partner agencies;
- Monitor project activities, including financial matters, and prepare monthly and quarterly progress reports, and organize monthly and quarterly progress reviews;
- Support the PM in organizing PB meetings;
- Coordinate the distribution of responsibilities amongst Project Team members and organize the monitoring and tracking system of all cluster services;
- Report and provide feedback to UNDP-GEF and the PB on project strategies, activities, progress and barriers; and
- Manage relationships with project stakeholders including donors, NGOs, the private sector, GoS agencies, as required

Qualifications

- Specialist in natural resources management in a supervisory capacity, specifically on issues related to climate change, forestry and agroforestry management, biodiversity;
- Tertiary qualifications, with at least 10 years working experience within relevant disciplines, such as environmental science, geography, or natural resource management;
- Sound policy understanding of national development concerns, climate change discourse, disaster risk management and adaptation to climate change;
- Extensive knowledge of national and international agencies involved in climate change and adaptation related processes in Samoa and in the region;
- Proven track record of project management and project team experience working with Government, NGOs, the private sector and other key stakeholders in Samoa; and
- Excellent verbal and written skills in English and Samoan

F. Technical Officer, Agroforestry (TOAF)

The TOAF will play a key role in project execution of the agroforestry related project activities. The TOAF will be under the day-to-day supervision of and receive guidance from the PC and PM. The TOAF will be appointed by MNRE and will be responsible for the following tasks:

(i) Coordination and Management Functions

- Ensure a detailed work plan and budget are in place, oversee project implementation, monitor work progress, reporting and communication, and timely delivery of relevant outputs within the Forestry/Agriculture Sectors and across other key development sectors;
- Ensure stakeholders consultations related to activities for these outputs within the Forestry/Agriculture Sectors; and
- Ensure partnerships are developed with relevant stakeholders and development partners

(ii) Strategic Planning and Technical Support

- Ensure climate risks are integrated into agricultural planning and policy processes, including the updating of existing forestry/agriculture policies and plans;

- Ensure easy access to climate risk data and GIS maps illustrating crop diversification options for national forestry/agriculture development planners and exporters of forestry/agriculture products in high risk areas; and
- Ensure technical support and assistance is available and provided to support project implementation.

(iii) Capacity building and training

- Ensure project capacity building, awareness, educational and training programmes are developed and implemented; and
- Ensure resources are available to conduct training, including offering technical support.

Qualifications:

- Understanding of climate change, adaptation, forestry, agriculture and disaster management issues in Samoa and the main stakeholders in the agroforestry sub-sector;
- At least 5 years experience with the implementation of development projects, especially in the fields of CCA in forestry and/or agriculture;
- Proven ability to manage, monitor, and troubleshoot at a comparable level in other projects; and
- Excellent working knowledge of spoken and written English and Samoan.

G. Technical Officer, Native Forestry (TONF)

The TONF will play a key role in project execution of the native forestry related project activities. The TONF will be under the day-to-day supervision of and receive guidance from the PC and PM. The TONF will be appointed by MNRE and will be responsible for the tasks:

(i) Coordination and Management Functions

- Ensure a detailed work plan and budget are in place, oversee project implementation, monitor work progress, reporting and communication, and timely delivery of relevant outputs within the Forestry/Environment Sectors and across other key development sectors;
- Ensure stakeholders consultations related to activities for these outputs within the Forestry/Environment Sectors; and
- Ensure partnerships are developed with relevant stakeholders and development partners.

(ii) Strategic Planning and Technical Support

- Ensure climate risks are integrated into forestry/environment planning and policy processes including the updating of existing forestry/environment policies and plans;
- Ensure easy access to climate risk data and GIS maps illustrating tree crop diversification options for national forestry/environment development planners and exporters of forestry/environment products in high risk areas; and
- Ensure technical support and assistance is available and provided to support project implementation.

(iii) Capacity building and training

- Ensure project capacity building, awareness, educational and training programmes are developed and implemented; and
- Ensure resources are available to conduct training, including offering technical support.

Qualifications:

- Understanding of climate change, adaptation, forestry, environment conservation and disaster management issues in Samoa and the main stakeholders in the native forestry sub-sector;

- At least 5 years experience with the implementation of development projects, especially in the fields of CCA in native forestry protection and/or biodiversity conservation;
- Proven ability to manage, monitor, and troubleshoot at a comparable level in other projects; and
- Excellent working knowledge of spoken and written English and Samoan

H. Project Assistant (PA)

The OAA will report to the PC and receive guidance from the PM:

Tasks:

- Maintain all files and records of the project in both electronic and hard copies;
- Provide logistical support to the PM, PC, project partners and consultants in organizing training events, workshops and seminars;
- Maintain close linkages with relevant agencies and stakeholders;
- Assist consultants by organizing their travel schedules, arranging meetings with different stakeholders and book hotel venues and accommodations as required;
- Prepare monthly leave records for the project staff and consultants;
- Prepare and update inventories of expendable and non-expendable project equipment;
- Assist the PMU in preparing project reports to comply with GoS and UNDP formats; and
- Draft necessary correspondences to local agencies and stakeholders.

Qualifications:

- At least 3 years of relevant administrative or programme experience at the national or international levels;
- Bachelors degree and/or certificate in secretarial or computer training an advantage;
- Experience in using computers and office software packages, particularly word processing and spreadsheets (MS Word, Excel, etc.); and
- Knowledge of database packages and web-based management systems.

I. Communication and Knowledge Management Officer (CKMO)

The CKMO will report to the PC, undertaking the following tasks liaising with the broader project team, including the technical experts:

- Collecting and analyzing project lessons learnt and good practices
- Establish a project communication strategy (tailored to stakeholder groups)
- Coordinating the preparation of knowledge and communication products (case studies, press releases, photo stories, videos, brochures, information sheets, etc.)
- Assist in the organization of knowledge exchanges activities (field visits, national and local forums, school activities)
- Incorporate project knowledge products in national, regional and global web-based platforms (e.g. MNRE website, SPREP CC Portal, ALM)
- Liaise with national and regional partners and education institutions to facilitate the dissemination of project experience and knowledge materials

Qualifications

- Proven skills in communications and media management
- At least 5 years experience in communication, media and education-related activities
- Excellent inter-personal skills
- Good knowledge of communication and media related technologies

J. Community project field assistants (in 26 pilot villages)

Tasks:

- Liaise with the PMU on project activities
- Facilitate the organization of the training and technical assistance activities in the village
- Facilitate the coordination of the village project committee, coordinating also with district level committees
- Coordinate with farmers of the village on the technical activities
- Support the field work undertaken by FD officers and specialists (e.g. forestry surveys, monitoring, etc.)
- Assist in the establishment and maintenance of the community demonstration plots

Qualifications:

- 5 years experience in village issues and agricultural practices
- Good capacity to read and write in both English and Samoa
- Good coordination skills

K. Local Project Committees: Village, District and Demo Area (inter-District) level

In order to facilitate the implementation of the community-based adaptation measures in the demo areas, project committees will be established at the village, district and demo area (inter-district) levels, following a model piloted at the O le Pupu Pue National Park and surrounding communities. The village level committees will be elected by each pilot village, will comprise in principle chiefs, pulinuus (government representatives), reps. of women and youth groups, as well the farmers involved. The Village Committees will be supported by the community project field assistants for the coordination of the project activities. The District and Demo Area (Inter-District) Committees will involve key village representatives, government officers (national, extension services), as well as NGOs active in the areas, in order to set up effective project co-management structures. Key community representatives of each demo area will be represented in the Project Board, as project beneficiaries.

L. Forestry Policy and Planning Specialist

Tasks:

- Conducting desk review and analysis of forestry-related policy frameworks, identify gaps in addressing climate risks and resilience
- Facilitate stakeholder dialogue and the review of policies
- Provide targeted training to policy makers on CC adaptation and forestry issues
- Guide the integration of climate change considerations in the review process of the National Forestry Policy, Forestry Bill, and the development of the new National Forest Sector Plan
- Support the integration the climate information tools in the above processes (CLEWS, SAMFRIS, SRIM)
- Explore linkages with related policy and planning frameworks (NBSAP, NAP, NISAP and WRMS, FFPM)
- Integrate recommendations by stakeholder to revised policy drafts for submission to CDC
- Compile guidance note/manual on the natural resources management, adaptation, financial and livelihood support policy tools and mechanisms in forestry and agro-forestry sectors in both English and Samoan languages.

Qualifications

- Experience of climate change programmes in Samoa and/or Pacific
- Good understanding of climate change issues;
- At least 10 years experience in natural resources management and policy development;
- Proven ability to consult effectively and conduct awareness training;
- Excellent working knowledge of spoken and written English and Samoan; and
- Ability to travel to and work in Samoa if residing overseas.

M. GIS technician for SamFRIS

The SamFRIS local consultant will be appointed by the EA to support the update and maintenance of SamFRIS, in coordination with the FD Planning Officer (in charge SamFRIS), SRIM and CLEWS experts, as well as the JICA FCP expert team:

- Coordinate with and assist the SRIM and CLEWS, JICA experts to integrated updated forest coverage, soil, landuse, climate and other information layers into SAMFRIS, based on experience with the ICCRAHS project
- Assist and train the FD Planning Officer and other staff to update and maintain the SAMFRIS database
- Assist in the ground truthing of forestry data in the ICCRIFS demo sites, applying GPS techniques
- Assist in the preparation of GIS-based maps and applications
- Assist in training activities tailored to different user groups (FD, communities) on the use of the revised GIS based forestry information

Qualifications

- Experience of GIS-based information management systems
- At least 5 Years experience in data base and GIS system management, experience in natural resources management and forestry planning information systems is a plus
- Proven ability to work in team and facilitate work of other experts
- Excellent working knowledge of spoken and written English
- Willingness to travel to and work within Samoa

N. Soil Resources Information Specialist (SRIM)

The SRIM Consultant will be appointed by the Executing Agency to integrate the SRIM developed under ICCRAHS project into SamFRIS, and will be responsible for the following tasks:

- Prepare a concept paper for extending the SRIM to cover the Forestry Sector and integrate to SamFRIS, in consultation with the PC and senior FD staff on the planning and technical issues involved
- Identify the relevant tree types including native species, energy trees and high-valued exotic varieties
- Support the analysis soil characteristics and conditions in pilot villages
- Consider relevant climate parameters
- Determine economic returns on plantation trees and protected trees
- Develop GIS layers for the the different tree species
- Prepare guidance notes and training materials for users on the use and application of the SRIM linked with SamFRIS
- Conduct training of forestry planners and officials on the SRIM integrated into SamFRIS

- Advise on the communication of SRIM information to village communities and rural farmers

Qualifications

- Good understanding of the SRIM and other natural resource management technicalities of climate change
- 10 Years experience in the interlinkages of soils and crops/trees and climate parameters in the Pacific
- Proven ability to train and mentor junior staff
- Excellent working knowledge of spoken and written English
- Willingness to travel to and work in Samoa if residing overseas

O. Climate Early Warning System Specialist

International consultants will be support the following main tasks (further detailed in Annex 6):

- Adjustment of current climate services, knowledge and infrastructure to forestry use (based on work undertaken during the ongoing NAPA 1 ICCRHAS, agriculture and health sector)
- Development of additional data collection capacity for forestry application (installation of automated weather stations for data recording in selected forestry areas, establishment of forest climate risk database) required as base-line data for CLEWS
- Development of climate-forest knowledge and application tools (such as Cyclone Track Atlas, Fire-weather index, GIS map layer analysis, GIS forest-climate reference and display tool, etc.)
- Training on interpretation and use of CLEWS, stakeholder interactions, support for policy planning and provision of climate information services (protocols and scheduled delivery methods for climate-forestry bulletins and advisories, and delivery pathways to all relevant stakeholders)

Qualifications

- 10 Years experience in climate early warning systems, agroforestry applications
- Good knowledge of climate change trends in the Pacific and engagement with National Meteorological Services in the region
- Proven ability to coordinate technical assessment, consultation and training activities
- Excellent working knowledge of spoken and written English
- Willingness to travel to and work in Samoa if residing overseas

P. Agro forestry and rural livelihood specialist

The Consultant will be appointed by the EA in order to

- support the development of Agro-forestry Adaptation Plans (AFAP) in the project demo sites and villages
- assist the project team in site-specific assessments, the identification and design of climate-resilient agro-forestry techniques
- to conduct awareness raising and training workshops on the integration of climate-sensitive crops and trees (food/energy/animal fodder) and pasture management techniques (following IFES and SAPS approach)
- work closely with the technical Officer on Agroforestry and other specialists and technical institutions, e.g. SPC

- Support the identification of livelihood support mechanisms based on the enhanced framing techniques and value added crops, liaising with technical experts of related projects

Qualification

- Good understanding of agroforestry techniques and climate change implications, as well rural livelihood support systems
- 10 Years experience in agroforestry development and research on the mix of food, trees and pasture
- Proven ability to train and mentor junior officials
- Excellent working knowledge of spoken and written English
- Willingness to travel to and work in Samoa if residing overseas

Q. Ecosystem Based Adaptation and Protected Areas Expert

Tasks:

- Support the development of Native Forestry Adaptation Plans (NAFAP) in the demo areas
- Assist in conducting vulnerability assessment of sensitive forest ecosystems and species
- Assist the project team in the identification, design and implementation of adaptation measures
- Integrate the climate information and forest management tools in the planning and implementation process (CLEWS, SAMFRIS, FFPS)
- Conduct trainings for government officers, extension services and communities
- Coordinate closely with Technical Officer on Native Forestry, and other technical specialists, including those CI and the JICA FCP.

Qualification

- Experience of climate change programs in Samoa and/or Pacific
- Good understanding of protected area management forestry and adaptation dimensions of climate change
- 10 Years experience in natural resource management
- Proven ability to conduct stakeholder consultation and facilitate training activities
- Excellent working knowledge of spoken and written English and Samoan
- Willingness to travel to and work in Samoa if residing overseas

R. Forest Fire Prevention Specialist

The consultant will be appointed by the EA to develop a Forest Fire Prevention Strategy and Manual, which will incorporate, but not restricted to, the following issues:

- Climate issues based on the CLEWS
- Climate-resilient forestry planning based on the SamFRIS
- Analysis of current natural and man-made forest fire impacts, and associated landuse, fire prevention and control practices and related capacities
- Alternative practices and capacity building approaches

Responsibilities

- Consult with MNRE on climate change, forestry and environment issues
- Consult with FESA on current fire prevention and control practices, capacity building needs and approaches
- Consult with Samoa Water Authority (SWA) and MNRE for supply of water
- Consult with communities to address their needs
- Prepare new FFPM and finalize for submission to CDC

Qualification

- Experience of climate change programmes in Samoa and/or Pacific
- 10 Years experience in forestry management and forest fire prevention and response techniques
- Proven ability to conduct stakeholder consultation
- Excellent working knowledge of spoken and written English and Samoan
- Willingness to travel to and work in Samoa if residing overseas

S. NGOs (METI, WIBDI, FSA)

National NGOs will be involved in order to support the implementation of climate-resilient agroforestry techniques in the pilot villages, harnessing and further strengthening existing experience and expertise developed by them, and supporting their grassroot networks consisting of farmers and families. METI will assist farmers develop integrated farming approaches for sustainable crop production and introduction of bamboo inter-cropping techniques. WIBDI will assist in introducing and training of enhanced farming techniques, and business management skills. SFA will assist in providing planting materials and extension advice to farmers, supporting marketing village farm produce both locally and overseas

T. Knowledge Management and Communications Specialist

The consultant will support the KM and Communication Officer in the preparation of the project communication strategy and key knowledge products; will provide training to project staff on production and dissemination of knowledge products.

Qualifications

- Proven skills in communications and media management
- At least 10 years experience in communication, media and education-related activities
- Excellent inter-personal skills
- Good knowledge of communication and media related technologies
- Willingness to travel to Samoa

U. Consultant, Mid-Term Evaluation

The Mid-Term Evaluation Consultant will be recruited to conduct the mid-term evaluation of the project for the M&E component. S/he will report to the PC and act as the team leader for the following specific tasks:

- Provide guidance to the National Consultant in conducting the mid-term evaluation
- Assess the progress towards achievement of the project objectives as outlined in the initial project document
- Look into the relationship between this project and other relevant projects to reduce climate change risks through adaptation
- Assess the structure and performance of the project management team and support provided by UNDP
- Identify lessons learnt from the implementation of the project's activities
- Provide guidance and specific recommendations on how the Project Team and UNDP can improve performance (both substantive and management) during the remaining duration of the current project
- Provide guidance and specific recommendations for future support in the area of CCA and disaster risk management (as applicable) for both the GoS and UNDP to consider

- Produce the MTE Report
- Present the findings to relevant stakeholders

Qualifications

- Familiarity with the challenges developing countries face in adapting to climate change, and the approaches they are taking
- 10 years of relevant field-based experience in M&E of projects
- Familiarity with a participatory approach in project M&E
- Excellent writing and analytical skills
- Willingness to travel to and work in Samoa if residing overseas

V. Consultant, Final Evaluation

The Final Evaluation Consultant will be recruited to conduct the FE of the project for the M&E component. S/he will report to the PC and act as the team leader for the following specific tasks:

- Provide guidance to the PMU staff in conducting the final evaluation
- Assess the progress towards achievement of the project objectives as outlined in the initial project document
- Look into the relationship between this project and other relevant projects to reduce climate change risks
- Assess the structure and performance of the project management team and support provided by UNDP and to what extent recommendations from the mid-term evaluation were implemented
- Identify lessons learnt from the implementation of the project's activities in the following areas:
 - i. Relevance – the extent to which the activity is suited to local and national development priorities and organizational policies, including changes over time
 - ii. Effectiveness – the extent to which the project objective has been achieved or how likely it is to be achieved
 - iii. Efficiency – the extent to which results have been delivered with the least costly resources possible
 - iv. Results – the positive and negative, and foreseen and unforeseen, changes to and effects produced by a development intervention. In GEF terms, results include direct project outputs, short-to medium term outcomes, and longer-term impacts including replication effects and other local effects
 - v. Sustainability – the likely ability of an intervention to continue to deliver benefits for an extended period of time after completion. Projects need to be environmentally as well as financially and socially sustainable.
- Provide guidance and specific recommendations for future support in the area of CCA and disaster risk management (as applicable) for both the GoS and UNDP to consider
- Produce the FE Report
- Present the findings to relevant stakeholders

Qualifications

- Familiarity with the challenges developing countries face in adapting to climate change, and the approaches they are taking
- 10 years of relevant field-based experience in M&E of projects
- Familiarity with a participatory approach in project M&E
- Excellent writing and analytical skills
- Willingness to travel and work in Samoa if residing overseas

Annex 2 Stakeholder Involvement Plan

The project will receive high level guidance and overseeing from PB. The PB is the group responsible for making management decisions on a consensus basis for the project when guidance is required by the Project Manager (PM), including approval of project revisions. The project assurance functions will be undertaken by the existing NCCCT, responsible for overall supervision of the project. The NCCCT is chaired by the CEO-MNRE who is also the Project Director and membership includes all Government agencies, development partners, and representatives of IAs, EAs, NGOs and Communities.

The MNRE-FD will play a key role in the implementation of the forestry activities, the MAF on the agriculture-related activities of agroforestry, the MNRE-DEC on the conservation of biodiversity and MNRE-MD on the CLEWS. The MoF has a key role in financial planning and aid coordination, along with its economic planning and monitoring responsibilities. MoF will also assist with the identification of further funding, provide the project with additional scope, establish the linkages with relevant national policies and projects and be responsible for auditing the project funds. The FESA will be responsible for forest fire prevention activities, MFAT for political focal point functions and the MWCSD for the coordination of the participation of village communities in the project. As shown in Table 4, and based on stakeholder consultations initiated during the PPG phase, a wide range of stakeholders will be involved in the FSP, including regional and national agencies and organizations, local communities and civil-society organizations, as well as development partners.

Table 4: Stakeholder Involvement Plan

Institution	Contact information	Main responsibility	Role in PPG and FSP
MNRE	Mr. Taulealeausumai L Malua CEO PO Private Mail Bag T: +(685) 22481 F: +(685) 23176 taulealea.malua@mnre.gov.ws www.mnre.gov.ws	The CEO MNRE, is the PD, Executive and Chair of the PB and Chair of the NCCCT	MNRE took the lead coordination role in the project design phase (PPG Implementation), liaising with key stakeholders and providing technical and policy advice. MNRE CEO chaired the PPG Steering Committee meetings, providing leadership and guidance. The MNRE provided input on climate change vulnerabilities and resilience, particularly in designing policy development and awareness training for GoSofficials and communities
MNRE-FD	Mr. Taupau Maturo Paniani ACEO PO Private Mail Bag PO. Private Mail Bag T: +(685) 23800 F: +(685) 23176 maturo.paniani@mnre.gov.ws	Project Coordinator, and responsible for all forestry project activities	ACEOFD was a member of the PPG Steering Committee, and coordinated all aspects of the Project, The ACEO-FD will serve as Project Manager for ICCRIFS

Institution	Contact information	Main responsibility	Role in PPG and FSP
	www.mnre.gov.ws		implementation.
MNRE-DEC	Mr. Faleafaga Toni Tipamaa ACEO PO. Private Mail Bag T: +(685) 23800 F: +(685) 23176 toni.tipamaa@mnre.gov.ws www.mnre.gov.ws	Responsible for all environment and biodiversity conservation project activities	ACEO-DEC was a member of the PPG Steering Committee, DEC will: <ul style="list-style-type: none"> •Provide management of Lanotoo and Vaiaata if declared nature reserves •Undertake resource surveys •Prepare management plan of both areas •Ensure links between ICCRIFS and Land Degradation project and Management and control of invasive species.
MNRE-MD	Mr. Mulipola Ausetalia Titimaea ACEO Private Mail Bag T: +(685) 20855 F: +(685) 23176 ausetalia.titimaea@mnre.gov.ws www.mnre.gov.ws Mr. Sunny Seuseu sunny.seuseu@mnre.gov.ws Ms. Anne Rasmussen annie.rasmussen@mnre.gov.ws	Responsible for the climate project activities	MNRE, MD is responsible for the operation of the CLEWS and the ACEO was a member of the PPG Steering Committee. MD will lead the extension of the CLEWS to cover the Forestry Sector, training of FD staff, farmers and other users, produce and disseminate climate data/information tailored to agro-forestry and forestry users
MNRE GEF Services	Tupa'emanai Dr. Steve Brown ACEO Private Mail Bag T: +(685) 23800 F: +(685) 23176 steve.brown@mnre.gov.ws www.mnre.gov.ws	Responsible for GEF programmes and compliance with its processes and guidelines	ACEO-GEF Services was a member of the PPG Steering Committee and participated in the production of this ProDoc; has pro-actively harmonized relevant projects and key project stakeholders and will continue to promote linkages with ongoing and pipeline projects
MNRE, SIA	Mr. Safuta Toelau Iulio ACEO Private Mail Bag T: +(685) 23800 F: +(685) 23176 toelau.iulio@mnre.gov.ws www.mnre.gov.ws	Responsible for land information and GIS services	ACEO-SIA was a member of the PPG Steering Committee. The ACEO will be responsible for the analysis of spatial information and production of GIS maps
MNRE-ITD	Mr. Nanai Pai Faiva Principal Officer Private Mail Bag T: +(685) 23800 F: +(685) 23176 pai.faiva@mnre.gov.ws	Responsible for information technology activities of the project	Principal Officer-ITD was a member of the PPG Steering Committee and will lead the implementation of FSP IT-related activities including

Institution	Contact information	Main responsibility	Role in PPG and FSP
	www.mnre.gov.ws		the development of the project website and the utilization of the ALM
MNRE-WRD	<p>Mr. Suluimalo Amataga Penaia ACEO Private Mail Bag T: +(685) 23800 F: +(685) 23176 amataga.penaia@mnre.gov.ws www.mnre.gov.ws</p> <p>Ms. Yvette Kerslake yvette.kerslake@mnre.gov.ws</p>	Responsible for water resources-related project matters	<p>ACEO-WRD was a member of the PPG Steering Committee and will advise the PMU on the conservation of water resources and protection of watershed areas</p> <p>WRD will share experience from its watershed management projects, provide water data for water flow predictions by Met Division, and assist to monitor water flow levels in Namo, Laulii, Solosolo and Falefa.</p>
MNRE-LMD	<p>Mr. Patea Malo Setefano ACEO Private Mail Bag T: +(685) 23800 F: +(685) 23176 patea.setefano@mnre.gov.ws www.mnre.gov.ws</p> <p>Ms. Faainoino Laulala faainoino.laulala@mnre.gov.ws</p>	Responsible for land management-related matters	ACEO-LMD was a member of the PPG Steering Committee. LMD will Share experience from its land rehabilitation project, support training of farmers in appropriate land management practices
MNRE-PUMA	<p>Mr. Tagaloa Jude Kolhase ACEO Private Mail Bag T: +(685) 23800 F: +(685) 23176 jude.kolhase@mnre.gov.ws www.mnre.gov.ws</p>	Responsible for planning and landuse management	PUMA will advise the FSP on planning, landuse management and EIA
MAF	<p>Mr. Fonoiaava Sesega CEO Private Mail Bag T: +(685) 22561 F: +(685) 21865 fonoiaava.sesega@stec.ws www.maf.gov.ws</p> <p>Mr. Asuao Kilifi Pouono Ex-CEO Private Mail Bag T: +(685) 22561 F: +(685) 21865 maffm@lesamoa.net</p> <p>Mr. Peseta Frank Fong ACEO Economic and Planning Private Mail Bag</p>	Mr. Seseaga is a newly appointed Member of the PB and NCCCT as previous CEO retired	Both CEOs and ACEO were members of the PPG Steering Committee. MAF will support the agriculture-related project activities in lowland agroforestry, including development of management strategies, production of GIS maps based on the SRIM, analysis of agriculture climate reports and piloting of climate resilient crops in the project areas

Institution	Contact information	Main responsibility	Role in PPG and FSP
	Apia, SAMOA T: +(685) 22561 F: +(685) 21865 frank.fong@maf.gov.ws www.maf.gov.ws	Member of the PPG Steering Committee	
MoF	Mr. Tupaimatuna Iulai Lavea CEO T: +(685) 34313 F: + (685) 21312 iulai.lavea@mof.gov.ws www.mof.gov.ws Mrs. Noumea Simi ACEO Aid Coordination Division (ACD) noumea.simi@mof.gov.ws www.mof.gov.ws Mrs. Lita Iamafana Financial Controller ACD lita.iamafana@mof.gov.ws www.mof.gov.ws	CEO-MoF is the Senior beneficiary of the PB and Member of the NCCCT Member of the PPG Steering Committee Member of the PPG Steering Committee	MoF assisted the PPG phase with identification of relevant co-financing, providing the project with additional funding and key adaptation stakeholders, making on-going linkages and updating the national policies outlined in the SDS. For the FSP, MoF through the ACD, is responsible for the management of project funds and the monitoring of expenditures
FESA	Mr. Seve Tony Hill Chief Executive Officer Apia, SAMOA T: +(685) 20404 F: +(685) 20457 Mr. Mamea Samuel Ieremia Sammy_fleck@hotmail.com	Member of the PB and NCCCT	FESA will lead the activities on the preparation of the forest fire prevention manual, raising awareness of communities about dangers of forest fires, train staff, communities and farmers in fire prevention and control techniques
MFAT	Mrs. Sharon Potoi Aiafi ACEO Apia, SAMOA T: (685) 21171 F: (685) 21504 sharon@mfat.gov.ws www.mfat.gov.ws	Member of the PB and NCCCT	CEO-MFAT will be the political focal point of the project, responsible for facilitating official communication with the UNFCCC, GEF, UN Agencies and Regional Organizations
MWCSD	Leaula Maulolo Amosa ACEO Internal Affairs Apia, SAMOA T: +(685) 23698 F: +(685) 26602 E: maulolo@lesamoa.net www.mwcscd.gov.ws	Members of PB & NCCCT	During the PPG phase, village communities in the project areas participated in stakeholder consultations to develop the project activities. All the village councils of chiefs will work closely with MNRE, through the Internal Affairs Division of MWCSD to implement the FSP.
Village Communities in project area	Village Council of Chiefs	Responsible for implementation of demonstration project activities	Representatives of village communities were consulted during the PPG phase on the development

Institution	Contact information	Main responsibility	Role in PPG and FSP
			of the Prodoc through technical meetings.
UNDP	Ms. Nileema Noble, Resident Representative and Coordinator, UNDP Multi-country Office, Samoa T: (+685) 23670/23671 F: (+685) 23555 gabor.vereczi@undp.org www.undp.org	Member of PB (as senior Supplier) and UNFCCC	The UNDP, as IA, was a member of the PPG Steering Committee and during the PPG phase provided overall guidance on UNDP-GEF for prodoc formulation. UNDP-CO and UNDP RCU in Bangkok provided overall technical guidance and review, ensuring that the project conforms with LDCF requirements. UNDP also facilitated coordination with other UN Agencies and regional organizations (SPC, SPREP, CI). UNDP will continue delivering these roles and services as IA during the project implementation phase
UNDP/GEF SGP	Mr. Ollie Reupena – Interim SGP Coordinator Ollie.reupena@undp.org Mr. Kevin Petrini – Coordinator, MAP-CBA-SP Programme kevin.petrini@undp.org	Coordination of community-based environmental and climate-change adaptation projects financed through the Small Grants Programme	<ul style="list-style-type: none"> • Share lessons learnt from SGP projects • Support coordination of community interventions through the National SGP Committee and its members
SPREP	Mr. Taito Nakalevu Pacific Adaptation Climate Change (PACC) Officer T: +(685) 21929 F: +20231 taiton@sprep.org www.sprep.org Mr. Stuart Chape Manager Island Ecosystems Program stuartc@sprep.org	Responsible regional CCA and biodiversity programs	<p>SPREP is the EA for the PACC project under the regional GEF-PAS. SPREP will advise on relevant PACC project linkages and endeavour to harmonize this project with all other adaptation projects in the region, drawing on its mutually beneficial experiences and lessons learnt.</p> <p>Linkages will be created with the recently initiated Ecosystem Based Adaptation Assessment project, coordinated by SPREP, with the potential use of ICCRIFS demo areas as pilot for this regional initiative</p>
FAO	Mr. Aru Mathias Forester	Mandated by the UN to deal with global	FAO has been engaged during the PPG phase in

Institution	Contact information	Main responsibility	Role in PPG and FSP
	Apia, SAMOA T: + (685) 22127 F: + (685) 22126 Aru.Mathias@fao.org www.fao.org	food and agriculture and forestry	providing technical advice in forestry and agroforestry techniques and food security issues. Linkages will be made with the Forestry and Protected Area Management Project (FPAM). FAO will provide technical advice (e.g. IFES) on the agroforestry and native forestry components of the project
JICA	Ms. Naoko Laka Activity Manager Apia, SAMOA T: + (685) 22572 F: + (685) 22194 E: sm_oso_rep@jica.go.jp www.jica.go.jp	Continuing its involvement in the management of national parks in Samoa	JICA experts will advise on the native forestry conservation component of the project and the synergies between the FSP and its current national parks management projects
AusAID	Mrs. Misileti Masoe Satuala Activity Manager Climate Change and Environment Apia, SAMOA T: (685) 23411 F: (685) 26872 Misileti.Satuala@ausaid.gov.au www.ausaid.gov.au	Involved in CCA and agroforestry projects in Samoa	AusAID is supporting the NAPA 4 project, involving MET Services, Landuse Planning, Water Resources, Forest Fires and Tourism Sectors. The forest fire, MET services and water components are aligned with ICCRIFS as parallel co-financing. AusAid is also planning to support an agroforestry project, therefore AusAid will be continued be engaged during project implementation.
WB	Mrs. Maeva Betham Vaai Joint World Bank – ADB Samoa Liaison Officer Apia, SAMOA T: (685) 34340 F: (685) 24228 mvaai@worldbank.org www.worldbank.org	WB has been involved in climate risks and hazards programmes in Samoa for the last 10 years and is continuing to support national adaptation projects	WB will share its experiences on CCA with the FSP and advise the on synergies between the project and its current PPCR initiative
USP	Mr. David Hunter Head School of Agriculture Alafua Campus, Apia, SAMOA T: (685) 21671 F: (685) 22933 hunter_d@samoa.usp.ac.fj www.usp.ac.fj	Involved in regional agricultural education at its Alafua Campus, Samoa	Exchanges has been initiated during the PPG phase and will be further explored during project implementations in order to link project experience with USP research and curricular education activities, especially considering in the fields of soil science and

Institution	Contact information	Main responsibility	Role in PPG and FSP
			agriculture, being conducted at the USP Alaufa Campus located in Samoa
CI	Mr. James Atherton Conservation Outcomes Officer Vailima, SAMOA T: (685) 21593 F: (685) 28570 jatherton@conservation.org www.conservation.org	Involved in regional biodiversity conservation programs based at its Samoa office	CI will provide support in ecosystem and vulnerability assessments, extending the KBGA application, and advising on the use of this information for the enhanced protection and management of conservation areas.
SPC	Mr. Sairusi Bulai Team Leader Forests and Trees Programme Suva, FIJI T: (679) 337 0733 F: (679) 337 0021 SairusiB@spc.int www.spc.int Mr. Cenon Padolina Regional Forest Genetic Resource Officer T: (679) 337 0733 F: (679) 337 0021 CenoP@spc.int www.spc.int Dr. Lex Thomson Team Leader FACT Project EU-funded Facilitating Agricultural Commodity and Trade T: (679) 337 0733 F: (679) 337 0021 LexT@spc.int www.spc.int	Manages the Centre for Pacific Crops and Trees (CePaCT)	SPC can provide technical assistance for lowland agroforestry on: <ul style="list-style-type: none"> • V&A assessments, identification and introduction of climate resilient crops and tree species • Cultivation and planning techniques • Species propagation : establishment and managements of plots, nurseries operations • Agro-forestry production - to increase and diversify agro-forestry production • Value Adding – to maximize the value of planted farm forestry resource to farmers and • Institutional Strengthening - to strengthen governance in the forestry sector and institutional dealing with agro-forestry • Program Management - to reflectively and efficiently manage the program • Information – to support extension and awareness of national and community levels. • Economic Analysis – to conduct economic analysis of agro-forestry • Marketing and trade-to provide technical assistance and developing marketing strategy and facilitating

Institution	Contact information	Main responsibility	Role in PPG and FSP
			<p>trade of agro-forestry products</p> <p>SPC will also provide technical assistance in establishment of models in Community Conservation Areas, Sustainable Forest Management, Sustainable Land Management, watershed management, extension, education and awareness</p>
<p>Samoa Umbrella of NGOs (SUNGO), involving METI, Women in Business, and SFA</p>	<p>Mrs. Rowena Vavatau President Motootua, SAMOA T: (685) 24322 / 22804 / 22347 F: (685) 20654 sungomanagement@lesamoa.net</p> <p>METI – Dr. Walter Vermuellen Director, walter@meti.ws</p> <p>WIBD - Ms. Karen Mapusua Associate Director , Karen@womeninbusiness.ws</p> <p>Samoa Farmers Association Ms. Leaupepe Lesa Aiono</p>	<p>NGOs are key partners in the implementation of national projects</p>	<p>METI will assist farmers develop integrated farming approaches for sustainable crop production and introduction of bamboo inter-cropping techniques based on experience from CROPPRO and Life Skills projects</p> <p>WIBDI will assist in introducing and training of enhanced farming techniques, and business management skills</p> <p>SFA will assist in providing planting materials and extension advice to farmers, marketing village farm produce both locally and overseas</p>

Annex 3: Details of ICCRIFS Demo Areas

Three sites have been selected for the ICCRIFS Project area: (i) the fourteen villages from Laulii to Falevao on northeast Upolu Island; (ii) Lake Lanotoo National Park and adjacent 4 villages at the central mountain ridge inland from the capital Apia also on Upolu; and (iii) Mauga-o-Salafai National Park and adjacent 8 villages at Vaiaata on Savaii Island (refer to Figures 4, 9, 10 and 11). These sites were chosen for the following reasons:

- Vulnerability to climate change: The Laulii-Falevao area has a steep topography, vulnerable to erosion that can be exacerbated by CC, prone to flood, drought and cyclone damage, which already affects livelihood of local communities. The selected National Parks have been degraded by past cyclones, affected by the expansion of invasive species. The KBA analysis demonstrated the high value and sensitivity of their endemic flora and fauna, which is vulnerable to current and expected climatic change.
- Potential to demonstrate wide range of adaptation measures and replicate in other areas of Samoa: The villages involved are typical of all other villages in Samoa with lowland plantation areas and upland native forest areas, and particularly vulnerable to cyclones, drought and surface flooding. The experience from this project could be replicated in other rural areas in Samoa under similar projects e.g. the planned AusAID Agroforestry, JICA National Parks, and FAO/GEF Forestry and PAM projects. The forestry ecosystems, vulnerabilities and the landuse pressures at the Lake Lanotoo and Mauga-o-Salafai NPs are similar to other protected areas, therefore it is expected that the experiences generated under ICCRIFS can be integrated to management plans and practices of other conservation sites as well.
- Interest and willingness to collaborate in adaptation activities: the community consultations in the villages at the North Upolu Site, and adjacent to the NPs demonstrated a high level of interest and commitment to take part of this initiative, including village chiefs and representatives of women groups and community members.
- Alignment with government strategic priorities and complementarily with other initiatives:
 - At the North Upolu project sites, there has been some incipient initiatives in a few villages, that serves with experience (e.g. the CBDAMPIC project in Saoluafata village in 2004, or current bamboo intercropping activities supported by METI in Lufilufi village). Apart from these there has not been an extended community-based project for villages in northwest Upolu, therefore this project will provide much needed support for rural development in a climate-sensitive way for an extended area. This is a bigger follow-up project with greater scope (wider area and more people involved).
 - The CBCA to be established in upland native forest area for the 14 villages between Laulii and Falevao will serve as an extension of the O le Pupu Pue NP on the southern slope of Upolu, by this way contributing to broader NBSAP targets of the country to extend the coverage of comprehensive protected areas.
 - Seven National Parks have been officially established in the following order - Le Pupu, Mt. Vaea Scenic Area-Vailima, Lake Lanotoo, Mauga-o-Salafai, Lata, Asau/Falelima and Falealili. A recent JICA-funded project dealt with O Le Pupu Pue NP and Mt. Vaea Scenic Area. The establishment of clear park boundaries and management plans will be supported through the JICAP FCP for the Lake Lanotoo and Mauga-o-Salafai NPs, which are demo sites for ICCRIFS.

Figure 13 – Site Plan of Laulii to Falevao Villages



The fourteen villages involved, from the west are Laulii, Leusoalii, Luatuanuu, Solosolo, Eva, Salelesi, Fusi, Saoluaafata, Lufilufi, Faleapuna, Falefa, Manunu, Lalomauga and Falevao (Figure 9 above), had a total population of 10,440 according to the 2006 SBS Census, up by less than half of one per cent from 2001. The total area from the sea to the central ridge is approximately 14,000 hectares, with about 4,000 hectares of upland areas (600 metres above sea level) mainly at the western half of the site. Except for a few small pockets of public and freehold land, most of the area is under customary land tenure, owned by the village families. All the villages are located along the sea where a rugged coastline and rocky headlands are common. With the improvement in plantation access roads there is a growing trend for people to move further inland to be closer to their plantations. The lowland areas are used for traditional subsistence agriculture cultivating mainly food staples such as taro, bananas, vegetables and coconuts. Upland areas are found mainly in the western side, characterized by steep slopes and deep ravines, and more and more of the remaining native forests, however, are being cleared for new plantations particularly livestock development.

Lake Lanotoo National Park is on public lands, located about the middle of Upolu's central ridge, with a total area of 477 hectares. Its main feature is Lake Lanotoo, a crater lake at the headwaters of the Fuluasou River, which is the main source of Apia's water supply (Figure 10). The terrain is rugged and the vegetation largely native forests. So far there is limited access although there is growing pressure from adjoining landowners to trespass on to the park areas. There are four villages adjacent to the park, engaged in traditional subsistence agriculture and agro-forestry activities: Lotofaga, Nuusuatia, Vaiee and Fusi of Safata District, comprising an area of 3,612 Ha. The Mauga-o-Salafai National Park is also on public land with a total area of 5,974 hectares, located along the central mountain ridge on eastern Savaii Island (Figure 11). It is covered mainly by native forests and bordered to the east by public lands and on the other three sides by customary lands. This NP is surrounded by the following 8 villages: are Iva, Vaiafai, Lalomalava, Sapapalii, Fusi, Fetausi, Fogapoa

and Faga of Faasaleleaga District, comprising an area of 7,984 ha. The GoS has only recently approved the establishment of both national parks and the boundaries are yet to be finalized.

Figure 14 – Site Plan of Lake Lanotoo National Park



Figure 15 – Site Plan of Mauga-o-Salafai National Park



Annex 4: Community Consultations Feedback

2 sets of on-site community consultations were held, covering the 3 demo areas of the ICCRIFS project, and village representatives have been also invited to technical meetings in Apia

- a. On 23 July 2010, a community workshop was convened at the Galusina Village Resort at Solosolo Village. The North Upolu project areas includes fourteen villages, namely Laulii, Leusoalii, Luatuanuu, Solosolo, Eva, Salelesi, Fusi, Saoluafata, Manunu, Lufilufi, Faleapuna, Falefa, Lalomauga and Falevao, which were all represented at the workshop by three individuals per village, including the representative of the women's groups from all village (see list of participants in Table 5). Following the official part of the program, the MNRE officials made presentations on Climate Change and Samoa's climate and weather services; the status of Samoa's forests; the changes in agricultural landuse and forest areas; and the potentials of climate resilient agroforestry development. The Project Logical framework and activities to address the project outputs were also outlined. Community representatives were also given the opportunity, through group sessions, to comment on the project goals and objectives. Participants were divided into four groups, moderated by community representatives themselves and supported by MNRE staff and project consultants as facilitators.
- b. On 13 and 15 October 2010, community consultations were held in 4 villages and freehold lands adjacent to the Lake Lanoto'o National park (Lotofaga, Nuusuatia, Vaiee and Fusi of Safata District) in Upolu and at the Mauga o Salafai National Park (Iva, Vaiafai, Lalomalava, Sapapalii, Fusi, Fetausi, Fogapoa and Faga of Faasaleleaga District) in Savaii. The Forestry Team conducted interviews with range of selected individuals as representatives of these target villages.

The objectives of the consultations were to: (i) present an overview of the project to the community; (ii) allow the targeted community representatives to voice their opinions and discuss their views on the project objectives and planned activities, and exchange information and ideas towards the development of the project design, and (iii) begin the process of establishing a working partnership with the targeted communities and other stakeholders.

Six questions were agreed to guide the consultation in the 3 demo areas, a summary of responses is as follows:

Question

Q1. Do you have a good understanding of Climate Change and its Impacts?

Q2. What impacts have you observed in your village resulting from Cyclones, Wave surges and sea level rise; Flooding, High temperatures, Droughts?

Response

1. All groups and respondents did not directly say if they have a good understanding of climate change but instead pointed to the impacts of climate change. Two groups pointed to deforestation, burning of bush and tires as well as increase of carbon gases as the main causes of climate change.

2. Impacts are most evident in coastal areas. Coastal erosion, flooding, water pollution and damage to food crops are common impacts. Many participants said that many rivers are drying up as a result of dry seasons and deforestation in upland areas.

Q3. What are the observed impacts of Climate Change on Forests in your village?

The commonly stated impacts are :

- Increased numbers of invasive trees and birds replacing natives
- Rivers dry up in dry season
- Polluted waters and rivers during rainy season
- Trees bear less fruits (coconut), some fruiting out of season
- Some plants are dying

Q4. What do you think we need to do to adapt to these impacts? (Solutions)

- Cooperation within and between villages
- Collaboration between village and government
- Effective implementation of laws and regulations both by the government and village council
- Replant and rehabilitate forests
- Conserve upland areas
- Ban use of chemicals
- Enforce village laws
- Ban logging
- Conduct programs to improve village livelihood
- Careful selection of resilient food and tree crops
- Conduct seminars, trainings and workshops for communities
- No more factories
- Return Samoa to its previous pollution free state

Q5. If you had answered 'yes' to Q4 above, what assistance would you need to improve your understanding and participation in the project?

- Provide funds to implement activities
- Conduct more educational programs and seminars for villagers
- Provide learning opportunities for village youths
- Develop programs for women and respect women's voices
- Encourage village mayors to work together with villagers on saving the environment
- Develop roads to plantations
- Supply new crops that are climate resilient (e.g. better taro shoots that can grow after 2-3 seasons)

Q6. Do you support your village participation in this project?

All villages fully support the project

Table 5: List of Participants at Community Consultation Workshop, Galusina Village Resort

No.	Name	Sector/Agency	Status	No.	Name	Sector/Agency	Status
1	Taule'ale'ausumai L Malua	Government	CEO-MNRE	31	Nua Miliona	Community	Solosolo Village
2	Taupau Maturu Paniani	Government	ACEOFD	32	Lemusu Pulepule	Community	Solosolo Village
3	Tuuu Ieti Taulealo	Private	Consultant	33	Tainamu Manase	Community	Luatuanuu Village
4	Tusani Iosefatu Reti	Private	Consultant	34	Sulamanaia Esera	Community	Laulii Village
5	Safuta Toelau	Government	ACEO-SIA	35	Fuatimau Matulino	Community	Laulii Village
6	Moafanua Tolusina	Government	Principal Officer, FD	36	Matamea Faafetai	Community	Eva Village
7	Lesaisaea Niualega	Government	Principal Officer, DEC	37	Tea Siafua	Community	Luatuanuu Village
8	Muaausa Pau Ioane	Government	Principal Mapping Officer	38	Folotoe Fogatia	Community	Luatuanuu Village
9	Yvette Kerslake	Government	Principal Watershed Officer	39	Timoti Tuvale	Community	Saoluafata Village
10	Sunny Seuseu	Government	Principal Climate Officer	40	Lotovale Toavao	Community	Leusoalii Village
11	Faainoino Laulala	Government	Principal Officer LMD	41	Savea Lene	Community	Fusi Village
12	Clay Tofilau	Government	Capacity Building Officer	42	Sofai Teo	Community	Lufilufi Village
13	Annie Mauga	Government	Forestry Planning Officer	43	Upu Suileo	Community	Falevao Village
14	Meto Sale	Community	Faleapuna Village	44	Vaofanua Naseri	Community	Falevao Village
15	Vainalepa Laulu	Community	Faleapuna Village	45	Talaitupu Tofilau	Community	Lalomauga Village
16	Malae Seuao	Community	Falevao Village	46	Fuapepe Peniata	Community	Lalomauga Village
17	Apolima Solofa	Community	Fusi Village	47	Tausala Nanai	Community	Salelesi Village
18	Luaono Lemusu	Community	Eva Village	48	Seugalii	Community	Lalomauga Village
19	Loau Aokuso	Community	Saoluafata Village	49	Fanai Tala	Community	Lalomauga Village
20	Talavalu Leuvao	Community	Leusoalii Village	50	Sina Magele	Community	Lufilufi Village
21	Vaiao Ioelu	Community	Saoluafata Village	51	Maikeronesia Sefo	Community	Lufilufi Village
22	Moeono Penitito	Community	Falefa Village	52	Laulu Taumaoe	Community	Salelesi Village
23	Fulumu'a Oloatua Faatafa	Community	Falefa Village	53	Nolan Lauina	Community	Leusoalii Village
24	Alonia Tavita	Community	Falefa Village	54	Vailuu Lave	Community	Solosolo Village
25	Leiloga Toia	Community	Faleapuna Village	55	Akiase Tavita	Community	Falefa Village
26	Fotualii Faasega	Community	Faleapuna Village	56	Ava Faatali	Community	Falefa Village
27	Gaea Ami	Community	Eva Village	57	Faanoi Tala	Community	Lalomauga Village
28	Tulai Toia	Community	Faleapuna Village	58	Alonia Feagiai	Community	Fusi Village
29	Tuautu Mapusua	Community	Laulii Village	59	Rev. Lauina	Community	Leusoalii Village
30	Segaula Loi	Community	Solosolo Village				

Annex 5: Government Institutions, Policy and Legislation Relevant to the Project

The proposed project is directly aligned with Samoa's development priorities as set out in the NAPA and the SDS. These policies are committed to the realization of the MDGs, in particular to improving the quality of life for all Samoans. The proposed project is consistent with Samoa's first and second national communications to the UNFCCC, the first NAPA project (ICCRA&HSS); and the NPCCC. Parallel policies have been developed in the Forestry, Environment and related Sectors (see Table 6). At the regional level the project is also in line with the GEF-PAS), the Pacific Regional Climate Change Framework for Action on Climate Change 2006-2015 and the GEF -funded PACC and IWRM projects. The new NAPA projects also support the development of climate resilient Policies and/or Strategies in the Climate, Agriculture, health, Coastal, Planning, Water resources, Forest Fires and Tourism Sectors.

While much of Samoa's current laws predate the advances in climate change understanding, a number of new legislation have been introduced to support sustainable development and climate resilience including the Planning and Urban Management Act 2005, Water resources Management Act 2008, Forest Resources Management Act 2010, Survey Ordinance 2010, and the Spatial Information Agency Act 2010; and drafting work is progressing on formulating climate resilient legislation in Environment and Natural Resources Management and develop new legislation for Climate Change and Meteorological Services. Table 6 summarizes the policies and legislation of the various Government agencies relevant to climate change generally and agroforestry and native forestry in particular.

Table 6: Government Institutions, Policy and Legislation Relevant to the Project

No.	Agency	Sector	Policy	Legislation
1	MNRE	Climate Change	NPCCC NAPA	Consultants being recruited to develop new Climate Change legislation
		Climate	CLEWS Strategy to be developed under the ICCRA&HSS project	Consultants being recruited to develop new Meteorological Services legislation
		Forestry	NPSFM To be developed under the ICCRIFS Project: 1) Revised NPSFM 2) FMS	Forestry Resources Management Bill 2010 (to be tabled in Parliament October 2010)
		Biodiversity	NBSAP National Policy on the Conservation of Biodiversity	Lands, Surveys and Environment Act 1989 Environment Management and Conservation Bill (being drafted)
		Renewable Energy	NGHGAS	None
		Water Resources	National Policy on Water Resources	Water Resources

			WRMS Water for Life Policy	Management Act 2008
		Lands	NAP Integrated Coastal Management Strategy Coastal Adaptation Strategy is being developed under the PACC Project	Lands, Surveys and Environment Act 1989 Natural Resources Management Bill (being drafted)
		Spatial Information	Cadastral Information Policy Paper	Survey Bill 2010 (to be passed by October 2010)
			SIA Policy Paper	SIA Bill 2010 (to be passed by October 2010)
		Landuse Planning	National Policy on Landuse Planning	Planning and Urban Management Act 2004
2	MAF	Agriculture	Fruit and Vegetables Strategy Climate Adaptation Strategy for Agriculture being developed under the ICCRA&HSS Project	Agriculture Forests and Fisheries Ordinance 1959
3	FESA	Forest Fires	Forest Fire Prevention Strategy and Manual be developed under the ICCRIFS Project, and implemented through support from the AusAID-funded NAPA4 project.	Fire and Emergency Service Act 2007
4	MoF	National Development Planning	SDS	Public Finance Management Act 2001
		Energy	National Energy Policy	None
5	MWCSD	Communities	Community Development Policy National Policy for Women National Youth Policy (Reviewed) Strategy for Village-Based Development	Ministry of Women Affairs 1990 & Amendment 1998 Ministry of Internal Affairs Act 1995

Annex 6: Implementation of a climate early warning system (CLEWS) in the Forestry Sector under ICCRIFS (NAPA-3) - Activities and Task Lists

This task list is derived from discussions held at MNRE – Maturo Paniani and colleagues (Forestry Sector), Sunny Seuseu (Met Division), Andrew Tait, Davina Ashford, Alan Porteous (NIWA), Friday 22 October, 2010

Activity area 1: Adjustment of current climate services, knowledge and infrastructure to forestry use

Under NAPA-1 the climate network has been extended to nation-wide coverage, and a new climate database management system is being installed that will enable a significantly increased capacity at Samoa Met Division to manage historical and current climate data, and eventually to provide enhanced data reports and analytical services.

TASKS:

- Integration of advisory services to forestry by Samoa Met Division staff, using current climate knowledge and data management infrastructure, to incorporate additional information into CLEWS advisories and targeted information for the Forestry Sector eg. forest-drought advisories; rainfall anomaly maps; enhancement of extreme weather forecasts for forestry

Activity area 2: Additional data collection required as base-line data to enable the development of improved climate-forest knowledge and climate early warning applications

In order to enable the development and enhancement of climate early warning services to the forestry sector, additional baseline data are required. This includes the recording of climate data in pilot or dedicated forestry zones, and the development or enhancement of a forest climate risk **database** to store observed and measureable impacts of the weather and climate on forest trees and production. The collation of forest-climate risk data is an essential part of capturing the knowledge and lessons learnt from previous extreme climate events that are needed for adaptation management planning. These data will enable forestry and climate experts to develop relationships between hazard events and historical climate data, that can determine climatological risk levels in key forest areas, and how these risks may change under climate change (see Objective 3 below).

TASKS:

Data archive – climate data in designated for pilot forest areas

- 2 compact automatic weather stations (agmet) will be co-located within forestry pilot or designated control areas (ICCRIFS Project areas). The data from these stations will be collected and archived by the telemetry and data archive system installed under NAPA-1 at Samoa Met Division.

Data archive – Forestry species mensuration, phenology, and risk

- Development or enhancement of a Forestry Database to store (i) forest-climate risks and hazard thresholds (eg wind speed thresholds, temperature zones, rainfall requirements) related to key forest species, (ii) forest mensuration (eg.BHD, heights, yield), (iii) phenological observations, and (iv) other risk factors such as invasive species, pests and disease

- Collation of annual growth data BHD for selected locations in pilot forest areas
- Collation of flowering and fruiting time (to enable correlation with weather and climate factors)
- Collation of the impacts (location and extent) of high wind speeds on forest areas during historical hazard events (eg cyclones)
- Collation of the incidents and risk of pest and diseases, invasive species

Activity area 3: Development of climate-forest knowledge and application tools to better manage both current climate variability and future climate risk

The overall objective of these tasks is to develop forest-climate management information and tools, and apply them to improve climate-risk analysis, planning and adaptive techniques for forestry.

TASKS:

- **Cyclone Track Atlas** – Develop an atlas of tracks and risks of cyclones for Samoa (building on existing international studies).
- **Fire-weather index** – Building on the Canadian Forest Service Fire Weather Index System (http://cwfis.cfs.nrcan.gc.ca/en_CA/background/summary/fwi) investigate the derivation of a FWI; including an improved understanding of the meteorological components of a fire weather index for Samoa (state of combustible material, dryness in undergrowth – forest floor moisture index)
- **GIS map layer analysis** – Production of GIS layers of climate information relevant to forestry risk and management, including determination of climate zones for forestry – to be used in conjunction with existing layers on soils (SRIM) and the SAMFRIS data. This task will enable the improvement of the SAMFRIS database using updated climate information, including seasonal risk, and projected climate conditions under climate change, to provide insights into current and future suitability of tree species and changes in risks to forestry.
- **GIS forest-climate reference and display tool** – Develop a simple, user friendly GIS tool to map and visualise climate soils and forest species, including important climate features (eg seasonal rainfall, temperature, dry periods), ideal climate zones for key species, and how key forest-climate relations may change under projected climate change.
- **Climatology of drought** – to be compiled as a short reference document
 - Time-series of drought risk derived from the data of key climate stations for forestry
 - Changes in drought risk with season type eg., ENSO, and defined risk levels known to significantly impact forests eg. 20th percentile low seasonal rainfall.
- **Pilot climate risk project** – A pilot study on the relationship between climate variables and the incidents of damage to trees from pest, diseases and invasive species, with a view to developing tools linked to weather and climate forecasts to be implemented under CLEWS, and estimates of changing risk under projections of climate change.

Activity area 4: Training, stakeholder interactions, climate information services and support for policy planning

The tasks below are aimed at collaboration between Samoa Met Division and Forestry Division staff in developing key technical understanding, awareness and cooperation in the development and extension of forest-climate information and services through CLEWS. These tasks are to some extent already addressed in the ICCFRIS project document, but are included here as a reference of key steps needed to maximise the implementation of a CLEWS for forestry at Samoa Met Division.

TASKS:

- Training programmes for climate and forestry staff to increase awareness by both climate and forestry staff of the impacts (risks and hazards as well as the climate opportunity) of climate variability and change on forestry, including training in the preparation and use of climate reports for forestry, and emergency response procedures in the event of high risk of forest fires.
- Testing and iterative improvement of climate warning bulletins, advisories and information with forest extension workers, and forest managers, to improve content, efficacy, and information pathways.
- Following the above, implementation of protocols and scheduled delivery methods for climate-forestry bulletins and advisories (daily; monthly; seasonal etc), and delivery pathways eg web, text, email to all relevant stakeholders, including planners, policy makers and communities. Task may include investigation and development of a cellphone application for delivery of climate-forestry bulletins and advisories.
- Community awareness-raising, focussing on information types and dissemination methods that enable effective adaptation and resilience-building responses by community and household forestry planners and managers

Annex 7 - UNDP Risk Log

#	Description	Date Identified	Type	Impact & Probability	Countermeasures / Mngt response	Owner
1	Staff turnover affects project implementation	28 Nov 2010	Operational	<p>Building technical and operational capacity of Executing Agency and gov. partners can be comprised due to staff change, a recurring issue in the Pacific, due to limited availability of qualified persons</p> <p>P = 3</p> <p>I = 4</p>	Provision of continuous training and incentives for project staff, setting up and regular engagement of project board and technical advisory group to avoid too narrow focus and involvement of direct project staff. Alert Project Manager and Board on potential staff issues and changes in timely manner.	MNRE, UNDP
2	Competing mandates and lack of coordination between relevant government department causes delay in policy review and approval process.	28 Nov 2010	Political	<p>Agro-forestry and forestry related policies are heavily interlinked with other sectoral policy processes, such as agriculture, water, coastal management, mandated by a wide range of government agencies. Climate change represents a dynamic and often competing agenda for policy, resource mobilization and implementation processes</p> <p>P = 2</p> <p>I = 3</p>	Continuously inform high level policy makers through the NCCCT, ensure good coordination with related initiatives through project technical team, provide high quality technical assistance, link effectively to the on-the-ground demos to inform policy processes and showcase direct applications of policy instruments	MNRE, NCCCT, UNDP
3	Communities may not perceive benefits of the application of climate	28 Nov 2010	Organizational	<p>The concept of climate change, especially its long term creeping impacts are difficult to perceive, principal livelihood needs can have priority, especially in</p>	Keep up the good momentum following the community consultations during PPG phase and continuously inform pilot communities on project advances using targeted	MNRE

	sensitive planning processes, use of climate information, and other technical activities, and interest and support to the project might fade			<p>subsistence communities.</p> <p>P = 2 I = 3</p>	<p>information channels, implement immediate and tangible on-the-ground activities addressing priority community needs, while conducting the detailed assessment and adaptation planning process. Employ and train community project field assistants in pilot villages to ensure effective coordination with project team, support experts and partners. Management of community expectations as well as leveraging additional resources for activities that are priorities for local communities but fall outside the scope of this NAPA follow-up project.</p>	
4	Extreme climatic effects beyond predicted changes harm adaptation efforts	28 Nov 2010	Environmental	<p>Extreme climatic events with strengths beyond the enhanced resilience of forest ecosystem and the adaptation measures out in place can affect the demo activities in the pilot villages</p> <p>P=2 I= 5</p>	<p>Implement effective Climate Early Warning System in early project stages, including short and mid-term seasonal forecasts and long term projections, to allow timely preparedness and adjustment of agroforestry and forestry practices preventing and mitigating potential damage from unexpected extreme events. Implement pilot activities in a good variety of demo areas in different parts of the country, to avoid simultaneous harmful impacts in all sites.</p>	MNRE, UNDP

Annex 8: Letters of Co-Financing



Japan International Cooperation Agency

22 November 2010

Taule'ale'ausumai Tuifuisa'a La'avasa Malua
Chief Executive Officer
Ministry of Natural Resources Environment & Meteorology
P.O Private Bag
3rd Floor Development Bank Building
Apia, Samoa

Subject: JICA co-financing support to the *Integration of Climate Change Risks and Resilience into Forestry Management in Samoa (ICCRIFS)* project

Dear Taule'ale'ausumai,

JICA has been supporting the Government of Samoa on a number of environment and climate-related projects, aiming at strengthening management capacity for national parks & reserves of Samoa, as well as enhancing weather and climate data collection, analysis and reporting processes.

JICA is provisionally offering the GoS funds of USD\$ 2.5 million to implement a Forest Conservation Monitoring Project during the period of 2011-2013. Out of this project budget, JICA agrees to align 750,000 USD as parallel co-financing to the ICCRIFS project in order to support the enhancement of forestry information management systems, and the preparation of protected area management plans in a climate-sensitive way.

We are delighted to continue collaborate with the Government, the Global Environment Facility, and development partners to support the NAPA Implementation Strategy.

Yours sincerely

A handwritten signature in black ink, appearing to read 'M. Aiba', written over the words 'Yours sincerely'.

Manauba Aiba
Resident Representative
JICA Samoa

JICA Samoa Office
P.O.BOX 1625, Mulivai, Apia, SAMOA
Phone: (685) 22-572 / 22-139
Fax: (685) 22-194
email: sm_oso_rep@jica.go.jp
URL: <http://www.jica.go.jp/>



Australian Government
Aid Program

21st December 2010

Taule'ale'ausumai Tuifuisa'a La'avasa Malua
Chief Executive Officer
Ministry of Natural Resources and Environment
Apia, SAMOA

**Subject: Co-financing of the Integration of Climate Change Risks Resilience into
Forestry Management in Samoa (ICCRIFS) Project**

Dear Taule'ale'ausumai

Thank you for your letter of 20 December 2010 requesting AusAID to consider AUD1.25 million of its funding to the NAPA 4 Climate Change Adaptation Project during the period 2011 – 2015 as parallel co-funding for the ICCRIFS.

We are pleased to agree to this request in support of Samoa's NAPA Implementation Strategy and the overarching Strategy for the Development of Samoa (2008 – 2012).

Yours sincerely

Ian Bignall
AusAID Counsellor.

cc. Peseta Noumea Simi, ACEO Aid Coordination and Debt Management Unit, Ministry of Finance.

Australian Agency for International Development
Australian High Commission
Beach Road, Mulivai, Apia, Samoa
PO Box 704, Apia, Samoa
Telephone: (685) 23411 Facsimile: (685) 26872 www.ausaid.gov.au

**SECRETARIAT OF THE PACIFIC
COMMUNITY**

PRIVATE MAIL BAG, SUVA
FIJI

CABLE ADDRESS:
"SOUTHPACOM" FIJI
TELEPHONE: (679) 3370 733
FAX: (679) 3370 021



**SECRÉTARIAT GÉNÉRAL DE LA
COMMUNAUTÉ DU PACIFIQUE**

PRIVATE MAIL BAG, SUVA
FIDJI

ADDRESSE TÉLÉGRAPHIQUE:
"SOUTHPACOM" FIDJI
TÉLÉPHONE: (679) 3370 733
TÉLÉCOPIEUR: (679) 3370 021

In reply please quote file:
En réponse, veuillez indiquer:

06 October 2010

Mr. Taule'ale'ausumai Tuifuisa'a La'avasa Malua
Chief Executive Officer
Ministry of Natural Resources, Environment & Meteorology
P.O Private Bag
3rd Floor, Development Bank Building
Apia, SAMOA

**LETTER OF SUPPORT TO THE PROJECT "INTEGRATION OF CLIMATE CHANGE
RISK AND RESILIENCE INTO FORESTRY MANAGEMENT IN SAMOA (ICCRFIS)"**

Greetings from the Secretariat of the Pacific Community (SPC).

We wish to express our support to the project "Integration of Climate Change Risk and Resilience into Forestry Management in Samoa (ICCRFIS) being proposed by the Ministry of Natural Resources, Environment & Meteorology.

The Land Resources Division of SPC, which has been involved in the formulation/development of the project proposal, will continue to extend technical assistance during the implementation of the project in line with the Samoa-SPC Joint Country Strategy. Please note, however, that our assistance will be mainly in kind (e.g. technical advice on identification and introduction of climate resilient crops and tree species, training on plant propagation and nursery operations, assistance on setting up demonstration areas and support the monitoring and assessment of the project, etc.) which will be provided through our Forests and Trees Team. The estimated value of our in kind support to the project is approximately USD\$ 15,000.00.

Sincerely yours,

SAIRUSI BULAI
Officer in Charge
Land Resources Division
SPC - Secretariat of the Pacific Community

PO Box 2035
Apia, SAMOA
Tel: +685 21593
Fax: +685 28570
www.conservation.org



27 September 2010

Taule'ale'ausumai Laavasa Malua
Chief Executive Officer
MNRE

Dear Sir,

**Re: Indicative in-kind support for the Integration of Climate Change Risks
and Resilience into Forestry Management in Samoa (ICCRIFS) Project**

We write to indicate our in-kind support for this important project.

We can provide the time of a Protected Areas expert to train MNRE staff and relevant communities in the development of management plans for the two National Parks and other sites proposed for conservation, and also training in assessing ecosystem values for identified sites. The total value of this indicative support is approximately USD\$5,000.

The actual value of the in-kind support will be finalized once CI's role in this project has been clarified.

We look forward to collaborating with your Ministry on this important work.

Faafetai tele lava,

A handwritten signature in purple ink, appearing to read "François Martel".

François Martel
Executive Director
Conservation International



Government of Samoa

Ministry of Natural Resources & Environment

Private Bag, Apia, SAMOA
Website: [Http://www.mnre.gov.ws](http://www.mnre.gov.ws)

Email: info@mnre.gov.ws
Fax: (685)23176

Please address all correspondence to the
Chief Executive Officer
Telephone: 23800

24 November 2010

Yannick Glemarec
UNDP/GEF Executive Coordinator
304 East 45 Street, 9th Floor, New York 10017, USA

Dear Mr Glemarec,

RE: Co-Financing from the Ministry of Natural Resources and Environment (MNRE) for the LDCF-funded Integration of Climate Change Risks and Resilience into Forestry Management in Samoa (ICCRIFS) Project

The Government of Samoa (GoS), through the MNRE and its key stakeholders, welcomes this cross-sectoral opportunity to improve forest management, and to also help adapt the forestry sectors as best as possible to climate change impacts. The imminent formulation of a Forestry Adaptation Plan, now involving a total of 17 adaptation tools identified for Samoa, is most welcomed by the GoS.

The GoS is offering co-financing consisting of \$USD470,000 in-kind* contribution (e.g. office space, phones, faxes, copiers, power, water, national communications, staff counterparts and technical assistance).

In addition, every effort will be made by the GoS to further mainstream climate change adaptation into other sectors in order to obtain maximum synergies between other GEF, FAO, SPC, CI, JICA and AusAID-funded projects being implemented and/or proposed by the GoS.

I would like to take this opportunity to thank UNDP for its assistance with the preparation of this ICCRIFS Project Design Document and to thank GEF/LDCF for providing funding for the PPG.

Yours Sincerely,

Taule'ale'ausumai La'avasa Malua
Chief Executive Officer

* In-kind: MNRE – \$320,000 (FD 200,000, DEC, 70,000, MD 50,000), MAF – \$100,000, FESA – \$50,000

cc CEO Ministry of Finance, CEO Ministry of Foreign Affairs and Trade, CEO Ministry of Agriculture and Fisheries, CEO Ministry of Women, Community and Social Development



Samoa

Ref: ICCRIFS - FIN

09 December 2010

Dear Mr. Glemarec,

Subject: UNDP co-financing support to the *Integration of Climate Change Risks and Resilience into Forestry Management in Samoa (ICCRIFS)* project

I am pleased to note that the Least Developed Country Fund (LDCF) Council has approved an indicative USD 2.4 million for the NAPA implementation project on Integration of Climate Change Risks and Resilience into Forestry Management in Samoa (ICCRIFS).

In support of the project objective and outcomes, UNDP Samoa commits USD 40,000 parallel co-financing from the Community-Centered Sustainable Development Programme (CCSDP) implemented in partnership with various Ministries of the Government of Samoa, as well as national NGOs, which are also involved in the ICCRIFS project. Technical and methodological support will be provided to ICCRIFS project stakeholders through the CCSDP expertise and experience developed by the Office in formulating and implementing sustainable village development plans, applying related participatory rural appraisal and training techniques, promoting sustainable land and natural resource use practices.

The commitment will support the implementation of the proposed ICCRIFS project during its lifetime (2011-2014).

Yours sincerely



Nileema Noble
Resident Representative
Cook Islands, Niue, Samoa, Tokelau

Mr. Yannick Glemarec
UNDP/GEF Executive Coordinator
304 East 45th Street
9th Floor
New York, N.Y 10017
USA

SIGNATURE PAGE

Country:

UNDAF Outcome (s)/Indicator (s): *Link to UNDAF Outcome. If no UNDAF leave blank.*

CPAP Outcome (s)/Indicator (s):

CPAP Output (s)/Indicator (s):

Executing Entity/Implementing Partner
Implementing entity/Responsible Partner

Programme Period:	2010 - 2014	Total resources required:	US\$ 4,930,000
Atlas Award ID:	00061539	Allocated resources:	US\$ 4,930,000
Project ID:	00077990	• GEF	2,400,000 (LDCF)
PIMS #	4318	• Other: Donor	2,060,000 (Parallel)
		• In kind contributions	470,000 (GoS)
Start date:	28 February 2011		
End Date	31 March 2015		
Management Arrangements	NEX		
PAC Meeting Date	22 Nov 2010		

Agreed by (Government):

NAME	SIGNATURE
Date/Month/Year	

Agreed by (Executing Entity/Implementing Partner):

NAME	SIGNATURE
Date/Month/Year	

Agreed by (UNDP):

NAME	SIGNATURE
Date/Month/Year	