



ADAPTATION FUND

AFB/PPRC.2/10  
September 10, 2010

---

Adaptation Fund Board  
Project and Programme Review Committee  
Second Meeting  
Bonn, September 15, 2010

## **PROPOSAL FOR NIUE**

## I. Background

1. The Operational Policies and Guidelines for Parties to Access Resources from the Adaptation Fund, adopted by the Adaptation Fund Board, state in paragraph 41 that regular adaptation project and programme proposals, i.e. those that request funding exceeding US\$ 1 million, would undergo either a one-step, or a two-step approval process. In case of the one-step process, the proponent would directly submit a fully-developed project proposal. In the two-step process, the proponent would first submit a brief project concept, which would be reviewed by the Project and Programme Review Committee (PPRC) and would have to receive the approval by the Board. In the second step, the fully-developed project/programme document would be reviewed by the PPRC, and would finally require Board's approval.

2. The Templates Approved by the Adaptation Fund Board (Operational Policies and Guidelines for Parties to Access Resources from the Adaptation Fund, Annex 3) do not include a separate template for project and programme concepts but provide that these are to be submitted using the project and programme proposal template. The section on Adaptation Fund Project Review Criteria states:

*For regular projects using the two-step approval process, only the first four criteria will be applied when reviewing the 1st step for regular project concept. In addition, the information provided in the 1st step approval process with respect to the review criteria for the regular project concept could be less detailed than the information in the request for approval template submitted at the 2nd step approval process. Furthermore, a final project document is required for regular projects for the 2nd step approval, in addition to the approval template.*

3. The first four criteria mentioned above are:

1. Country Eligibility,
2. Project Eligibility,
3. Resource Availability, and
4. Eligibility of NIE/MIE.

4. Based on the Adaptation Fund Board Decision B.9/2, the first call for project and programme proposals was issued and an invitation letter to eligible Parties to submit project and programme proposals to the Adaptation Fund was sent out on April 8, 2010.

5. According to the paragraph 41 of the operational policies and guidelines, a project or programme proposal needs to be received by the secretariat not less than seven weeks before a Board meeting, in order to be considered by the Board in that meeting.

6. The following project concept titled "Reducing climate risks to food security in Niue through integrated community-based adaptation measures and related institutional strengthening" was submitted by the United Nations Development Programme (UNDP), which is a Multilateral Implementing Entity of the Adaptation Fund. This is the first submission of this proposal. It was received by the secretariat in time to be considered in the 11<sup>th</sup> Adaptation Fund Board meeting. The secretariat carried out a technical review of the project concept, assigned to it the diary number AFB/MIE/Food/2010/3, and filled in a review sheet.

7. In accordance with a request to the secretariat made by the Adaptation Fund Board in its 10th meeting, the secretariat shared this review sheet with UNDP, and offered it the opportunity of

providing responses before the review sheet was sent to the Project and Programme Committee of the Adaptation Fund.

8. The secretariat is submitting to the Project and Programme Review Committee the summary of the project, prepared by the secretariat, in Annex 1. The secretariat is also submitting to the Committee the technical review sheet and the responses provided by the UNDP, and a revised proposal as confidential documents.

## Project Summary

Niue – Reducing climate risks to food security in Niue through integrated community-based adaptation measures and related institutional strengthening

Implementing Entity: *UNDP*. Executing Entities: *Department of Agriculture, Forestry and Fisheries; Department of Environment*

Project execution cost: USD 250,000

Total project cost (execution included): 3,150,000

UNDP management fee: USD 315,000 (10%)

Total amount of financing requested: USD 3,465,000

Project Background and Context: Niue lies on the edge of the southern tropical cyclone belt and in the zone of the southeast trade winds, areas which make it subject to strong gale force winds. Climate change is likely to cause changes in regional climate systems including the El Niño Southern Oscillation, which brings drought to Niue in severe El Niño years. Most climate models show that more rainfall is expected in summer and less rain will fall in the already dry months, which may mean more favorable conditions for the spread of mosquito borne diseases such as dengue fever and malaria. It is expected that the effect of drought and its impact on Niue will be severe in the long term. Niue's main water source, the rainfed freshwater lens is likely to shrink considerably during the annual dry period of 3 or more months. The narrow fringing coral reef formation around Niue is highly vulnerable to climate variability and change. Past storm events had caused major damage to the coral reefs on the western side of the island where fishing activities occur. Food security could be seriously compromised in Niue due to increasing pressure from emerging climate change risks such as changing solar radiation, rainfall, wind-speed, evaporation and SLR. The proposed project will strengthen ability of communities and government officers in Niue to make informed decisions and manage likely climate change driven pressures in food-security related sectors, such as agriculture, fishery, and forestry, in an integrated way.

Component 1: Integrated Community-Based Adaptation measures implemented in crop production, forestry and near shore fishery management (USD 2,300,000)

The expected outcome of this component is the enhancement of capacity of communities to reduce risks to food security and livelihood through implementing integrated adaptation measures in all 14 villages of Niue. Expected concrete outputs for this component includes the development of integrated climate change adaptation plans aligned with village development plans. Additionally, climate-resilient techniques and related technology are introduced at the community level in crop production, management and processing techniques, livestock production and management, forestry management techniques, and internalizing climate change risks into reef and near shore fishing ground management. The component outputs also include the establishment of nurseries at the community levels and an agriculture gene bank to preserve traditional and climate resilient crop and forest plant varieties. Also included are the strengthening and establishment of community-managed forest and marine conservation areas and buffer zones and the training of communities on the use of climate early warning and information services and training to collaborate in reef, coastal and forest monitoring activities.

Component 2: Institutional strengthening to support climate resilient policy frameworks for the agriculture, fisheries and forestry sectors (USD 450,000)

The expected outcome of this component is to enhance institutional capacity of food-security related government sectors to integrate climate risk and resilience into policy frameworks and implementation mechanisms. Outputs of this component include the development and implementation of an Action Plan in food-security related sectors to advance the implementation of the National Climate Change Policy, the revision of national agriculture, forestry and fisheries related policies, legislations, corporate plans and budgets to integrate climate change and resilience, the strengthening of national and village level climate change coordination mechanisms to enhance decision making processes, the training of policy makers in the relevant government departments, the development of the climate early warning system, the training of officials and extension service staff at the line departments on the use of climate information services, risk assessment and climate resilience management techniques, and the establishment of a monitoring and surveillance system on the climate change impacts in near-shore, coastal and forest ecosystems.

Component 3: Climate Change Adaptation knowledge management (production, sharing and dissemination) and awareness raising (USD 150,000)

The expected outcome of this component is the fostering of the generation and diffusion of knowledge on adaptation to climate change in a systemic manner at the community and national levels. The expected outputs include the generation of lessons learned and best practices, the documentation and sharing of knowledge on traditional crop production, forestry and fisheries management and their adjustments in light of changes in climate variability and longer term climate change impacts, and the incorporation of climate change issues in training materials, school programmes, and community awareness programmes and curricula.



# PROJECT/PROGRAMME PROPOSAL

## PART I: PROJECT/PROGRAMME INFORMATION

PROJECT/PROGRAMME CATEGORY:	<b>Regular Project</b>
COUNTRY/IES:	<b>Niue</b>
TITLE OF PROJECT/PROGRAMME:	<b>Reducing climate risks to food security in Niue through integrated community-based adaptation measures and related institutional strengthening</b> (UNDP PIMS 4516)
TYPE OF IMPLEMENTING ENTITY:	<b>MIE IMPLEMENTING</b>
IMPLEMENTING ENTITY:	<b>United Nations Development Programme (UNDP)</b>
EXECUTING ENTITY/IES:	<b>Department of Agriculture, Forestry and Fisheries; Department of Environment</b>
AMOUNT OF FINANCING REQUESTED:	<b>USD 3,465,000 (in U.S Dollars Equivalent)</b>

## PROJECT / PROGRAMME BACKGROUND AND CONTEXT:

### Context<sup>1</sup>:

Niue is the world's largest *makatea* (elevated coral atoll), situated in the Southwest Pacific Ocean (19°S, 169°W), with a land area of 259 km<sup>2</sup> and marine area of 39,000 km<sup>2</sup> Exclusive Economic Zone (EEZ). Niue Island is comprised of three terraces, the rim of the lower terrace averages 28 m above sea level, with the upper rim averaging 69 m above sea level. The slopes of the terraces are rough, with jagged coral outcrops, which are dissected by many crevices and holes with large boulders, scattered randomly by wave actions during hurricanes. The island has a rugged rocky coastline, featuring steep cliffs, caves, deep chasms and blowholes. The reef is continuous, and is breached at one small area opposite the wharf at Alofi.



### <sup>1</sup> References:

- Initial National Communication (Government of Niue, 2000)
- Niue Millennium Development Goals Report (2006)
- Niue National Strategic Plan (2009-2013)
- Economic Planning and Statistics, Government of Niue (<http://www.spc.int/prism/Country/NU/stats/>)
- The Effect of Aid On Capacity To Adapt To Climate Change: Insights From Niue (Jon Barnett, Political Science 2008)

There is no surface water on Niue, a subterranean reservoir serves as primary water source extracted through artesian bores for domestic, commercial and agricultural purposes.

Niue's population of 1,541 inhabitants (2009 Niue Mini Census of Population – preliminary results) live in 14 villages around the coasts of the island, of which Alofi is the capital. Many villages are within walking distance of each other, connected by a coastal circuit and two major cross-island roads. There is no natural sheltered harbour, a roadstead at Alofi is served by a wharf, which accommodates smaller vessels otherwise cargo is transferred by lighters. A runway serves to accommodate weekly flight connections from New Zealand.

The coral atoll origins of Niue have left it with a scenic coast line but with limited soil depth and fertility. Throughout the island, the soils are of marginal fertility for intensive agriculture and long-term monoculture. Suitable land for agriculture is limited to less than 60% of Niue's land. The agricultural sector, which contributed about 23.5% to its GDP in 2003, consists mainly of subsistence gardening, although some cash crops are grown for modest export, including taro, coconut, and vanilla. Taro in particular is the predominant crop, since it holds cultural significance to Niueans and is a staple food of the island. Other crops grown include cassava, sweet potatoes and yam. Small quantities of coconut, fruit and vegetables are also cultivated mainly for domestic use. Livestock raised include chickens, pigs, and a small number of cattle. Fishing activities are also mainly at a subsistence level due to the limited inshore fishing resources, needing strong artisanal fishing skills given the difficult access to the sea via the rugged and steep coastline. The subsistence fishing – including reef gleaning, spear fishing, reef rod fishing, and canoe fishing – accounts for 90% of the catch in Niue. The catch is either for family consumption, used for community functions, sold through local restaurants, or sold at the Alofi market. The exposure of unprotected nature of the coastline to the open and sometimes very rough seas, the absence of natural harbours or lagoon systems are added obstacles to fishing.

Of Niue's 467 households, 404 are directly involved in agricultural activities, 333 keep livestock and 291 engaged in fishing (2009 Census of Agriculture Office, preliminary results). Above all, local subsistence food production is crucial to the island nation, for cultural, dietary and economic reasons, given that the limited sea and air access elevates the costs of imported food.

Niue was originally covered in dense tropical rainforest. Extensive areas of fern dominated shrub land and regenerating forest have now replaced much of this forest. Niue is still largely covered by tropical forests, 18,200 ha or 64% of the island (this includes both primary and secondary re-growth). Timber production from forest is small scale and only serves local needs.

Niue is a sovereign state in free association with New Zealand. Niue's public services (health, education, communication, infrastructure), are at relatively high level in the Pacific context, provided through New Zealand support. Public positions, supported through New Zealand aid to the Government of Niue, are important sources of family revenues. Emigration is a serious issue in Niue and contributed to a decreasing population. Current development policy focuses on private sector development through increased employment opportunities and production in agriculture, tourism and related sectors as mechanisms to reduce aid dependency.

Niue's customs and traditions are strongly centred on the extended family, family lands and traditional practices. Niueans living in Niue share a sense of responsibility to be the trustees of Niue's *Tāoga* (precious possessions), which include the natural resources, language, customs and traditions, arts and crafts that sustain the identity of the people of Niue. *Tāoga* lives through the ways in which Niueans interact with each other and their lands and seas, and strongly supported by the government, including through the creation of a specific Department of *Tāoga Niue*, responsible for the promotion and conservation of national heritage.

## ***Climate change vulnerabilities, impacts and risks<sup>2</sup>***

Niue lies on the edge of the southern tropical cyclone belt and in the zone of the southeast trade winds, and hence is subject to strong gale force winds. There are two distinct seasons in Niue, the hot wet season from November to March, characterized by high temperatures and humidity, and the cool dry season from April to November, characterized by warm sunny days and cool nights. The hot wet season also coincides with the tropical cyclone season.

A variety of possible climatic changes is expected to contribute to impacts in Niue, including increases in average temperatures of both the land and sea surfaces; reduction in the amount of dry season rainfall and increases in the extreme rainfall rates in all seasons; and increases in wind speed, particularly in the dry season.

Climate change is likely to cause changes in regional climate systems including the El Nino Southern Oscillation (ENSO), which in severe El Nino years brings drought to Niue. For example, the 1983 El Nino resulted in a 60 percent decrease in mean annual rainfall in Niue, an increase in forest fires, a dramatic fall in agricultural exports and a dramatic increase in food imports. There have been more frequent and intense El Nino events since the 1970s. Air temperature in Niue is expected to increase by between 0.7 to 1.5 degrees Celsius by the year 2050. Increases in extreme temperature events are also expected as warming increases. Only marginal changes in mean annual precipitation are expected by 2050, but most climate models show that more rainfall is expected in summer and less rain will fall in the already dry months. This may mean more favourable conditions for the spread of mosquito borne diseases such as dengue fever and malaria. Projections indicate that in Niue there will be significant increases in extreme rainfall events during the dry period, suggesting that most of the rain that will fall in the dry period will fall in fewer occasions but with higher intensity. It is expected that the effect of drought and its impact on Niue will be severe in the long term.

Niue's main water source, the rainfed freshwater lens is likely to shrink considerably during the annual 'dry' period of 3 or more months. Groundwater should be adequate to provide at least a minimum of five months water supply through these dry months, and therefore in an average year the island should have adequate water resources. In drought years, Niue experiences 8–9 months of without recharge, and the lens would be expected to shrink in size accordingly. Individual abstraction wells may become saline during these periods, leading to potential scarcity and competition between domestic, agriculture and commercial uses. The projected increase in surface temperature, solar radiation and wind speed will likely increase the evaporation, contributing to even more depletion in the available water resource. The availability of water resources can be compromised also due to intensive rainfall and coastal erosion causing pollution of the water lens due to infiltration of salt and land based pollutants. Sea level rise may also impact on the fresh water lens, through salt-water infiltration into the fresh water lens, thereby reducing the overall lens thickness.

The narrow fringing coral reef formation around Niue is highly vulnerable to climate variability and change. Past storm events had caused major damage to the coral reefs on the western side of the island where fishing activities predominantly occur. Artinasal fisheries are likely to decline as episodes of coral bleaching increase, and the availability of deep water fish may become increasingly variable as it is linked

---

### <sup>2</sup> References:

- Initial National Communication (Government of Niue, 2000)
- Climate Change in Niue (Dewi G.C. Kirono, Roger N. Jones, and Janice M. Bathols, CSIRO, 2008)
- Dangerous Climate Change in the Pacific Islands: Food Production and Food Security (Jon Barnett, 2010)
- An assessment of Cyclone Heta's impact on Niue's coastline (SOPAC, 2004)
- National Action Plan Addressing land Degradation and Drought in Niue (2004)



to ENSO events. Changes in fish stocks associated with any change of current patterns and increased risks of ciguatera (fish poisoning) are also projected.

Niue lies at the edge of the southern tropical cyclone belt and experiences severe or very severe cyclones with high damage potential every six to seven years. Although the relationship between climate change and tropical cyclones is still highly uncertain, there is evidence that cyclones may become more intense in the future - lasting longer, with higher wind speeds and force. In 2004 Cyclone Heta in Niue destroyed 43 houses that were more than 25 meters above sea-level, as well as the national hospital, national museum, and the bulk fuel storage tanks, causing over 30 M NZ\$ estimated loss in public and private properties.

Sector	Changes	Implications
General aspect	<ul style="list-style-type: none"> <li>Increase in extreme rainfall</li> <li>Increase in tropical cyclone intensity, and mean sea level rise</li> </ul>	<ul style="list-style-type: none"> <li>Increase erosion</li> <li>Storm surges and large waves causing coastal inundation and erosion, and coast retreat</li> </ul>
Water resources	<ul style="list-style-type: none"> <li>Decrease in dry season rainfall</li> <li>Increase in wind speed and temperature intensify potential evapotranspiration</li> </ul>	<ul style="list-style-type: none"> <li>Groundwater recharge may lessened</li> <li>Depletion in quantity and quality of the groundwater</li> </ul>
Agriculture	<ul style="list-style-type: none"> <li>Decreases in rainfall and increases in evapotranspiration</li> <li>Increase in wind speed</li> </ul>	<ul style="list-style-type: none"> <li>Decrease in taro production</li> <li>Potential increase in wind erosion reducing size of land suitable for agriculture</li> </ul>
Fishing	<ul style="list-style-type: none"> <li>Increase in temperature</li> <li>Changes in ENSO, changes of water current patterns</li> </ul>	<ul style="list-style-type: none"> <li>Artinasal fisheries may decline due to increase in coral bleaching episodes, and increased risks of ciguatera poisoning caused by disturbance to the reefs</li> <li>The availability and seasonality of deep water fish may change</li> </ul>
Tourism	<ul style="list-style-type: none"> <li>Tropical cyclone frequency not change but its intensity may change</li> <li>Increase in air and sea surface temperatures</li> </ul>	<ul style="list-style-type: none"> <li>Less safety</li> <li>Proliferate certain organisms (e.g. mosquitoes and mendasas) and pose a health threat</li> </ul>

*Climate change in impacts in selected sectors in Niue (source: Climate Change in Niue, CSIRO, 2008)*

Climate change impacts on natural resources exacerbates existing man-made environmental pressures in Niue. These include pollution of the freshwater lens due to agricultural practices, in particular the use of chemicals (biocides and fertilizers) and the keeping of livestock with inadequate waste management posing a threat to water quality. The expansion of agriculture is one of the chief causes of deforestation in Niue, due to clearing of land especially for commercial taro growing. There is a growing concern at the progressive decrease of indigenous forest area. Over the last 30 years, the people of Niue have cleared an additional 22% of the indigenous forests, a reduction in the overall forest cover from 86% to 64% of the island. Although fishing is mostly for subsistence purposes, with lesser extent for commercial use, there has been a slight increase in fishery production (115 mt/year in 1993 to over 120 mt/year in 2001) comprising deep sea fish (tuna and tuna-like fish), bottom and pelagic fish.

Above all, food security could be seriously compromised in Niue due to increasing pressure from emerging climate change risks, affecting the already scarce and vulnerable resources, such as agriculture and forestry production based on thin soils of reduced fertility and extension, depending on dwindling water resources; fish and marine resources stock mostly limited to a narrow strip of near shore reef areas and fishing grounds. These resources are highly exposed to climate impacts due to changing solar radiation, rainfall, wind-speed, evaporation, and sealevel raise. Without the introduction of sufficient adaptation measures at the policy and community level, targeting integrated land and marine resources

management practices, the scale of damages will be larger, and the toll of opportunities foregone will be longer-lasting.

***Preferred solutions for climate change adaptation (normative situation):***

Ideally, adaptation measures are implemented systematically throughout Niue's 14 villages, treating in an integrated way the villages' marine, reef, coastal and land areas in order to modify current fishery, agricultural and forest use practices in light of current and expected climate risks. The planning and implementation of the adaptation measures is fully informed through climate information services tailored to fishery, agricultural and forestry applications and packaged in user friendly ways for community practitioners who have the capacity to understand and use these. Communities also have the capacity to collaborate in monitoring impacts of climate change in coastal and terrestrial ecosystems and related natural resources use. The integration of climate risks and resilience into food-security issues is dealt with comprehensively through food production, processing and storage practices, harnessing traditional knowledge. The implementation of community-based adaptation measures is supported through an enabling environment at the national policy level, with line departments and the Met Service having the sufficient capacity to generate climate information, assess climate risks and support communities to translate these to livelihood practices. Policies and related legal frameworks, instruments, corporate plans and budgets in the agriculture, fishery and forestry sectors are modified to integrate climate risks and resilience, and supported through enhanced coordination of national entities linking effectively to village councils and community stakeholders. The experience and lessons learnt generated through adaptation activities in different sectors are systematically captured, analyzed and disseminated using different communication channels and media suited to the technical capacity and needs of different user groups (e.g. government officials, community leaders, farmers and fishermen, etc.). The past and ongoing climate change awareness and education programmes are updated and upgraded using latest climate change science and adaptation lessons learnt, and their outreach is further expanded in Niuean communities. Adaptation lessons learnt are widely shared cross the Pacific region and amongst other SIDS, and within the broader international adaptation community.

***Current barriers to climate change adaptation, needs and gaps in adaptive capacity***

Barriers in community-based adaptation implementation

**Lack of integration of climate change risk and resilience into village development processes**

A number of projects have been carried out to support integrated village or land use planning, such as the Community Centered Sustainable Development Programme (CCSDP) or the Sustainable Land Use Management Project (SLM) implemented by UNDP through different Government Departments. These projects have introduced participatory planning processes and mobilized communities, but do not integrate climate change risk considerations and adaptation responses. Also, these projects have been carried out as demo just in a few villages (CCSDP produced Sustainable Development Plans in Hakupu and Tuapa Villages, SLM implements demos in Mutalu village), whereas other villages have been receiving support from other projects addressing community issues but not in an integrated fashion and without fully addressing climate risks.

The Land and Marine Resource Use Plan, developed in 2000 by the Department of Justice, Lands and Survey (DJLS), incorporates Sustainable Development Guidelines for Village Planning and Environment Land Use Allocation, but without reflecting climate risks and adaptation measures.

The current regional Pacific Adaptation to Climate Change (PACC) project implements demos in 3 pilot communities and focusing only on water storage and supply issues, but does not treat CC risks links to food security in an integrated way.

The Small Grants Programme in Niue has created a structure that effectively links national institutions to local communities (through the SGP National Focal Group), but the implementation of community-based

adaptation projects is still in early planning stages.

### **Absence of information and capacity to assess climate risks and implement climate change adaptation measures in the villages, related to food production, near-shore fishing and forestry management practices**

A number of programmes and projects have been aiming at implementing demos at the village level to improve land use and agricultural production practices, but without integrating information and responses to address the additional risks caused by climate change:

- Capacity Building for Sustainable Land Management in Niue – UNDP-GEF
- Development of Sustainable Agriculture in the Pacific (DSAP) funded by the European Union
- NZAid – funded projects: Young Farmers Training Programme, Organic Development Programme

Therefore, the communities are unaware of risks climate change can pose for the successful conduct of these practices, and how to adjust them to reduce those risks. Similarly, there is a lack of information and capacity on how to apply and adjust traditional crop processing and food storage practices to climate-related disturbances (e.g. extended dry periods, cyclones), in order to reduce climate risks to food security and supply.

Water has been identified as a priority action area for Niue, but the current efforts being undertaken by the UNDP/GEF PACC project, IWRM and EU supported projects mainly focus on household water supply issues. Water use and stresses in agriculture under the changing climate regime has not been addressed systematically. While Niue's National Action Plan on Land Degradation recognizes the drought impacts and the water use needs, it also states that currently irrigation is done in an inefficient way (using mainly "hand irrigation"), and there is a lack of info and capacity to use more efficient techniques (like drip or pipe irrigation), to reduce water demand in dry periods, and consequent competition with domestic use. There are some ongoing efforts, such as the FAO Technical Cooperation Irrigation Project (undertook water demand estimates and provided drip irrigation system and related equipment, but just for selected farmers), this project can build on. There is a need to modify the planning and use of irrigation techniques according to the expected climate change impacts on water resources and implement measures more systematically throughout Niue's communities.

Previous Government initiatives in the early 90s have included the construction of a small number of community rainwater catchments to provide farmers with access to water near/around bush plantations. Many of these original rainwater catchments are no longer suitable for use and need to be renewed. Additional sites for rainwater catchments should also be considered in the project in order to strengthen water availability for farmers, especially those who have plantations further inland.

There have been efforts undertaken through biodiversity-related projects to support forest conservation in Niue, such as the case of the establishment of the community-driven Huvalu Forest Conservation Area. While there is a lack of information on climate-impacts on forest and climate –resilient forestry management practices, there is also a need identified by the government to extend similar initiatives in other villages. While forests are vital for gathering food and material for subsistence purposes, they are also key catchment areas for the underground aquifer of the island, and climate impacts on these community-resource use relations are not clearly understood.

The establishment and implementation of village fisheries management plans remains a priority area of focus for Niue in assisting village communities sustainably harvest and manage their marine resources. These plans are specified for individual villages. The process however needs to be revised and better tailored to suit Niue's governing and community structure. Capacity building within the Fisheries Division on how to develop and assist in the implementation of these plans and how to integrate climate risk information and identify adaptation measures will need to be addressed under this project.

There is a lack of climate information services and associated capacity of communities to use climate early warning, short term seasonal forecast and other tools in order to enhance crop production, forestry

and fishery practices. Some baseline information has been collected on natural resources use this project can build on and complement with information on climate risks. For example, within Niue's FAD program (fish aggregating devices - established to support the local artisanal and traditional fishermen by minimising their operation costs and to relieve pressure on limited and vulnerable reef and bottom fish species) is also an opportunity to collect valuable catch per unit data and species composition, as well as information pertaining to fishing conditions and fishing grounds. The climate early warning component of this project can build on this initiative, complementing fishing ground monitoring and related management processes with climate information to support climate-resilient fishing practices in communities.

#### Barriers in policy frameworks and institutional capacity

#### **Limited technical resources and human capacities to provide tailored information on climate change trends and associated risks, as well as monitoring of climate impacts on natural resource base, in order to make informed decisions in food security related sectors**

The Niue Meteorological Service is currently under-staffed and lacks the adequate technical basis (e.g. data base, hardware and software, observation stations) and capacity to provide sector-tailored climate information services for policy makers and community practitioners. The Australian-funded Pacific Climate Science Support Programme (PCSSP-ICCAI) provides capacity building to Pacific Met offices, including Niue, but information provided is rather on general climate projections, which need to be further specified and customized for sectoral applications in the country.

The Initial National Communication and National Climate Change Policy identifies the need to enhance monitoring and surveillance system on the climate change impacts in the marine, coastal and terrestrial ecosystems of Niue, that can affect crop, forestry and fishing-ground management practices. There is a number of past and current monitoring and information systems related to ecosystem functionality (e.g. the IWRM oceanic fisheries project monitoring component, or the ongoing SLM project Land Information Systems supporting GIS and remote sensing capacities), but there is a need to overlay with climate information, in order to inform policy makers and community practitioners on climate risks. In order to effectively overlay climate info with monitoring of natural resources in sectoral planning and management practices, monitoring capacity of relevant line departments need to be strengthened as well. For example, there is a need to establish data loggers and monitoring protocols in reef areas to be used by Fisheries in order to monitor water and reef conditions (e.g. temperature, light intensity, tidal/current movements etc). This can serve as basis for ongoing climate risk assessment and provision of climate info for enhanced fishery practices. Similarly, there is a need to develop forest type maps and update existing vegetation and soil type maps, link with forestry inventory data in order to overlay with climate information and guide forestry planning and management option decisions.

An example of the lack of climate information to ensure adaptive capacity in food security was experienced in late 2009 when a prolonged dry period resulted in an increase in pest & disease incursions throughout the Island, affecting both food crops & trees and ornamentals. The Department of Agriculture, Forestry and Fisheries (DAFF) was not prepared for this occurrence and hence had to engage in emergency responses to combat the problem. Had relevant climate information been made available, the Dept. would have been better prepared and subsequently been able to carry out a more strategic adaptive response.

#### **Lack of capacity to integrate climate risk and resilience into agriculture, fishery and forestry sector related policies, strategies and instruments.**

The National Climate Change Policy recognizes the need to reduce climate risks to food-security in the above sectors, but its action plan currently only provides a framework on priorities, without specifying how related policies and strategies should be modified to support adaptation measures in crop, forestry and fishery practices.

As a follow up to the CC policy and action planning process a Water Policy sub-Committee has been established, supported by the ongoing the UNDP/GEF PACC, IWRM and EU projects. Similar institutional structure needs to be created to facilitate the mainstreaming of climate risks into agriculture, fishery and forestry sector related policies, involving pertinent departments, units and national stakeholder groups.

The DAFF will be developing an Agriculture & Forestry sector plan towards the end of 2010, aiming at including identification of climate risks to agricultural production & other sector activities. This project will support the integration of climate risks and resilience in this Plan and subsequent implementation of some of its actions.

Niue's National Integrated Strategic Plan (NNISP) 2009-13 recognizes clearly the threat posed by climate change, sets a target to incorporate relevant climate change issues into Corporate Plans of Departments, enhance climate information services, and develop mitigation and adaptation projects. The strategy has a strong emphasis on sustainable use of natural resources, sustainable practices in agriculture and fishery. This project will contribute to build capacity to implement this plan, which is currently lacking in the corresponding departments, including use of climate information, climate risk assessments techniques, integration of adaptation approaches in sustainable resource use practices, amongst others.

The National Action plan for Land Degradation recognizes the drought risk to agricultural production due to the limited water resources and lack of surface water flow given the island's geological formation, and the need to enhance climate information and measures enhancing effectiveness of water resource use. Climate change considerations can be integrated through training of government staff and farmers, integrating climate risks into existing soil, landuse and crop maps (mostly outdated) and related measures.

A number of projects and policy frameworks currently address sustainable land use and forestry in Niue (e.g. SLM project, National Forest Policy, Forest Management Plan by SPC, Department Corporate Plans), but without systematically incorporating climate change info, risk and adaptation measures, due to current lack of capacity in the Department of Agriculture, Forestry and Fisheries to use climate information, risk assessment techniques and modify strategies and policy instruments accordingly.

Past projects supporting fisheries mostly focused on off-shore and deep-water fishery (e.g. IWRM oceanic fisheries project) with lesser attention to near shore and reef fishery practices, let alone considering climate change risks. The Fishery Legislation fails to address reef protection and near-shore fishing ground management practices in light of current and emerging climate risks (like coral bleaching, fish poisoning, species composition change, due to increased seawater temperatures), that exacerbate current human-induced stressors.

There is a need to enhance current data collection capacities in fisheries, include ciguatera monitoring and coral reef monitoring. This can be achieved through the provision of training opportunities for fisheries officers, equipment and resources to undertake monitoring assessments and analysis. By enabling the Division to collect scientific data pertaining to the near shore fishery will in turn support legislative, policy and strategic approaches to integrate climate change adaptation measures through a cross-sectoral approach focused on Fisheries.

Niue's Initial National Communication outlined the need for a standard code for coastal management i.e. an integrated coastal management plan (ICM), integrating all aspects of conservation and environmental protection with climate change risks. In 2008, SOPAC assisted in developing Niue's "Sustainable Coastal Development Policy", but to date no work has been done in terms of implementing the policy. Goal 4 of this identifies areas which are need to be addressed due to the lack of sufficient baseline data/information and highlights strategies to overcome these gaps through strengthening scientific monitoring programs, information analysis and dissemination. This project represents a good opportunity to support capacity building in this area and the integration of climate risk and resilience info.

## Barriers in climate change adaptation knowledge management

### **Lack of systematically analyzing cross-sectoral adaptation experience in order to support integrated adaptation measures in communities**

While ongoing projects related to adaptation (UNDP/GEF PACC) or sustainable natural resource use (IWRM, SLM) do have knowledge management components, they only deal with single-sector applications (e.g. PACC on water), or sustainable resource use practices without addressing experience on climate change adaptation assessments and measures. There is a need to capture, analyze and disseminate climate change adaptation good practices and lessons learnt in the setting of integrated village development processes, linking different sectors related to the national priority of food security. There is also a need to make available the country's adaptation experience on the policy and implementation front more broadly in the Pacific and other SIDS regions.

There are considerable efforts to maintain the Niuean identity, the people of the island being the trustees of Niue's *Taoga*, which inherently relates cultural traditions with the use of the natural resources. Raising awareness on climate change risk and successful adaptation measures can greatly contribute to sustain the traditional value system currently threatened by western influences and degradation of natural resources. There is a need to identify and document traditional food production practices that are or can be impacted by climate change and to provide communities with resources to strengthen their adaptive capacity.

Niue has been conducting in the past successful awareness raising activities for communities on climate change, and introduced some basic climate change science into some courses and school activities at different levels, through engaging principals and teachers alike. There is a need to continue these activities and further enhance them through integrating latest findings on climate assessments for the country and the region, as well as experience on practical adaptation measures linked with livelihood issues in an integrated way, especially for the new generations.

Niue's Meteorological Service has been publishing in the past a climate change newsletter, also supported by the local newspaper, the Niue Star. The provision of this public information needs to be continued and upgraded with more precise climate data, better tailored to users in the community.

## **■ PROJECT / PROGRAMME OBJECTIVES:**

The proposed project will strengthen ability of communities and government officers in Niue to make informed decisions and manage likely climate change driven pressures in food-security related sectors, such as agriculture, fishery and forestry, in an integrated way. In particular, the project will lead to the following key results (outcomes) directly aiming at overcoming the barriers outlined above:

- Capacity of communities enhanced to reduce climate change risks to food security and livelihoods through implementing integrated adaptation measures in all 14 villages of Niue, involving at least 400 households
- Enhanced institutional capacity of food-security related government sectors to integrate climate risk and resilience into policy frameworks and implementation mechanisms
- Foster the generation and spread of relevant knowledge for assisting decision-making in community-based adaptation and policy-formulation at the national and regional level

The outputs and activities to be implemented to attain the above 3 outcomes are inherently linked and supportive of each other. While the focus is on community-based adaptation measures, the policy and institutional strengthening component is designed to provide the needed enabling environment that would allow the systematic development and implementation of on-the-ground measures within integrated

village development plans, supported by adequate policy frameworks, instruments and user-tailored climate information services. The knowledge management component is designed in a way to allow the capturing of good practices and lessons learnt both from the policy processes and community-based adaptation implementation, ensuring that the experience generated will support longer-term adaptation processes and future generation of professionals and practitioners, as part of the project sustainability strategy.

## ■ PROJECT / PROGRAMME COMPONENTS AND FINANCING:

PROJECT COMPONENTS	EXPECTED CONCRETE OUTPUTS	EXPECTED OUTCOMES	AMOUNT (US\$)
<p><b>1. Integrated Community - Based Adaptation measures implemented in crop production, forestry and near shore fishery management</b></p>	<ul style="list-style-type: none"> <li>• Development of integrated climate change adaptation plans aligned with village development plans, based on community assessments and consultation (including integrated coastal, marine and land use plans) on climate change risks</li> <li>• Climate-resilient techniques and related technology with underlying sustainable business strategies, are introduced at the community level in:               <ul style="list-style-type: none"> <li>○ Crop production, management and processing techniques (e.g. crop diversification, mixed cropping, mulching, composting, soil and water conservation measures, irrigation, hydroponic systems, enhanced traditional food conservation techniques, etc.)</li> <li>○ Livestock production &amp; management; introduction of climate resilient pig &amp; poultry species and related management techniques (including ecological treatment of waste from livestock farms)</li> <li>○ Forestry management techniques (e.g. rehabilitation of cyclone-affected and disturbed areas with climate resilient native species, replacement of exotic species)</li> <li>○ Internalizing climate change risks into reef and near shore fishing ground management techniques</li> </ul> </li> <li>• Establishment of nurseries at the community levels to ensure the continuous supply of climate resilient and traditional/native crops and forest plants.</li> <li>• Establishment of an agricultural gene bank to preserve traditional and climate resilient crop and forest plant varieties.</li> <li>• Strengthening and establishment of community-managed forest and marine conservation areas and buffer zones, through viable management models and plans (including support activities like environmental education and ecotourism)</li> <li>• Communities are trained on the use of climate early warning and information services in decision-making processes to support traditional and climate-resilient agricultural, forestry and</li> </ul>	<p>Capacity of communities enhanced to reduce climate change risks to food security and livelihoods through implementing integrated adaptation measures in all 14 villages of Niue, involving at least 400 households</p>	<p>2,300,000</p>

	<p>near-shore fishery management practices</p> <ul style="list-style-type: none"> <li>• Communities are trained to collaborate in reef, coastal and forest monitoring activities to track impacts of climate change and related environmental resource use aspects of ecosystems.</li> </ul>		
<p><b>2. Institutional strengthening to support climate resilient policy frameworks for the agriculture, fisheries and forestry sectors</b></p>	<ul style="list-style-type: none"> <li>• Development and implementation of an Action Plan in food-security related sectors (agriculture, fisheries and forestry) to advance the implementation of the National Climate Change Policy, in line with the new Agriculture and Forestry Sector Plan to be developed</li> <li>• The National Agriculture, Forestry and Fisheries related policies, legislations, corporate plans and budgets revised to integrate climate change risk and resilience</li> <li>• Strengthening the national and village level climate change coordination mechanisms to enhance decision making processes in the context of current and emerging climate risks and opportunities in food-security-related sectors</li> <li>• Policymakers in the Department of Agriculture, Forestry and Fisheries, Department of Environment, Department of Community Affairs and the Office of Economic, Planning, Development &amp; Statistics are trained on policies and strategies to manage climate change risks</li> <li>• Tailored Climate Early Warning System and related information services are developed for agriculture, forestry and fishery sectors, in collaboration with the Niue Meteorological Service</li> <li>• Officials and extension service staff at the line departments involved are trained on the use of climate information services, climate risk assessment and climate resilience management techniques.</li> </ul> <p>Establishment of a monitoring and surveillance system on the climate change impacts in near-shore, coastal and forest ecosystems, and training delivered to officials and technical staff at the relevant departments</p>	<p>Enhanced institutional capacity of food-security related government sectors to integrate climate risk and resilience into policy frameworks and implementation mechanisms</p>	<p>450,000</p>
<p><b>3. Climate Change Adaptation knowledge management (production, sharing and dissemination) and awareness raising</b></p>	<ul style="list-style-type: none"> <li>• Lessons learned and best practices are generated (case studies, photo stories, short videos, posters-in local language) by communities and project management and disseminated to other communities, civil society and policy makers in government and globally through appropriate mechanisms such as the Adaptation Learning Mechanism (ALM).</li> <li>• Knowledge on traditional crop production, forestry and fisheries management, and their adjustments in light of changes in climate variability and longer term climate change impacts are documented and shared as 'taoga' to strengthen adaptive capacity</li> </ul>	<p>Fostered the generation and diffusion of knowledge on adapting to climate change in a systemic manner at the community and national levels</p>	<p>150,000</p>



	of communities in Niue and in other Pacific nations <ul style="list-style-type: none"> <li>• Training materials, school programmes, community awareness programmes and curricula incorporate climate change issues; training of teachers and students continued and further enhanced through food security-related adaptation experience.</li> </ul>		
6. Project/Programme Execution cost			250,000
7. Total Project/Programme Cost			3,150,000
8. Project Cycle Management Fee charged by the Implementing Entity (if applicable)			315,000
<b>Amount of Financing Requested</b>			<b>3,465,000</b>

## ■ PROJECTED CALENDAR:

MILESTONES	EXPECTED DATES
Submission of Concept to AF	July 26, 2010
Approval of the Concept by the AF Board (Estimate)	Sept 15, 2010
Development of a Full Project Proposal	Dec 15, 2010
Submission to AF of a Full Project Proposal	Dec 20, 2010
Start of Project/Programme Implementation	Feb 2011
Mid-term Review (if planned)	Feb 2013
Project/Programme Closing	Feb 2015
Terminal Evaluation	June 2015

## ■ PART II: PROJECT / PROGRAMME JUSTIFICATION

- A. Describe the project / programme components, particularly focusing on the concrete adaptation activities of the project, and how these activities contribute to climate resilience.

The project has a 3-pronged integrated approach, focusing on the implementation of on-the ground concrete adaptation measures at the community level, integrated to sustainable village development processes and supported through enhanced national institutional and knowledge management capacities. The following activities correspond directly to the barriers and intended project outputs listed above. These are merely indicative activities for the purpose of conveying the intent of the initiative at this preliminary concept phase of accessing resources from the Adaptation Fund. With the support of UNDP, each component will be examined in detail during the project formulation phase and a detailed project document will be presented for final AF approval.

The proposed project will contribute to all outcomes listed within the 2 objectives of the Adaptation Fund Strategic Results Framework, as it aims at:

- reducing exposure to climate related hazards and threats at national level, strengthening institutional capacity and public awareness on climate change through conducting and updating climate risk assessments, enhancing climate early warning system tailored to vulnerable sectors,

train policy makers and technicians at the relevant government departments, and involve local communities through targeted trainings and awareness raising activities using different media.

- increasing adaptive capacity within the agriculture, fishery and forestry sectors, and enhance resilience of terrestrial, coastal and marine ecosystems these sectors depend on
- strengthening livelihoods through diversifying food production, processing and related subsistence and income-earning activities amongst local communities, through integrated and climate-resilient village development plans targeting at least 400 households directly involved in agricultural, fishery and forestry activities.

### ***Component 1: Integrated Community -Based Adaptation measures implemented in crop production, forestry and near shore fishery management***

Resources from the Adaptation Fund will be used to support traditional land use, crop, livestock, forest and fishing-ground management techniques so that they are more robust to the uncertainties of climate change. Techniques that will be assessed and adjusted to specific conditions of each village can include the introduction of drought resistant crop species, crop diversification, mixed cropping, mulching, composting, soil and water conservation measures, irrigation, hydroponic systems, enhanced traditional food conservation techniques, animal species more resistant to heat stress, drought conditions and diseases, etc. The establishment and improvement of nurseries will ensure the constant supply of plants. During the design phase of this project, water management practices for agricultural use will be adjusted to reflect climate change risks, ensuring a balanced use and supply for both domestic and agricultural purposes. These measures will be in conjunction with other well known techniques of soil erosion control, soil fertility enhancement, and prevention and protection of weed, pest and disease which will be financed from alternative sources. The extension of community forest reserves and climate-resilient forestry practices (with plantation of drought and cyclone-resilient native tree species) will be promoted

Agriculture officers providing advisory services and communities will also be trained on the use of climate information and monitoring of climate impacts in land use and fishery resources, in collaboration with the Niue Met Services, in order to support decision-making processes in agriculture, fishery and forestry practices. All project interventions will be supported by the active engagement of Village Councils and communities/stakeholders actively. Resources will be made available to organize and provide training to farmers and fishermen in order to introduce the above mentioned climate-resilient practices.

Importantly, the above measures will be planned and implemented in the framework of integrated village-level adaptation and sustainable development plans, bringing together ongoing efforts to enhance land use, fishing ground and forestry area management practices, through area- and ecosystem-based adaptation approaches to treat food-security resources in a coherent way.

### ***Component 2. Institutional strengthening to support climate resilient policy frameworks for the agriculture, fisheries and forestry sectors.***

Resources will be utilized to implement a set of activities that lead to the strengthening of technical capacities within the Department of Agriculture, Forestry and Fisheries, Department of Environment, Department of Community Affairs and the Office of Economic, Planning, Development & Statistics and the Niue Met Service. The project will directly contribute to the implementation of Niue's National Climate Change Policy, approved by its Cabinet in January 2010, through preparing and implementing an Action Plan in food-security related sectors. This will result in the revision of policies and related instruments in the agriculture, fishery and forestry sectors, linked with sustainable land use and coastal management policies. The project will contribute to the strengthening of institutional coordination mechanisms at the national, sectoral and village levels. The project will serve to enhance the capacities to more systematically gather, analyze and disseminate sector tailored climate information, and monitoring of climate impacts of terrestrial, marine and coastal ecosystems that constitute the food security base of the country. Activities will be directed to train both officers in the Niue Met Service and users in the relevant line departments and community members on climate and weather information products. The capacities

of Met Office will be enhanced in climate data observation, analysis and dissemination in order to establish Climate Early Warning System with a specific user interface.

**Component 3. Climate Change Adaptation knowledge management (production, sharing and dissemination) and awareness raising**

Activities undertaken under this outcome will focus on codifying lessons learned and best in the form of case studies, photo stories, short participatory videos, posters- in local language) by communities and the project team. These will be used as tools in sharing critical information between villages of Niue, civil society and policy makers in government and globally. Appropriate mechanisms for sharing information such as the Adaptation Learning Mechanism (ALM) will be utilized for this purpose. Activities will also be undertaken to ensure that communities/stakeholders actively participate in a Pacific knowledge platform/ALM to dialogue with peers and policymakers on a range of relevant topics including formulating and implementing effective adaptation policies, setting up planning processes for climate change risk management and tracking and documenting vulnerability reduction. It is expected that the project will be a source of vital information on climate change adaptation in a user-friendly way to all relevant local communities, agricultural stakeholders and authorities. The project will build on past successful awareness raising, media and school activities undertaken by the government of Niue, and will support their continuation and enhancement.

**B. Describe how the project / programme provides economic, social and environmental benefits, with particular reference to the most vulnerable communities.**

While details how the project will provide economic, social and environmental benefits, especially to the vulnerable communities will be articulated in the full project proposal, it is expected that the project will deliver livelihood benefits and create the enabling environment for resilience to longer and creeping impacts of climate change. The project targets to directly involve and benefit at least 400 households in all 14 villages Niue, basically engaging all the families involved in agricultural, livestock or fishing activities (404 households involved in agriculture according to Agricultural Census data) . Given that the project aims at developing integrated village-level adaptation plans, communities will be involved more broadly and will benefit from awareness raising and training activities, through participatory consultation processes engaging community structures, such as village councils, church, youth or women groups. The communication and awareness raising activities will engage local media, and will also target the primary and secondary schools of Niue, reaching out to different generations and community layers of the country.

Food security systems at the community level will be supported by reducing vulnerability of communities to drought, water scarcity, pests, degraded coral reef and fishing ground conditions, composition change in marine species and fish poisoning, forest fires and other climate-induced problems which, without this project, will continue to adversely affect production and supply of agricultural, fisheries and forestry products. The enhanced food processing and storage techniques coupled with realization of proper business strategies at all levels will create buffers to endure extreme situations and conditions. Through enhancing food security, nutrition and related health conditions are expected to improve as well. Linkages will be created with water management that is used for both household and agricultural production purposes, as well as community based forests protection to regulate and ensure sustainable supply of water resources. The project will focus on revitalizing and adjusting traditional food production, processing and storage techniques, to reduce dependence on imported food, especially in cases of climate-related disturbances. The Niuean traditional culture is inherently based on the stewardship and use of the island's natural resources, its land, forest, coast, reefs and sea, expressed in the Niuean way of taking care of this national heritage, its *Taoga*. By reducing climate risks to the long-term sustainability of natural resources use, this project will contribute to maintain the integrity of Niue's national identity and traditional community systems.

The policy changes introduced in sectoral plans and capacity building components of the project will be designed in a way to create an enabling environment that will secure the long-term sustainability of the

project. The enhanced national capacity in the provision of climate information services, technical capacity of line departments and their extension/advisory services will be built to provide support to communities in their on-the-ground adaptation measures in the long run. Linkages with other policy processes and related initiatives and projects will ensure an effective maintenance and replication of the adaptation techniques introduced to support livelihood activities of villagers.

**C. Describe or provide an analysis of the cost-effectiveness of the proposed project / programme.**

The proposed interventions in this project have been outlined in close collaboration with national entities of Niue, coordinated by the Department of Agriculture, Forestry and Fisheries and the Department of Environment, and based on key national and sectoral policies, project documents and technical studies. Initial considerations were given to a number of alternative responses during the concept development stage, based on past and ongoing projects and initiatives in land use, agriculture, forestry and fishery practices. This project will build on these experiences and related existing delivery mechanisms and institutional structures, further strengthen and adjust them to reduce current and projected climate risks. As such, the concept is deemed to be in line with basic cost-effectiveness considerations. During the project formulation phase, cost-effectiveness of the proposed project outcomes and indicative outputs will again be addressed including detailed environmental and socio-economic assessments and feasibility studies and outlined in the final project document that is submitted for Board approval.

**D. Describe how the project / programme is consistent with national or sub-national sustainable development strategies, including, where appropriate, national or sub-national development plans, poverty reduction strategies, national communications, or national adaptation programs of action, or other relevant instruments, where they exist.**

The project directly addresses the food security and related sectoral priorities identified in Niue's Initial National Communication, National Climate Change Policy and the National Integrated Strategic Plan. The project itself represents an Action Plan to the national CC policy in food security-related sectors. As detailed in the section on barriers, a thorough overview of existing sectoral policies and corporate plans and related technical studies have been analyzed to assess current gaps and needs in capacities to integrate climate change risk and resilience into food-security related sectoral policies and management practices. The community-based adaptation initiatives will be implemented in a coordinated and integrated fashion, complementing the Sustainable Development Guidelines for Village Planning, indicated in the Land and Marine Resource Use Plan, and other related efforts, such as the Community-Centered Sustainable Development Programme.

Building on existing government institutions at the different levels, the project will foster inter-ministerial and cross-sectoral coordination on climate change adaptation issues, in line with Niue's National CC Policy. Similar to recently established Water Policy sub-Committee, cross-sectoral climate change coordination mechanism will be created and strengthened for food security-related issues

The project will explore and create synergies with country support programmes of regional organizations, such as SPC, SPREP, SOPAC and USP, as well as initiatives financed by bilateral donors, such as NZAid or the European Commission, and others. Additional details will be specified in the full project proposal to be submitted for AF Board approval.

**E. Describe how the project / programme meets relevant national technical standards, where applicable.**

All UNDP supported donor funded projects are required to follow the mandatory requirements outlined in the UNDP Programme and Operational Policies and Procedures (UNDP POPP). This includes the

requirement that all UNDP development solutions must always reflect local circumstances and aspirations and draw upon national actors and capabilities.

In addition, all UNDP supported donor funded projects are appraised before approval. During appraisal, appropriate UNDP representatives and stakeholders ensure that the project has been designed with a clear focus on agreed results. The appraisal is conducted through the formal meeting of the Project Appraisal Committee (PAC) established by the UNDP Resident Representative. The PAC representatives are independent in that they should not have participated in the formulation of the project and should have no vested interest in the approval of the project. Appraisal is based on a detailed quality programming checklist which ensures, amongst other issues, that necessary safeguards have been addressed and incorporated into the project design.

The project will be consistent with all national social and environmental safeguards and standards. Additional details will be spelt out in the full project proposal when it is submitted to the Adaptation Fund Board for final approval.

**F. Describe if there is duplication of project / programme with other funding sources, if any.**

The project will be developed and implemented to create synergies with and implement complementary actions to the following projects and initiatives:

- The Pacific Adaptation on CC (PACC) – UNDP-GEF, Integrated Water Resources Management Project (IWRM) – UNDP-GEF, EU: these projects focus on water-sector related policies and pilot measures addressing water supply and storage in communities. Lessons learnt on water management techniques will be applied in the implementation of integrated village-level adaptation plans and measures, to enhance water supply for both household and agricultural irrigation purposes.
- Capacity Building for Sustainable Land Management in Niue (UNDP-GEF): this project will draw on lessons learnt from the community demos of the SLM project, support their replication in other communities and will introduce necessary adjustments into land use practices to reduce potential climate change risks.
- Projects aiming at sustainable agriculture, financed by EU, NZ, FAO: successful techniques, (particularly participatory approaches to sustainable development) will be adapted for further replication in Niuean communities in an integrated way, further informed through climate information services to be generated by this project
- The DAFF submitted six project concept proposals to the FAO to be funded and implemented under the Food Security & Sustainable Livelihoods Programme (FSSLP), an expansion of the pilot project on Regional Food Security in the Pacific. It has been several years since the project concepts were submitted, however, to date, none of them have progressed to an implementation stage. The AF project will provide an opportunity for implementation of some of those project concepts, whilst building on the lessons learnt from the pilot national food security projects.
- The FAO Telefood Special Funds: is a fund set up to finance grassroots-level micro-projects in developing countries. Telefood projects are intended to improve the livelihoods of poor families by enhancing agricultural production and promoting added value, enabling them to produce more food and to generate cash income, thereby allowing them better access to food. Community groups are encouraged to apply for this fund which provides a maximum of USD10,000 for one project. Niuean communities are eligible to apply for up to USD50,000 a year (ie. Max 5 projects of USD10,000). This fund has not been readily accessed because communities lack the capacity to develop sound project proposals that meet the Telefood criteria and therefore it is anticipated that this AF project will provide capacity building for the communities, linking such funding opportunities with community development plans etc.
- The Australian-funded Pacific Climate Science Support Programme (PCSSP-ICCAI): the project will build on the capacity generated at the Met Office on climate change projections and use of climate information, by customizing it to national conditions and sectoral needs in agriculture,

- fisheries and forestry and building capacity of the line departments and communities to use it.
- The bilateral component of the Australian-funded ICCAI: currently the government and UNDP is engaged in coordinating additional resources to support adaptation activities under the PACC project in the water sector. Links will be explored to provide additional support to food security-related adaptation measures addressed under this proposed project.
- The regional Community-based Adaptation Programme under the Small Grants Programme – funds for this programme only allows around 2 community projects, which is very limited considering the national needs. SGP activities will be coordinated closely with the integrated village-level adaptation component of this project, in order to ensure cross-fertilization of experiences through the vulnerability assessment, adaptation planning and implementation phases.
- The country programmes of relevant regional organizations (CROP agencies), such as SPC, USP, SPREP or SOPAC - The research, training and mainstreaming activities delivered by these organizations and their expertise will be harnessed to achieve the intended outputs of this project. The experts of these organizations will be involved to create a regional technical backstopping mechanism, based on existing networks developed through other UNDP-implemented adaptation projects.

Additional details will be spelt out in the full project proposal when it is submitted to the Adaptation Fund Board for final approval.

**G. If applicable, describe the learning and knowledge management component to capture and disseminate lessons learned.**

Recognizing the importance of knowledge management (KM) to enhance impacts and facilitate replication, this initiative integrates various KM related actions. Lessons will be documented and disseminated through appropriate means (practical brochures, booklets and media materials tailored to local languages and cultural contexts, through community and national level workshops, exchange visits, to facilitate peer-to-peer exchange of knowledge, as well as harnessing existing web-based platforms such as the Adaptation Learning Mechanism at [www.adaptationlearning.net](http://www.adaptationlearning.net). The capturing and analyzing of experience and lessons learnt will be systematically applied throughout the project cycle (e.g. from the detailed vulnerability assessment through the adaptation planning and implementation that will underpin the design of the project as articulated in the final project proposal). Also, a community of practice dialogue space on the Adaptation Learning Mechanism will allow project staff to participate in a growing expert group of adaptation practitioners who share good practices and tacit knowledge to ultimately catalyze action and influence policy processes at national regional and global level. The project will draw on past awareness raising, education and communication initiatives in Niue in the field of climate change, including school programmes, and will provide support to their continuation and further strengthening, based on the project experience.

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 support the diffusion of lessons learned. The project will identify, analyze, and share lessons learned that might be beneficial in the design and implementation of similar future projects both in Niue as well as elsewhere in the Pacific and beyond.

**H. Describe the consultative process, including the list of stakeholders consulted, undertaken during project preparation.**

The project process will be building on and serve to strengthen existing institutions and inter-ministerial coordination mechanisms. Consultations during the project preparatory phase will involve, among others, the following national agencies and organizations:

- Department of Environment
- Department of Agriculture, Forestry and Fisheries
- Office of Economic, Planning, Development & Statistics Niue Assembly
- Niue Meteorological Service

- Department of Community Affairs
- Niue Assembly
- Village Councils (14)

Given the community-based focus of the project, assessment, planning and implementation of adaptation measures will be carried out through participatory consultations, engaging community-governance structures, such as Village Councils, church groups/networks, youth and women groups. Particular attention will be given to the role of women, recognizing their traditional role in providing food supply to the family. For the effective coordination with Village Councils and community members, the Department of Community affairs will play a key role as part of the Project Steering Committee. The communication and knowledge sharing activities will allow that villagers can learn directly from each others, through the good practices analysed and disseminated and direct exchange visits, amongst other means.

Additional stakeholders will be consulted based on the advice and guidance of the UNFCCC Climate Change and Adaptation Fund Focal Point. A full description of stakeholders consulted during the project formulation phase will be described in the project proposal submitted for AF Board approval.

## I. Provide justification for funding requested, focusing on the full cost of adaptation reasoning.

AF funds will be used to expand on, and complement existing baseline programmes and projects, and will be aligned with development priorities of the country and its villages.

### *Implementation of integrated community-based adaptation measures:*

As detailed in the section on barriers and capacity gaps, there have been some initiatives carried out to support integrated village or land use planning (e.g. CCSDP, SLM), and there has been a range of projects supporting agricultural, forestry or fishing practices, supported by different donors (e.g. NZ, EU, UNDP-GEF). These projects have been carried out only in selected villages on a pilot basis, but not in a systematic way and without integrating climate risk and resilience information to adjust practices accordingly. The funds from this project will be used to develop and implement integrated village adaptation plans in a systematic way, building on and replicating experience from these past and ongoing processes. Project funds will serve to conduct thorough community assessments, develop adaptation plans covering in an integrated way villages' land, coastal and marine territories, design and implement adaptation measures through provision of specific technical support and training activities. Communities will benefit from the tailored climate information services and project funds will support capacity building for fishermen, farmers and relevant community members to use this information for informed planning and practice of food production and processing livelihood activities. Part of the integrated village development plans, project funds will support the establishment of more specified climate resilient management plans for fishing grounds, agriculture and forestry areas (including the designation of community forest reserves), with supporting techniques, technology and business models. The setting up of nurseries, introduction of climate resilient species, irrigation and cultivation techniques, as well as food processing and conservation methods using project resources, will ensure continuous supply for food production and consumption, that will be especially key in periods of mayor climate disturbances (e.g. extended drought, cyclones).

### *Policy revision and instituional strenghtening:*

Niue has recognized the threat of climate change and placed adaptation amongs its top priorites, clearly articulated in its National Climate Change Policy. This Policy outlined key vulnerability areas and defined the need to establish and implement action plans accordingly, which has been initiated in a systematic manner only in the water sector. Currently there is no systematic assement and action plan for food security-related sectors and current agricultural, forestry and fishery practices do not integrate climate risk and resilience. Unsustainable land use and agricultural practices have been contributing to increase the vulnerability of communities to climate change. This project will in effect represent the development and implementation of an action plan targeted to reduce shorter and longer term climate risks that jeopardize food security and related development objectives. Current services of the Met Service does not support

planning and management decisions in food security sectors, as it has been stated above in the case of a drought in 2009. Project funds will be used to build capacity to generate and apply customized climate early warning system and related information services. Project resources will support the revision of Agriculture, Forestry and Fishery sector policies and plans, for full integration of climate risk and resilience, through targeted training of government officials. The need for enhanced monitoring capacity of natural resources has been highlighted in a number of policy documents, awaiting implementation (like the Coastal Management Policy), this project will support to build such capacity, in order to track climate – induced impacts on vital livelihood resources.

*Knowledge management:*

Adaptation activities are incipient and piecemeal in the country, through a few ongoing projects (e.g. PACC, SGP-CBA), which does not allow a systematic capturing, analysis and dissemination good practices. This project will fund adaptation knowledge management activities, currently non-existent in the country that will build capacities and facilitate broader KM applications, benefitting wider processes. KM processes will engage a range of media, and target different layers of Niuean society, including the continuation of climate change awareness raising and education activities in schools

Above all, resources from this project will be used to fund activities that are additional to the ongoing development programmes and will contribute to make communities of Niue more resilient to the current and anticipated impacts of climate change.

The full cost of adaptation reasoning will be articulated in the project proposal submitted for final approval by the Adaptation Fund. The proposal will further outline baseline development activities that are currently financed out of traditional ODA and the value added of those outcomes that are to be financed with resources from the Adaptation Fund.

## PART III: IMPLEMENTATION ARRANGEMENTS

### A. Describe the arrangements for project / programme implementation.

The Government of Niue will execute this four year project with the support of UNDP under the National Execution (NEX) modality. Department of Agriculture, Forestry and Fisheries (DAFF), in close collaboration with the Department of Environment will function as executing agency and will be responsible for ensuring that the stated project objective and outcomes are delivered, and that resources are allocated and disbursed in an efficient and effective manner as detailed in the Project Document. DAFF is well-positioned as executing agency for this project, given that it currently coordinates a range of initiatives and projects related to food security, directly engaging with communities, and has been also active in overall national policy processes. The close collaboration with DE will ensure linkages with National Climate Change Policy framework and climate

change adaptation initiatives in other sectors (such as water). DAFF and DE will be responsible for ensuring effective coordination between this Project and other relevant projects in Niue. The Project will be coordinated through a Project Steering Committee (SC) which will provide support for the operational management of the Project. It will be chaired by a high-level representative appointed by DAFF and DE as representative of the main project beneficiaries.

The project structure will be constituted by a National Project Director (NPD) and a National Project Coordinator (NPC). The National Project Director will be responsible for supervising the Project on behalf of DAFF and DE and will work with the NPC. The NPD is the administrative and executive manager of activities described in the Project Document. The NPC will be supported by a technical team.

DAFF and DE will follow the norms and procedures detailed in the UNDP NEX manual for project execution. For its part, UNDP will provide support to the Director and the Coordinator of the project, in order to maximize its reach and impact as well as the quality of its products. Moreover, it will be responsible for administering resources in accordance with the specific objectives defined in the Project



Document, and in keeping with its key principles of transparency, competitiveness, efficiency and economy. The financial management and accountability for the resources allocated, as well as other activities related to the execution of Project activities, will be undertaken under the direct supervision of the UNDP Country Office.

Once the project is approved and an operational annual work plan is prepared, the UNDP Office in Niue will be able, in those specific cases agreed to with project counterparts, to charge the project directly for Execution Support Services, based on transactions and employing a universal price list.

UNDP will undertake the internal monitoring of the Project and of evaluation activities, taking into account from the outset local capacities for administering the project, capacity limitations and requirements, as well as the effectiveness and efficiency of communications between ministries and other institutions that are relevant to the project.

DAFF will prepare an Annual Work Plan that incorporates project activities and results to be delivered through the Work Plan. The Plan will define the execution time frame for each activity and the responsible parties for its implementation. The first Work Plan will be finalized and incorporated into the Project Document within 30 days of its signature. The participation of project counterparts will be essential for the success of the planning phase, during which the Annual Work Plan will be prepared.

## **B. Describe the measures for financial and project / programme risk management.**

Key assumptions underlying the project which will be explored during the formulation phase include:

- A series of unusually adverse climatic conditions and extreme climatic events (like cyclones) does not damage adaptation measures being implemented, or weaken the interest of key stakeholders to addressing adaptation issues.
- A national consensus on the institutional management of food-security related priorities in the National CC Policy is reached, meaning that collaboration of key government departments in the project is not hindered by unforeseen influences
- There is sufficient coordination between village councils and national authorities to scale up the village-based integrated adaptation actions in an effective manner.
- Political or security complications in project sites does not limit implementation of project activities.
- Stakeholders are able to perceive reductions in vulnerability over the time-scale determined by project duration.
- Stakeholders are able to distinguish vulnerability to climate change from baseline weaknesses in land, coastal, marine and water resources management.
- The government remains supportive, politically and financially, to a cross-sectoral and integrated approach to the management of climate risks and opportunities.
- There is sufficient co-operation and commitment within the target communities to support community level action for the adaptation measures.
- The techniques and technologies developed are gender sensitive – i.e. they do not increase inequity between men and women or change the social roles of men and women in a way that reduces self reliance.
- The selection of adaptation measures in the villages follows integrated village development plans, vulnerability considerations and the established criteria and not derailed due to political processes and influences.

While the above risks need to be assessed in detail, strong commitment from the Government of Niue exists which limits the likely risks to the proposed project. Furthermore, linkages made to ongoing and planned baseline development activities implemented by government as well as local buy-in will also minimize these risks.

The most serious risks are related to institutional coordination, limited qualified staff and high turnover, a common issue in a number of Pacific countries. The mitigation strategy to address this risk involves early and consistent engagement of senior government decision makers on project progress and monitoring,

the application of an awareness programme for policy makers, and the involvement of a group of core technical officers in relevant line departments, as well as village councils and leaders. A more comprehensive risk assessment will be carried out during the project formulation phase and an appropriate mitigation strategy will be outlined in the project proposal. During regular project review meetings, in which UNDP is an active participant, all risks and mitigation measures will be reviewed and updated as per established practices.

### C. Describe the monitoring and evaluation arrangements and provide a budgeted M&E plan.

Project monitoring and evaluation will be conducted in accordance with established UNDP procedures by the project team with the support of UNDP Staff. The Logical Framework for the project (based on the outlined provided in this concept and to be developed and presented in the full project proposal) will provide performance and impact outcome level indicators along with their corresponding means of verification. These will form the basis on which the project's Monitoring and Evaluation system will be built.

The following sections outline the principle components of the Monitoring and Evaluation Plan and indicative cost estimates related to M&E activities. The project's Monitoring and Evaluation Plan will be presented in the final project proposal (including necessary budgetary resources) submitted for AF Board approval and finalized in the Project's Inception Report following a collective fine-tuning of indicators, means of verification, and the full definition of project staff M&E responsibilities.

In accordance with the programming policies and procedures outlined in the UNDP User Guide, the Programme will be monitored at the national levels through the following:

#### Within the annual cycle

- On a quarterly basis, a quality assessment shall record progress towards the completion of key results, based on quality criteria and methods captured in the Quality Management table below (to come).
- An Issue Log shall be activated in Atlas and updated by the Programme Manager/National Project Managers to facilitate tracking and response of potential problems or requests for change.
- Based on the initial risk analysis submitted, a risk log shall be activated in Atlas and regularly updated by reviewing the external environment that may affect the project implementation.
- Based on the above information recorded in Atlas, a Project Progress Report (PPR) shall be submitted by the Programme Manager to the Project Board and the National Project Managers to the National Project Boards through Project Assurance, using the standard report format available in the Executive Snapshot.
- A Project Lesson-learned log shall be activated and regularly updated to ensure on-going learning and adaptation within the organization, and to facilitate the preparation of the Lessons-learned Report at the end of the project.
- A Monitoring Schedule Plan shall be activated in Atlas and updated to track key management actions/events.

#### Annually

- *Annual Review Report.* An Annual Review Report shall be prepared by the National level Project Manager and shared with the Project Board. As minimum requirement, the Annual Review Report shall consist of the Atlas standard format for the Quarterly Progress Report (QPR) covering the whole year with updated information for each above element of the QPR as well as a summary of results achieved against pre-defined annual targets at the output level.
- *Annual Project Review.* Based on the above report, an annual project review shall be conducted during the fourth quarter of the year or soon after, to assess the performance of the project and appraise the Annual Work Plan (AWP) for the following year. In the last year, this review will be a final assessment. The national review is driven by the Project Board and may involve other stakeholders as required. It shall focus on the extent to which progress is being made towards outputs, and that

these remain aligned to appropriate outcome(s). The regional review is driven by the Project Board.

Mid-term and terminal evaluation report

According to established UNDP practices, the project will undergo an independent mid-term and terminal evaluation.

**D. Include a results framework for the project proposal, including milestones, targets and indicators.**


This will be outlined in the full project proposal to be submitted to the Adaptation Fund for approval.

**PART IV: ENDORSEMENT BY GOVERNMENT AND CERTIFICATION BY THE IMPLEMENTING ENTITY**

**A. RECORD OF ENDORSEMENT ON BEHALF OF THE GOVERNMENT<sup>3</sup>** *Provide the name and position of the government official and indicate date of endorsement. If this is a regional project/programme, list the endorsing officials all the participating countries. The endorsement letter(s) should be attached as an annex to the project/programme proposal. Please attach the endorsement letter(s) with this template; add as many participating governments if a regional project/programme:*

Mr. Sauni Tongatule Director, Department of Environment Niue	Date: 07/23/2010
--	------------------

**B. IMPLEMENTING ENTITY CERTIFICATION** *Provide the name and signature of the Implementing Entity Coordinator and the date of signature. Provide also the project/programme contact person's name, telephone number and email address*

I certify that this proposal has been prepared in accordance with guidelines provided by the Adaptation Fund Board, and prevailing National Development and Adaptation Plans and subject to the approval by the Adaptation Fund Board, understands that the Implementing Entity will be fully (legally and financially) responsible for the implementation of this project/programme.	
 John Hough Officer-In-Charge Environmental Finance UNDP Implementing Entity Coordinator	
Date: July 26, 2010	Tel. and email+1-212-906-5560; <a href="mailto:john.hough@undp.org">john.hough@undp.org</a>
Project Contact Person: Gabor Vereczi	
Tel. And Email: 685 7280081, <a href="mailto:gabor.vereczi@undp.org">gabor.vereczi@undp.org</a>	

<sup>6</sup>. Each Party shall designate and communicate to the Secretariat the authority that will endorse on behalf of the national government the projects and programmes proposed by the implementing entities.