



## PROJECT/PROGRAMME PROPOSAL

### PART I: PROJECT/PROGRAMME INFORMATION

PROJECT/PROGRAMME CATEGORY:	Regular Project
COUNTRY/IES:	Cook Islands
TITLE OF PROJECT/PROGRAMME:	Enhancing resilience of communities of Cook Islands through integrated climate change adaptation and disaster risk management measures
TYPE OF IMPLEMENTING ENTITY:	MIE
MIE IMPLEMENTING ENTITY:	United Nations Development Programme (UNDP)
EXECUTING ENTITY/IES:	National Environment Service; Office of the Prime Minister, Central Policy and Planning Division
AMOUNT OF FINANCING REQUESTED:	USD 4,991,000

### PROJECT / PROGRAMME BACKGROUND AND CONTEXT:

*Provide brief information on the problem the proposed project/programme is aiming to solve. Outline the economic social, development and environmental context in which the project would operate.*

#### ***Geography and Climate***

The Cook Islands comprises 15 small islands (of which 13 are inhabited) scattered over 1.8 million square kilometres of the South Pacific Ocean. With a total land area of only 240 square kilometres, the islands are divided geographically into a Northern and Southern group. The islands are highly varying in form, structure and relief, the Northern group is described primarily as low coral atolls (Palmerston, Suvarrow, Nassau, Pukapuka, Rakahanga, Manihiki and Penryhn), while the Southern group comprises eight primarily volcanic islands (Aitutaki, Manuae, Takutea, Atiu, Mitiaro, Mauke, Mangaia and Rarotonga) with low-lying coastal areas, and raised coral islands. The majority of the resident population lives on Rarotonga (67 km<sup>2</sup>), the capital island and main commercial and government centre. Southern Group is relatively well-connected with scheduled flights from Rarotonga. The islands in the Northern Group are, however difficult to reach given the vast distances and absence of regular connecting transportation. As a result they remain relatively less developed and completely rural in nature.

The climate in the Cook Islands is sub-tropical to tropical, displays large inter-annual variability, especially in relation to the El Niño/Southern Oscillation (ENSO)<sup>1</sup> There are two dominant seasons, a wet season from November to April and a dry season from May to October. The weather in the Cook Islands is largely dependent on the position and intensity of the South Pacific Convergence

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<sup>1</sup> National Action Plan for Disaster Risk Management (2009-2015, Government of Cook Islands)

Zone (SPCZ). During the dry season the Group is affected predominantly by the dry southeast trades as the SPCZ is generally to the north of the Cook Islands. However, in the wet season, the SPCZ is more active and can lie over the whole island group bringing unsettled weather and heavy rain. Tropical cyclones, forming on the SPCZ between November and April, are major meteorological features which also affect the region.

Soils in the Cook Islands vary considerably. On the low-lying atolls, soils are very limited in depth and quality. Most of the high island of Rarotonga is ruggedly mountainous, with narrow valleys having small but fertile pockets of soil. Upland soils have limited fertility, while the coast consists of *makatea* or upraised coral reef, also of limited fertility. Between the mountains and the coast, however, there is a ring of fertile volcanic soil where the majority of people live and most agriculture takes place. The majority of the Cook Islands' terrestrial agricultural output currently comes from Rarotonga.

### ***Economy***

Primary production in the economy of the Cook Islands is principally in agriculture (leading export crops: pawpaw and taro), including the farming of black pearls in a few islands. The country suffers a large and persistent trade imbalance, due to the high cost of imports and the low value of exports. About 70 percent of all households in the Cook Islands engage in some form of agricultural activity, with the tourism sector constituting an important market outlet. Agriculture contributes about 18 percent of the country's GDP. In recent years, the fisheries sector has been a prominent export sector accounting for 60 to 80 percent of total exports (excluding tourism) and earning between \$7 and \$14 million over the period (2003 – 2005).<sup>2</sup>The tourism industry has increased at an enormous rate in the Cook Islands and is now the nation's largest income earner. The number of visitors in 2009 was the highest yet at 100,591, aided by a number of international athletic events hosted by the Cook Islands in that year. Tourism is dependent on the natural attractions of the Cook Islands, including the beaches, coral reefs, and tropical rainforests, as well as the perceived safety of the destination, all of which are extremely sensitive to weather and climate, especially extreme events including cyclones and drought. The importance of tourism to the future economy is likely to continue to grow, providing that the special attraction of the Cook Islands, its coastal environment is not damaged due to climatic impacts (especially extreme weather events), exacerbated by increased human pressure on water, land and waste resources.

More recently the Government and private sector have begun promoting outer island tourism development and associated infrastructure services. A number of southern group islands, such as Atiu, Mauke, Mangaia and Mitiaro, already cater for an increasing tourism industry and have suitable accommodation facilities available. In the northern group, currently only Manihiki and Tongareva have tourism capacity although on these atolls, scant water resources and the energy supply is already just able to meet demand.

Inflation has historically been high in the Cook Islands while, due to out migration, population growth has been fairly flat. Using a 5% deflator for nominal GDP, real GDP growth averaged about 1.4% between 1996 and 2008, while real *per capita* GDP growth has been less than 1% per year.

### ***Population***

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<sup>2</sup> Ibid

The total population of the Cook Islands reported by the National Statistics Office in 2006 was 19,569. Rarotonga is the major populated island (13,890 resident or 71% of the national population in 2006) with the remainder of the Southern Group having approximately 21% of the resident population and the Northern Group 8% (Census, 2001). Over the past several decades, there has been a steady drain of population from the Northern Group to the Southern Group and overseas, driven in part by worsening climate conditions. Overall, the national population has declined slightly over the past 15 years, while the population in Rarotonga has grown. Both trends appear to be continuing. Communities on the outer islands and pockets of outer island migrants on Rarotonga are considered vulnerable and experience hardship resulting from lack of both employment opportunities and access to basic social services.

### ***Climate change vulnerabilities, impacts and risks***

Like other countries that are influenced by South Pacific Convergence Zone (SPCZ), the Cook Islands are subject to highly destructive cyclones, intense rainfall events, and devastating droughts<sup>3</sup>. The country has an extremely limited land area widely dispersed over a vast ocean space, with isolated populations that are highly vulnerable to the impacts of climate change, including

- Increased frequency and intensity of rainfall and tropical storms
- Higher risk of coastal erosion and flooding as a result of rising and extreme sea levels and changing wind patterns
- Loss of water resources from hotter, drier weather and/or contamination of groundwater due to saltwater intrusion
- Resurgence of dengue fever and other tropical and water-borne diseases
- Reduced productivity of food crops due to soil degradation and increased salinity
- Loss of local biodiversity from habitat changes, extreme events, sea level rise, and ocean warming

The Northern Group is particularly hard hit by drought and by cyclones and storm surges, due to their low relief and critical dependence on rainfall for day-to-day water supply. In the Northern Group, vulnerabilities to natural disasters exacerbated by climate change have become so acute that population is steadily migrating southwards and overseas, as mentioned above. Not only are living conditions in the northern islands becoming less tolerable and secure, livelihood opportunities are drying up as the environment becomes less productive due to climate change. The Southern Group is also affected by natural disasters in a life-threatening way, since most human habitation and infrastructure is concentrated along the coasts vulnerable to floods, sea surges, and rapid erosion, and the water supply is predominantly from surface sources which are affected immediately by fluctuating rainfall patterns. These effects will be exacerbated by climate change: as the climate warms, droughts are expected to increase in frequency and severity, rainfall is expected to become more concentrated in fewer but more intense (and destructive) rainfall events that will result in higher runoff to the sea, cyclones are likely to increase in frequency, and variability will increase as El Nino-related oscillations become more extreme.

The Cook Islands has already experienced severe climate events, having had to cope with five strong cyclones over a one month period in 2005. The increased frequency and intensity of cyclones is one of the most urgent risks faced by the Cook Islands, its small islands and fragile

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<sup>3</sup> The *Cook Islands Second National Communication Under the United Nations Framework Convention on Climate Change* [draft]

coastal ecosystems. A synthesis of recent models indicate that as a result of the warmer climate, the peak wind and precipitation intensities will increase and the number of intense cyclones is likely to increase. Wind intensities could increase between 5-10% by 2050, and under the same scenario precipitation peaks could increase up to 25%.<sup>4</sup>

A greater number of cyclones tends to occur in the Cook Islands during El Niño conditions (even weak ones) compared with neutral ENSO or La Niña conditions. The ENSO weather pattern has changed its behaviour noticeably since 1976, with more El Niños, fewer La Niñas, the two biggest El Niños on record (1982–83 and 1997–98) and the longest El Niño on record. Statistically, these changes are unusual, and are likely to be connected to global warming. If this is the case the Northern group of the Cook Islands in particular could expect to be hit by more cyclones in the future. With the increase in frequency and severity across the country, adaptation project and cyclone recovery programmes are struggling to keep up. For example, many of the cyclone shelters in the islands have fallen into disrepair and need to be rehabilitated. Funds have been identified for rehabilitation of the shelter on Pukapuka, for example, but it will need to be *upgraded* to cater for more severe storms (at least category 4) in the future. This is an instance where the proposed AF project will build upon current adaptation activities and strengthen their implementation and effectiveness: project funds will join those already identified to allow the Pukapuka shelter to be upgraded as needed (in conjunction with similar upgrading work on all islands).

The coastal zone and coral reefs are currently vulnerable to sea-level rise, increases in sea surface temperature, and increases in extreme weather events. The impacts of these threats will almost certainly include accelerated coastal erosion, saline intrusion into freshwater lenses, and increased flooding from the sea. In some areas of the coastal plain there are low lying areas behind the beach ridge which are prone to flooding from storm surge. In addition, there are areas of intensive infrastructure development with poor water drainage systems that are prone to flooding during rainstorms. These factors make coastlines of Rarotonga and other islands increasingly sensitive to variations in sea level, and to storm events.

As shown in the recent island vulnerability and adaptation studies carried out under the Initial and Second National Communications to the UNFCCC, the different island types result in different coastal vulnerability profiles. Even the high makatea islands (raised atoll formation) are not as impervious to sea level rise as might be expected. Despite limestone cliffs separating the agricultural growing areas, sea storm surges and cyclones still lead to salt-water intrusion into the low-lying swampy areas.

Coral reefs support fish and shellfish which are very important in the diet of Cook Islanders, and provide protection of the shoreline from wave energy and erosion. The coastal zone and coral reefs are vulnerable to the effects of increases in seawater temperature; most notably this leads to 'coral bleaching' as seen in past El Niño events. During El Niño's, surface temperatures frequently exceed the temperature tolerance level of coral species (25°C – 29°C). The coastal protection provided by such stressed reef habitats is weakened, while opportunities for *ciguatera dinoflagellate* organisms to colonize the coral surfaces are increased, making the reef fish that feed on it poisonous for people. Coral death and bleaching also threatens marine biodiversity, reduce fish supplies for local communities, and diminish the attractiveness of reefs to tourists.

Tourism development and the infrastructure investment that it depends on are significantly affected by increased storm surge and cyclonic events which undermine investor confidence and

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<sup>4</sup> *Fourth Assessment Report of the Intergovernmental Panel on Climate Change and Cook Islands Second National Communication Under the UNFCCC [draft]*

threaten insurability. There is a clear need for both island and country authorities and private sector, among others, to take a planned and integrative approach to responding to climate change in the context of continued socioeconomic growth.

The agricultural sector is highly vulnerable to climate change and will be damaged by the increasing incidence of cyclones (which cause crop and tree damage), floods (which wash out and rot crops, and waterlog soils), droughts (which reduce or stop crop growth) as well as temperature increases (which can affect which crops will grow) and sea level rise (which contributes to salination of water lenses and storm surge damage).<sup>5</sup> During a cyclone in 2005 the entire taro plantation areas on Pukapuka were inundated by salt water as the result of a storm surge. It took 3 years before taro could again be reintroduced to the island. In the same incident, many rainwater tanks lost their roof catchments and the few freshwater wells in existence were polluted by seawater. Coconuts could not be used as an emergency measure as most had been torn from trees and lay rotting on the ground. The combined effect of these vulnerabilities left the island with no fresh water source until aid arrived. The study tracked the recovery of the freshwater lens on the Island and found it took 11 months to recover.

Variations in rainfall patterns affect yield, in particular of the main export crops, pawpaw and taro. Droughts induce salt water intrusion which kills crops. Moreover, a reduction in land area, resulting from sea-level rise, is likely to reduce the thickness of the freshwater lens on atolls very substantially. On some smaller atoll islands there is concern that groundwater lenses may shrink or even disappear with a 45cm increase in sea levels<sup>6</sup>. This effect is particularly acute in the northern group but has also been identified as a problem on Aitutaki<sup>7</sup>. Increases in air temperature and other climatic changes can also lead to increased incidence of pests and disease which are likely to threaten agriculture. An example of this is the potato white fly which has become a concern in the Cook Islands most likely as a result of periods of wetter conditions.

Climate change affects the water supply in the Cook Islands through variability in rainfall and periodic droughts, with devastating results especially in islands that lack rainwater harvesting and storage capacities. At the same time there is a greater risk of contamination through sewage and other waste disposal as population pressures increase. Water is currently sourced from stream catchment and roof catchment systems, bore holes and community water tanks: the Cook Islands, in particular the outer islands, remain highly dependent on rainfall. About 35% of population in the Northern Group carry or cart water to their houses from bore wells or public water tanks.

During El Nino periods the Southern Group often has decreased rainfall levels, while higher rainfall is experienced in the northern atolls. During La Nina, however, the North becomes more susceptible to dry periods, with rainfall becoming more plentiful in the Southern islands. The strong La Niña of 1998 to 2000 was responsible for acute water shortages in many islands in the Pacific Ocean, as was the previous El Nino (1997). Periods of heavy rainfall can also cause problems to the water supply. Heavy downpours often cause flooding in the inland streams, which causes debris to be washed downstream and disturbs sediment at the bottom of the streams. During such periods of heavy rainfall it is not uncommon for households to find that their water turns a 'muddy brown' colour and incidences of gastric illnesses become more

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<sup>5</sup> McMichael A, Woodruff R, Whetton P, Hennessy K, Nicholls N, Hales S, Woodward A, Kjellstrom T, 'Human Health and Climate in Oceania – A Risk Assessment' 2002

<sup>6</sup> McMichael et al (2002), p103

<sup>7</sup> Carruthers P, and Apera E, Aitutaki *Climate Change Vulnerability and Adaptation Assessment Report*, CBDAMPIC: Cook Islands, May 2000.

common, as the quality of water is compromised due to water pollution from soil erosion, herbicide and pesticide runoff, livestock waste, sewage and solid waste disposal.

In relation to human health, climate change provides a more suitable environment for diseases, particularly those borne by mosquitoes and those which require higher temperatures to survive. In the past there has been a strong link between the incidence of ENSO events and dengue fever outbreaks (and malaria, cholera and other emerging infectious diseases) in the South Pacific. In addition extreme weather events present an increased risk of physical injury and death to the population.

### ***Institutional context of climate change and disaster risk management***

The National Vision – Te Kaveinga Nui of the Cook Islands is “*To enjoy the highest quality of life consistent with the aspirations of our people, and in harmony with our culture and environment*”. A National Sustainable Development Plan has been set up pursuant to this vision. All sector and government agencies planning must be aligned to the NSDP strategies, which are national priorities. While none of the Strategic Goals explicitly reference climate change, Goal 4: “Sustainable use and management of our environment and natural resources” Goal 5 “Strengthened and affordable basic infrastructure, transport and utilities to support national development”; and Goal 6 “A safe secure and resilient community”; have particular relevance. The NSDP furthermore is aligned with the nation’s regional and international commitments such as the Pacific Plan, Millennium Development Goals, (MDGs) Mauritius Strategy, and multi lateral environmental agreements like the UN Framework Convention on Climate Change, Biodiversity Convention, among others.<sup>8</sup>

The National Environment Strategic Action Framework 2005–2009 (NESAF) is referenced in the NSDP and provides guidance and direction for achieving the sustainable social and economic progress for the Cook Islands, utilising its natural resources and environment wisely. The third goal of the NESAF is to increase resilience by strengthening national capacities for climate change, variability, adaptation and mitigation.

The Government of the Cook Island developed a Disaster Risk Management National Action Plan (NAP) in 2008, with the support of regional and international partner organisations representing the Pacific DRM Partnership Network viz SOPAC, UNDP Pacific Centre and the Pacific Islands Forum Secretariat. In July 2010, the Office of the Prime Minister (OPM), involving key national agencies, and with the assistance of SOPAC, initiated a process in to harmonize disaster risk management and climate change adaptation efforts., titled “*Integration of Disaster Risk Management & Climate Change Adaptation in the Cook Islands: A Way Forward for a Joint National Action Plan*”. The development of this Joint National Action Plan (CCA- will be an output of the existing NAP Advisory Committee (NAPAC) combined with the National Climate Change Country Team (NCCCT) supported by NES and with funding from the Government of Italy, in order to further enhance national coordination.

The NCCCT provides a good basis for inter-ministerial coordination, secretariat is provided by NES, but NES’s support has been on an ad-hoc-basis, without any clearly mandated and adequately staffed support unit. NCCCT has been serving principally for advisory functions (e.g. to the SNC process). Currently a Functional Review by the Public Service Commissions is being initiated in order to determine where CC responsibilities should lay, and what coordination mechanism would be most effective.

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<sup>8</sup> Second National Communication [draft]

National-level coordination for climate change adaptation is conducted through quite well developed in the Cook Islands, under a National Climate Change Country Team (NCCCT) on which the Water, Agriculture, Health, Energy, Marine Resources, Environment Services, Meteorological Services, Foreign Affairs, and Disaster Management government agencies are represented. On some islands Climate Change Community Teams have been established, related to project implementation (in Aitutaki for CBDAMPIC, in Mangaia for PACC).

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

Ideally, adaptation measures are implemented systematically throughout the Cook Islands' 13 inhabited islands, treating in an integrated way the villages' marine, coastal and land areas in order to modify current agricultural, sanitation, coastal, marine, and land use practices in light of current and expected climate change risks. The planning and implementation of the adaptation measures are undertaken in the framework of the Joint National Action Plan on Disaster Risk Management & Climate Change Adaptation, with specific Action Plans established for each of the inhabited islands. These processes are fully informed through climate information services tailored to different sectors and communities and packaged in user-friendly ways for community practitioners who have the capacity to understand and use them. Communities also have the capacity to collaborate in monitoring impacts of climate change in coastal, marine, and terrestrial ecosystems and related natural resources use, and can plan and implement effective community-based adaptation projects and DRM measures. The integration of climate risks and resilience into coastal development, agriculture, fishery, health, biodiversity, and tourism is dealt with comprehensively through appropriate water use and storage, coastal protection, and other relevant practices, harnessing traditional knowledge. Vital infrastructure and services (such harbours, cyclone shelters, water supply) are designed and upgraded to withstand cyclones and storm surges with increasing intensity and frequency. The implementation of community-based adaptation measures is supported by an enabling environment at the national policy level, with line departments and the Met Service having sufficient capacity to generate climate information, assess climate risks and support communities to translate these to livelihood and ecosystem protection practices. Policies and related legal frameworks, instruments, corporate plans and budgets in the agriculture, water supply, fishery, infrastructure, and tourism sectors are strengthened to integrate climate risks and resilience, and supported through enhanced coordination with national entities linking effectively to village councils and community stakeholders. The experience and lessons learnt generated through adaptation and DRM activities in different sectors are systematically captured, analysed and disseminated in the local language, using different communication channels and media suited to the technical capacity and needs of different user groups (e.g. government officials, community leaders, councils, farmers, educators, and businesspeople). Past and ongoing climate change awareness and education programmes are updated using the latest information on climate change science and lessons learnt from climate change risk management practices, and their outreach is expanded across all communities of Cook Islands. Lessons learnt from the process of adaptation are also 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***

The Second National Communications (currently in draft form), identifies the following key gaps and constraints to successful adaptation to climate change in the Cook Islands. These have been identified by numerous consultations with local stakeholders over a significant period of time, in particular since the Initial National Communications:

- Comprehensive Vulnerability and Adaptation assessments need to be completed for all Islands, which will improve understanding of the extent of island vulnerability and hazards and provide a basis for systemic action to manage climate change risks. Of course, if done using local systems and engagement of local stakeholders and systems, awareness of the risks also follow ;
- Capacity building around the implementation of climate change risks on renewable energy technologies is needed to ensure long-term operational effectiveness.
- The national response to climate change should be better integrated into development processes, especially in terms of mainstreaming current and emerging climate issues into existing socio-economic programs and projects and governance frameworks for future initiatives.
- The financing of climate change risk management related activities and budget constraints are closely linked, and requires continued international assistance at the national level, with national participation
- Enforcement of climate policy and regulations in place to facilitate and promote behavioral adjustments towards risk management practices in the Cook Islands needs substantial improvement, within the capacity and capability of national human resources
- Land tenure issues which impede sustainable development require addressing at national and local levels

#### **Lack of integration of climate change risk and resilience into island level and sectoral development processes**

Geographically, the Cook Islands faces steep challenges: the habitable islands are widely scattered over a vast ocean space and simply maintaining contact with the communities that live in them, to say nothing of supplying them with essential services and integrating them closely into the national economy, is difficult and expensive. To avoid obliteration of many of these communities altogether, either in a sudden disaster or by slow attrition due to out-migration, strenuous efforts are required to provide basic sustenance and physical protection. In common with many other Pacific island countries, the Cook Islands are still working out an affordable, yet effective Community Service Obligation strategy that will ensure that all Cook Islands residents enjoy a basic standard of living wherever they reside in the country. In the meantime, the climate is changing and the difficulty of meeting this challenge is growing. As discussed below, there is much that is being done, albeit in a piecemeal and somewhat uncoordinated fashion, to contain the extra costs to the communities of living and remaining in their land in the face of climate change. Even with an improved and much more closely integrated national effort, however, the expense involved in keeping the islands productive and habitable will be high, notwithstanding that the populations that live in many of the islands are quite small, particularly in the Northern Group.

A set of different assessment and planning processes have been carried out in the past in the different islands, such as the Community Vulnerability and Adaptation Assessments (carried out during INC and SNC and the CBDAMPIC project), the Island Strategic Plans, the Community-Centred Sustainable Development Programme (UNDP-supported), or the establishment of Island Profiles (ADB supported). These initiatives set a good basis for participatory processes in the island communities, but have been carried out in fragmented way, not covering systematically all

inhabited islands, and some of them are rather outdated (Island Profiles dating 2003, various CVA from the INC process, early 2000). As understanding of the science of climate change, and methodologies underpinning vulnerability and impacts assessments as well as ways to address climate change risk management have advanced, there is a need to go beyond the coarse understanding of issues from those early assessments and inform decision-making with systematic climate risk assessments and integrated planning for adaptation and disaster risk management. Systems for generating this information continuously and iteratively are required including rolling out the National Action Plan at the island level, while engaging and building the capacity of Island and Vaka (district) Councils for making informed decisions on climate change risk management.

The Cook Islands is currently undertaking some national and island-level development and disaster response activities, supported with assistance from ADB, SOPAC, SPREP, UNDP-GEF, NZAid/AusAid. Various projects have been generated to respond to urgent cyclone recovery needs, and many have been designed as climate-proofing projects. In the main, these projects are sector- or island-specific, and are designed as discrete responses to particular events or to island-specific threats. There is an urgent need now to take a step forward to integrate climate risk and the requirements for building up resiliency of communities in all islands to climate change-related threats in a integrated fashion. An effort to fully integrate climate risks into fundamental project and programme design processes, with associated budgeting, manpower planning, training, and other activities is needed to ensure that future risks are systematically and cost-effectively addressed and that all islands remain habitable and continue to support livelihoods. Such integration will require a sustained effort to instil awareness of climate related risks to all households, businesses, social service organisations including NGOs, public- and private-sector planners and investors, and government agencies and provide them with the tools to respond to such risks effectively. Through practical adaptation work (much of it investment-intensive, including climate-proofing of major assets such as harbour facilities, water supply systems, sanitation, protective shelters, etc) on the ground in all islands, integrative policy development work, training and awareness raising, the proposed AF project will support the 'mainstreaming' of climate risk into development processes in the Cook Islands, at the island level, sectoral level, and national policy level.

The Cook Islands participates in regional initiatives, such as the Pacific Adaptation Strategy Assistance Programme (PASAP) funded by AusAid and the Preparation of the National Adaptation Prioritisation for Climate Change project funded by Italy, both of which under preparation to provide assistance for national and community-level adaptation planning, and on which the project can build. In addition, a 2-year project funded by GEF has commenced to build capacity for Sustainable Land Management in the Cook Islands, the results of which will be very useful to successful implementation of the proposed AF project.

The Ministry of Works (MOW) and the Office of the Minister of Outer Island Administration (OMIA) were merged in November 2009 as the Ministry of Infrastructure and Planning (MOIP). This young Ministry needs considerable capacity building in climate risk assessment, related adaptation planning and policy processes. MOIP is currently developing a water policy under a IWRM initiative, and furthering a draft Water Bill, both of which lack comprehensive integration of climate change risks and resilience aspects. Currently, there is no Coastal Zone Management Policy in the country; coastal development is regulated to some extent by the Environment Act through its reference to construction above high water marks. The UNDP-GEF supported Pacific Adaptation to Climate Change project, financed by the Special Climate Change intends to support the development of such policy. However, while this initiative provides capacity support and technical know-how on climate risk assessments, it is limited in scope to one demonstration activity and site (climate proofing the Mangaia harbour). Further capacity and field experience is

needed to inform the development of a solid Coastal Zone Management Policy that takes into consideration the variety of community services and infrastructure in the diverse setting of island communities.

The National Agriculture Policy recognizes climate change in a rather broad manner, but climate risks and resilience are not spelt out clearly. New varieties of important crops, including pest and climate tolerant varieties of taro, cassava, sweet potatoes, banana, and plantain are being introduced by the Ministry of Agriculture (MoA). Following evaluation, MoA plans to distribute these plants to interested farmers on all islands. Farmers will be encouraged to report-back on the performance of these varieties under their respective conditions. However, agriculture technical capacity is limited to a few staff at MoA. Capacity building is highly needed within the MoA, the primary source of technical assistance to farmers, particularly to assist the outer islands in integrating climate change and disaster risks into agricultural practices and in related advisory services to farmers. For example, there is currently minimal utilization of fruit and nut trees (jackfruit, tamarind, Polynesian chestnut, hardwood trees) in most islands as windbreaks, with combined livelihood benefits. It is widely believed by local communities and government officials that better integration of climate resiliency into MoA activities would contribute towards encouraging such practices. Some Island Agricultural Officers are being trained in Rarotonga, but some islands have critically limited capacity. In order to revitalize agriculture in the outer islands, there is a need for better-trained and capacitated extension officers and field technicians.

Provision of information and other technical assistance to farmers is provided through the research staff of MoA, and such capability is limited to a few staff. Some outer islands lack staff capacity and experience to assist farmers, particularly in pest management and nutrition, in addition to the lack of financial resources to assist the outer islands.

A soil map for the Cook Islands was prepared in 1975 and 1981. An FAO Technical Cooperation Project is expected to commence in October 2010 to provide crop suitability information to assist with farmer decision making in crop production activities. However, this project is limited in scope and is not expected to integrate information on climate change and climate risks to farming activities. It is also expected to cover only the Southern Group of islands.

The Cook Islands also participates in an FAO regional project, the Food Security for Sustainable Livelihoods Programme (FSSLP). A Food Security Assessment is currently being compiled for the Cook Islands. However, the project does not fully incorporate climate risks and is focused in the Southern Group of islands only.

Though these projects and policy frameworks have introduced participatory planning processes, mobilized communities, and have supported improved resource management and policy development at local and national government levels, they do not adequately integrate climate change risk considerations and adaptation responses. Adaptation implementation at the island level throughout the country is severely constrained by the pursuit of distinct, as opposed to an integrated national strategy for climate change, land degradation, disaster prevention, preparedness and management; shortage in resource and key national assets to systemically monitor changes from various actions that are taking place over time; limited understanding and monitoring of environment in health issues such as vector-borne, water quality, skin and respiratory problems; limited capacity to assess the impact of both technological and policy measures for climate-related concerns; and lack of adequate legislation covering key areas such

as resource management, water supply, hazardous waste disposal, and sanitation (treatment and disposal of liquid and solid wastes)<sup>9</sup>.

**Absence of information and capacity to assess climate risks and implement climate change adaptation measures and appropriate coastal protection land use and water supply management practices, in order to safeguard livelihoods, maintain access to essential services, and protect the quality of life in all islands.**

As underscored in the vulnerability assessments that have been prepared so far with direct input from island residents, communities in the islands throughout the country feel that they are fighting a losing battle with climate change. There is general awareness that the climate is changing and that living conditions are getting harder, securing income from livelihood options is becoming more difficult (e.g., agricultural land is eroding away or becoming saline, fish are declining in unhealthy reef systems), and providing adequate nutrition, clean water, and housing is becoming more challenging. This has driven a strong out-migration trend from the islands, particularly from the Northern Group, over a number of years.

A number of programmes and projects have aimed at implementing demonstrations at the island level to rehabilitate infrastructure damaged by cyclones and other severe events, and to improve land use, water storage, and agricultural production practices, but without integrating information and responses to address the additional risks caused by climate change. These include, in the Northern Group, cyclone shelter rehabilitation and water harvesting projects funded by NZAid/AusAid; island-level strategic planning for agriculture and water supply; upgrades of cyclone-damaged harbours and other infrastructure; installation of seawalls and other coastal protection works; water storage projects; sanitation projects; and community awareness projects for biodiversity, health, and food security issues. In the Southern Group, projects/programmes include a pilot project on Aitutaki for addressing sea level rise and storm surges, providing safe drinking water, preventing loss of biodiversity, and improving sanitation, for replication on other islands; water supply monitoring and supply of storage tanks; reconstruction of cyclone-damaged public infrastructure; reconstruction of housing; preparation of disaster management, food security and agricultural support programmes; climate-proofing the Mangaia harbour facilities through the regional PACC programme as a demonstration of integrated coastal management, for replication elsewhere; and others.

As previously discussed, past and ongoing projects have successfully mobilized communities and have supported improved resource management, but do not adequately integrate climate change risk considerations and adaptation responses, and thus are not comprehensive solutions to climate change risks in the Cook Islands. This shortcoming is evident at the national level, but is especially telling at the island level, where residents perceive an eroding quality of life due to an environment that is becoming more difficult to survive in. National authorities and island communities lack capacity for assessing, evaluating and developing mechanisms for transferring technologies and adaptation measures or dealing with specific climate-related issues; and lack expertise and capacity for adaptation assessment and implementation of necessary risk management practices. National agencies face difficulties in coordinating and enforcing policies and regulations due to limited knowledge and resources, while islands face communications difficulties (e.g., lack of access to computers and the internet) and a lack of expertise in effective communication strategies to induce behavioural change. There is a need to improve local capacity to undertake research, analysis and dissemination of information to local communities

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<sup>9</sup> National Capacity Self Assessment for Global Environmental Management Project, *National Stocktake Report*, NES, August 2005

and to introduce and strengthen community education on the environment in general and adaptation in particular, and how to relate this knowledge to sectors such as tourism through locally-appropriate mechanisms and language.<sup>10</sup>

Disaster risk management and climate change adaptation need to be built up into an integrated development process in all islands in order to allow communities to transform lives from reacting to an increasing series of devastating, unforeseen events to taking control, actively managing risks, sustaining livelihoods and maintaining the islands as liveable places. In general, climate change projects in the islands are currently implemented with a relatively narrow sectoral focus, or as demonstration projects that need to be considerably upscaled to benefit the country as a whole. The proposed AF project can build upon this very useful experience and will be a vehicle for quickly applying the lessons learned to a replicable nation-wide effort.

**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 the natural resource base, in order to support informed decisions by policy makers, planners and the communities in key development sectors**

National agencies, such as the Cook Islands Meteorological Service, are currently under-staffed and lack adequate technical capacity (e.g. data base, hardware and software, has Automated Weather Stations only in 6 locations) to provide sector-tailored climate information services for policy makers and island communities. CIMS receive reports from 6 AWSs every three hours and adding the report from the main office, this compiled report is sent to bigger and more advance Meteorological Services that can use the data in order to produce weather products using models. The Australian-funded Pacific Climate Science Support Programme (PCSSP-ICCAI) provides capacity building to Pacific Met offices, including Cook Islands, but information provided is on general regional climate projections, which need to be further specified and customized for sectoral applications in the country.

CIMS operates a webpage ([www.cookislands.pacificweather.org/](http://www.cookislands.pacificweather.org/)) where it produces climate predictions for both the northern and southern Cook Islands. Data can be provided to farmers, upon request. A workshop was held with the Titikaveka Growers Association in Rarotonga, to discuss climate information needs and potential climate information products. This proposed programme can build on these incipient initiatives. The early warning system produced by CIMS is derived or obtained from different sources with the region. The hazards that CIMS give an early warning to are strong wind warning, tropical cyclones, hurricanes, floods, heavy rain, thunderstorms, storm surge and tsunami. Cyclone warnings are given by Nadi-RSMC as well as the other weather-related warnings. These warnings are relayed to the community via the radio stations as well as via internet and by telephones, which needs to be further enhanced to adjust to the specific communication possibilities of each island.

There is a need to enhance monitoring and surveillance systems on climate change impacts in the marine, coastal and terrestrial ecosystems of the Cook Islands that can affect crop, infrastructure, and water resource management practices. In particular, there is a need to overlay past and current monitoring and information systems related to the communities and ecosystems of each island with climate change information, in order to inform policy makers and community practitioners on climate risks. In order to do this, the monitoring capacity of relevant line departments needs to be strengthened as well. For example, there is a need to update existing vegetation and soil type maps, link with land and vegetation type inventory data in order to

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<sup>10</sup> Ibid.

overlay with climate information and guide land use planning and management option decisions. NES provides coral monitoring and beach profiles to be conducted intermittently, however methodologies have been inconsistent and analysis of trends has not been undertaken. NES intended to develop a State of Environment Report since 2007, but it has never materialized due to inadequate capacity at NES to identify measurable indicators for monitoring and evaluation. At present, data collection is not sufficient to support the reliable monitoring of environmental change (like coastal erosion) in the islands due to lack of human and institutional capacity in project management and coordination to implement key climate change related policies and projects.<sup>11</sup>

**Lack of systematic capturing and disseminating cross-sectoral adaptation experience in order to support integrated adaptation measures at the national level and in communities**

While ongoing projects related to adaptation or sustainable natural resource use do have knowledge management components (IWRM, PACC), they mainly deal with single-sector applications, without addressing experience on climate change adaptation assessments and measures. National awareness raising programmes have been carried out by NES, through organizing the National Environmental Forum, on a biannual basis. There is a need to capture, analyse and disseminate climate change adaptation good practices and lessons learnt in the setting of integrated island development processes. 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.

**PROGRAMME OBJECTIVES:**

***Programme Objectives***

The proposed programme by the Government of Cook Islands will strengthen the ability of all Cook Island communities and the public service to make informed decisions and manage likely climate change driven pressures in a pro-active, integrated and strategic manner. The programme will support, at the national, sectoral, and island levels, the preparation and implementation of the Joint National Action Plan on Disaster Risk Management and Climate Change Adaptation (DRM-CCA-NAP).

The proposed programme will contribute to all outcomes listed within the 2 objectives of the Adaptation Fund Strategic Results Framework (AFB/EFC.2/3 from 31 August 2010), and corresponds particularly to the following higher order fund level outputs:

*Output 1.1.* Risk and vulnerability assessments conducted and updated at national level

*Output 1.2* Targeted population groups covered by adequate risk reduction systems

*Output 1.3* Targeted population groups participating in adaptation and risk reduction awareness activities

*Output 2.2* Vulnerable physical, natural and social assets strengthened in response to climate change impacts, including variability

*Output 2.4.* Targeted individual and community livelihood strategies strengthened in relation to climate change impacts, including variability

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<sup>11</sup> Ibid.

## ***Programme Strategy***

The programme will serve as a vehicle to implement the DRM-CCA-NAP<sup>12</sup> at the island-level through an integrated and multi-sectoral approach. Island communities and councils will be involved in all 13 inhabited islands of the country, directly benefiting over 4000 households, in order to develop Island-level DRM-CCA- Action Plans. These will be based on the currently fragmented and partially available island assessments and plans, employing participatory adaptation planning techniques. This will provide an integrated framework to make island-level development processes more resilient to climate-change, within the overall national DRM-CCA and sustainable development agendas. Local awareness and ownership of climate risks will be facilitated through systematic knowledge management activities, capturing and disseminating lessons learnt and good practices from early stages of the programme implementation, employing a range of media, and allowing direct exchange between communities involved. This will ensure that the experience generated will support longer-term adaptation processes and future generations of professionals and practitioners, as part of the programme sustainability strategy.

Based on the available plans and assessments, on-the-ground adaptation and disaster risk reduction measures will be implemented in identified priority vulnerable sectors (agriculture, water, coastal protection, health) in at least 7 islands, directly benefitting over 1500 households. These actions will safeguard essential community assets and services to the adverse impacts of climate-change, in effect ensuring that the islands remain habitable in the long-term. The site-specific planning and design of these actions will be defined and validated within the community consultation processes leading to the establishment of Island-level DRM-CCA- Action Plans.

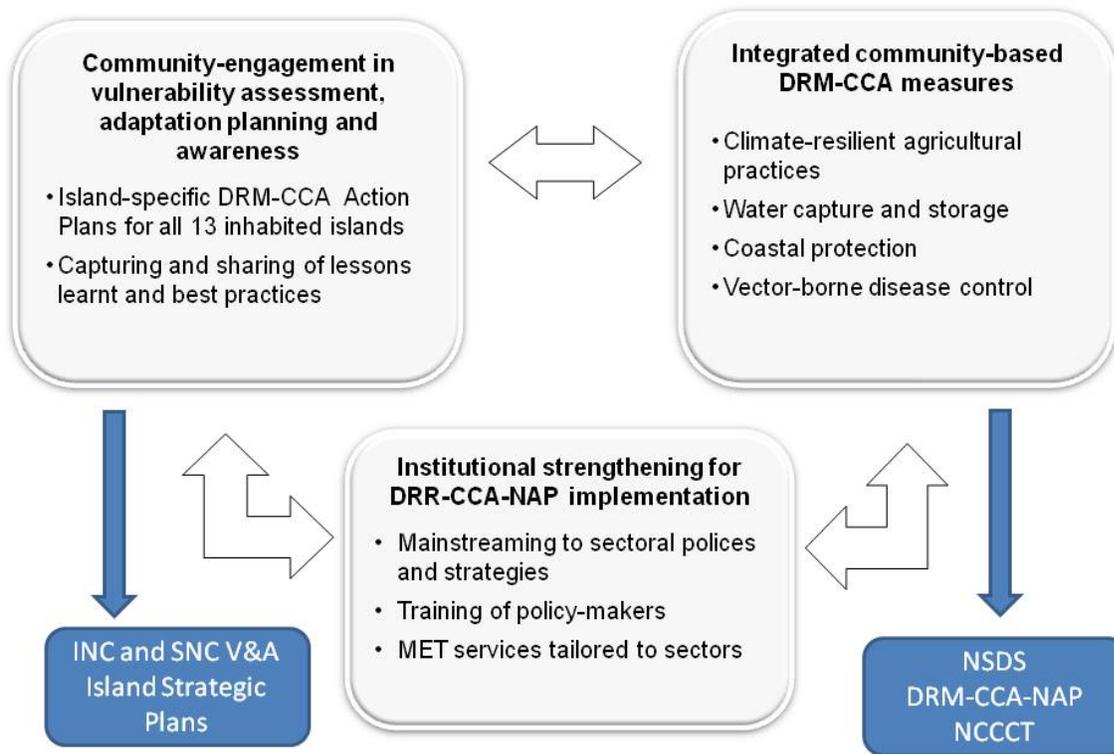
To provide an enabling environment and institutional support to the implementation of the island-level and community-based DRM-CCA measures, the programme will support the mainstreaming of DRM-CCA considerations into the corresponding sectoral policies and instruments, build capacity of national and island level authorities in climate risk assessment and adaptation planning processes, and enhance the provision of tailored climate early warning and information services.

The programmatic approach of this initiative will ensure effective linkages with a number of currently ongoing or planned other projects in different sectors, scales and time-lines, providing a coherent national framework, and strengthening national coordination mechanisms, such as the National Climate Change Country Team.

Programme objectives will be pursued through the following three inter-related building blocks:

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<sup>12</sup> See *Integration of Disaster Risk Management & Climate Change Adaptation in the Cook Islands: A Way Forward for a Joint National Action Plan*, Office of the Prime Minister (draft)



## PROGRAMME COMPONENTS AND FINANCING:

PROJECT COMPONENTS	EXPECTED OUTPUTS	EXPECTED OUTCOMES	AMOUNT (US\$)
<b>1. Community-engagement in vulnerability assessment, adaptation planning and awareness</b>	<ul style="list-style-type: none"> <li>Island and Vaka (district)-specific integrated Disaster Risk Management and Climate Change Adaptation Action Plan (DRM-CCA-IAP) established for all 13 inhabited islands</li> <li>Adaptation lessons learned and best practices generated by communities are captured and disseminated nationally and globally through appropriate mechanisms</li> </ul>	Strengthened awareness and ownership of adaptation and climate risk reduction processes at island and national levels	500,000
<b>2. Integrated Community – Based Adaptation and Disaster Risk Management measures</b>	<ul style="list-style-type: none"> <li>Climate-resilient agricultural practices implemented in at least 5 islands</li> <li>Water capture, storage and groundwater management capacities are enhanced in at least 4 islands</li> <li>Coastal protection structures, harbours and shelters are upgraded to higher cyclone and storm standards, with complementary soft measures (vegetation planting) in at least 3 islands</li> <li>Health support and vector-borne disease control techniques introduced in at least 5 islands to address climate-induced health risks</li> </ul>	Increased adaptive capacity within agriculture, water, coastal and health sectors, through community-based adaptation measures implemented in at least 7 inhabited islands	3,200,000
<b>3. Institutional strengthening to support climate resilient policy frameworks for the implementation of the national DRR-CCA-NAP</b>	<ul style="list-style-type: none"> <li>Integration of climate risk and resilience integrated into the sectoral strategies, related policy instruments and work programme of relevant government agencies in the NCCCT</li> <li>Enhanced capacity of national MET Service (CIMS) to provide tailored climate information services and early warning system</li> <li>Policymakers, technical officers at the central and island level offices of relevant gov. agencies in NCCCT are trained on policies and strategies to manage climate change risks</li> <li>Establishment of a framework for a monitoring and surveillance system on the climate change impacts in near-shore, coastal and terrestrial ecosystems</li> </ul>	Strengthened institutional capacity of government sectors to integrate climate and disaster risk and resilience into policy frameworks	400,000
6. Project/Programme Execution cost			500,000
7. Total Project/Programme Cost			4,600,000

8. Project Cycle Management Fee charged by the Implementing Entity	391,000 <sup>13</sup>
<b>Amount of Financing Requested</b>	<b>4,991,000</b>

## PROJECTED CALENDAR:

MILESTONES	EXPECTED DATES
Submission of Concept to AF	October 25, 2010
Approval of the Concept by the AF Board (Estimate)	Dec 15, 2010
Development of a Full Programme Proposal	May 15, 2011
Submission to AF of a Full Programme Proposal	May 15, 2011
Start of Programme Implementation	June 2011
Mid-term Review (if planned)	June 2013
Programme Closing	June 2015
Terminal Evaluation	July 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. For the case of a programme, show how the combination of individual projects will contribute to the overall increase in resilience.

The programme has a 3-pronged approach, focusing on the implementation of on-the ground adaptation measures at the community level, integrated with sustainable island development processes and supported through enhanced national institutional and knowledge management capacities. The following indicative outputs and activities directly address the barriers and intended programme outcomes listed above. During the programme formulation phase outputs and activities will be further specified and a detailed programme document will be presented for final AF approval.

<sup>13</sup> On the request of the Government of the Cook Islands, the project will be implemented by UNDP using the MIE modality. UNDP is able to provide the following implementation services through its country office, regional and headquarters networks: project identification, formulation, and appraisal; determination of execution modality and local capacity assessment of the national executing entity; briefing and de-briefing of project staff; oversight and monitoring of AF funds, including participation in project reviews; receipt, allocation and reporting to the AF Board of financial resources; thematic and technical capacity building and backstopping; support with knowledge transfer; policy advisory services; technical and quality assurance; and troubleshooting assistance to the national project staff. Further details on the types of specialized technical support services which may be provided are articulated in the table provided to the AFB Secretariat on 14 May 2010 (as annexed).

## **Component 1: Community-engagement in vulnerability assessment, adaptation planning and awareness**

Outcome 1: Strengthened awareness and ownership of adaptation and climate risk reduction processes at island and national levels

Output 1.1: Island and Vaka (district)-specific integrated Disaster Risk Management and Climate Change Adaptation Action Plan (DRM-CCA-IAP) established for all 13 inhabited islands

Indicative activities:

- Stocktaking and analysis of past island and community-level assessments and plans (INC and SNC CV&As, CBDAMPIC, Island Strategic Plans, CCSDP, Island Profiles, WWF-CBA-SGA)
- Analysis of island-level implications of sectoral plans and programmes
- Initial consultations with Island and Vaka (district) Councils and village communities
- Development of an integrated DRM-CCA method and planning framework for island-level Joint Action Plans
- National training for island councils on risk assessments and DRR-CCA planning processes (linked with outcome 3)
- Carrying out participatory DRR-CCA planning (employing innovative techniques, such as participatory mapping)
- Formulation of DRM-CCA-IAPs (with implementation and resource mobilization schedules)

Output 1.2: Adaptation lessons learned and best practices generated by communities are captured and disseminated nationally and globally through appropriate mechanisms

Indicative activities:

- Develop case studies, photo stories, short videos, posters and brochures (in English and Cook Island Maori) on lessons learned and best practices and regularly distribute to communities (through island authorities, programme team, extension services, NGOs)
- Establish a programme communication plan, to disseminate regular information using range of national and local media
- Strengthen web-sites of participating institutions through regularly incorporating info on programme advances, explore the possibility to setup a national adaptation knowledge sharing web-based platform, managed by NES
- Include knowledge management products in regional and global platforms, such as the SPREP CC portal, or the Adaptation Learning Mechanism (ALM)
- Present programme experience at the National Environment Forum, hold regular island-level DRM-CCA forums
- Present knowledge on adaptation practices at region forums and meetings
- Organize exchange site visits between participating communities, for on-site cross-learning experience
- Incorporate programme experience in activities of local schools, through school visits, development of materials tailored to students of different ages.
- Include climate change information and programme lessons learnt in *Te Kaveinga Ora no te Aorangi/Environment Education* for Cook Islands schools and communities format
- Introduce community-based ecosystem-monitoring and education programmes (such as the UNESCO-Sandwatch approach being introduced in the Pacific region)

## **Component 2: Integrated Community-based DRM-CCA measures**

Outcome 2: Increased adaptive capacity within agriculture, water, coastal and health sectors, through community-based adaptation measures implemented in at least 7 inhabited islands

*Output 2.1: Climate-resilient agricultural practices implemented in at least 5 islands*

Indicative activities:

- Reintroduce and repatriate culturally significant crop varieties, especially taro (Mawolawola, Pongi, Kalealea, Veo Pukapuka) that were significantly damaged or lost during past cyclones (e.g. in Pukapuka, the 2005 cyclone devastated most taro-growing areas)
- Introduction of climate-resistant (slat and drought-tolerant), pest-tolerant and high nutrition-value varieties of key traditional food crops, such as giant swamp taro, coconuts, pandanus, kuru, pawpaw, banana, limes, etc. , to diversify supply of traditional crops and fruits
- Introduction of climate-resistant varieties of other crops, such as sweet potatoes, breadfruit and pandanus varieties.
- Establishment of community nurseries and introduction of seedling propagation techniques for the sustainable supply of climate-resilient crops
- Improved quarantine procedures to reduce the risk of pest introduction
- Train farmers on the use of agro-meteorological information and land-use planning techniques and tools, to plan type, location, and timing of crops adjusted to changing climate conditions, and maximize productivity
- Promote organic farming techniques, involving the Cook Islands Organic Growers association, to emphasize the use of biological control and gentler household n/pesticides/herbicides
- Introduce soil and water conservation measures, such as efficient irrigation, composting and mulching, etc., especially in atoll islands with shallow and infertile sandy soils, or contour planting and terracing in hillsides in volcanic islands to avoid erosion
- Introduce hydroponic systems to expand vegetable production and supply diversification
- Promote household practices and small businesses for the processing of crops (including value added products and island specialties like coconut, dried and preserved fruits), improvement of food storage, encourage the stocking of long lasting food products to buffer food supply shortages caused by climate-related disturbances.

Output 2.2: Water capture, storage and groundwater management capacities are enhanced in at least 4 islands

Indicative activities:

- Increase water storage capacity for households (water tanks, gutters and tubes)
- Establish community water tanks for churches, schools and other communal facilities
- Where applicable, install a water gallery on freshwater lens, to pump it to individual household tanks or filling stations, as alternative water supply
- Demand management: community awareness programme on water saving practices
- Encourage the use brackish/seawater and water recycling when appropriate water efficiency policy
- Introduce a by-law requiring business users to install rainwater tanks and maintain catchment systems
- Establish simple monitoring devices fitted to public galleries and main water tank supplies, to monitor use of public water facilities
- Introduce community conservation activities of boreholes, springs and water stream banks and establish ra'ui along water catchment where appropriate

Output 2.3: Coastal protection structures, harbors and shelters are upgraded to higher cyclone and storm standards, with complementary soft measures (vegetation planting) in at least 3 islands

Indicative activities:

- Upgrade the Pukapuka cyclone shelter to at least category 4 cyclone levels, to complement planned shelter rebuilding work to higher cyclone-resilient standards.
- Upgrade seawalls in harbor access areas.
- Conserve existing coastal trees and vegetation
- Replanting programme for native vegetation/trees for protection that stabilize coast, complement protective structures,
- Planting of windbreak, strong trees (tamarind, ironwood, chestnut, coconut), and regular maintenance (pruning) to sustain this function. Train communities on regular pruning, trimming and coastal vegetation maintenance (especially before the cyclone season)
- Adopt draft environmental by-laws for integrated coastal zone management (linked with the ICZM policy to be developed by PACC, and to be piloted in Mangaia, based on the PACC demo)
- Introduce community-based coastal and beach monitoring and awareness programmes (such as the Sandwatch Programme, promoted by UNESCO and currently being introduced in the Pacific)

Note: safeguarding the Puka-puka cyclone shelter and harbor access area from climate-related hazards, as vital assets, will benefit the total population of this low-lying atoll island (800 people), which is the most populated in the Northern Group, and 4<sup>th</sup> most populated island in the country.

Output 2.3: Health support and vector-borne disease control techniques introduced in at least 5 islands to address climate-induced health risks

Indicative activities:

- Vector-borne disease control techniques and vector control (fly reduction before mosquito reduction), with focus on prevention activities through health education and awareness
- Establish community cleanup program (tutaka) to control areas of stagnant water
- Encourage balanced nutrition and food storage (*strongly linked with Output 2.1*)
- Encourage drinking more fluids amongst local population in order to avoid dehydration (using traditional sources of fluids, like coconut)
- Provide training and resources for health staff to be able to respond with diagnosis and treatment to climate-related illnesses
- Education programs to modify cultural and behavioral activities on the appropriate responses in hot weather, on household options to counteract health effects of poor water quality (filtration, boiling water), critical times of year for poor water quality, etc.
- Health incident mapping, using GIS to determine which are the most vulnerable islands and communities, and ranges in which to target control and (*strongly linked with assessments under Output 1.1. – island DRM-CCA Plans, and Output 3.2, climate info services*)

To support the above sectoral interventions throughout the islands, technical officers under different ministries and departments providing advisory services to communities in the islands will also be trained in climate-risk assessment techniques and the use sector-tailored climate information provided by CIMS, in order to support decision-making processes in agriculture, water supply, coastal management and health practices. All programme interventions will be supported by the active engagement of Island and Vaka Councils and communities/stakeholders. Resources will be available to organize and provide training to farmers, fishermen, households, and business owners in order to introduce and maintain the above mentioned climate-resilient practices.

Importantly, the above measures will be planned and implemented in the framework of the island-level DRM-CCA Action Plans, to be developed through AF support within Outcome 1 of

this programme. This will ensure linkages with development processes and other related projects, to pursue climate change adaptation and disaster risk

**Component 3: Institutional strengthening to support climate resilient policy frameworks for the implementation of the national DRR-CCA-NAP**

Outcome 3: Strengthened institutional capacity of government sectors to integrate climate and disaster risk and resilience into policy frameworks

Output 3.1: Integration of climate risk and resilience integrated into the sectoral strategies, related policy instruments and work programme of relevant government agencies in the NCCCT

Indicative activities:

Indicative activities:

- Analysis of climate change gaps in agriculture, water, health and coastal zone management related policies, legal and planning frameworks at the national and island levels (application of bylaws), and in related institutional capacities (desk review and consultations)
- Establish plans and timelines for mainstreaming process, agreeing on mainstreaming objectives and policy instruments to be modified or developed.
- Consultations on reviews required for integration of CC into the National Agricultural Policy, other sectoral policies and legal instruments, as well as for the development of an Integrated and climate-sensitive Integrated Coastal Zone Management Policy (latter being also pursued through PACC).
- Modification of policy instruments for CC integration, or development of new CC policy where appropriate (drafting of revised or new policy).
- Application of modified or newly created policy frameworks and in the islands designated for the community-based sectoral adaptation measures, and integration of on-the-ground experience informing policy frameworks
- Official approval, process of the revised and newly created policy frameworks and instruments (e.g. Cabinet endorsement).

Output 3.2: Enhanced capacity of CIMS to provide tailored climate information services and early warning system

- Enhance the observational and related data management capacity of CIMS through upgrade the Climate and Synoptic Observing Network (on Pukapuka, Manihiki, Penrhyn, Aitutaki, Mauke, Mangaia and Rarotonga), establishing Climate and Synoptic Observing Network (on Nassau, Rakahanga, Palmerston Island, Mitiaro and Atiu), installing climate stations (on Suvarrow, Manuae and Takutea)
- Establish a GIS-based early warning and climate information system, overlaying climatic variables with sectoral information, such as agro-meteorological information, as crop production and planning support tool (overlaying soil, crop, topography and landuse information with climate variables), water use, or health related information
- Develop enhanced climate and weather information products and services (monthly outlook, seasonal forecasting, longer term projections), tailored particularly to users (national and island level government officials, extension services, farmers, communities, local businesses) in different sectors (agriculture, tourism, health, water)
- Establish related communication and distribution systems (including materials prepared in Cook Islands Maori)
- Organize training workshops for CIMS staff and user groups on the provision and interpretation of such products and services

Output 3.3: Policymakers, technical officers at the central and island level offices of relevant gov. agencies in NCCCT are trained on policies and strategies to manage climate change risks

- Organize workshops and seminars on the use of climate information services, climate risk assessments and adaptation planning techniques
- Prepare regular policy briefs to inform higher level policy makers on the DRAM-CCA mainstreaming, island level action planning and related adaptation processes
- Support inter-ministerial and cross-sectoral coordination and dialogue through the programme implementation process, via the National Climate Change Committee, and Island Councils

Output 3.4: Establishment of a framework for monitoring and surveillance system on the climate change impacts in near-shore, coastal and terrestrial ecosystems

- Review of available baseline data and current data gathering processes and capacities by line agencies, in order to identify data and capacity gaps
- Identify a framework for indicators on the status and use of key natural resources and correlate with climate-related impacts and events
- Training of technical staff on reporting and evaluation techniques (NES, line agencies, CIMS)
- Develop data gathering and monitoring protocols, and a user guidebook, GIS interface and maps (linked with Output 3.1)
- Integration of monitoring framework with State of Environment Reporting processes

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

It is expected that the programme will deliver livelihood benefits, resilience to the effects of severe events (droughts, cyclones) that are increasing in risk due to climate change, and create an enabling environment for planning and adaptation to longer term creeping impacts of climate change. The programme aims to directly involve and benefit over 4000 households in 12 inhabited islands and targeted Vakas (districts) in Rarotonga. Given that the programme will develop integrated island-level DRM-CCA Action Plans, communities will be intimately involved and will benefit from awareness raising and training activities, through participatory consultation processes engaging community governing and social institutions, such as village councils, church, youth, or women's groups. The communication and awareness raising activities will engage local and national media, and will also target the primary and secondary schools in the island communities, reaching out to different generations of the country.

Security of livelihoods at the community level will be supported by reducing vulnerability of households and businesses to droughts and cyclones, water scarcity, pests and disease, coastal erosion, land loss, and other climate-induced problems which, without this programme, will continue to adversely affect the populations of the islands. The production climate-resilient crops, 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, reducing dependence on imported food. Through enhancing food and water 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 to regulate and ensure sustainable supply of water resources.

The policy changes introduced in sectoral plans and capacity building components of the programme will be designed in a way to create an enabling environment that will secure the long-term sustainability of the adaptation measures to be introduced by the programme in the different islands. The national capacity in the provision of climate information services, technical capacity of line departments and their extension/advisory services will be enhanced 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.

In summary, the expected main benefits of the programme are increased resilience to damage from climate change-induced extreme events (including reduction of disease and fatality rates associated with such events), protection of vital community assets (both natural and man-made), enhanced food and livelihood security, and social benefits (enhanced awareness of climate change, empowered communities and public institutions through the participatory planning and implementation process, including the involvement of women and youth), and nutrition benefits (quality and consistency of food supply).

The programme is expected to deliver the following environmental benefits, among others: enhanced soil fertility, improved coastal zone stability, reduction of pest/disease risks to crops and humans, and conservation of coastal, inland and reef ecosystems.

The socio-economic and environment benefits will be quantified to the extent possible during the detailed design phase, based on the definition of the programme result framework.

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

An urgent priority in all islands is the climate-proofing of critical access, water supply, coastal protection, disaster response facilities (shelters) and other assets on which residents' lives depend. Due to the remoteness of many communities, climate-proofing of essential community infrastructure and services will be investment-intensive and will serve relatively small populations; but the alternative (leave facilities in a degraded, sub-standard condition and do nothing) is to witness the possible extinction of some of the communities and immense hardships suffered by individual members of them.

The programme will draw on experiences of past and ongoing initiatives; examples are the climate-proofing of Mangaia harbour now undertaken by PACCC, using climate change finance to complement current harbour repair work to higher standards. Similar approach and assessments will be used in the programme, for example for the case of strengthening cyclone protection shelters which require additional upgrading, to withstand at least category 4 cyclones (i.e. stronger than the original designs).

The climate resilient crop production techniques and associated crop processing and storage practices to be introduced by the programme to island communities will support reducing the dependency on imported food, which is a costly and for various communities unaffordable option to counteract food supply shortages, caused by climate related hazards and disturbances.

The proposed interventions in this programme have been outlined in close collaboration with national entities of the Cook Islands, coordinated by NES and the NCCCT, and based on key national and sectoral policies, project documents and technical studies and assessments (such

and SNC, Infrastructure Sector Forum Report 2010, Climate Change Technology Assessment, island level V&As and plans, PACC, IWRM, etc.).

Given remoteness and lack of access, especially in the Northern Group, operational costs are high in Cook Islands and inter-island coordination of activities is difficult. In the past, remoteness has been serious impediment to carrying out development work in the islands, as to various islands (especially in the Northern Group) there are no regular shipping service or flights, and the only access is by (expensive) charter vessel. The elevated operational costs have been considered in the definition of the different budget items of the programme. Considering these particular national circumstances, at the operational level, cost effectiveness of the programme concept is reflected through the following considerations:

- Throughout the programme, AF resources will be aligned with the financing and delivery of programme Outputs that have competitive procurement components to ensure best value for money. In this regard, the programme will apply best practices identified by other, ongoing climate change and development adaptation projects in the country (e.g. PACC, IWRM).
- This programme will utilize existing government structures and processes for implementation in the main and outer islands (such as Island Councils, extension services), which is essential considering the remoteness and communication difficulties with various islands. By building on existing government and institutional structures, the programme will also harnessing in-kind support and contributions from offices at the national and island levels (office space, staff time, communications, etc.)
- The programme, once designed, will be closely built on existing baseline programmes of line agencies, and harness existing delivery mechanisms, if suitable.
- The bulk of programme financing will be directed to community-level activities and connect directly to local opportunities for the procurement of goods and services.
- The integrated approach of the programme is designed in a way to attend a broad set of adaptation needs of island communities, cross a variety of interrelated sectors, this way resources will be used in more efficient way to cover operational costs in a coordinated fashion (e.g. organizing joint island visits, trainings and consultations in a coordinated way between different departments and organizations involved).
- Operational costs will be shared also as much as possible through coordinating with other projects on-going in the islands

Considering the above, the concept is deemed to be in line with basic cost-effectiveness considerations. During the programme formulation phase, cost-effectiveness of the proposed programme outcomes and indicative outputs will again be addressed through detailed environmental and socio-economic assessments and feasibility studies, outlined in the final programme 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 programme directly addresses the climate risk related priorities identified in Cook Islands' Initial and Second National Communications, the Disaster Risk Management National Action Plan and the planned Joint DRM-CCA NAP, which are fully aligned with the National Sustainable Development Plan (NSDP - Te Kaveinga Nui) 2007–2010. The programme itself represents a vehicle to roll out the DRM-CCA-NAP at the island level, aligned with the Island Strategic Plans

and related assessments. As detailed in the section on barriers, a thorough overview of existing relevant national and sectoral policies and instruments (agriculture, land use, water resources) and corporate plans and related technical studies (like the INC and SNC V&As) have been analysed to assess current gaps and needs in capacities in order to outline the programme objectives and outcomes to best respond to national and island-level priorities.

Building on existing government institutions at the different levels, and working closely with NES and the NCCCT, the programme will foster inter-ministerial and cross-sectoral coordination on climate change adaptation issues, in line with Cook Islands' aims to develop and implement the DRM-CCA-JNAP. Cross-sectoral climate change coordination mechanisms will be created and strengthened for climate change resiliency in all islands, with lessons learned in each island applied nation-wide and globally.

Additional details will be specified in the full programme 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 initiatives are required to follow the procedures outlined in the UNDP Programme and Operational Policies and Procedures (UNDP POPP). This mandates that all UNDP supported development solutions must always reflect local circumstances and aspirations and draw upon national actors and capabilities.

In addition, all UNDP supported donor funded projects and programmes are appraised before approval. During appraisal, appropriate UNDP representatives and stakeholders ensure that the initiative 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 programme and should have no vested interest in the approval of the programme. Appraisal is based on a detailed quality programming checklist which ensures, amongst other issues, that necessary safeguards have been addressed and incorporated into the programme design.

The programme will be consistent with all relevant national social and environmental acts and standards, such as:

- Environment Act
- Agriculture Act
- Land use Act
- Biosecurity Act 2008
- Pesticides Act
- Water Bill
- Disaster Management Act
- Building Control and Standards Act and Regulations
- Development Investment Act
- Cultural and Historical Places Act
- Hurricane Safety Act
- Marine Insurance Act
- Marine Resources Act
- Meteorological Services Act
- Ministry of Agriculture Act
- Ministry of Health Act

- Ministry of Labour and Commerce Act
- Ministry of Marine Resources Act

The concept paper points to the issues pertaining to existing policy frameworks and acts in that they do not sufficiently incorporate climate change information, risk and adaptation measures. It is anticipated that the programme will provide support for the incorporation of climate information into relevant sectoral plans, policies, and legislative frameworks.

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

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

Initiative	Status, results, limitations	Complementarities to proposed AF project
<p>The Pacific Adaptation to Climate Change (PACC) 2009-2011 (UNDP-GEF),</p>	<p>PACC is a regional UNDP-GEF funded project executed through SPREP, involving 13 PICs. Carried out by Ministry of Infrastructure and Planning (MOIP), project in the Cook Islands is focusing on climate-proofing of the new Mangaia harbor and related policy work (aims at developing an Integrated Coastal Zone Management Policy).</p> <p>In the Cook Islands, PACC is currently functioning only in Mangaia as a demo, in its initial stages. Similar infrastructure climate-proofing is needed, however, throughout the Cook Islands for a range of different types of assets, and is particularly urgent in the Northern Group, with further strengthening the capacity of MOIP.</p>	<p>Lessons learnt in the Mangaia harbor climate-proofing project (including technical assessments, and climate-proof harbor design and community-engagement) will be applied to similar projects supported by the AF in other islands and will be extended to other sectors and types of essential infrastructure, including roads, water supply, irrigation, and sanitation systems. The Ministry of Agriculture, MOIP, and other key agencies are represented on the National Steering Committee (the NCCCT) for these sectors, hence are well suited to incorporate lessons learnt from these projects into the AF Project or vice-versa.</p>
<p>Pacific Islands Climate Change Assistance Programme (PICCAP) – 1997-2002 (SPREP);</p> <p>Capacity Building for the Development of Adaptation Measures in Pacific Island Countries (CBDAMPIC) – 2002-2005 (CIDA);</p> <p>Comprehensive Hazard and Risk Management</p>	<p>The Cook Islands participated in the 10- country PICCAP, a regional project managed by SPREP but implemented in each of the participating island countries, prior to 2002. PICCAP marked the start of climate change information gathering and dissemination activities in the Cook Islands and lead to the creation of the multi-disciplinary National Climate Change Country Team. Activities carried out under the project included the implementation of</p>	<p>The AF programme builds directly on the results of these three past successful programmes, in grounding its work on the results of the First and Second National Communications and the island-specific vulnerability assessments that have been prepared so far. The AF programme will apply lessons learned from the assessments carried out under the three programmes and their methodologies, and from those learned from the adaptation pilot project in Aitutaki.</p>

<p>(CHARM) – 1998, SOPAC</p>	<p>national vulnerability assessments and national greenhouse gas inventory as well as the drafting of the First National Report to the UNFCCC.</p> <p>The Capacity Building for the Development of Adaptation Measures in Pacific Island Countries (CBDAMPIC) was a Canadian funded SPREP executed project that ran from 2002-2005 with the broad aim of increasing the ability of Pacific Island people to cope with climate change. The CBDAMPIC project was the first project aimed at action to directly facilitate adaptation to have been piloted in the Pacific region. The Cook Islands pilot project on the island of Aitutaki addressed the primary community concern of rainwater harvesting for drinking water. CBDAMPIC supported a number of island-specific vulnerability assessments carried out during the life of the project.</p> <p>The Cook Islands was also included in SOPAC's (CHARM) initiative in 1998 which aimed to provide a consistent approach to risk management across the Pacific region. The approach recognised the isolation factor of the outer islands and the transportation limitations which lead to the small island's vulnerability to disaster risks. The CHARM approach to disaster management supported the shift of focus from recovery and response to preparedness and risk reduction.</p>	
<p>Climate Change Adaptation Programme for the Pacific (CLIMAP) 2004-2005 (ADB)</p>	<p>The Cook Islands was a member of ADB's CLIMAP Regional project in 2004-2005. The Cook Islands was selected as one of two Pacific island countries for detailed climate change and adaptation case study (the other country was the FSM). This program aimed to assist Pacific developing member countries to enhance their adaptive capacities and resilience to climate change, climate variability and extreme events. The project undertook risk assessment,</p>	<p>Detailed assessments of the effectiveness, costs, and economic impact of adapting to climate change and of 'mainstreaming' climate awareness and adaptation into land use policy, coastal development, and protection of assets from the damaging effects of extreme events was carried out under CLIMAP and the results compiled in a detailed assessment report issued in 2006. The AF programme will incorporate these results into the assessment,</p>

	<p>adaptation planning and policy development and by identifying ways of “climate proofing” infrastructures, community and other development initiatives. In 2004 the CLIMAP program assisted with the climate proofing of the design of the Avatiu Harbour and the breakwater for the newly developed Western Basin in Rarotonga.</p>	<p>planning and design stages of adaptation and climate-proofing projects in all islands of the country.</p>
<p>Emergency Management Unit, Cook Islands (EMCI)</p>	<p>Established in 2006 under the Office of the Prime Minister, EMCI conduct auditing and assessment of other departments and Ministries in terms of their preparedness to disaster events. The EMCI is also responsible for coordinating emergency response plans and to a large extent is carried out within the framework of the Cook Islands Disaster Risk Management National Action Plan (DRM-NAP). The EMU is currently conducting public awareness programmes on disaster preparedness using local media. (TV advertisements).</p>	<p>The AF programme will partner closely with EMCI in carrying out the carrying out the mandate of the Disaster Risk Management National Action Plan, in the development of early warning systems on the islands, public awareness raising in island communities and at the national level, and dissemination of lesson learned and experience with adaptation throughout the country and overseas.</p>
<p>The Cook Islands Red Cross (CIRC)</p>	<p>The CIRC have been carrying out a “Preparedness for Climate Change Programme” on the outer islands which includes the creation of a plan of activities to prepare for and reduce risks of climate change in communities in the Cook Islands. One part of the preparedness plan, for example, involves the CIRC documenting traditional methods of food preservation which could help people store food during times of disasters and extreme climatic events. The CIRC has also programmed to start Vulnerability Community Assessments for each of the outer islands where the Assessments have not been completed. Based on these assessments, CIRC aim to carry out community driven projects, similar to current projects on the islands of Pukapuka and Nassau which involve the construction of composting toilets.</p>	<p>The vulnerability assessments that exist currently are incomplete and somewhat piecemeal. In providing for island-level detailed adaptation plans throughout the islands of the Cook Islands, the AF programme will build directly upon the CIRC’s continuing work in preparation of vulnerability assessments, adding to those already prepared, and strengthening them in terms of comprehensiveness and rigour, linking with Island Councils and Island Strategic Plans.</p>
<p>Food Security for Sustainable Livelihoods</p>	<p>Cook Islands form part of this FAO regional project. Currently assessments are being carried out</p>	<p>AF can build synergies with this project, by integrating climate risk and resilience considerations, linking with</p>

Programme (FSSLP)	and a detailed project proposal is expected to be drafted within the next 3 month. The project is expected to concentrate on the Food Security situation of the Southern islands.	the envisaged island level DRR-CCA-JNAP processes, and address the significance of food security in the northern islands through promotion of food preparation and preservation methodologies. This is very important particularly following natural disasters such as cyclones.
Managing Climate Change Risk in Cook Islands' Vulnerable Communities (ADB-SGA-WWF)	Implemented recently (August 2010) by WWF Cook Islands, supported through ADB's Small Grants Activity, this project was a pilot in 3 communities (Arutanga-Ureia in Aitutaki, Matavera and Rua'au districts in Rarotonga), carrying out participatory climate risk assessments in order to develop methods and tools. It built upon earlier work by the NES, Red Cross, and employed map-based assessment and planning techniques. While this project has produced very valuable experience it also identified general capacity needs (especially in GIS-related applications), and has not have funds to actually implement the identified community adaptation priorities and actions.	The AF programme will build on the experiences generated through this projects, further strengthening methods and capacities for participatory and map-based climate risk assessments and adaptation planning, involving WWF in supporting similar exercises and follow up implementation in other islands and communities.
Community-centered Sustainable Development Programme	Supported by UNDP, Sustainable Village Development Plans has been developed in Pukapuka and Mitiaro islands, and similar exercises are being planned in Rarotonga. These plans created good momentum for community engagement and participatory processes, and identified community needs and plans in agriculture, water, and coastal issues, but without integrating climate risks, and providing funds for actual implementation.	The AF programme will build on these plans, will support their implementation through integrating climate risks.

**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 under component (Outcome) 1 and closely linked with the other components. The proposed KM activities will ensure the

systematic capturing and dissemination of lessons learnt and good practices throughout the programme from its initial stages of implementation to its end. There will be a broad range of KM products developed (including, case studies, photo stories, short videos, posters, brochures, and technical reports – in English and in Cook Islands maori language). There will be variety of media and means used for dissemination, including meetings, TV, radio, press, briefing papers for policy makers for higher level meetings and processes, technical workshops, awareness programmes in communities, exchange visits between project sites, and web-based platforms, including websites of national agencies, regional and global platforms (like the SPREP CC Portal, or the Adaptation Learning Mechanism). The National Environment Forum will be supported, in order to disseminate experiences derived from the programme. Programme lessons learnt and KM products will be also presented in relevant regional meetings. Also, a community of practice dialogue space on the Adaptation Learning Mechanism will allow programme staff to participate in a growing expert group of adaptation practitioners who share good practices and tacit knowledge to ultimately catalyse action and influence policy processes at national regional and global level.

The programme 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 programme will identify, analyse, and share lessons learned that might be beneficial in the design and implementation of similar future initiatives in Cook Islands, elsewhere in the Pacific, and globally.

To assure high quality and systematic KM activities throughout programme implementation, the programme will recruit a KM and communication officer as part of the Project Management Unit. Further details and costing of KM-related outputs and activities will be provided in the project document.

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

This initiative 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 national agencies and organizations represented in the NCCCT:

- National Environment Service
- Office of the Prime Minister, Central Policy and Planning Division
- Ministry of Infrastructure and Planning, including Water Supply and Energy Divisions
- Cook Islands Meteorological Service
- Ministry of Agriculture
- Ministry of Health
- Ministry of Education
- Ministry of Marine Resources
- Ministry of Foreign Affairs
- Ministry of Finance and Economic Management, including Aid & Statistics Divisions
- Emergency Management Unit
- Traditional Leaders (Koutu Nui & House of Ariki)
- Civil society organisations including Red Cross, Environmental NGOs, Climate Action Network, & Tourism Industry and Chamber of Commerce representatives
- Island and Vaka Councils

Given the community-based focus of the initiative, assessment, planning and implementation of adaptation measures will be carried out through participatory consultations, engaging community-governance structures, such as Island and Vaka Councils or the Island Climate Change Community Teams (where in place), church groups/networks, youth and women groups. Particular attention will be given to the role of women, recognizing their critical role in providing food and water supply to their families. The communication and knowledge sharing activities will ensure that villagers learn directly from each other, through the good practices analyzed and disseminated in conjunction with direct exchange visits, among other means.

Additional stakeholders will be consulted in accordance with the advice and guidance by NCCCT. A full description of stakeholders consulted during the formulation phase will be described in the full 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 each of the islands.

#### **Component 1: Community-engagement in vulnerability assessment, adaptation planning and awareness**

##### *Baseline (without AF resources)*

As described in the barriers section, a set of different assessment and planning processes have been carried out in the past in the different islands. While these initiatives provide a good basis for participatory processes in the island communities, they have been carried out in fragmented way, not covering systematically all inhabited islands, and some of them are rather outdated. Without this AF-supported programme, climate risks and vulnerabilities will not be integrated systematically into Island Strategic Plans, and related institutional, development assistance and resource mobilization processes, in consequence jeopardizing the long-term sustainable of island development processes, due to current and anticipated climate change impacts.

Current awareness raising and knowledge management activities on climate change are limited to a few narrow focused projects (like PACC with only one demo on Mangaia), to some activities of NES (like the biannual National Environmental Forum), and the set of V&A assessments carried out in the past decade throughout INC and SNC. Without AF support, opportunities will be missed to generate and disseminate practical adaptation and disaster risk reduction experience and good practices, supporting upscaling and replication of existing initiatives, and the activities proposed under this programme.

##### *Additionality (with AF resources)*

The development of island level DRM-CCA Action Plans, will cover systematically all 13 inhabited islands, providing a vehicle to take the National Action Plan to the local level, and engage broadly island communities in the consultation, planning and related awareness raising processes. The knowledge products generated will be shared systematically reaching out to broad professional and general audience, ensuring cross-fertilization of the experience gained between island communities, and more broadly in the region. The support that will be provided

through this proposed programme will help effective linkages with school programmes, reaching out to different generations, and integrating experience for longer-term use.

## **Component 2: Integrated Community-based DRM-CCA measures**

### *Baseline (without AF resources)*

Without AF resources the adaptation needs identified in recent assessments will not be followed up systematically and local capacities will not improve towards this end. Given the serious and increasing risks of climate change related hazards, this situation will further erode livelihood of island communities, especially in the smaller and low-lying atoll islands, continuing to damage vital community assets, and pose threat to lives. Agricultural yields will continue to decline, and this combined with water shortages will escalate health risks, also exacerbated by climate change. Above all, the very subsistence of some island communities will depend on the implementation of successful and upscaled adaptation and disaster risk reduction measures. Without the integrated implementation of sectoral measures, national officers and extension services and island level representatives will not be able to develop the needed experience and capacity to advise and support island communities.

### *Additionality (with AF resources)*

AF resources will facilitate the detailed design and implementation of a set of interventions in identified priority sectors in at least 7 islands, and 15000 households, which will enhance livelihood resilience of the entire island communities, through safeguarding essential community assets and services (access, coastal protection, cyclone shelters, water supply) from anticipated climate-related hazards. Resilience of livelihoods will be enhanced securing more reliable supply of water and food, in light of climate variability and long term climate change. The setting up (as applicable) of nurseries, introduction of climate resilient species, irrigation and cultivation techniques, as well as conservation methods will aim at enhancing food security, already being compromised in various islands in periods of major climate disturbances (e.g. extended drought, cyclones, and floods). The improvement of water and food supply will contribute to enhanced health conditions, combined with the introduction of vector-borne disease control techniques.

## **Component 3: Institutional strengthening to support climate resilient policy frameworks for the implementation of the national DRR-CCA-NAP**

### *Baseline (without AF resources)*

The Cook Islands has recognized the threat of climate change and placed adaptation amongst its top priorities, clearly articulated in its Second National Communication (SNC), and in the concept document of the planned DRM-CCA-JNAP. The SNC outlines key vulnerability areas and defines the need to establish and implement action plans accordingly. However, there is currently no systematic assessment and action plan for water resource and coastal zone management activities. Current services of CIMS do not support planning and management decisions in sectoral practices, hindering appropriate planning for adaptation activities and preparedness to climate-related hazards in livelihood activities (such as agriculture). Above all, in the absence of an enabling and supportive institutional environment, that fully integrates climate change, the currently scarce adaptation implementation activities will not be upscaled, and local development

efforts can be seriously jeopardized due to climate variability and change.

#### *Additionality (with AF resources)*

This programme will provide a vehicle to develop and implement the DRM-CCA-JNAP taking it to sectoral level mainstreaming of policies, related legislation, medium-term budgeting frameworks and annual workplans. AF funds will be used by national entities to build their capacity to generate and apply customized climate early warning systems and related information services. AF resources will support the revision of Agriculture, Land Use and Water sector policies and plans and the development of the envisaged Integrated Coastal Zone Management Policy, for full integration of climate risk and resilience, through training of government officials. The need for enhanced monitoring capacity of natural resources has been highlighted in a number of policy documents. This initiative will support building such capacity, in order to track climate-induced impacts on vital livelihood resources.

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

The full costs of adaptation will be further articulated in the project proposal submitted for final approval by the Adaptation Fund.

### **PART III: IMPLEMENTATION ARRANGEMENTS**

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

The Government of the Cook Islands will execute this 5 year project with the support of UNDP under the National Execution (NEX) modality. The National Environment Service (NES) working jointly with the Office of the Prime Minister, Central Policy and Planning Division will function as the 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. NES is well-positioned as executing agency for this project, given that it currently coordinates a range of initiatives and projects related to climate-aware environmental protection, directly engaging with communities, and has been also active in overall national policy processes. Under the overall direction of the NES as executing agency, hosting a Project Management Unit, key Ministries and agencies involved in NCCCT (such as the MOIP, MoA, MMR, CIMS and others) will have project sub-coordinators appointed within them.

The Project will be coordinated through a Project Steering Committee (PSC) which will provide support for the operational management of the Project. The NCCCT will take the role of project steering committee. The PSC will be chaired by a high-level representative appointed by NCCCT and NES, as representatives of the main project beneficiaries. The close collaboration with the NCCCT and NES will ensure that linkages with the DRM-CCA-JNAP and climate change adaptation initiatives in other sectors remain effective.

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 NES and NCCCT 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 within a Project Management Unit, supported by a assistants and a technical team.

NES and NCCCT 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 Multi-country Office in Samoa (in charge of Cook Islands) 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.

NES 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:

- Extreme climatic events and geophysical hazards do not damage or eradicate project results, or cause major disturbances resulting in delays due to needed emergency and recovery processes.
- The development of the DRM-CCA-JNAP keeps up its momentum, and a national consensus on the institutional management of different sectors and related priorities within the Plan and the needed collaboration of key government agencies in the project is not hindered by unforeseen influences;
- There is sufficient coordination between island councils and national authorities to scale up the island-based integrated adaptation actions in an effective manner.
- The communication and access difficulties do not delay timely implementation of the planned adaptation activities;
- 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, 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 reduce self reliance;
- The selection and implementation of adaptation measures in the villages follows integrated village development plans, vulnerability considerations, and the established criteria and is not derailed due to political processes and influences.

While the above risks need to be assessed in detail, strong commitment from the Government of the Cook Islands exists, with well functioning national coordination mechanisms (NCCCT) which limits the likely risks of the proposed project. Furthermore, linkages to ongoing and planned baseline development activities implemented by government, as well as local acceptance, will minimize these risks.

The most serious risks are related to limited qualified staff and high turnover, which are common issues 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. The appointment of island level project coordinators and sectoral sub-coordinators will ensure local and agency ownership of the project. 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 will be 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 (M&E) Plan and indicative cost estimates related to M&E activities. The project's M&E 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) will 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 a minimum requirement, the Annual Review Report will 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 will 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 will 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>1</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:

<p>Dr. Jim Gosselin Secretary Ministry of Foreign Affairs &amp; Immigration Rarotonga, Cook Islands</p>	<p>October 20, 2010</p>
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### 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

<p>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.</p>	
<p> Yannick Glemarec Director Environmental Finance UNDP</p>	
<p>Date: October 24, 2010</p>	<p>Tel. and email: +1-212-906-6843; <a href="mailto:yannick.glemarec@undp.org">yannick.glemarec@undp.org</a></p>
<p>Project Contact Person: Gabor Vereczi</p>	
<p>Tel. And Email: +685 27482 ; <a href="mailto:gabor.vereczi@undp.org">gabor.vereczi@undp.org</a></p>	

<sup>1</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.

## ANNEX: UNDP Environmental Finance – Specialized Technical Services

Stage	Specialized Technical Services Provided
<b>Identification, Sourcing and Screening of Ideas</b>	Provide information on substantive issues and specialized funding opportunities (SOFs)
	Verify soundness and potential eligibility of identified idea
<b>Feasibility Assessment / Due Diligence Review</b>	Technical support: provide up-front guidance; sourcing of technical expertise; verification of technical reports and project conceptualization; guidance on SOF expectations and requirements
	Provide detailed screening against technical, financial, social and risk criteria and provide statement of likely eligibility against identified SOF
	Assist in identifying technical partners; Validate partner technical abilities.
	Obtain clearances – SOF
<b>Development &amp; Preparation</b>	Technical support, backstopping and troubleshooting
	Technical support: sourcing of technical expertise; verification of technical reports and project conceptualization; guidance on SOF expectations and requirements
	Verify technical soundness, quality of preparation, and match with SOF expectations
	Negotiate and obtain clearances by SOF
	Respond to information requests, arrange revisions etc.
	Verify technical soundness, quality of preparation, and match with SOF expectations
	Technical and SOF Oversight and support
<b>Implementation</b>	Technical support in preparing TOR and verifying expertise for technical positions. Verification of technical validity / match with SOF expectations of inception report. Participate in Inception Workshop
	Technical information and support as needed
	Technical support, participation as necessary
	Advisory services as required
	Allocation of ASLs
	Technical support and troubleshooting, Support missions as necessary.
	Project visits – at least one technical support visit per year.

Stage	Specialized Technical Services Provided
	Technical support, validation, quality assurance
	Return of unspent funds
<b>Evaluation and Reporting</b>	Technical support, progress monitoring, validation, quality assurance
	Technical support, participation as necessary
	Technical support in preparing TOR and verifying expertise for technical positions. Verification of technical validity / match with SOF expectations of inception report. Participate in briefing / debriefing
	Technical analysis, compilation of lessons, validation of results
	Dissemination of technical findings

**Service standards:**

1. initial response to communication within 2 working days
2. full response to communication (with the exception of a response requiring travel) within 10 working days