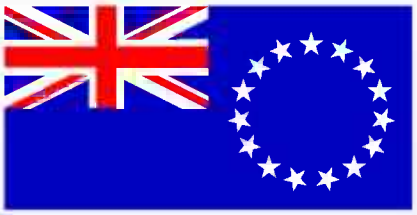


COOK ISLANDS

Joint National Action Plan for Disaster Risk Management and Climate Change Adaptation (JNAP) 2011 - 2015

Produced by the Government of the Cook Islands with support of the Pacific Disaster Risk Management Partnership Network (PDRMPN) as represented by Applied Geoscience & Technology Division (SOPAC) of the Secretariat of the Pacific Community, Secretariat for the Pacific Regional Environment Programme (SPREP) and the United Nations Development Programme Pacific Centre (UNDP PC).

January 2012

Government of the Cook Islands

JOINT NATIONAL ACTION PLAN
for
DISASTER RISK MANAGEMENT
and
CLIMATE CHANGE ADAPTATION

2011 - 2015

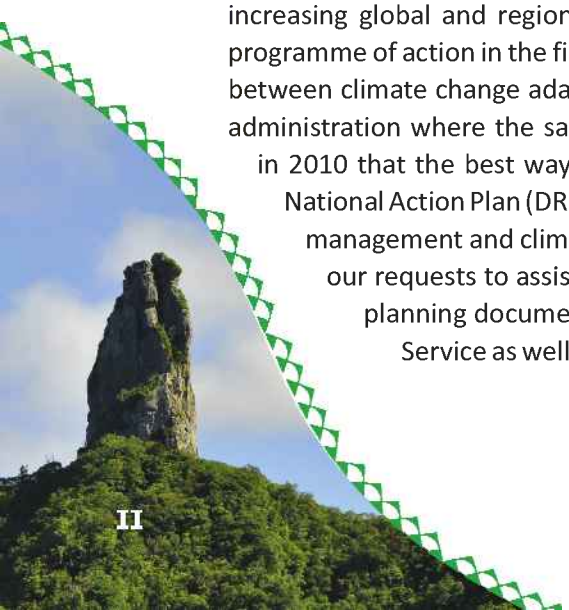
Foreword

As a small island nation situated within the climatically and geologically unstable South Pacific region, the Cook Islands is exposed to a wide range of natural hazards. These range from fast-onset hazards such as cyclones and tsunamis to slow-onset changes in climate and sea levels as a result of climate change. Events such as the five consecutive cyclones of 2005, Cyclone Pat that struck Aitutaki in 2010 and the Samoan and Japanese tsunamis, remind us of our vulnerability to the forces of nature and provide us with a wake up call to be better prepared. Furthermore, each day, we note the receding coastline of our islands or we observe the water supply in some of our communities decline to a trickle. This reminds us of our susceptibility to climate change and sea level rise and we are once again alerted to the fact that we must reduce our risk and manage our vulnerability.

The Cook Islands government acknowledges the threat to our development and collective well being associated with natural and man-made hazards. In order to achieve our long-term vision: *'to enjoy the highest quality of life consistent with the aspirations of our people in harmony with our culture and environment'* we need to take the linked issues of disaster risk management and climate change adaptation very seriously. We recognise the need for us to reduce our vulnerability and strengthen our collective resilience. Reflecting the importance of these issues, we have included 'resilience' as a key strategic priority area in our new National Sustainable Development Plan (NSDP) 2011-2015. Our goal is '*a Cook Islands where our people are resilient to disasters and climate change to achieve sustainable livelihoods*'.

In 2007 the Government approached the Pacific Islands Applied Geoscience Commission and the Pacific Disaster Risk Management Partnership Network to assist the Cook Islands to develop a Disaster Risk Management National Action Plan as a key planning document for "establishing a coordinated and effective national disaster risk reduction and disaster risk management system for all hazards". Following extensive research, consultations and stakeholder inputs this plan was completed in 2009.

However, the plan did not directly address the issue of climate change, as climate change at that point was considered mainly an environmental issue. With climate change becoming an increasing global and regional reality, it soon became incumbent on us to design a national programme of action in the field of climate change adaptation. Recognising the close relationship between climate change adaptation and disaster risk reduction, as well as the small size of our administration where the same people are often involved in both fields, government decided in 2010 that the best way forward would be to use our existing Disaster Risk Management National Action Plan (DRM NAP) to serve as a central planning document for both disaster risk management and climate change adaptation. Once again our partners were responsive to our requests to assist in facilitating the work required to design and compile one 'joint' planning document based on existing material drafted by the National Environment Service as well as further inputs from a week long series of national climate change



adaptation stakeholder workshops held in March 2011. It was significant that the workshops included a strong representation of Island Administrations from the Pa Enua.

This Joint National Action Plan brings greater focus and coordination to our efforts in disaster management and disaster risk reduction, including climate change adaptation. It will add to the strategic suite of other sectoral plans and policies that help to guide our own internal development resourcing mechanisms as well as those provided by our donors.

The 'JNAP' represents a continuation in the effort to improve our overall safety and well being. It is a medium term plan and over time we hope that the implementation of the Joint National Action Plan will bring about a change in our attitude and behaviour to disasters and indeed to development. Disasters are an inevitable part of our lives and we must all work together to ensure that we do what we can to reduce the risks so that we can become a 'safe, secure and resilient community' – in accordance with our national aspirations.

Kia Manuia

The Honourable Henry Puna
Prime Minister and Minister of Disaster Risk Management
Cook Islands

Wave Breaker, Nikao, Rarotonga

Akatomoanga

No te meangiti i te basileia Kuki Airani i roto i te Pasifica, e manganui te au manamanata e tai'I nei kia ia. Mei te au manamanata tupu viviki mei te uri'ia e te tai akaki ki te au manamanata tupu marie mei te tienianga reva.

Kua riro te au uri'ia e 5 i te mataiti 2005, te uri'ia Pat tei takinokino ia Aitutaki i te mataiti 2010, te tai akaki i Samoa e Tiapani i te akamaara mai ia tatou i te au tavini maroiroi o te natura. Kia vai teateamamao ua rai tatou i te paruru ia tatou. Te kite nei oki tatou i te tapataatai e varoia nei e te ngaru e te au kakapuanga vai o tetai au oire kua meangiti takiri. Te akamaara mai nei teia i te manamanata ta te tienianga reva e akatupu nei. E mea meitaki kia rauka ia tatou te akanoonoo e te akonokono i tetai au ravenga i te akaiti mai i te kino ka akatupuia.

Te 'ariki nei te Kavamani Kuki Airani i teia au tamanamanataanga e ta tatou au ravenga paruru mate akapuapinga i to tatou oraanga. Ei ravenga kia tupu ta tatou Orama: "Kia rangatira to tatou oraanga na roto i ta tatou e umuumu nei kia tau ki ta tatou au peu e to tatou Aorangi".

Kia akonokono meitaki tatou i te au ravenga tei parani'ia. Kua nakiro oki ia tatou te au ravenga akaiti mai i te manamanata e te akamatutu i te au ravenga paruru. No teia tei manakoia, kua tauru mai matou i te au ravenga paruru ei manako maata i roto i te NSDP 2011 – 2015. Ko ta tatou e umuumu nei "e basileia Kuki Airani kia rauka i tona iti tangata i te paruru i te manamanata natura e te tienianga reva kia rangatira tatou. "

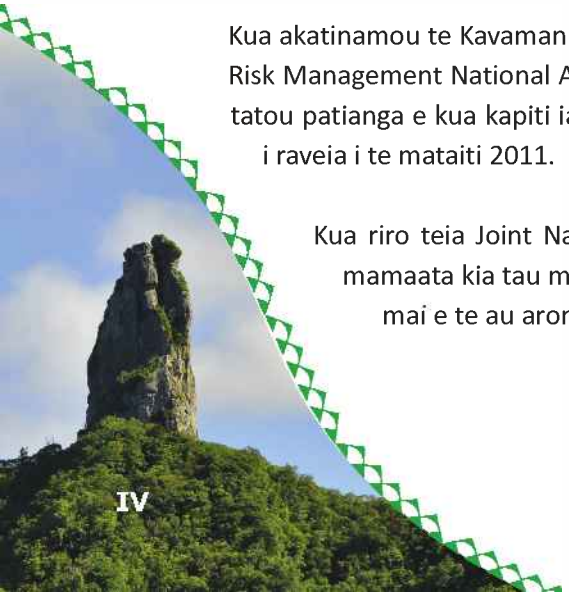
I te mataiti 2007 kua aravei atu te Kavamani i te Kumitiona o te Pasifica no runga i te Applied Geoscience e pera te Pacific Disaster Risk Management Partnership network kia tauturu mai ia tatou na roto i te 'angaanga mai i tetai au ravenga no te akaiti mai i te manamanata mei te mea e ka tupu ake teia.

Kua raveia tetai au kimikimianga e te au uipaanga e kua oti teia parani nei i te mataiti 2009.

Inara kare te parani i akamou 'ua ki runga i te tienianga reva no te mea kua kapiti'ia teia ki te Aorangi. Kua tae te tuatau no tatou i te Kuki Airani nei kia parani no te paruru ia tatou no teia tienianga reva.

Kua akatinamou te Kavamani i te mataiti 2010 e ka orongaia teia akateretereanga ki te Disaster Risk Management National Action Plan(DRM NAP). Kua tauturu mai oki to tatou au patana i ta tatou patianga e kua kapiti ia atu te tataanga a te Tuanga Taporoporo e pera tetai au uipaanga i raveia i te mataiti 2011. Kua tikina katoa ia atu tetai au marama mei te au pa enua i tai.

Kua riro teia Joint National Action Plan ei ravenga i te kapiti i teia nga tumu manako mamaata kia tau meitaki i ta tatou i anoano e te taangaanga i te au mea i oronga ua ia mai e te au aronga tauturu.



Ko te JNAP, kua riro teia ei akamou i ta tatou ORAMA: “kia paruru ma te akaiti mai i te au manamanata ka tupu. ”E parani teia no to tatou nooanga ‘au e te manamanata kore. Ko ta tatou oki teia e umuumu nei. Ko te au manamanata ka tupu mai, e au akateretereanga te reira kare e rauka ia tatou i te kape. Ka timata pakari ra tatou i te paruru e te akaiti mai i te au manamanata ka tupu.

Kia Manuia

Tona Ngateitei Enere Puna
Parai Minita e Minita no te Akonokono Kino Natura
Kuki Airani

Motu Akaiami, Aitutaki

Word from Emergency Management Cook Islands (EMCI) & Climate Change Cook Islands (CCCI)

Charles Carlson
Director, EMCI

Ana Tiraa
Director, CCCI

The Joint National Action Plan (JNAP) for Disaster Risk Management and Climate Change Adaptation is a roadmap for building a resilient Cook Islands. The JNAP also helps us provide a more coordinated approach to dealing with disaster risk reduction and climate change issues by all agencies.

EMCI along with Climate Change Cook Islands (CCCI)and the Central Policy and Planning Unit in in the Office of the Prime Minister (OPM) will continue to ensure that we have the right policies, legislation, plans and structures in place to deal efficiently with any national emergency or disaster, including those exacerbated by climate change.

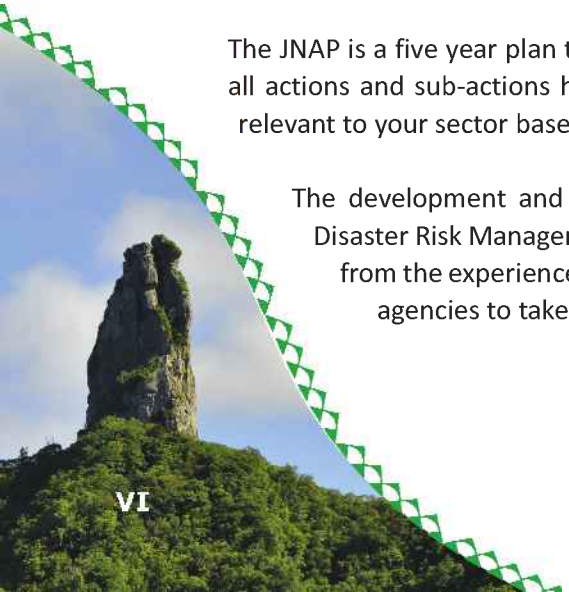
One of the challenges is bringing disaster risk management and climate change adaptation to the forefront of our planning. Unfortunately, many agencies do still not view DRM and CCA as a priority with the result that they often get pushed to the bottom of the priority list. What is required is a drastic mind shift away from waiting until a disaster happens and acting retrospectively, to becoming proactive in doing what we can to prevent natural and man-made hazards from becoming disasters. If total prevention is not possible, our actions will at least serve to reduce the impact of a disaster if it does happen.

The success to the implementation of this JNAP will depend on the commitment from all agencies and not EMCI and CCCI alone.

We are aware of the scarcity for government resources to implement your goals and work plan for the coming financial year. The JNAP is an alternate vehicle that can help achieve your goal.

The JNAP is a five year plan that is aligned to our NSDP. One of the benefits of the JNAP is that all actions and sub-actions have been fully costed. This should allow you to prioritise actions relevant to your sector based on your internal financial resources, including donor support.

The development and implementation of the previous National Action Plan (NAP) for Disaster Risk Management since 2009 has benefited EMCI immensely. Therefore learning from the experiences of the benefits and challenges of the DRM NAP, we would urge all agencies to take advantage of this great opportunity with the JNAP.



Acknowledgements

The Office of the Prime Minister would like to acknowledge and express its gratitude for the efforts of the members of the National Action Plan Advisory Committee, the Climate Change Country Team as well our local and external stakeholders and partners for the support provided to develop the **Cook Islands Joint National Action Plan for Disaster Risk Management and Climate Change Adaptation.** In addition we would also like to acknowledge the contributions of the members of the Pacific Disaster Risk Management Partnership Network including SPC SOPAC, SPREP and UNDP Pacific Centre.

We look forward to working closely with all of you in implementing the Joint National Action Plan and to continue to strive to find ways to make the Cook Islands safer and more resilient to natural disasters and the impacts of climate change.

Mac Mokoroa
Chief of Staff
Office of the Prime Minister

NZ Army & local Red Cross helping with the response in Aitutaki (TC Pat 2010)

Executive Summary

The **Joint National Action Plan forDisaster Risk Management and Climate Change Adaptation (JNAP)** provides a roadmap to guide the Cook Islands in implementing Priority 5 ('Resilience') of the National Sustainable Development Plan 2011-2015. The Goal is to achieve *'a resilient and sustainable Cook Islands where our people are resilient to disasters and climate change and able to achieve sustainable livelihoods'. The two key objectives are to ensure that 'our people are prepared for disasters and climate change impacts', and that 'the impacts of disasters and climate change are reduced.'*

The NSDP is our leading national policy document linked to **Te Kaveinga Nui – Living the Cook Islands Vision. A 2020 Challenge.** The National Vision is: *'To enjoy the highest quality of life consistent with the aspirations of our people, and in harmony with our culture and environment.'*

There is a growing realisation that development processes and people in the Cook Islands are increasingly vulnerable to slow and fast-onset disasters resulting from natural, man-made and climate-related hazards, and that a culture of risk reduction and preparedness needs to be instilled across all levels of society in order to minimize (and if possible prevent) disaster impact. The many threats associated with climate change and sea level rise, across a multitude of sectors, adds impetus to the need to become prepared and to ensure that the capacity to **adapt** exists across all spheres of society in the Cook Islands.

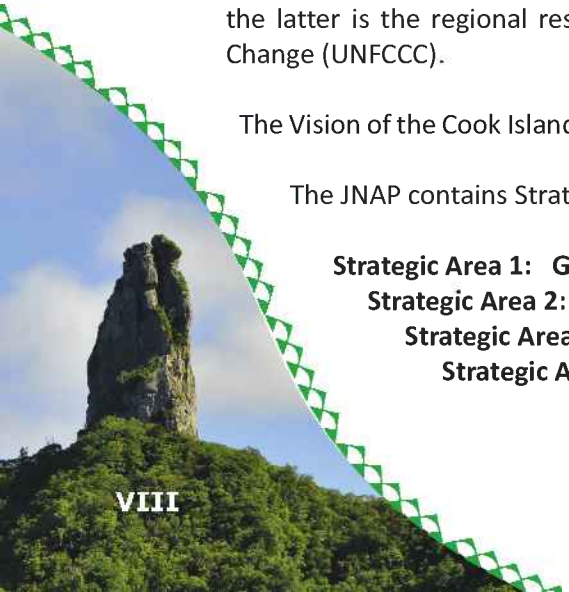
Following a thorough process of participatory consultation and planning, the JNAP **identifies a comprehensive list of actions** designed to reduce the impacts of disasters and climate change. The plan is far reaching, seeking solutions across a number of governance areas: e.g. policy, institutional, operational and awareness related to the management of disaster risk, such as risk reduction, disaster preparedness, response and recovery in the Cook Islands. Disaster risk management is by nature a cross-sectoral activity requiring coordinated interventions at all levels of society and amongst all stakeholders – government, private sector, civil society and communities as all sectors are vulnerable to disaster risks. The plan provides a number of inter-linked strategies and actions that have been specifically designed to address the critical needs identified.

Strategies and actions have been organised under four overarching Strategic Areas that take their cue from the themes of the *Pacific Disaster Risk Reduction and Disaster Management Framework for Action 2006 – 2015* as well as the *Pacific Islands Framework for Action on Climate Change 2006 – 2015.* The former is the Pacific region's response to the international *Hyogo Framework for Action 2005 – 2015: Building the Resilience of Nations and Communities to Disasters,* while the latter is the regional response to the United Nations Framework Convention on Climate Change (UNFCCC).

The Vision of the Cook Islands JNAP DRM CCA is: ***A Safe, Resilient and Sustainable Cook Islands.***

The JNAP contains Strategies, Actions and Sub-Actions across four key Strategic Areas:

Strategic Area 1: Governance
Strategic Area 2: Monitoring
Strategic Area 3: Disaster Management
Strategic Area 4: Risk Reduction and Climate Change Adaptation



The JNAP includes a costed Implementation Programme. The Implementation Programme offers a number of **guiding principles**, attaches a **cost** to the plan, puts in place an appropriate **management structure**, identifies potential **financing options,** and provides guidelines for a **communication strategy** and **monitoring and evaluation** procedures.

The overall indicative cost for implementing the JNAP over the period 2011-2015 is estimated to be NZ$ 53,7 million. Of this, it is estimated that Cook Islands agencies such as government departments could absorb around NZ$ 6,2 million worth of costs into business as usual. JNAP actions currently receiving donor funding amount to just under NZ$ 8,8 million. It is anticipated that the balance, NZ$ 41,7 million, will require a combination of government, private sector and donor support.

Given the high and economically debilitating costs of natural disasters (recovery from the 2005 cyclones amounted to NZ$20 million), **the potential economic benefits from investing in the implementation of the JNAP are likely to be substantial.**

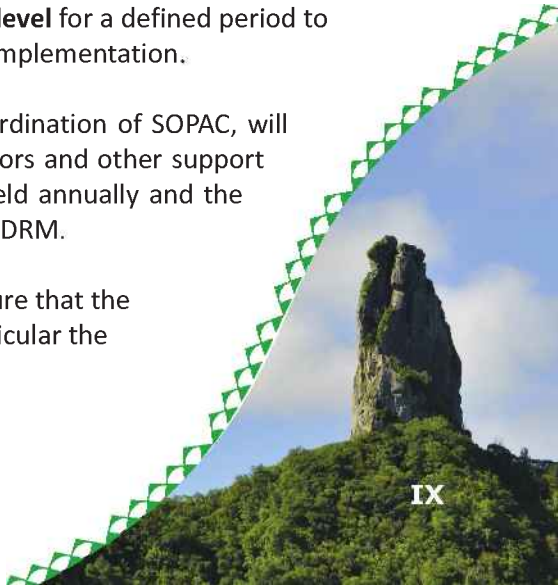
The structure proposed to lead and support JNAP implementation is the JNAP Project Management Committee (JNAP PMC). The JNAP PMC will be supported directly by Emergency Management Cook Islands (EMCI) and Climate Change Cook Islands (CCCI) who will jointly provide secretariat services and also the required staff and other resources to enhance the implementation by the relevant ministries and agencies. **The JNAP PMC will be responsible to an expanded National Disaster Risk Management and Climate Change Council (NDRMCCC) for the implementation of the plan.** Council members will facilitate senior-level support and influence in terms of ensuring that the JNAP actions are integrated into the Medium Term Budgetary Framework and the annual business/work plans and budgets of relevant ministries and agencies. The current Climate Change Country Team is to be transformed into a broad-based **National Platform for Disaster Risk Management and Climate Change** along the lines proposed by the International Strategy for Disaster Risk Reduction (ISDR).

To facilitate **linkages between disaster risk management, climate change and their effects on development planning and implementation,** it is proposed that Climate Change Cook Islands (CCCI), as the mandated national agency for the coordination of the national climate change adaptation programme provides the direct link for this programme to EMCI, the JNAP PMC and the NDRMCCC.

EMCI will require strengthening in order to fulfil its role as the lead DRM agency within the Cook Islands Government and the operational leader for JNAP implementation. In this regard it is anticipated that EMCI will receive additional positions consistent with the recommendations of the EMCI Business Plan 2009 – 2011. The additional positions recommended under the Business Plan are: 1) Information and Communications Officer, and 2) Disaster Risk Planning Officer. In addition, EMCI will require **specialist support at a senior technical level** for a defined period to assist the Director EMCI in the oversight and coordination of JNAP implementation.

The **Pacific DRM Partnership Network (PDRMPN)**, under the coordination of SOPAC, will assist the Cook Islands Government in promoting the JNAP to donors and other support agencies. Key events will be the CIG Donors Round Table to be held annually and the annual meetings of the Donors Roundtable for Climate Change and DRM.

The **financing strategy** of the JNAP has two main objectives, 1) Ensure that the national planning and budgetary processes and systems and in particular the



Medium Term Budgetary Framework (MTBF) are adhered to, and 2) Ensure consistency with the aid management requirements stipulated by donors and other partners. Two strategies are provided: **the first for the activation of funds and in-kind contributions through the Cook Islands Government budget,** the second **for the activation of funds and in-kind contributions through donor support.**

The JNAP **Communication Strategy** will utilise selected mediums of communication to: a) create awareness and inform; b) build capacity of the target beneficiaries, c) influence behavioural change, d) serve as a mechanism to facilitate feedback for the purposes of monitoring and evaluation; and e) inform the public of JNAP implementation and its outcomes.

The **Monitoring and Evaluation** framework for the JNAP will ensure conformity with the reporting requirements developed in connection with the MTBF and others as may be stipulated by Office of the Prime Minister (OPM) / Central Policy and Planning Office (CPPO) and the Public Service Commission (PSC) and as articulated in the Monitoring and Evaluation Readiness Assessment (OPM 2008).

Harbour Construction, Avatiu, Rarotonga

Akako'uanga Manako

Kua riro te JNAP ei kaveinga i te arataki i te Kuki Airani no te taangaanga i te aratakianga numero 5 (paruruanga) o te NSDP 2011 – 2015. Ko te akakoroanga, kia rauka to tatou turanga rangatira e te oraanga meitaki na roto i ta tatou e umuumu nei. Ka anoano ia kia rauka ia tatou te paruru i te kino natura e te tienianga reva. Ko nga manako mamaata koia oki, kia papa tatou te iti tangata no te paruru i te au kino natura e no runga i te tienianga reva kia rauka ia tatou te akaiti mai i te au manamanata ka tupu.

Ko te NSDP, kua 'atui atu te reira ki te tataanga "Te Kaveinga Nui – Living the Cook Islands Vision. A 2020 Challenge. "Ko ta tatou Orama, *"Kia rangatira to tatou oraanga na roto i ta tatou e umuumu nei, kia tau i ta tatou au peu e to tatou Aorangi."*

Kua nakiro ia tatou na roto i to tatou akapuapingaanga i to tatou oraanga, te riro nei te au kino natura e te tienianga reva ei tamanamanata i to tatou akakoroanga koia oki ko te paruru i te au kino e te akaiti mai i te au kino ka tupu.

I muri ake i tetai au uipaanga e tetai au uriurianga manako kua rauka i te JNAP i te 'anga mai i tetai au tamanakoanga ei ravenga i te paruru atu e te akaiti mai i te au manamanata te ka tupu mai muri ake i ta te kino natura e te tienianga reva ka apai mai.

Ko teia parani kua toto'a te reira ki roto i te au mero o te basileia mei te paranianga teateamamao (policy), akateretereanga (operational) e te vai atura.

Ko teia au akateretereanga, e angaanga ia na tatou katoatoa.

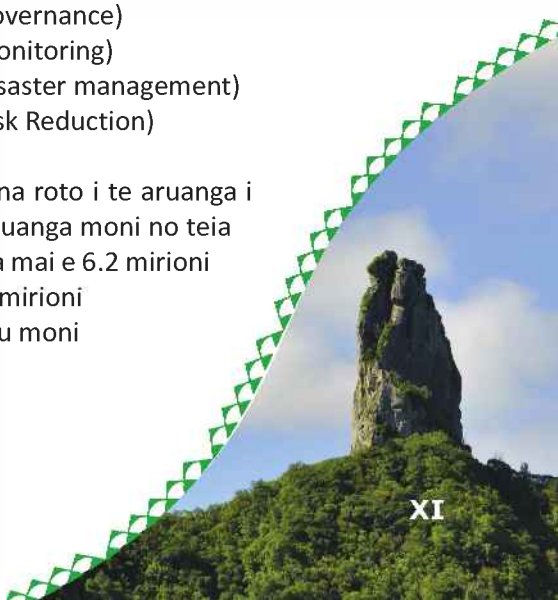
Ko te au tamanakoanga, kua anau mai te reira mei roto mai i te au tataanga Pacific Disaster Risk Reduction and Disaster Management for Action 2006 – 2015, Pacific Islands Framework for Action on Climate Change 2006 – 2015. Ko te tataanga i mua ake nei kua anau mai tana ko te Hyogo Framework for Action 2005 – 2015. Building the Resilience of Nations and Communities to Disasters - e moe teia tei anau ia mai e te United Nations Framework Convention on Climate Change (UNFCCC)

Ko te orama a te Kuki Airani i roto i te JNAP DRM CCA e nooanga rangatira e te 'au mate paruru e te utuutu i tona iti tangata.

Ko te JNAP kua oronga mai aia e 4 tamanakoanga

Tamanakoanga 1.	Akateretereanga	(Governance)
Tamanakoanga 2.	Akarakaraanga	(Monitoring)
Tamanakoanga 3.	Akaaereanga i te akanooanga o te kino	(Disaster management)
Tamanakoanga 4.	Akaiti i te au manamanata.	(Risk Reduction)

Ko JNAP kua oronga mai aia i tetai porokaramu akapouanga moni na roto i te aruanga i tetai au takainga tau tei parani ia. Ko te tamanakoanga no te akapouanga moni no teia porokaramu mei te 2011 – 2015 e 53.7 mirioni tara. Kua tamanakoia mai e 6.2 mirioni na te au Tipatimani o te Kavamani, moni tauturu no vao mai e 8. 8 mirioni e ko te toenga e 41.7 mirioni na te Kavamani, te au pitiniti e tetai au moni



tauturu no vao mai. Kua tamanakoia e ka maata atu te puapinga ka rauka mai mei roto i tei porokaramu i te au akapouanga ka raveia.

Kua ikiia tetai kumiti ei akaaere i teia porokaramu nei. Ka turuia teia kumiti e te EMCI e pera te CCCI ko te ka riro ei oronga mai i tetai au akateretereanga i te au ra tatakitai. Ko te JNAP PMC ka angaanga kapiti atu aia i te NDRMCCC no runga i tei parani ia. Ka riro oki e na teia kumiti e akapapa mai i te akapouanga moni no teia porokaramu. Ka akamaataia atu te kumiti o te CCCI kia o mai te National Platform for Disaster Risk Management. Ei ravenga i te akatanotanoanga i te 'atuianga i rotopu i teia nga pupu nei kua manako ia mai e ko te CCCI kia oronga atu aia i teia porokaramu nei ki te EMCI, te JNAP PMC e te NDRMCCC.

Ka akamatutuia te EMCI kia tau no te aratakianga i te DRM i roto i te basileia e te akatanotanoanga i te angaanga a JNAP. Kua tamanakoia i reira e ka maata atu te aronga angaanga i roto i teia tuanga nei mei tei akakiteia ki roto i te EMCI Business Plan 2009 – 2011. Teia nga tangata: 1) Opita no Information e te Communication 2) Opita no te Disaster Risk Planning. Kapiti atu ki teia, ka anoano katoa ia tetai tangata tukatau meitaki no te akateretere i te angaanga ei tauturu i te Akaaera o te EMCI e pera i te akatanoanga i te au angaanga a te JNAP.

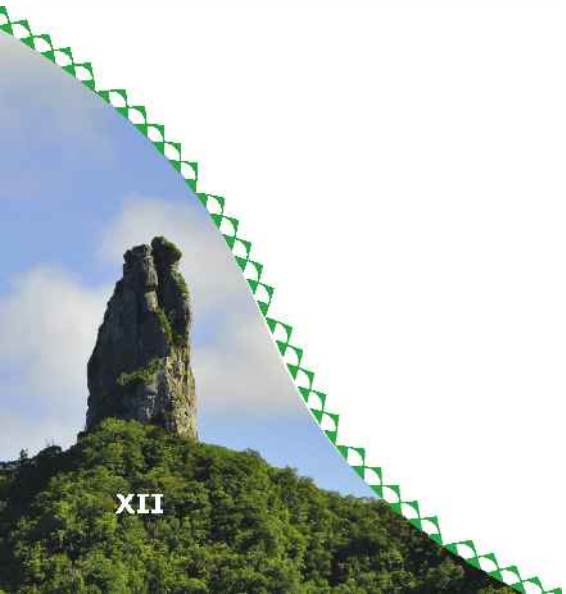
Ka tauturu mai te PDRMPN i raro ake i te akateretereanga a SOPAC i te Kavamani Kuki Airani no te pati tauturu i te au mataiti ravarai.

E rua nga manako e umuumu ia nei no tara'uanga i teia porokaramu. Mea mua , kia aruia te parani no te akapouanga moni me tei matauia e tei parani ia. Te rua, kia aru'ia te au akanoonooanga akateretereanga o te au moni tauturu no vao mai.

Ko te au tamanakoanga no te JNAP kia iki mai aia i te au ravenga tau no te:

a) Akanakiro e te akakite i te katoatoa.
e) Akamatutu i te au tangata ka puapinga
ng) Akanauru i te turanga tangata kia tieni
i) Akatinamou e te akameitaki i te turanga tangata
k) Akakite ki te iti tangata i te meitaki o teia porokaramu

Ko te aratakianga e te akanoonooanga o te au angaanga a te JNAP kia tau te reira mei tei akanooia e te MTBF i raro ake i te akateretereanga a te OPM (CPPU) e te PSC mei tei taikuia e roto i te tataanga Monitoring and Evaluation Readiness Assessment (OPM 2008)



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Introduction

This Joint National Action Plan describes the Cook Islands response to the severe challenges presented by a range of hazards, most notable of which are cyclones, sea surges, flooding, droughts and climate change.

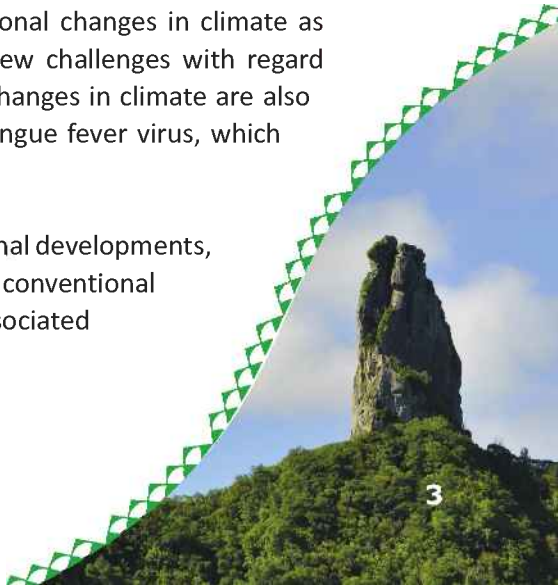
Our country is extremely vulnerable – it comprises 13 small inhabited islands stretched out over a vast expanse of the South Pacific Ocean. The highest point on seven of these islands is less than 15 metres and the nearest mainland country is New Zealand, 3000km away. [Note: For a detailed 'country profile' including maps, please refer to Annex 4.]

Lying within the 'cyclone belt'- islands within our country are, from time to time, hit by cyclones of varying strengths. The strong winds, storm surges and flooding that accompanies them has in the past lead to loss of lives and severe infrastructure and environmental damage. The cost of recovery can amount to millions of dollars and this recurring cost places an additional burden on limited government resources.

Being small islands, the retention of adequate fresh water resources for domestic and commercial use is a constant challenge, particularly during the dry season, when droughts of varying severity occur. This poses a serious constraint on our people and our economy, as without water we cannot survive and our economy cannot develop. On the flip side, some parts of our islands are prone to flooding including much of our central business district. In Rarotonga, this is particularly a problem when heavy rains coincide with equinoxal high spring tides which decreases the capacity of drainage canals and streams to discharge the runoff into the sea.

More recently the emergence of **climate change** has served to compound an already vulnerable situation by, amongst other things, making extreme climatic events become more frequent and more intense. Apart from the hazards created by more intense weather events climate change also adds a whole new suite of inter-related hazards, many of them slow-onset in nature – such as global warming, changing patterns of seasonal climatic conditions, sea level rise, and ocean acidification. These changes in turn impact on the distribution, and indeed survival, of many important plant and animal species. This holds potentially catastrophic implications for certain key industries, such as agriculture and fishing. The dying of corals as a result of ocean acidification (a process called coral bleaching) is placing strain on sensitive reef ecosystems. The loss of habitat and biodiversity as a result of coral bleaching reduces the productivity of these areas, and in the absence of adaptation measures, will have negative economic impacts on fishing and tourism. Agriculture is similarly vulnerable to seasonal changes in climate as well as extreme weather events. Climate change also presents new challenges with regard to the distribution and management of crop pests and diseases. Changes in climate are also anticipated to affect the distribution of pathogens, such as the dengue fever virus, which poses increased risks to public health.

As our awareness about these issues grows, and following international developments, the Cook Islands has approached the challenges posed by the more conventional geo-, climate- and technological hazards, and the newer hazards associated



with climate change, from two different angles.

First, our government has for some time been proactive in promoting **disaster management (DM)** as a central government function. This includes various preparedness, response, and early recovery activities. A National Disaster Management Office (NDMO) was first established in August 1997. Following the five damaging cyclones of 2005, the need to boost disaster management efforts was recognised. The annual budget allocation for disaster management was increased and **Emergency Management Cook Islands** (EMCI) was established and placed within the Office of the Prime Minister in 2006. In accordance with international developments, EMCI was given the broader functions of **disaster risk management** (DRM). In addition to the more conventional disaster management, DRM includes a strong focus on **disaster risk** reduction (DRR), which is all about preventing or limiting the damage caused by hazards across all sectors, by investing in the strengthening of elements at risk. EMCI is the operational focal point for DRM in the Cook Islands. It has over time built up a close working relationship with regional development partners and programmes active in this field.

Climate change first emerged primarily as an environmental issue, and was accordingly taken up by the National Environmental Service (NES) as lead agent. NES has done valuable work over the years in creating awareness and building institutional capacity for climate change, as well as representing the Cook Islands at various regional and international negotiating fora. **Climate change adaptation** (CCA) is the proposed strategy for countries to prepare to deal with the impacts of climate change, particularly low-lying coastal areas and island countries. Climate change adaptation is a process involving the identification and implementation of measures or actions to help countries and their communities to reduce the risks posed by climate-hazards such as extreme weather events, sea level rise and prolonged droughts. [For a list of definitions of terms, please see Annex 2.]

Following from the above it is clear that **climate change adaptation** implies a **large degree of overlap with disaster risk reduction** (DRR), which is a key component of the disaster risk management (DRM) approach. Acknowledging this overlap, and in the context of growing international commitments and opportunities in DRM and climate change adaptation, government has put in motion steps to harmonise these two fields in the Cook Islands.

This Joint National Action Plan is seen as a key national mechanism for **harmonising DRM and climate change adaptation** in the Cook Islands. It seeks to ensure the minimisation of overlaps between the two national priority programmes, to promote strong cooperation, coordination and collaboration between stakeholders and to ensure that the our government and our people, with the assistance of the international community, do everything we can to safe-guard our future by reducing and managing our vulnerabilities as far as is humanly possible.

To facilitate this 'merger' a number of changes are needed to the institutional arrangements associated with these two fields. Some, such as the establishment of a **climate change office** – referred to as **Climate Change Cook Islands** (CCCI) and a **renewable energy unit** – referred to as the Renewable Energy Development Division (REDD) both in the Office of the Prime Minister (OPM), have already taken place, and are testimony to the seriousness with which government is taking these matters. Additional institutional adjustments are identified in this JNAP and they will form part of the implementation programme

(Section 5).

The Joint National Action Plan is the product of a rigorous series of consultations which began in 2007 and included all key sectors of Cook Islands society – government ministries and agencies, outer island administrations, non-government organisations, the private sector, traditional structures and churches. It is therefore 'broad based' and it is owned by all those that contributed to it.

Plans are only as good as their implementation, and for this plan to succeed it needs to become a living document supported by everyone. Only in this way will we achieve the objectives of reducing our growing vulnerability, building our resilience and securing a better life for our children.

Response in Aitutaki

Recovery after the TC Percy 2005 in Pukapuka

Solar Unit in Pukapuka

TCI Tower damaged in Aitutaki

Disaster Risk and Climate Change in the Cook Islands

The Cook Islands comprise 15 small islands scattered over 1.8 million square kilometres of the South Pacific Ocean (Figure 1). The physical geography of the Cook Islands is one of stark contrast between the Northern Group of islands - Palmerston, Suwarrow, Nassau, Pukapuka, Rakahanga, Manihiki and Penrhyn - which are low lying atolls, and the Southern Group of islands - Aitutaki, Manuae, Takutea, Atiu, Mitiaro, Mauke, Mangaia and Rarotonga - which are primarily hilly volcanic islands (e.g. Rarotonga) or low volcanic but surrounded by a raised reef platform or *makatea*[1]. Each island has its own specific set of environmental risks, with islands in the Northern Group generally suffering from low fertility, porous soil, low-lying and scant terrestrial resources, with the Southern Group having richer soils and arable land, but suffering from higher population pressures, increasing tourism development and associated environment problems. The cyclone record indicates that the Southern Group is twice as prone to being affected by cyclones as the Northern Group, with the island of Palmerston having the greatest number of encounters[2]. [Note: For a more detailed description of the geographical context, please refer to Annex 4]

Key weather related hazards affecting the Cook Islands are cyclones, storm surges, intense rainfall events, droughts and climate change. The Cook Islands lies within the "cyclone belt" and its vulnerability to cyclones was emphasized in 2005 when the country was hit by five consecutive cyclones over a period of two months causing damage estimated at NZ$20 million[3]. Prior to this Cyclone Sally extensively damaged Rarotonga in January 1997 and in November 1997 Cyclone Martin destroyed about 90 percent of the houses and killed 19 people on Manihiki atoll. More recently, Cyclone Pat struck Aitutaki island on December 10, 2010. While no lives were lost, 78% of homes were damaged and the local agricultural sector was completely destroyed. Tourism – the mainstay of Aitutaki – was disrupted. The cost of implementing full recovery was estimated to be in the region of NZ$9.5 million[4]. Based on the 24 cyclones that have 'hit' the Cook Islands since 1955, it is estimated that the average cost per cyclone is currently in the region of NZ$6.5 million (roughly 2% of GDP) . Costs of non-cyclone related storm surges and floods, and drought have not been quantified, but they are known to pose an additional burden on the national economy, businesses, agriculture and the population in general. Since 1955, one earthquake (cost unquantified) and three epidemics (costs unquantified) have occurred in the Cook Islands[5].

[1]Second National Communication to the UNFCCC. (CIG, 2012).

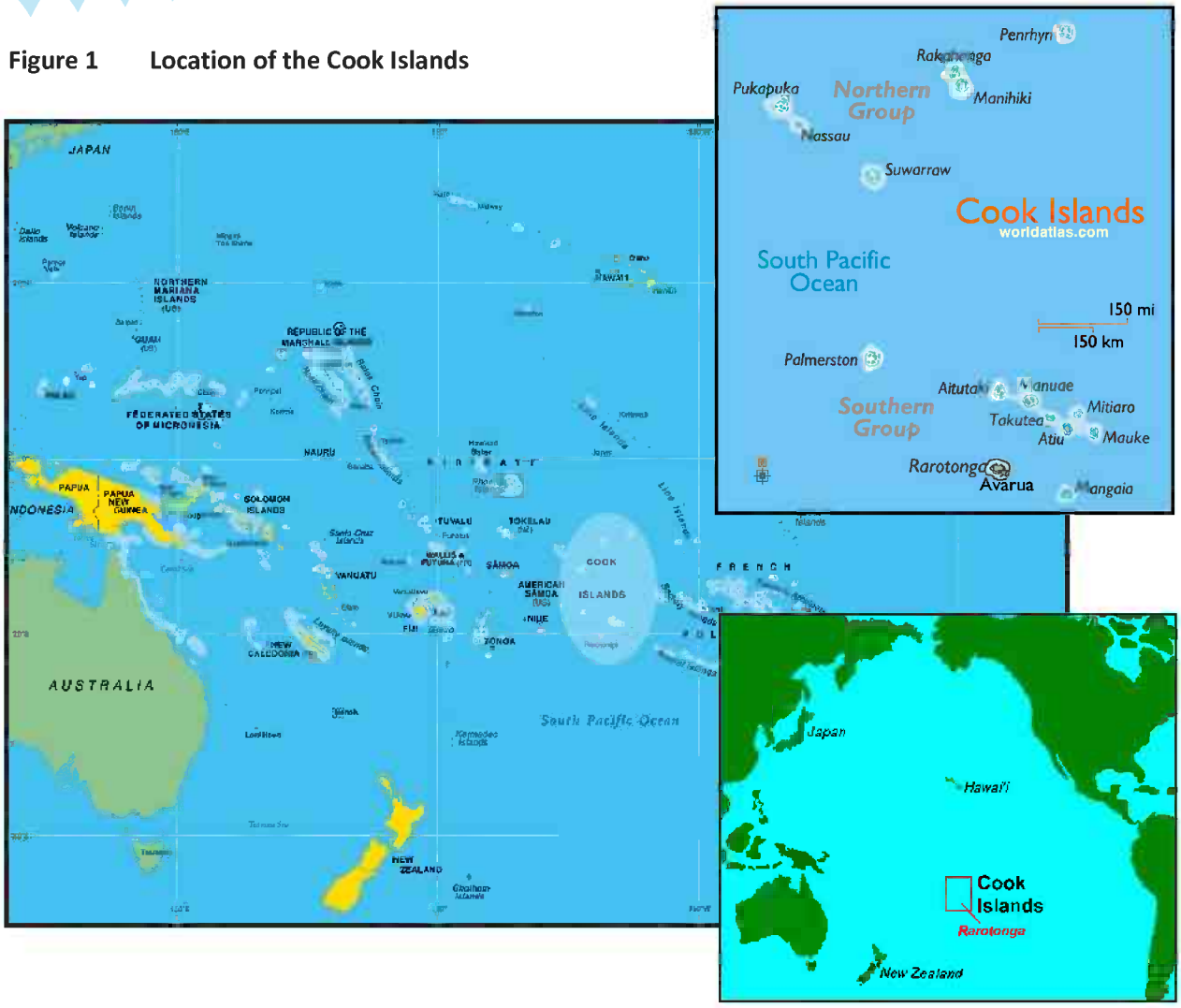
[2]Historical Tropical Cyclone Activity and Impacts in the Cook Islands. (De Scally, 2008).

[3]Strengthening Disaster Management and Mitigation. Volume 4: Climate Change Considerations. (ADB, 2006).

[4]Cyclone Pat Recovery and Reconstruction Plan 2010 – 2011. (CIG, 2010)

[5]Establishing a Disaster Risk Management Fund in the Cook Islands. An options analysis. (Cook, 2011).

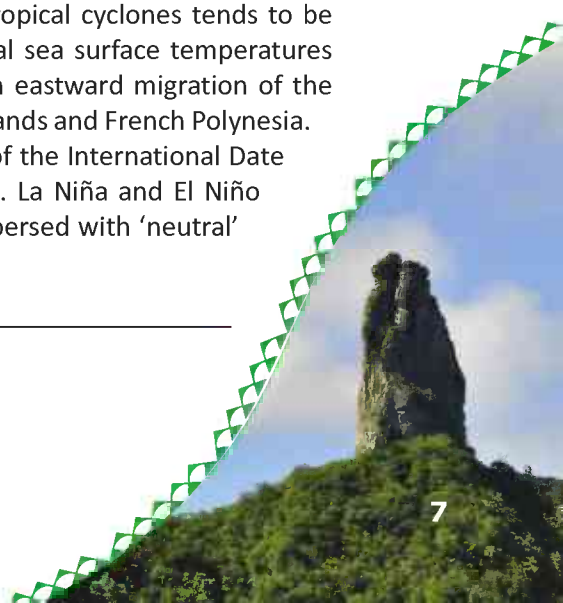
Figure 1 Location of the Cook Islands



From the above it is clear that **cyclones** constitute the most significant natural hazard for the people of the Cook Islands as they occur relatively frequently (an average of one every other year) and are often coupled with extremely strong winds and severe storm surges and flooding. Coastal settlements and infrastructure are most at risk during these events, with the smaller low-lying atoll islands often being completely exposed.

The cyclone season runs from November to April and meteorological knowledge now indicates that the number of cyclones occurring in the region in any one season is affected by the position of the inter-tropical convergence zone (ITCZ) which influences climate variations linked with El Niño or La Niña conditions (Box 1 below). The occurrence of tropical cyclones tends to be more frequent during an El Niño event when warmer than normal sea surface temperatures occur between latitudes 10 and 15 degrees south and there is an eastward migration of the South Pacific Convergence Zone (SPCZ) in the vicinity of the Cook Islands and French Polynesia. Risk is heightened for islands such as the Cook Islands to the east of the International Date Line during El Niño, and generally reduced during La Niña phases. La Niña and El Niño cycles typically last between two and five years and may be interspersed with 'neutral' conditions[6].

[6]El Niño and Climate Forecasting. (NIWA, 2011).



Droughts and **floods** are also a strong feature of the Cook Islands risk profile and these events may at times also be attributed to El Niño and La Niña conditions. For example, during El Niño the Southern Cook Islands experience drought conditions (40% less rainfall than average) and many households go without water for periods ranging from several weeks to some months. At the same time islands in the Northern Group may experience up to 300% more rainfall[7]. During the contrasting La Niña phase, flash flooding is a frequent problem for the volcanic and Makatea Southern Group islands, while the Northern Group islands suffer drought. It goes without saying that agriculture is severely affected by these extreme fluctuations in rainfall.

As an island nation Cook Islands is extremely vulnerable to the impacts of **climate change**. Climate change risks include warming temperatures, sea level rise, increasing intensity of cyclonic activity, changing precipitation patterns, ocean acidification and coral bleaching, shifting fish stocks, accelerated coastal erosion, loss of agricultural productivity, health issues (disease outbreaks, transmission and distribution, especially of vector born diseases) and quality and quantity of freshwater resources for communities and tourists.

Climate modelling exercises under the ADB Climate Change Adaptation Program (CLIMAP) in 2004 projected that the Cook Islands, by 2060, will face (i) a rise in sea level of 0.5–0.8 meter (m); (ii) more heavy rainfall events, with daily total precipitation reaching more than 200 millimetres and hourly total precipitation above 50 millimetres; (iii) more than 80% decline in the average monthly precipitation in certain areas, from their 1960–1991 records; (iv) an increase in significant wave height from 10.8 m to 12.0 m due to stronger cyclones; and (v) more intense cyclones, with peak winds reaching more than 47.8 m per second[8].

Results from the more recent Pacific Climate Change Science Program[9] indicate that temperatures in the Cook Islands have warmed and will continue to warm with more very hot days in the future. By 2030, under a high carbon emissions scenario[10], this increase in temperature is projected to be in the range of 0.5 – 0.9°C in the Northern Group and 0.4 –1.0ºC in the Southern Group.

[7]Strengthening Disaster Management and Mitigation. Volume 4: Climate Change Consideration. (ADB, 2006)

[8]Community-Based Climate Vulnerability Assessment and Adaptation Planning: A Cook Islands Pilot Project. (ABD, 2011)

[9]Current and future climate of the Cook Islands. Pacific Climate Change Science Program. International Climate Change Adaptation Initiative. Government of Australia. (PCCSP, 2011)

[10]Since we do not know what the future holds with regards to economic development and international cooperation to curb carbon emissions, the IPCC developed three plausible carbon emission scenarios: low, medium and high.

BOX 1 - What are El Niño and La Niña?

El Niño is a natural feature of the global climate system. Originally it was the name given to the periodic development of unusually warm ocean waters along the tropical South American coast and out along the Equator to the dateline, but now it is more generally used to describe the whole "El Niño - Southern Oscillation (ENSO) phenomenon", the major systematic global climate fluctuation that occurs at the time of an "ocean warming" event. El Niño and La Niña refer to opposite extremes of the ENSO cycle, when major changes in the Pacific atmospheric and oceanic circulation occur.

When neither El Niño nor La Niña are present, (usually referred to as "neutral" or normal conditions), trade winds blow westward across the Pacific, piling up warm surface water so that Indonesian sea levels are about 50 cm higher than those in Ecuador. Cool, nutrient rich seawater "wells up" off the South American coast, supporting marine ecosystems and fisheries. Relatively cold sea temperatures also extend along the equator from South America towards the central Pacific. High rainfall occurs in the rising air over the warmest water to the west, whereas the colder east Pacific is relatively dry.

During El Niño events, the trade winds weaken, leading to a rise in sea surface temperature in the eastern equatorial Pacific and a reduction of "up-welling" off South America. Heavy rainfall and flooding occur over Peru, and drought over Indonesia and Australia. The supplies of nutrient rich water off the South American coast are cut off due to the reduced up-welling, adversely affecting fisheries in that region. In the tropical South Pacific the pattern of occurrence of tropical cyclones shifts eastward, so there are more cyclones than normal in areas such as the Cook Islands and French Polynesia.

During La Niña events, the trade winds strengthen, and the pattern is a more intense version of the "normal conditions", with an even colder tongue of sea surface temperatures in the eastern equatorial Pacific.In the tropical South Pacific the pattern of occurrence of tropical cyclones shifts westwards, so there are fewer cyclones than normal in areas such as the Cook Islands and French Polynesia.

Source: New Zealand National Institute of Water and Atmospheric Research (NIWA)

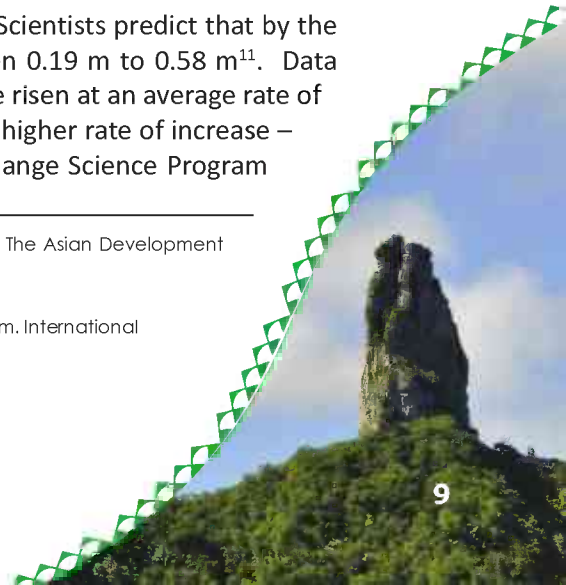
There is uncertainty around rainfall projections for the Cook Islands, but average annual and seasonal rainfall is generally projected to increase over the course of the 21st century. For the Southern Group average rainfall during the wet season is expected to increase due to the projected intensification of the South Pacific Convergence Zone. Results from the Pacific Climate Change Science Program suggest that droughts are likely to be less frequent throughout this century.

Sea level rise due to ocean warming remains difficult to measure. Scientists predict that by the end of the century there will be an average global rise of between 0.19 m to 0.58 m[11]. Data from tide gauges indicate sea levels in the Pacific island region have risen at an average rate of 1.6 mm/yr over the last 50 years[12]. Satellite monitoring indicates a higher rate of increase – 4 mm/yr since monitoring began in 1993[13]. The Pacific Climate Change Science Program

[11]Impacts, Adaptation and Vulnerability. Fourth Assessment Report, p.694. (IPCC, 2007). The Asian Development Bank estimates an average rise of between 0.5m and 1m over the same period.

[12]Ibid.

[13]Current and future climate of the Cook Islands. Pacific Climate Change Science Program. International Climate Change Adaptation Initiative. Government of Australia. (PCCSP, 2010).



study of climate change for the Cook Islands projected increases of between 19 and 58 cm by 2090 under a high emissions scenario. This scenario does not include the possibility of the polar ice sheets melting at an accelerated rate, a phenomenon that has the potential to intensify the rate of sea level rise.

Ocean acidification is also taking place. Research shows that since the 18th century the level of ocean acidification has been slowly increasing in the Cook Islands' waters and that the acidity level of sea waters in the Cook Islands region will continue to increase over the 21st century[14].

Rising sea levels and ocean acidification have serious social and economic impacts for island nations. Primary amongst these is the progressive loss of land as a result of accelerated erosion of coastlines. This causes coastal settlements and infrastructure to become exposed to the sea as well as a loss of agricultural land. In the capital Rarotonga, coastal infrastructure, including resorts, ports, beachfront properties, churches and schools are all at risk from the rising ocean. Sea surges and storm waves converging with higher spring tides will become particularly destructive. For example, the costs of damages to the Avatiu area from accelerated sea surge as a result of climate change over the next 50 years is estimated to be in the region of $40 million[15].

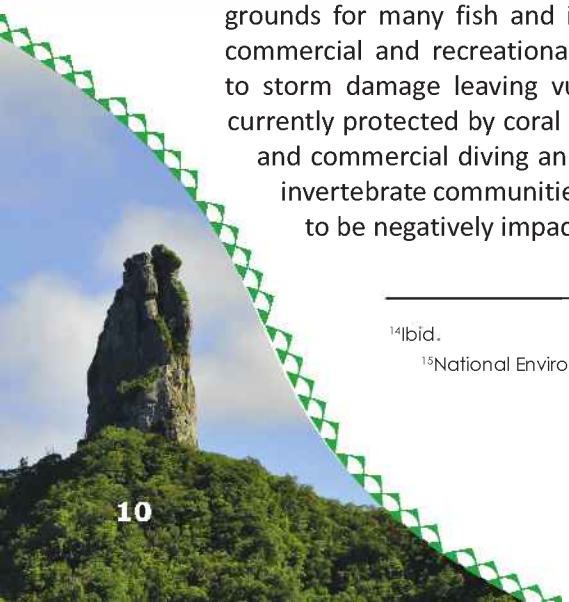
Table 1: Sea level rise projections for the Cook Islands for three emissions scenarios and three time periods. Changes are relative to the average of the period 1980-1999.

	2030 (cm)	2055 (cm)	2090 (cm)
Low emissions scenario	5–15	10 – 26	17– 45
Medium emissions scenario	5 –15	10 – 30	19 – 56
High emissions scenario	4–15	10 –29	19 –58

An acidifying ocean impacts the growth of corals and organisms that construct their skeletons from carbonate minerals. These species are critical to the balance of tropical reef ecosystems. Coral reefs provide a number of goods and services to humankind, including serving as breeding grounds for many fish and invertebrate species. Death of coral reefs impacts negatively on commercial and recreational fishing and diving. Reefs become more brittle and susceptible to storm damage leaving vulnerable coastlines exposed to the waves. Lagoons, which are currently protected by coral reefs, will lose value as a sheltered environment for pearl farming and commercial diving and fishing. In addition, the biodiversity found in coral reef fish and invertebrate communities is of high intrinsic, spiritual and cultural value and this also stands to be negatively impacted.

[14]Ibid.

[15]National Environment Strategic Framework 2005-2009. (CIG, 2005)



While models project that cyclones will become less frequent globally with climate change, the wind speeds and levels of precipitation associated with them is projected to increase[16]. In the Cook Islands region, projections tend to show a decrease in the frequency of tropical cyclones by the late 21st century and an increase in the proportion of more intense storms.

Over the period 1969 to 2010, cyclones occurred more frequently in El Niño years[17]. The El Niño Southern Oscillation (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 (1990 – 1995). Statistically, these changes are unusual, and would seem to suggest an increase in cyclone activity in the Cook Islands region.

The above translates into an island nation at risk from a number of, often interrelated, climatic phenomenon. It is anticipated that climate change will have a negative impact on a number of different sectors as summarised in Table 2 below.

Table 2: Summary of Climate Change Vulnerabilities (Source: Cook Islands Second National Communication to the UNFCCC)

	Temperature Rise	Rainfall Variation	Extreme Weather events	Sea Level Rise
Coastal Zones Infrastructure and Coral Reefs	Coral bleaching	Runoff, sedimentation, salinity	Wave damage, erosion	Erosion increased storm surge
Marine Resources / Fisheries	Pearl Diseases, food chain, migratory and distribution changes	Habitat, salinity	Damage to coastal infrastructure and vessels, stock loss,	Damage to coastal infrastructure, unsuitable growing conditions
Water Supply and Quality	Quantity, demand, quality, vectors	Shortages, blockages, contamination	Water pollution, infrastructure damage	Increased salinity of freshwater table
Agriculture, Food Security and Diet	Prevalence of invasive species, productivity	Drought, flooding, crop diseases	Damage to infrastructure and crops	Increased salinity of low lying growing areas
Biodiversity (Terrestrial and Marine)	Increased prevalence of invasive species, species distribution or migration	Increased prevalence of invasive species	Casualties, habitat, food loss	Degradation of habitat, breeding sites

[16]Current and future climate of the Cook Islands. Pacific Climate Change Science Program. International Climate Change Adaptation Initiative. Government of Australia. (PCCSP, 2011).
[17]Historical Tropical Cyclone Activity and Impacts in the Cook Islands. (de Scally, 2008)

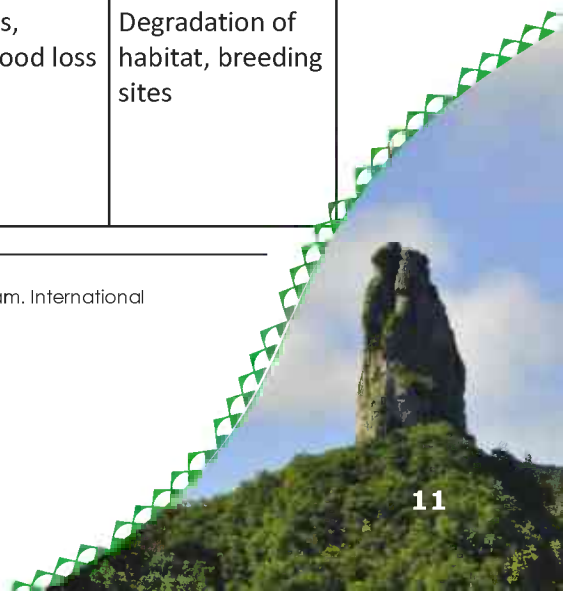


Table 2: Continued

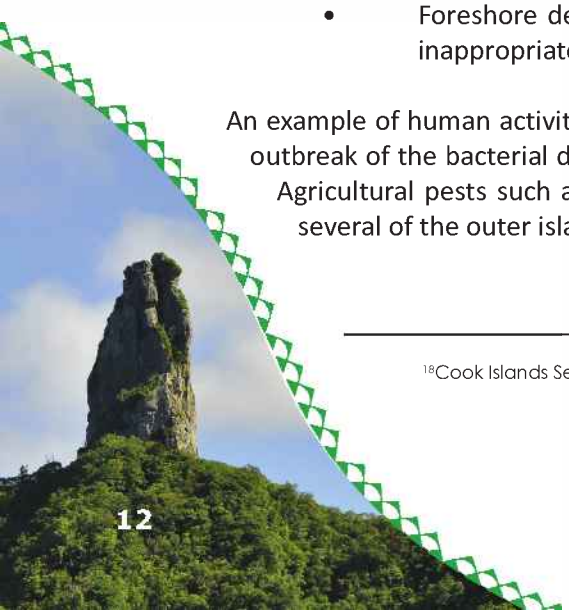
	Temperature Rise	Rainfall Variation	Extreme Weather events	Sea Level Rise
Human Health and Wellbeing	Emergence of tropical diseases, heat stress, productivity impacts	Favourable mosquito breeding conditions	Injury during and increased disease risk following, stress and social disruption	Impact on coastal infrastructure, housing etc.
Cross-cutting Socio-Economic. considerations	Key economic sector losses increasing poverty. Increasing energy demand (cooling). Particularly of concern for already vulnerable groups the disabled, youth, and women	Reduced tourism attractiveness, and economic losses from productive sectors, food insecurity, natural resources for handicrafts etc., lack of insurance cover	Damages to critical infrastructure, relocation of people, pollution, disruption of education and social services, affecting already vulnerable groups like disabled, youth, and women	Loss of land, traditional livelihood and culture, social and gender implications, investment diverted

In addition, **human activities** have contributed to pressures on the **environment** that could worsen the effects of climate change and sea level rise. Pressures that must be considered and may be difficult to overcome include[18]:

- Soil erosion as a result of poor land management.
- Liquid and sold waste, a problem common to all islands but especially on Rarotonga where effluent seeps into the lagoon from household septic tanks, tourist resorts and pig and chicken farms, and makes reefs less resilient to coral bleaching.
- Over-harvesting of certain species including clams, reef fish, and coconut crabs.
- Mining of sand, coral and gravel aggregate from the beaches for construction contributing to coastal erosion and lagoon sedimentation.
- Foreshore development, resulting in reclamation of land for construction and inappropriate sea walls being challenges on Rarotonga and Aitutaki.

An example of human activities leading to increased vulnerability to a natural disaster was the outbreak of the bacterial disease that decimated the Manihiki Pearl Industry in 2000 (Box 2). Agricultural pests such as the flat moth that devastated coconut trees on Rarotonga and several of the outer islands was also the result of unregulated human activities.

[18]Cook Islands Second National Communication to the UNFCCC. (CIG, 2012).



BOX 2 - Links between Human Activities, Vulnerability and Natural Disasters - The Rise and Fall of the Pearl Industry

Pearl farming has been one of the main export earners for the Cook Islands since the firstblack pearl oysters were farmed in the Manihiki Lagoon back in the 1980's. The industrygrew steadily over the years and by 1989, a total of about forty small farms, mainly familyowned, were operating in Manihiki with an estimate of around 400,000 oysters. Thisnumber quickly expanded and by 2000 there were about 80 to 85 farms in Manihiki,farming over 2 million oysters, with several farms in Rakahanga and Penrhyn. The threeatolls form the production base for the industry, with around 90 to 95 per cent ofproduction coming from Manihiki.

Between 1990 and 1999 the industry earned an average of $3.6 million a year from pearlexports, making it one of the major contributors to GDP. Since then, the value of pearlexports gradually increased over the years and by 2000, pearl exports peaked earning atotal of $18.4 million.

In late November 2000, the industry suffered a major setback with the outbreak of theVibrio harvey bacterial disease, which devastated the main pearl producing farms inManihiki atoll. A combination of climatic conditions, overstocking and inappropriate farmhusbandry pushed the lagoon beyond its maximum sustainable capacity, leaving thenaturally occurring bacteria to thrive. In addition, world market prices for black pearlstumbled in the same year, placing further pressure on an industry already in turmoil. Sincethen the industry has experienced a decline in production and plummeting pearl prices,which were further compounded by rising fuel and transportation costs, and loss ofinvestor confidence, with farmers running loan debts, and some farmers leaving theindustry.

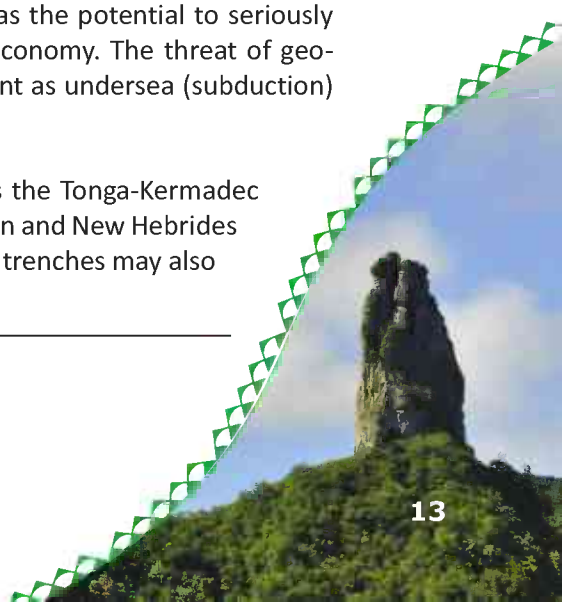
The social and economic impact of this disaster has been severe. In the last six years, the value of Cook Islands pearl exports have been declining,dropping from an all time high of $18.4 million in 2000 to $1.6 million in 2005. While government has taken a number of initiatives to assist the industry – such as the development of a Manihiki Lagoon Management Plan and a Code of Conduct for pearl farmers – the industry continues to struggle to recover to former levels of production.

(Source: Situation and Outlook for Cook Islands Marine Resources 2006)

In addition to the risks discussed above, there is also the risk of emergences resulting from a number of other hazards such as **hazardous substances spillage** and **fire** (including oil and petroleum products); **air, road** and **sea accidents, bush fire,** and **epidemics.** Dengue fever remains an ever present threat and changes in its distribution resulting from climate change are anticipated. The threat of cholera outbreaks in the wake of severe water shortages brought about by drought or cyclone damage exists. An aircraft incident has the potential to seriously disrupt the tourism industry – the mainstay of the Cook Islands economy. The threat of geo-physical hazards such as **earthquakes** and **tsunamis** are ever-present as undersea (subduction) earthquakes occur relatively frequently in the region.

The main seismogenic source for subduction triggered tsunamis is the Tonga-Kermadec trench. There is also a limited regional threat from the South Solomon and New Hebrides trenches to the west. Large earthquakes on the Kuril and Peru-Chile trenches may also represent a distant tsunami threat[19].

[19]Australian Government Bureau of Meteorology (2009).



There have been at least twenty two recorded tsunamis in the Cook Islands since 1837AD with three appearing to have had waves of up to three metres high[14]. According to Goff (2011), it is possible that this figure is higher as many more localised events may have gone unrecorded. Being of volcanic origin, many the islands in the Southern Cook Islands Group are prone to tsunamis triggered by volcanic-related hazards such as flank collapse and submarine slope failure. Mauke, Mitiaro and Atiu bear evidence of boulders deposited by large waves. On Mauke, massive cliff-top boulders up to 15m3 can be found over 10m a.s.l. and 200m from the cliff edge. Similar features are also found on both Mitiaro and Atiu[20]. Both Rarotonga and Aitutaki are recognised as having experienced catastrophic submarine slope failures[21]. It has been shown that even small submarine slope failures sometimes generate locally large tsunamis. The short distance of the volcano underwater slopes to the land means tsunamis from these sources will have little to no warning associated with them.

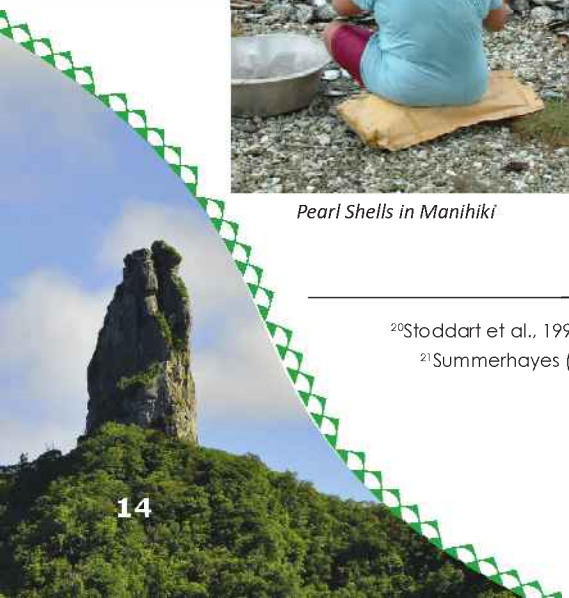
Since the scares of the recent Samoa and Japan tsunamis government has begun installing a tsunami early warning system for all islands. This comprises the pre-positioning of public sirens and signage designating evacuation routes. While early warning systems work well for more distantly sourced tsunamis, they may be of limited value for near-sourced events resulting from underwater volcanic activity. This is where community based awareness and education programmes become very important in order to reduce loss of life.

Pearl Shells in Manihiki

Pearl Shells in Rakahanga

[20]Stoddart et al., 1990 quoted in Goff (2011).

[21]Summerhayes (1967); Wood and Hay (1970) quoted in Goff 2011.



Building a culture of preparedness

The past twenty years have seen significant conceptual advances in the field of disaster management. This has coincided with an increase in the number, scale of impact and cost of natural and man-made disasters globally. Over this period, greater consciousness has emerged about the relationship between disasters and development, with national development efforts often being significantly set back as a result of hazard events. Years of hard work and development gains can be undone over a matter of hours in the wake of tropical cyclones, tsunami, earthquakes, etc. Depending on the scale of the devastation, the impact of these disasters can be catastrophic on small country economic growth and well-being, taking countries years to climb back to the point of development before the disaster. The development cost not only in terms of lives lost and injuries, but to the national and international aid community can be astronomical. There is also growing realisation that development processes themselves can at times increase people's exposure to risk – e.g. tourism development in flood-prone areas.

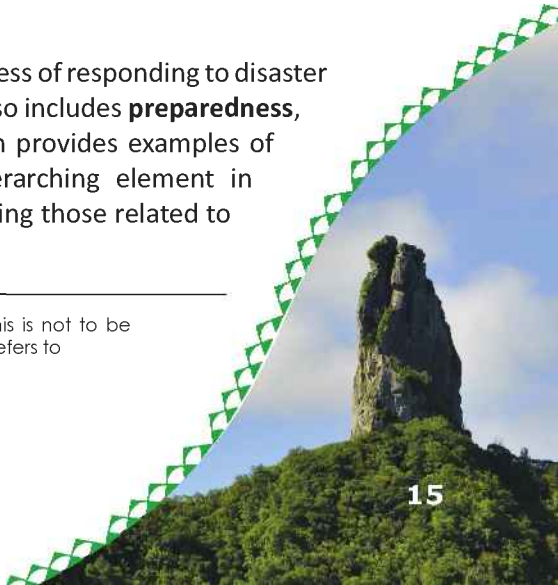
In light of the above, new thinking has emerged that emphasises the need to take a more proactive approach to the management of disasters. This is the **disaster risk management approach**– an approach that identifies the key hazards and vulnerabilities **in advance**, and puts in place measures to reduce the risk and vulnerability of countries and communities to hazard events while maintaining effective systems of emergency response. Risk management is a well-established concept in the field of financial and corporate planning and its value as a tool in the field of disaster management is now coming to the fore. Disaster risk management does not replace the more traditional disaster management which is more focused on emergency response, but adds to it the more proactive approach of **disaster risk reduction (DRR)** (Figure 2 below).

Disaster risk reduction is the term used to describe activities directed at reducing risk. This typically involves the components of **prevention, mitigation**[22] and **preparedness**. Some examples are provided in Figure 2 below, but it should be noted that DRR activities sometimes span the components listed. For example, the climate-proofing of infrastructure may serve to mitigate the impact of a storm (mitigation), yet it also implies greater preparedness by the authorities mandated to manage the infrastructure (preparedness).

Disaster risk reduction is designed to enhance community **resilience** to hazard events so that when such events do occur, countries and communities are prepared and have the capacity to absorb their impact and the ability to recover rapidly – socially and economically – thus minimizing (or even avoiding) the damage.

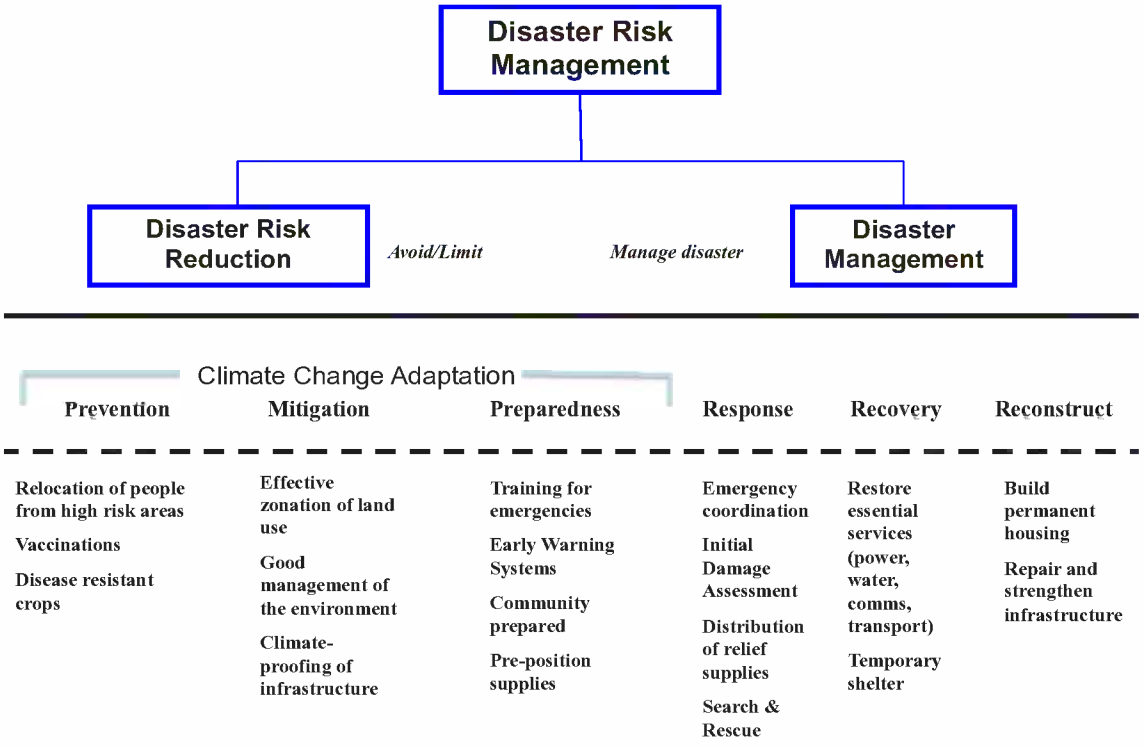
Disaster management, on the other hand, concerns the physical process of responding to disaster events and includes the components of **response** and **recovery**. It also includes **preparedness**, which is a shared component with DRR (see Figure 2 below which provides examples of activities characterising each component). Furthermore, an overarching element in preparedness is the strengthening of regulatory frameworks, including those related to **international disaster response.**

[22]Mitigation, as used in the context of DRM, refers to actions taken to minimise risk. This is not to be confused with the use of the term 'Mitigation' in the context of Climate Change, which refers to Carbon Emissions Reduction activities.



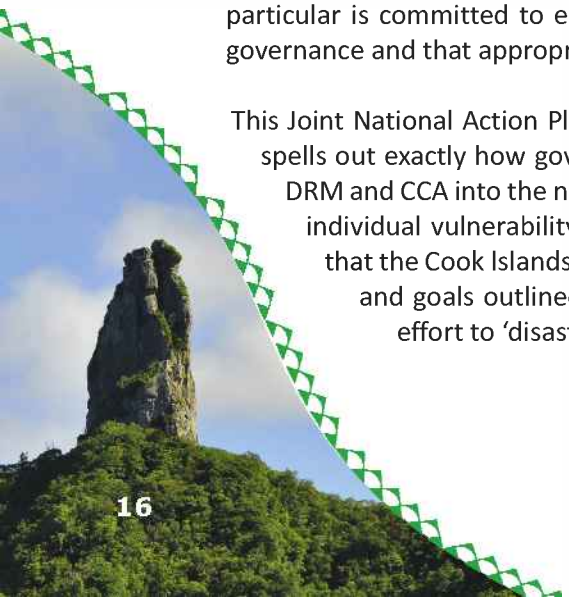
Climate change adaptation (CCA) is the proposed strategy for countries to prepare to deal with the impacts of climate change, particularly low-lying coastal areas and island countries. Climate change adaptation (CCA) is a process involving the identification and implementation of measures or actions to help countries and their communities to reduce the risks posed by climate-hazards such as extreme weather events, sea level rise and prolonged droughts. **Climate change adaptation**, therefore, implies a large degree of overlap with DRM. Figure 2 below shows how climate change adaptation activities essentially overlap with the DRR components of prevention, mitigation and preparedness.

Figure 2 The various components of DRM, including Climate Change Adaptation



It is now known that to achieve **effective** DRM, it is necessary that a **'culture of risk reduction and preparedness'** be instilled throughout all aspects of society, and amongst all stakeholders: government, private sector, non government organisations, churches and communities (Box 3). This 'mainstreaming' needs to occur across society and within government planning and budgeting processes, amongst all sectors and at all levels. Everybody and every agency has an active role to play in reducing disaster risk and managing disaster events. Government, in particular is committed to ensuring that DRR thinking becomes integrated into all aspects of governance and that appropriate actions are taken and tools developed to assist this process.

This Joint National Action Plan for Disaster Risk Management and Climate Change Adaptation spells out exactly how government and other stakeholders plan to go about mainstreaming DRM and CCA into the national consciousness in a concerted effort to reduce collective and individual vulnerability and increase resilience to hazard events. This is done to ensure that the Cook Islands remain on track to achieve the social and economic growth targets and goals outlined in "Te Kaveinga Nui", the Millennium Development Goals, in an effort to 'disaster proof' the national sustainable development effort.



BOX 3–The Case for a Change of Paradigm to "Building a Culture of Preparedness"

- Cook Islands like other Pacific Island Countries, needs to improve its disaster reduction programme through an integrated holistic approach that places it in the national context as part and parcel of governance, sustainable development, security and the freedom of people to live a life of their choice. (Cook Islands statement at the World Conference of Disaster Reduction (WCDR) 2005)

- Disasters seriously undermine the results of development investments in a very short time, and therefore, remain a major impediment to sustainable development and poverty eradication...We recognise that a culture of disaster prevention and resilience and associated pre-disaster strategies, which are sound investments must be fostered at all levels, ranging from the individual to the international levels. (Hyogo Declaration, WCDR 2006)

- Small island developing States have undertaken to strengthen their respective national frameworks for more effective disaster management. (Mauritius International Meeting on Small Island Developing States (SIDS) 2005)

- An integrated, multi-hazard, inclusive approach to address vulnerability, risk assessment and disaster management, including prevention, mitigation, preparedness, response and recovery, is an essential element of a safer world in the twenty-first century. (World Summit on Sustainable Development (WSSD) 2002)

(Source: EMCI Business Plan 2009 – 2011)

Training for Disaster Risk Management in Pukapuka

Motu Akaiami, Aitutaki

The Policy Context

In today's context of multiple and competing development issues, it is important that any National Action Plan be strongly 'embedded' in the relevant policy instruments. This is done in order to maximise support for the plan at various levels of governance – national, regional, international, and also to facilitate effective coordination. Such alignment is also essential to facilitate financial support (government and donor support) for the implementation of the identified priority actions.

International level

The policy context for DRM and CCA at this level is shaped by a number of inter-related international conventions and framework documents relating to sustainable development, environment, climate change, the millennium development goals and disaster risk management. Key amongst these are the **Hyogo Framework for Action 2005 – 2015: Building the Resilience of Nations and Communities to Disaster** and the **United Nations Framework Convention on Climate Change (UNFCCC).**

The Hyogo Framework for Action was the outcome of the Second World Conference on Disaster Reduction held in Kobe, Japan, in January 2005. The 'Hyogo Framework for Action' was signed by 168 world leaders including the Cook Islands. A dedicated UN institutional structure, called the International Strategy for Disaster Reduction (UN-ISDR) was established to oversee its implementation. The framework lays emphasis on disaster risk reduction (DRR) as an international and national priority. The cost-saving benefits of this more proactive approach is widely recognised[23].

The Hyogo Framework for DRM identifies **five key priorities** for action:

1. Ensure that disaster risk reduction is a national and a local priority with a strong institutional basis for implementation.

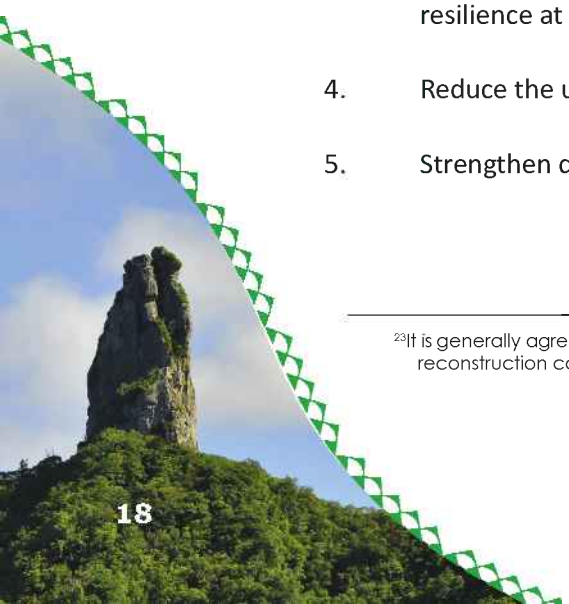
2. Identify, assess and monitor disaster risks and enhance early warning.

3. Use knowledge, innovation and education to build a culture of safety and resilience at all levels.

4. Reduce the underlying risk factors.

5. Strengthen disaster preparedness for effective response at all levels

[23]It is generally agreed that $1 spent on Disaster Risk Reduction will save between $2 and $10 in recovery and reconstruction costs.



HYOGO FRAMEWORK STRATEGIC GOALS

(a) The more effective integration of disaster risk considerations into sustainabledevelopment policies, planning and programming at all levels, with a special emphasis ondisaster prevention, mitigation, preparedness and vulnerability reduction.

(b) The development and strengthening of institutions, mechanisms and capacities at all levels, in particular at the community level, that can systematicallycontribute to building resilience to hazards.

(c) The systematic incorporation of risk reduction approaches into the design andimplementation of emergency preparedness, response and recovery programmes in thereconstruction of affected communities.

With respect to climate change, the **UNFCCC,** which came into force in 1994, sets an overall framework for intergovernmental efforts to tackle the challenge posed by climate change. It recognizes that the climate system is a shared resource whose stability can be affected by industrial and other emissions of carbon dioxide and other greenhouse gases. Like the Hyogo Framework for Action, this convention also enjoys near universal membership.

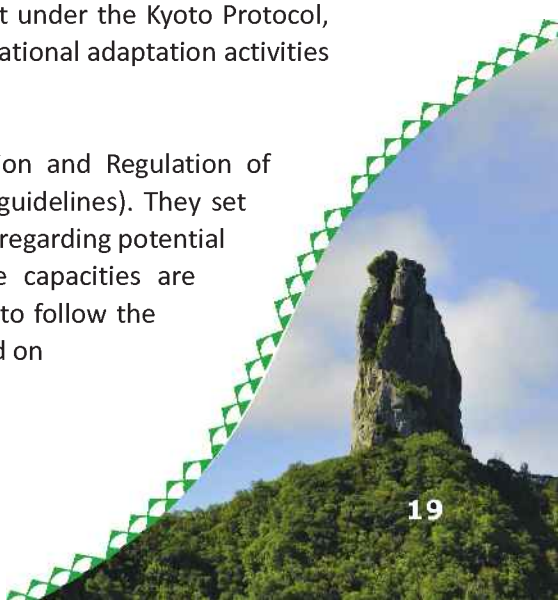
Under the convention, governments:

- gather and share information on greenhouse gas emissions, national policies and best practices;
- launch national strategies for addressing greenhouse gas emissions and adapting to expected impacts, including the provision of financial and technological support to developing countries;
- cooperate in preparing for adaptation to the impacts of climate change.

Under the convention, all signatories (including the Cook Islands) are obligated to report on their national greenhouse gas emissions, and policies and measures taken to address climate change, including key vulnerabilities and adaptation options. As a developing country the Cook Islands is also entitled to assistance under the convention to meet its climate change objectives.

Another important piece of international policy context is the Kyoto Protocol, which sets out the details of how and when countries should meet their national emissions reductions targets. While the Cook Islands has no legal obligation to meet a set target under the Kyoto Protocol, by being a signatory to this instrument it is entitled to funding for national adaptation activities under the Kyoto Protocol Adaptation Fund.

In addition, there are the Guidelines for the Domestic Facilitation and Regulation of International Disaster Relief and Initial Recovery Assistance (IDRL guidelines). They set out the laws, rules, and regulatory issues countries should consider regarding potential future international disaster assistance when national response capacities are exceeded. While the Cook Islands do not have legal requirements to follow the IDRL guidelines, the government has approved a review study based on them.



Regional level

The above international conventions and policies are mirrored at the regional level. The Pacific Island Forum endorsed the **Pacific Disaster Risk Reduction and Disaster Management Framework for Action 2005** (DRM Regional Framework) in Madang, Papua New Guinea in October 2005.

THE PACIFIC REGIONAL DRM FRAMEWORK FOR ACTION

Vision

'Safer, more resilient Pacific island nations and communities to disasters, so that Pacific peoples may achieve sustainable livelihoods and lead free and worthwhile lives'

Thematic areas

- Theme 1: Governance - Organisational, Institutional, Policy and Decision-making Frameworks
- Theme 2: Knowledge, Information, Public Awareness and Education
- Theme 3: Analysis and Evaluation of Hazards, Vulnerabilities and Elements at Risk
- Theme 4: Planning for Effective Preparedness, Response and Recovery
- Theme 5: Effective, Integrated and People-Focused Early Warning Systems
- Theme 6: Reduction of Underlying Risk Factors

With respect to climate change, there is the **Pacific Islands Framework for Action on Climate Change 2006 - 2015** (PIFACC), which was endorsed by the Pacific Leaders in the same year. The PIFACC is aimed at ensuring Pacific Islands people build their capacity to be resilient to the risks and impacts of climate change. PIFFAC was reviewed and a second edition released in 2011.

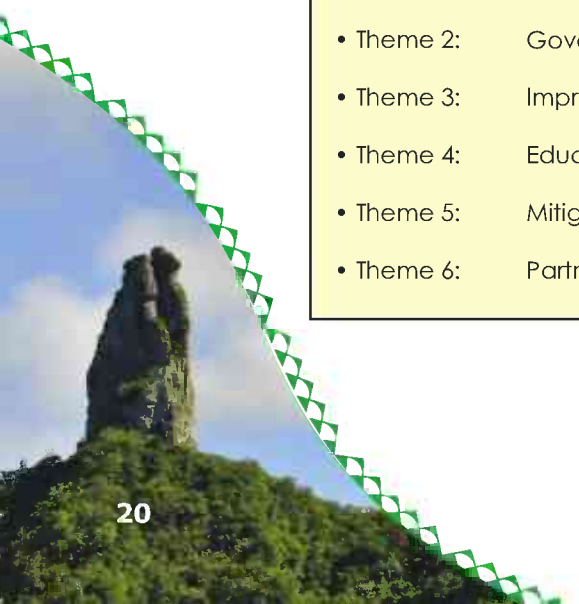
THE PACIFIC ISLANDS FRAMEWORK FOR ACTION ON CLIMATE CHANGE

Vision

'Pacific island people, their livelihoods and the environment resilient to the risks and impacts of climate change'

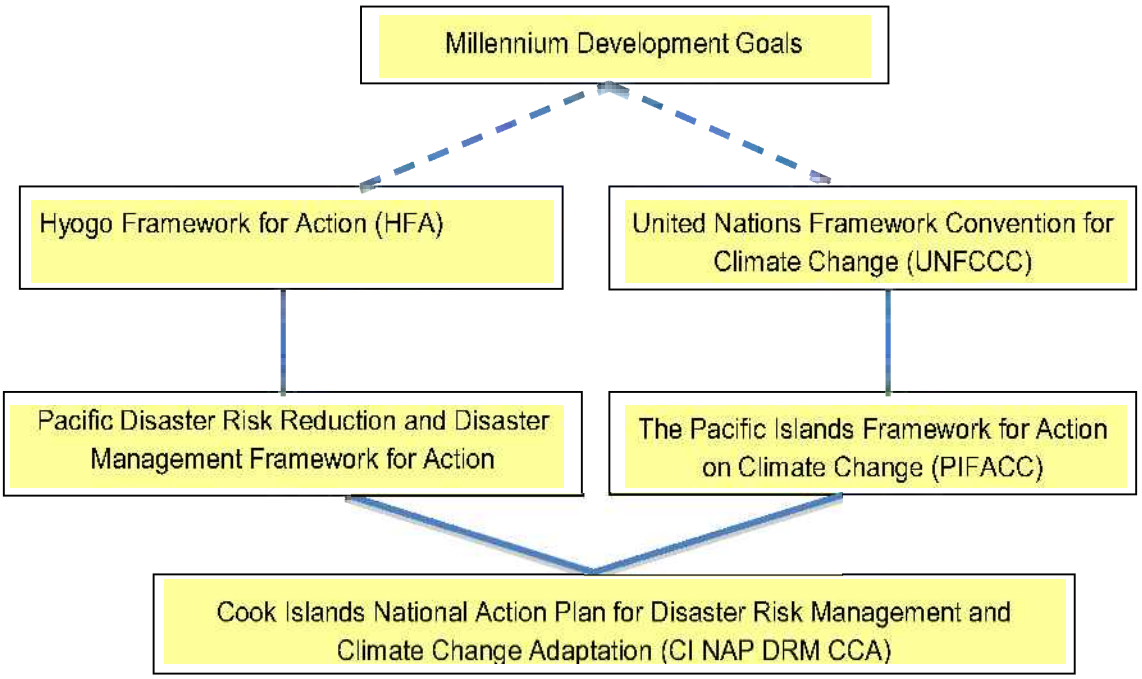
Thematic areas

- Theme 1: Implementing tangible on-ground adaptation measures
- Theme 2: Governance and decision making
- Theme 3: Improving our understanding of climate change
- Theme 4: Education, training and awareness
- Theme 5: Mitigation of global greenhouse gass emissions
- Theme 6: Partnerships and cooperation



The above two regional frameworks list a number of themes and key activities for each priority action and encourage states, regional and international organizations and other actors to implement them, as appropriate, to their own circumstances and capacities. The Cook Islands has opted for a combined 'joint' National Action Plan, choosing to address the issues of disaster management, risk reduction, and climate change adaptation in an integrated way (Figure 3).

Figure 3 Vertical linkages to regional and international policy

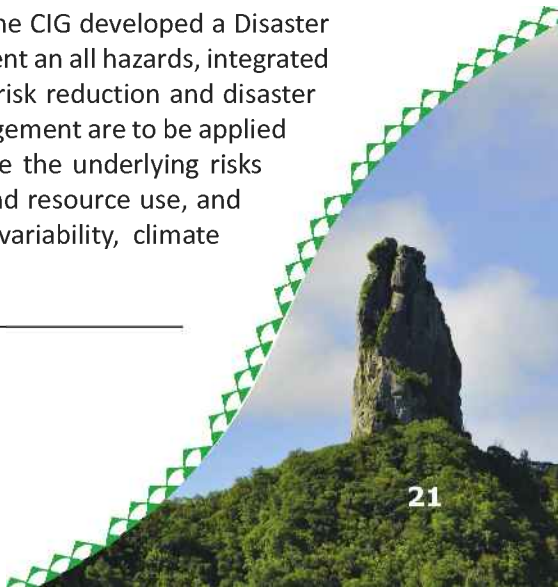


National level

The Cook Islands Joint National Action Plan for Disaster Risk Management and Climate Change Adaptation aligns itself closely to the National Sustainable Development Plan (NSDP), the Medium Term Budgeting Framework (MTBF), the Disaster Risk Management Act, Regulations and Arrangements, the Cyclone Recovery Reconstruction Plan, the Preventative Infrastructure Master Plan, the National Environment Strategic Action Framework, and the Second National Communication to the UNFCCC.

With respect to disaster risk management, the JNAP identifies priorities and actions to facilitate the effective implementation of existing DRM legislation. In 2005 the CIG developed a Disaster Risk Management Policy in terms of which Cook Islands will implement an all hazards, integrated and whole of government, whole of country approach to disaster risk reduction and disaster management[24]. The policy states that formal processes of risk management are to be applied in all aspects of national development planning in order to reduce the underlying risks created by changing social, economic, environmental conditions and resource use, and the impact of hazards, including those associated with climate variability, climate change and extreme weather events.

[24]Cook Island Disaster Risk Management Arrangements. (CIG, 2009).



With respect to climate change the National Environmental Strategic Action Framework (NESAF) and Second National Communication to the UNFCCC are guiding documents for the JNAP.

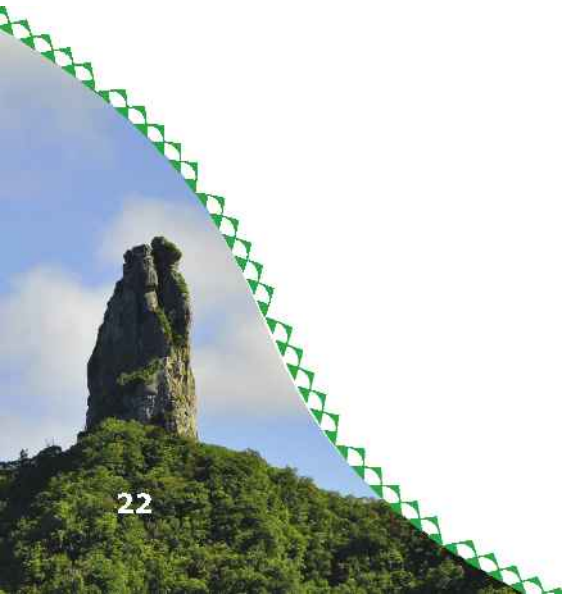
The NESAF is mandated by the Environment Act 2003 and is a key document for the environmental sector including climate change. NESAF Target Programme 3 has the **Strategic Goal** of: *"Increasing Resilience by strengthening national capacities for climate change, variability, adaptation and mitigation".*

The **Programme Objective** stresses the importance of **mainstreaming** *'climate change adaptation and mitigation considerations' and to 'address unacceptable risks to the natural environment and economy, including those arising from natural hazards such as extreme weather events, climate variability, climate change and sea level rise'.*

The **Cook Islands Second National Communication to the United Nations Framework Convention on Climate Change** (UNFCCC), submitted in 2012, provides the most recent update of the status of climate change in the Cook Islands. A variety of adaptation measures are presented for relevant sectors. Many of these proposed projects are addressed in the JNAP either directly, or by way of having influenced the development of related Strategic Actions. The report is based on national and community level consultations. Table 1 provides a synopsis of the main vulnerabilities arising from the different kinds of climate change related hazards as contained in the report.

A major proposal to the Kyoto Protocol Adaptation Fund looks set to boost climate change adaptation planning and implementation in the Cook Islands. This US $ 5.3 million proposal is based on an inter-linked three-pronged approach that combines a greater emphasis on island-level work, institutional strengthening at all levels, and improved knowledge management. By taking the JNAP planning process down to the island level, the Adaptation Fund project takes forward the aim of putting in place an 'all-of-country' system of DRM as a holistic response to all risks including those associated with climate change.

With respect to the planning hierarchy in the Cook Islands Government, the JNAP DRM CCA constitutes a 'Sector Plan' for a unified disaster risk management and climate change adaptation sector. **The JNAP is cross-cutting in nature in that it strives to encourage a whole-of-government, all-hazards approach. This means that many of the strategic actions identified in the plan relate to the activities of line ministries and as such it is the intention that they be included in the respective planning frameworks of these line ministries.** This is critical to ensure that the linkages are made and that implementation across all relevant government ministries and agencies occurs.



Joint National Action Plan for Disaster Risk Management and Climate Change Adaptation

Vision

The vision of the Cook Islands Joint National Action Plan for Disaster Risk Management and Climate Change Adaptation outlines where the Cook Island wants to be by 2015. Each action to be implemented aims to make the Cook Islands Vision a reality. The Vision of the National Action Plan for Disaster Risk Management is:

A Safe, Resilient and Sustainable Cook Islands

The National Action Plan provides a framework and guidance to the Government of the Cook Islands and all communities to better respond to this vision. The vision is strongly tied to *Te Kaveinga Nui* 2020 vision, Priority 7 of the National Sustainable Development Plan 2011-2015 and the Cook Islands National Disaster Plan 2006.

Structure of the National Action Plan Matrix

The National Action Plan is presented in the form of a **project planning matrix.**

While the plan is comprehensive it is also integrated. It is comprehensive in that it has to cater for the complex nature of the Cook Islands risk profile. It is integrated in that it takes a holistic view of the complex inter-relationships between hazard risk and human activities and seeks solutions across multiple sectors.

The action plan contains **four strategic areas, seven strategies,** and **twenty nine** actions. The actions have been further broken down into a number of indicative sub-actions.

To facilitate implementation two matrices have been developed – a ***summary*** *matrix* and a ***full*** *matrix.*

The *summary matrix* sets out our **strategic areas, strategies, actions, outcomes and lead agencies.**

The *full matrix,* inaddition to the above, elaborates on the actions by describing **sub-actions, key performance indicators, potential strategic partners and support agencies.**

The full matrix, which contains a lot more detail, is intended to facilitate JNAP implementation while the summary matrix serves as a quick reference guide to aid project oversight and policy integration.

NOTE: ***The summary*** matrix is presented below, while the ***full*** matrix is attached as Annex 3.

A breakdown of the indicative costs of the plan is provided in Section 5 which outlines the JNAP implementation programme.

Strategic Areas: The plan is organised around four strategic areas,

- Governance,
- Monitoring,
- Disaster Management (including preparedness and public awareness), and
- Risk Reduction and Climate Change Adaptation.

Strategies: Cluster of similar actions to address root causes of identified issues or problems..

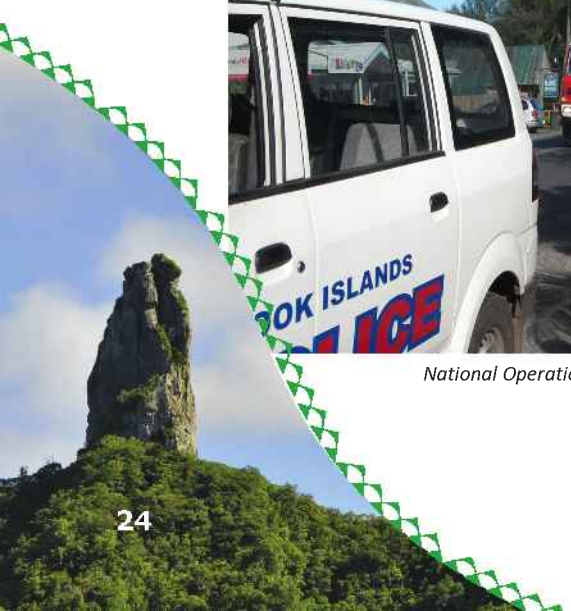
Strategic Outcomes: The positive changes that are expected to occur as a result of the completed actions.

Actions: The steps to be implemented to achieve the desired outcomes

Indicative Sub-Actions: Actions proposed by stakeholders to address root causes and achieve desired outcomes. These are 'indicative' as they are provided as examples of the kinds of sub-actions that are required to successfully implement the actions and strategies. It is encouraged that the proposed sub-actions be reviewed and subjected to detailed planning.

Lead agencies: The agencies tasked with initiating, leading and reporting on the implementation of the specified actions.

National Operational Exercise for all Ministries & Agencies in Rarotonga.



JOINT NATIONAL ACTION PLAN

for

DISASTER RISK MANAGEMENT

and

CLIMATE CHANGE ADAPTATION
2011 – 2015

SUMMARY MATRIX

Vision:
A Safe, Resilient, and Sustainable Cook Islands

NOTE: This is the summary matrix. The full matrix is contained in Annex 3.

STRATEGIC AREA 1 GOVERNANCE			
STRATEGY	**STRATEGIC OUTCOMES**	**ACTIONS**	**LEAD AGENCY**
Strengthen governance arrangements for DRM and CCA	1. DRM and CCA is formally institutionalised and resourced in CI governance systems 2. Financing mechanisms are in place to support DRM andCCA activities 3. Strengthened capacity for managing all aspects of DRM and CCA at all levels 4. Risk and adaptation to climate change issues form part of community and island development initiatives 5. Strengthen legal preparedness for the facilitation and regulation of international disaster and climate change risk response	1. Strengthen and consolidate policies, plans and institutions for Disaster Risk Management and Climate Change Adaptation 2. Create sustainable national financing mechanisms for DRM andCCA 3. Strengthen capacity of government agencies, Island Councils and NGOs 4. Strengthen DRM andCCA planning at the local level 5. Effective comprehensive legal framework for the facilitation and regulation of international disaster and climate change risk response is in place	CPPO MFEM EMCI/CPPO EMCI/CPPO CLO
Mainstream natural hazard and climate change risk considerations in planning and budgetary systems	1. DRM and climate change treated as a development issue with an integrated whole-of-government approach to implementation with actions funded through ministry and agency budgets 2. The economic and social costs of natural hazards and climate related risks are reduced	1. Mainstream DRM and CCA into national development plans, sector plans, policies, legislation and budgeting 2. Mainstream hazard and climate change risk considerations in development planning regulations	CPPO MOIP

STRATEGIC AREA 2 MONITORING			
STRATEGY	**STRATEGIC OUTCOMES**	**ACTIONS**	**LEAD AGENCY**
Monitor and assess risks and vulnerabilities, including to the impacts of long term climate change	1. Solid information is available on the potential impacts of climate change and sea level rise and the spatial distribution of hazard risk 2. Nature of natural hazard and climate change vulnerability is better understood and addressed 3. Data is effectively shared amongst relevant agencies	1. Monitor and assess geophysical and climate change risks and incorporate into development planning 2. Consolidate Vulnerability Assessments for all inhabited islands (including a focus on gender and vulnerable groups) and incorporate into development planning 3. Strengthen coordination of hazard and climate change risk information management	CCCI CCCI EMC
Document traditional knowledge and coping mechanisms	1. Locally relevant risk management and climate change adaptation activities	1. Use traditional knowledge and coping strategies to inform the design of disaster risk reductionand climate change adaptation activities	EMCI

STRATEGIC AREA 3 DISASTER MANAGEMENT

STRATEGY	STRATEGIC OUTCOMES	ACTIONS	LEAD AGENCY
Strengthen Preparedness, Response and Early Recovery Systems, including for the impacts of climate change	1. Communities aware of their risk exposure and empowered to take action to reduce their risks, including climate change risks 2. Communities receive timely advance warnings and know how to respond to risks including climate change impacts 3. More effective and timely response and early recovery including from climate change related risks 4. Improved national capacity to respond to disasters in a coordinated and efficient manner 5. Improved safety of citizens and tourists on sea and on land 6. Reduction in casualties and loss of lives during and following disasters 7. All people (including elderly, mobility impaired, blind, etc.) are safe during cyclones 8. Reduction in the threat posed by hazardous substances	1. Maintain high levels of community awareness and preparedness at all times 2. Enhance national capacity to provide early warnings for slow and fast-onset hazards 3. Develop disaster response plans and conduct operational exercises for relevant agencies 4. Build a dedicated National Emergency Operations Centre (NEOC) 5. Strengthen capacity for search and rescue on sea and on land 6. Strengthen capacity to provide emergency health care at times of disasters 7. Ensure that the public has access to safe places during cyclones and that vulnerable groups are catered for 8. Strengthen capacity to manage hazardous substances importation, use and disposal including responses to hazardous substances	CCCI EMCI EMCI EMCI POLICE MOH EMCI NES

STRATEGIC AREA 4 RISK REDUCTION AND CLIMATE CHANGE ADAPTATION

STRATEGY	STRATEGIC OUTCOMES	ACTIONS	LEAD AGENCY
Strengthen infrastructure and safeguard essential service staking into account current and anticipated climate changes	1. Coastal infrastructure is strong enough to withstand hazard damage, including that of longer term climate change 2. The coastal zone is developed and managed on a more sustainable basis, to take into account the impacts of climate change. 3. Environmentally sound, efficient, robust, reliable and safe systems of energy supply in outer islands at all times 4. An uninterrupted and sustainable supply of safe drinking water on all inhabited Islands, which is resilient to the impacts of climate change 5. Risks to ground water quality, ecosystem services, and community health eliminated	1. Strengthen and climate-proof key infrastructure in the coastal zone 2. Promote integrated management of the coastal zone to build resilience to hazards including climate change and sea level rise 3. Strengthen and adapt energy transportation, supply and storage systems in the outer islands to reduce risks to the communities 4. Promote long term water security for all islands to cope with prolonged dry spells, and longer term climate impacts. 5. Strengthen sanitation infrastructure to address health and environmental risks on all islands, including risks related to climate change.	MOIP NES OPM MOIP MOIP
Strengthen economic development and livelihood systems in key sectors, increasing resilience to disasters and climate change.	1. Better prepared and more climate resilient Island communities 2. Health care system recognises and prepares communities for the health impacts of changing climate and disease patterns 3. Fisheries and marine ecosystems are well managed for adaptation to climate change 4. Climate change threats to biodiversity are understood and planned for 5. Reduction in the negative environmental impact of hotels and resorts.	1. Promote agricultural livelihood resilience and food security in the context of climate change 2. Strengthen systems for preventative health care and research including on climate change impacts and adaptation 3. Strengthen and build resilience in the fisheries sector, with climate change considerations. 4. Improve the conservation and management of biodiversity in a changing climate. 5. Strengthen and build resilience in the tourism sector, including to the impacts of climate change.	MOA MOH MMR NES CITC

The Implementation Program

Introduction

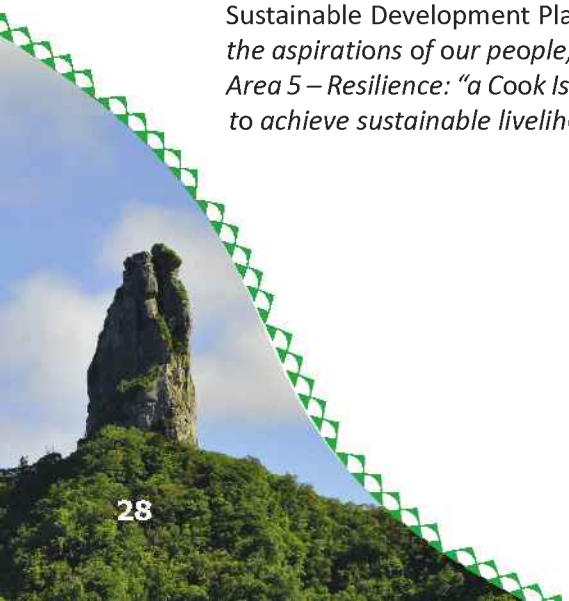
This section describes the manner in which the JNAP DRM CCA will be implemented and in particular highlights some key considerations. These are as follows:

- → the need for a set of **guiding principles** for the implementation.
- → The need for an appropriate implementation or **management structure** to be responsible for leading JNAP implementation.
- → The identification of potential **financing options** and approaches for the resourcing of JNAP actions.
- → The development of an appropriate **communications strategy** to help ensure that the underlying message of increased safety and resilience is conveyed using the most appropriate media.
- → The establishment and use of a thorough **monitoring and evaluation** framework which not only addresses issues in relation to transparency and accountability but also facilitates a systematic approach to change and improvement as a direct consequence of progress reporting.

The Implementation Programme has been developed in consultation with the National Disaster Risk Management Council, the Climate Change Country Team and other key stakeholders. Institutional arrangements take into account the desire by government to harmonise DRM and climate change thrusts in the Cook Islands.

Principles

The implementation arrangements for the DRM CCA Joint National Action Plan have been developed in accordance with a set of guiding principles (Box 5). These are considered necessary so as to protect the integrity and overall intent of the whole JNAP development and implementation process and to add value to the national vision as embodied in the National Sustainable Development Plan 2011 – 2015: *"to enjoy the highest quality of life consistent with the aspirations of our people, and in harmony with our culture and environment" and of Priority Area 5 – Resilience: "a Cook Islands where our people are resilient to disasters and climate change to achieve sustainable livelihoods"*



Approach

Broad Approach to Implementation

In order to facilitate implementation of the JNAP the following broad approach is proposed:

BOX 4 – Principles to Guide the Implementation of the Cook Islands DRM National Action Plan

Leadership by Government: The improved application of disaster risk reduction and disaster management measures will only take root and be successful throughout the community if Government actively takes a leadership role. Local partners need to see that Government is itself actively pursuing improved DRM to be able to ensure a meaningful flow on to other potential beneficiaries.

Inclusivity: As much as possible the implementation must, like the development of the DRM NAP, involve as many stakeholders as possible. This will increase the probability of success over the longer term.

Focus on the community: There is a need to ensure that the focus on community safety and well being is retained and is at the forefront of the whole DRM NAP implementation process.

Clarity in role definition: It is essential that the roles of all key players in DRM NAP implementation are properly defined and understood.

Stress reduction: It is important to keep stresses on the national or Government system at a minimum; and of equal importance is the need to keep stress and burden on key individuals at a minimum. The implementation programme must take into account that other Government-led initiatives are also putting stresses on the system.

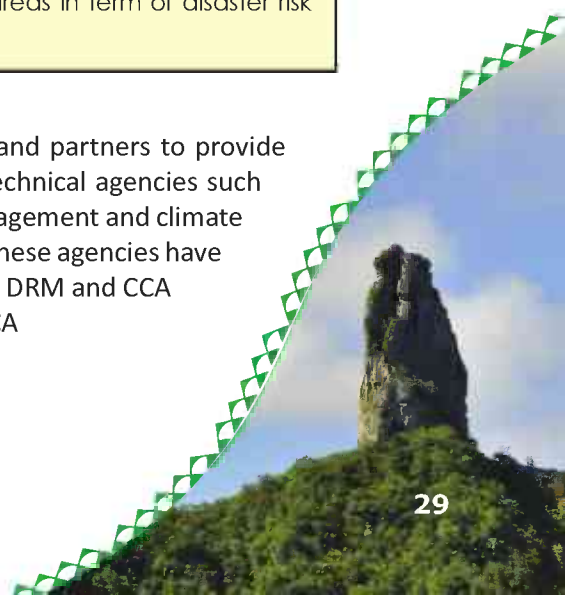
Clear communication: The intent of the DRM NAP and of the importance of DRM needs to be clearly communicated to stakeholders at national, local and community level.

Accountability and transparency: The implementation will draw on resources that will be provided internally through the national budget (taxpayer funds) and through external support through donors and partners. Because of this it is important that there is accurate monitoring and reporting of implementation results and that transparency is maintained at all times.

Dynamism: The implementation programme involves a dynamic process in which learning, change and improvement are very important. The implementation will ensure that any lessons learned and new initiatives or actions identified are factored in to an on-going programme of DRM strengthening and capacity building in the Cook Islands.

Building capacity: The implementation programme for the NAP will afford the key drivers an opportunity to further develop their capacity in a range of skills areas in term of disaster risk management as well as in general corporate management.

1. The Cook Islands Government with the support of donors and partners to provide funds/resources to strengthen the capacity of the central technical agencies such as EMCI, CIMS, and CCCI as key agencies for disaster risk management and climate change adaptation in the Cook Islands. This is to ensure that these agencies have the capacity to implement their responsibilities in relation to DRM and CCA in general and in particular those in relation to JNAP DRM CCA implementation.



2. A **JNAP Project Management Committee** is to be appointed by the National DRM Council (NDRMC) as a sub-committee in accordance with the DRM Act 2007. The Council itself will broaden its mandate to include climate change adaptation.

3. The **JNAP Project Management Committee** is to provide direct operational oversight of implementation, and support the integration of JNAP actions into the Medium Term Budgetary Framework and annual work/business plan and budgets of relevant Ministries. Such a role requires that all members of the 'Sub-committee' have a significant level of commitment to their individual and collective responsibilities. In this connection the 'sub-committee' members must be supported (by their respective Heads of Ministries) in their assignments as JNAP focal points for their Ministries and agencies.

4. The **NDRMC** to provide high-level oversight, policy guidance and direction and advocacy to ensure the integration of JNAP DRM CCA actions into the Medium Term Budgetary Framework and annual work/business plan and budgets of the relevant Ministries.

5. **Ministries and agencies** to facilitate the integration of JNAP DRM CCA actions into their respective annual work/business plans.

6. **Non-government, civil society and auxiliary organisations** to facilitate the integration of relevant JNAP DRM CCA actions into their respective annual work/business plans.

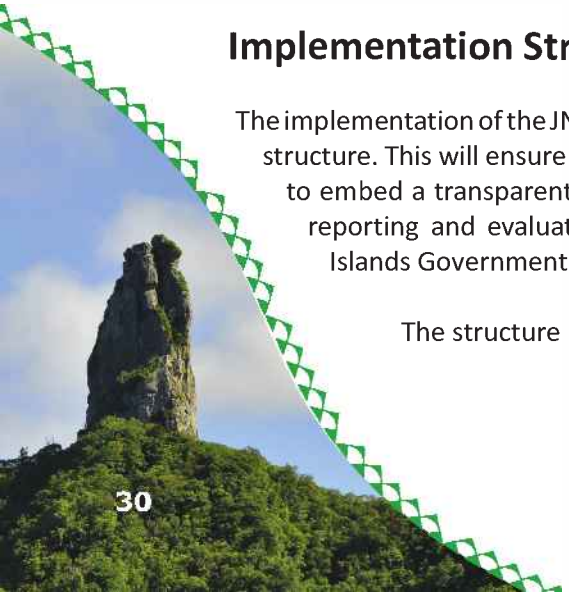
7. The existing Climate Change Country Team is to be transformed into a **DRM and CC National Platform. The establishment of national platforms** for DRM is encouraged by the Hyogo DRM Framework as well as by the Regional DRM Framework. One of the roles of the International Strategy for Disaster Reduction (ISDR) is to provide support to national DRM platforms and linkages are encouraged with the sub-regional ISDR Office in Suva. National Platforms are essentially multi-stakeholder forums through which government, private sector and civil society can share information and unite around a joint national programme of action. They are viewed as an important mechanism to fostering an 'all-of-country' approach to DRM and CCA (Box 5).

8. The **JNAP Project Management Committee** is to establish and activate a monitoring and evaluation framework for the JNAP DRM CCA in consultation with the CPPO, MFEM and the Public Service Commissioner. Such a monitoring and evaluation framework may be developed with the support of specialist technical expertise and should be consistent with the overall monitoring and evaluation requirements of Government's Medium Term Budgetary Framework.

Implementation Structure

The implementation of the JNAP DRM CCA will need to be supported by an adequate management structure. This will ensure appropriate leadership from those responsible and the opportunity to embed a transparent accountability framework that accommodates robust monitoring, reporting and evaluation of JNAP outcomes. These are key concerns within the Cook Islands Government and amongst donors and partners.

The structure proposed to lead and support the implementation of the JNAP



BOX 5 – DRM National Platforms

At the 2005 World Conference on Disaster Reduction, 168 Governments adopted the Hyogo Framework for Action 2005-2015: Building the Resilience of Nations and Communities to Disasters (HFA). One of the HFA strategic goals is "the development and strengthening of institutions, mechanisms and capacities to build resilience to hazards". **It calls on all nations to "support the creation and strengthening of national integrated mechanisms such as multi-sectoral National Platforms"** to ensure that DRR is a national and a local priority. The HFA also encourages all States to designate a national mechanism for the coordination of and follow-up to the HFA, to communicate DRR information and progress to the UN/ISDR secretariat.

The overarching **goal** of a National Platform for DRR is to contribute to the building of its country's resilience to disasters for the sake of sustainable development, by achieving the following key **objectives:**

- To serve as a coordination mechanism to enhance multi-stakeholder collaboration and coordination for the sustainability of DRR activities through a consultative and participatory process in line with the implementation of the HFA;

- To foster an enabling environment for developing a culture of prevention, through advocacy of and awareness-raising on DRR and the necessity and importance of integrating DRR into development policies, planning and programmes; and

- To facilitate the integration of DRR into national policies, planning and programmesin various development sectors as well as into international or bilateral development aid policies and programmes.

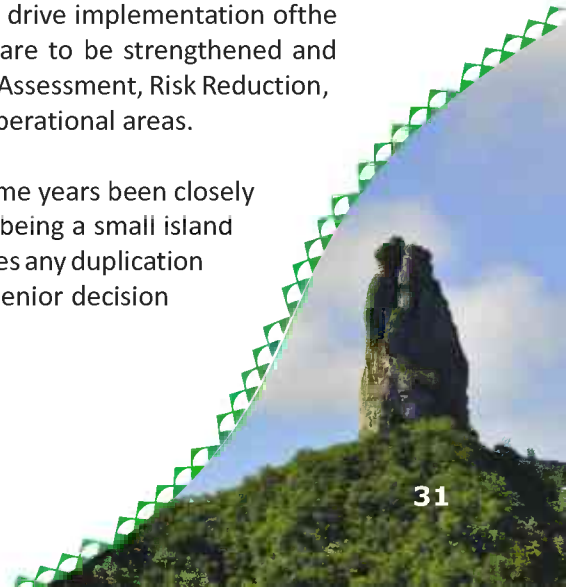
National Platforms for DRR should build on any existing systems relevant to DRR. They should facilitate the participation of key players from line ministries, disaster management authorities, scientific and academic institutions, NGOs, the National Society of the Red Cross or Red Crescent, the private sector, opinion shapers and other sectors closely related to the Repurpose. Whenever possible, National Platforms for DRR may invite the participation of donor agencies and country-based UN organizations.

The ISDR System, primarily through the UN Resident Coordinator system, Country Teams and also through individual ISDR System members plays critical advocacy, catalytic and facilitating roles in the process of establishing or strengthening National Platforms for DRR under the principles of national ownership and leadership.

[Source: United Nations International Strategy for Disaster Reduction (ISDR) – Guidelines for National Platforms for Disaster Risk Reduction, 2007. Geneva]

reflects the new integrated approach of bringing DRM and CCA under one umbrella. Existing mechanisms such as the Climate Change Country Team and the NAPAC have been merged, and a new Climate Change Office has been established to drive implementation ofthe climate change adaptation sections of the JNAP. EMCI and CIMS are to be strengthened and continue to be primarily responsible for Early Warning, Forecasting, Assessment, Risk Reduction, Preparedness, Response and Recovery actions falling under their operational areas.

Both the NAPAC and the Climate Change Country Team have for some years been closely involved with DRM and CC developments in the Cook Islands and, being a small island country, many officials have held dual positions. Their merger removes any duplication of effort and ensures that the former CCCT is formally linked to a senior decision making structure.



This joining of efforts will ensure better coordination of DRM and CCA initiatives and in so doing enhance the implementation of both. If successful the Cook Islands will be able to realise better gains as effectively there will be better coordination, reduction of overlaps and improved efficiencies in terms of the utilisation of scarce national resources to address issues of climate change and disaster risk.

It is proposed that the **JNAP Project Management Committee** be formalised in terms of the provisions in the Disaster Risk Management Act (2007) and be given a clear mandate and operational responsibility for the JNAP DRM CCA implementation programme.

The JNAP Project Management Committee will be supported directly by both EMCI and CCCI, the Directors of which will co-chair the committee and their offices will provide secretariat services.

The JNAP Project Management Committee will be responsible to the National DRM and CC Council (NDRMCCC) for the implementation of JNAP actions but will also receive assistance from Council members who will facilitate senior-level support and influence in terms of ensuring that the JNAP actions are integrated into the Medium Term Budgetary Framework and the annual business/work plans and budgets of relevant Ministries and agencies.

It is further proposed that the existing Climate Change Country Team's mandate be expanded to include DRM and that the entity be transformed into a **DRM and CC National Platform** along the lines advocated by ISDR. The CCCT has proven its sustainability over time and this minor modification is designed not to disrupt the momentum that has been built up over the years. The composition of the CCCT, being a mix of government and civil society, already resembles that of a 'national platform', the only change being proposed is the addition of members of the DRM community and the addition of DRM to the agenda. This will further fulfil government's intention of harmonising DRM and CCA through an 'all-of-country', 'all-of-hazard' approach.

Figure 4 illustrates the suggested linkages between key stakeholders in support of JNAP implementation.

The **Pacific Disaster Risk Management Partnership Network** (PDRMPN) and will also have a role to play in relation to JNAP implementation. The Applied Geoscience & Technology Division (SOPAC) of the Secretariat of the Pacific Community (SPC)) as the lead coordinator of the PDRMPN will support the implementation of the JNAP by ensuring that all partner members are aware of theJNAP priorities and of the local implementation arrangements. SOPAC and SPREP, with the support of EMCI and CCCI will actively market the JNAP to its partner members which include donors such as AusAID, the European Union and NZAID and other organisations (examples of which are the UNDP Pacific Centre and Foundation for the Peoples of the South Pacific (International) both of whom support community based capacity building). SOPAC and SPREP will further ensure that EMCI and CCCI are fully acquainted with the respective areas of DRM and CCA interest of all the members of the PDRMPN.

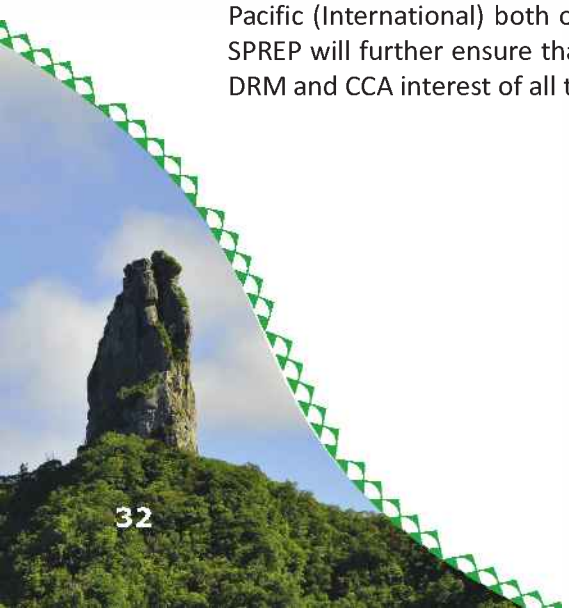
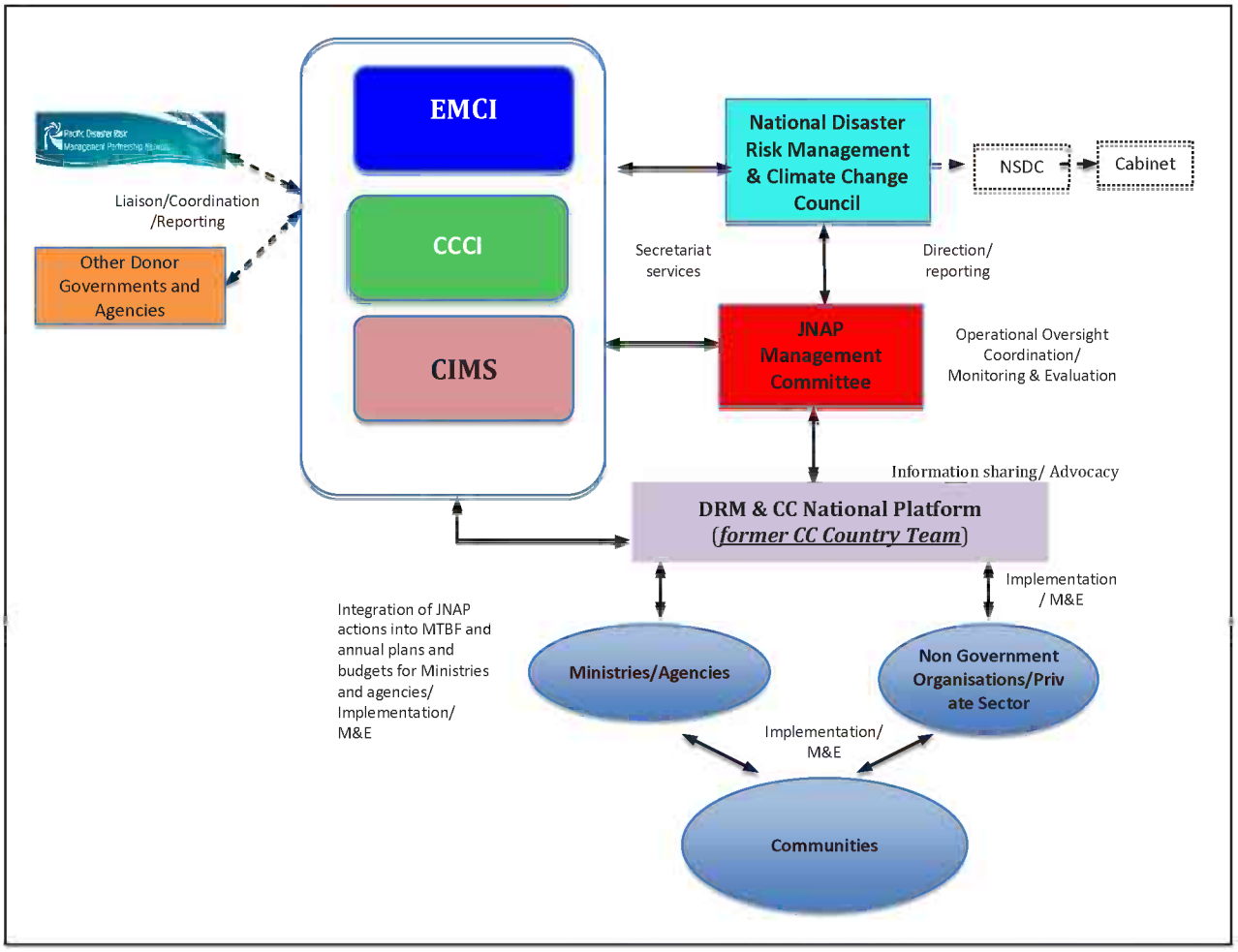


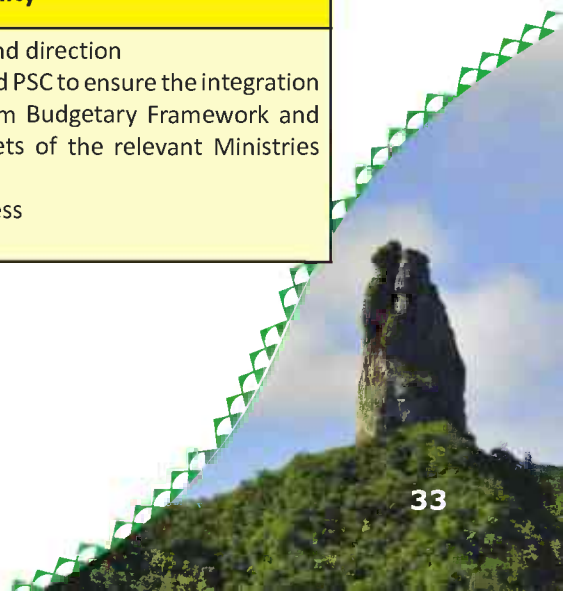
Figure 4 - Conceptual diagram of proposed JNAP Implementation Arrangements



The specific roles and responsibilities of all key stakeholders in the implementation structure are summarised in Table 3.

Table 3 – Roles and responsibilities for JNAP DRM CCA Implementation

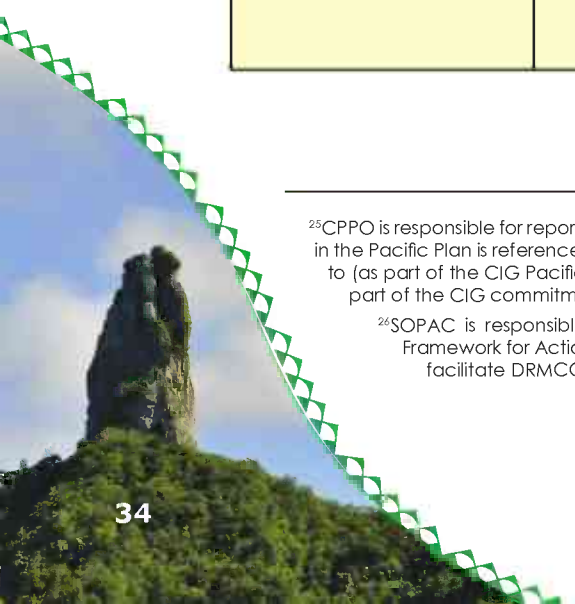
Stakeholder Group	Role/Responsibility
National DRM and CC Council (NDRMCCC)	→ High-level oversight, policy guidance and direction → Advocacy at Cabinet and with MFEM and PSC to ensure the integration of JNAP actions into the Medium Term Budgetary Framework and annual work/business plan and budgets of the relevant Ministries and agencies → Review of JNAP implementation progress



Stakeholder Group	Role/Responsibility
JNAP Project Management Committee	→ Provide direct operational oversight of implementation and support the integration of JNAP actions into the Medium Term Budgetary Framework and annual work/business plan and budgets of the relevant Ministries. → Develop and implement a monitoring and evaluation framework to support the JNAP → Ensure that lessons learned from monitoring and evaluation system are accounted for in the on-going implementation of the JNAP and of DRM and CCA activities in general across the Cook Islands
DRM and CC National Platform (formerly National CC Country Team)	→ Serve as a coordination mechanism to enhance multi-stakeholder collaboration and coordination for the sustainability of DRM and CCA activities through a consultative and participatory process in line with the implementation of the HFA and the UNFCCC → Foster an enabling environment for developing a culture of prevention, through advocacy of and awareness-raising on DRM and CCA and the necessity and importance of integrating DRM and CCA into development policies, planning and programmes; and → Facilitate the integration of DRM and CCA into national policies, planning and programmes in various development sectors as well as into international or bilateral development aid policies and programmes.
EMCI	→ Provide operational leadership and coordination of the implementation of JNAP priorities → Support JNAP and general DRM and CCA advocacy within Ministries and the private sector, civil society and the community → Facilitate regular meetings of the NDRMCCC and the JNAP Project Management Committee → Follow up on JNAP implementation with Ministries and agencies → Facilitate reporting to NDRMCCC, CPPO[25], SOPAC[26] and SPREP of JNAP implementation progress
CCCI	→ Facilitate linkages with the national climate change adaptation (CCA) programme as represented by the JNAP → With EMCI facilitate regular meetings of the NDRMCCC and the JNAP Project Management Committee → Facilitate regular meetings of the DRM andCC National Platform → Work with EMCI to ensure that the implementation of DRM and CCA JNAP actions are well coordinated to realise greater effectiveness and efficiency in terms of delivery

[25]CPPO is responsible for reporting to the Pacific Islands Forum Secretariat of progress against the Pacific Plan. Included in the Pacific Plan is reference to the Pacific DRR and DM Framework for Action 2005 – 2015 and it will be useful for PIFS to (as part of the CIG Pacific Plan report) receive some insight on the progress of DRM JNAP implementation as part of the CIG commitment to the implementation of Pacific Plan.

[26]SOPAC is responsible for reporting to Pacific Leaders on the progress against the Pacific DRR and DM Framework for Action and the Hyogo Framework for Action and is developing an on-line reporting system to facilitate DRMCCA JNAP updates.



Stakeholder Group	Role/Responsibility
MFEM and CPPO	→ CPPO: Review/validate JNAP actions for consistency with NSDP → MFEM/CPPO: Analyse the fiscal impact of JNAP implementation proposals in line with the MTBF → MFEM: Agree with Ministries and agencies on the expenditure estimates for JNAP actions
Ministries, agencies and local partners	→ Ministries and agencies: Facilitate the integration of JNAP actions into respective Medium Term Budgetary Framework plans and also annual work/business plans and budgets → Local partners: Facilitate integration of JNAP actions into respective planning and budget systems → Facilitate implementation of JNAP actions in coordination with EMCI, CCCI and the JNAP Project Management Committee → Ensure progress reporting on JNAP implementation and assist in the evaluation → Advocate for improved DRM and CCA in the Cook Islands
Villages and Community groups	→ Support JNAP implementation → Provide feedback to assist monitoring and evaluation
PDRMPN and other partners	→ SOPAC: inform members of the PDRMPN of the DRM CCA JNAP implementation programme → SPREP: support CIG in mobilising CC funding and with implementation of projects → SOPAC: liaise with EMCI for the activation of funding support → SOPAC: obtain feedback from EMCI on DRM CCA JNAP implementation progress and assist CIG with regional and international reporting of JNAP and DRM progress in general → PDRMPN and other regional and international partners: liaise with EMCI and other local stakeholders in support of DRM CCA JNAP actions

Indicative Costs

The overall indicative cost for implementing the JNAP DRM CCA over the period 2011-2015 is estimated to be **NZ$ 56,7 million** (Table 4). Of this, it is estimated that Cook Islands agencies such as Government departments could absorb around **NZ$ 6,2 million** worth of costs into business as usual. **NZ$ 41,7 million** of actions are unlikely to be absorbed by existing budgets and plans and would require some form of donor support. JNAP actions already receiving donor funding amount to just under **NZ$8,8 million.**

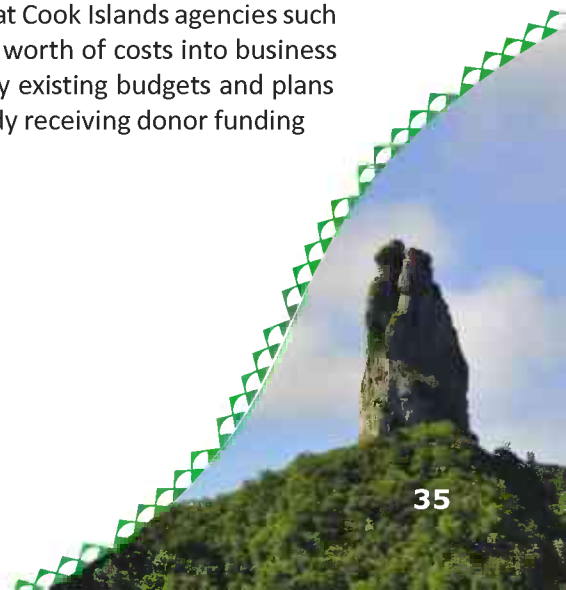


Table 4 – Indicative costs of JNAP Implementation

JNAP Strategic Area	In kind contributions from the Cook Islands (NZ$)	Resources required (NZ$)	Donor Funded (NZ$)	Total (NZ$)
1. Governance	1,537,144	482,350	1,281,400	3,300,894
2. Baseline Data	388,310	1,800,720	865,000	3,054,030
3. Disaster Management	289,224	4,509,710	3,000,000	7,798,934
4. Risk Reduction and Climate Change Adaptation	3,995,146	34,931,401	3,645,000	42,571,547
Total	**6,209,824**	**41,724,181**	**8,791,400**	**56,725,405**

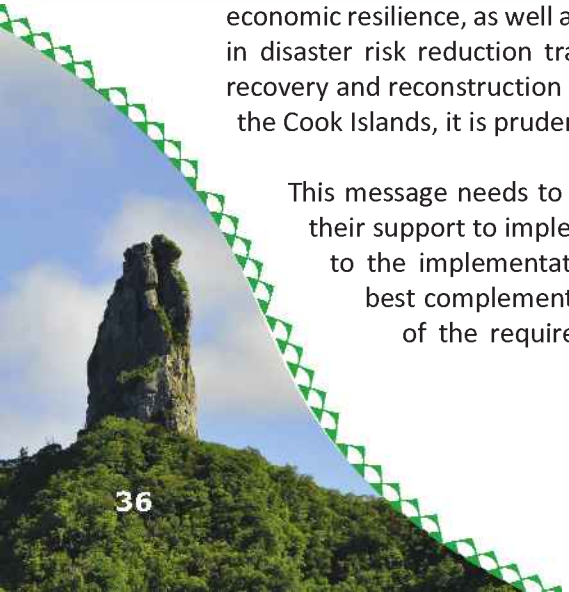
By far the biggest proportion of the JNAP cost is attributed to the action of rolling out renewable energy sources and technologies to all the Outer Islands, estimated at NZ$24,9 million. While this JNAP does not directly deal with the issue of carbon emissions reductions (also called climate change mitigation), the conversion to renewable energy has been included as a result of its contribution to providing energy security and the reduction of risks associated with the current fossil fuel supply.

The cost of climate proofing major infrastructure is not included in the above costing. An ADB report looking into this topic in 2007 identified 111 infrastructure projects across 10 sectors at a cost of NZ$237 million. Some of these projects have already taken place and the ADB Preventative Infrastructure Master Plan continues to be a central planning document for the Ministry of Infrastructure and Planning (MOIP).

Financing Strategy

Getting the Government or donors to invest in the JNAP DRM CCA means ensuring that investment in DRM and CCA is seen as a development issue that leads to enhanced national economic resilience, as well as physical and social resilience. It is estimated that a dollar invested in disaster risk reduction translates into a saving of between 2 and 10 dollars in response, recovery and reconstruction costs. Given the recurring nature of cyclones and other hazards in the Cook Islands, it is prudent for government to invest in building resilience.

This message needs to be presented to donors and Government agencies when seeking their support to implement or support actions in the JNAP. At the same time, it is critical to the implementation of the JNAP that funding support is directed in a way that best complements local efforts and systems whilst at the same time being mindful of the requirements of donors and partners who are expected to contribute



substantially. The financing strategy for the JNAP DRM CCA therefore has two major objectives:

1. Ensure that the national planning and budgetary processes and systems and in particular the Medium Term Budgetary Framework (MTBF) are adhered to.
2. Ensure consistency with the aid management requirements stipulated by donors and other partners.

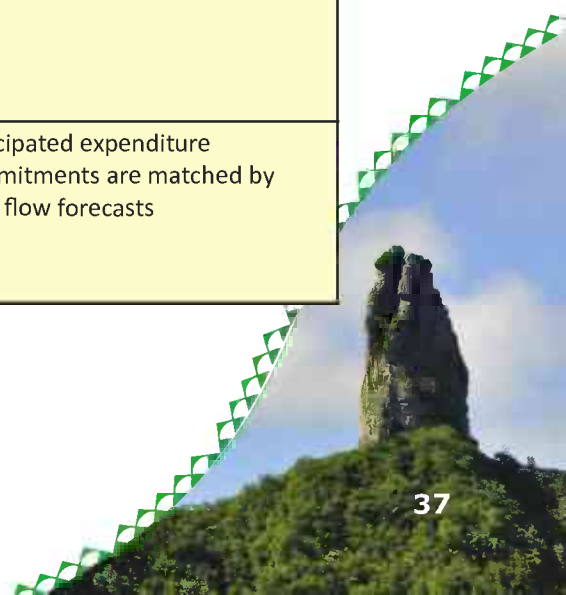
The point of departure of the financing strategy is the following:

1. The existence of a schedule of resource and cost requirements developed as a result of extensive consultation with stakeholders.
2. The integrity of the unit costs identified for use in costing the JNAP.
3. The commitment by EMCI and CCCI to lead the operational implementation of the JNAP.
4. OPM (through the Chief of Staff) and with the support of CPPO and EMCI have undertaken initial awareness briefing of key MFEM officials.
5. A robust monitoring and evaluation framework has been developed consistent with the requirements of the MTBF and donors.

In this regard the following strategy is appropriate:

1. For the activation of funds and in-kind contributions through the Cook Islands Government budget:

Strategy	Intended Outcome
1. NDRMC members and in particular the Chief of Staff and the Financial Secretary to undertake a special briefing of all Heads of Ministries and Heads of Agencies to explain the JNAP and related costs	• Increased awareness of the JNAP • Support for the integration of JNAP actions into respective Ministry MTBF proposals
2. JNAP Project Management Committee members, with the assistance of EMCI, to develop proposals for their respective Ministries consistent with the requirements of the MTBF, and obtain support of their Head of Ministry/Head of Agency for such proposals. • *The proposals are to clearly indicate:* → *Why theJNAP intervention is proposed and disclosing supportive verifiable information.* → *The proposed sequencing of JNAP actions within the first, second and third year of the MTBF* → *The cost estimates related to the sequencing*	• JNAP actions encapsulated within Ministry/Agency MTBF proposals
3. JNAP Project Management Committee members, with the assistance of EMCI, to liaise with the Finance Sections of the relevant Ministries to discuss necessary cash flows to facilitate implementation of actions	• Anticipated expenditure commitments are matched by cash flow forecasts



2. ***For the activation of funds and in-kind contributions through donor support there are various scenarios:***

Strategy	Intended Outcome
1. Government to seek funding support through existing and proposed bilateral programmes. • *Under this scenario All Ministries and Agencies would need to comply with the requirements as set out by MFEM in relation to Aid Management*	• Provision of funding to support JNAP implementation packaged in accordance with stipulated donor guidelines and requirements • SOPAC mobilisation of PDRMPN and thus wider cross section of support for JNAP implementation • Funding support available for NGOs, CSOs and other bodies auxiliary to the CIG for their respective JNAP activities • Improved participation by all JNAP stakeholders
2. Government to seek funding support through SOPAC and the regional facilities established for JNAP development and implementation. • *Under this scenario SOPAC would:* → *Clarify parameters and modalities for support* → *Undertake contractual processes to activate support including M&E requirements*	
3. Local partners (for example the Cook Islands Red Cross Society) with the support of EMCI and JNAP PMC to liaise with PDRMPN partners and other regional and international organisations to support their contribution to JNAP implementation. • Under this scenario the donor/partner would: → Clarify parameters and modalities for support → Undertake contractual processes to activate support including M&E requirements	

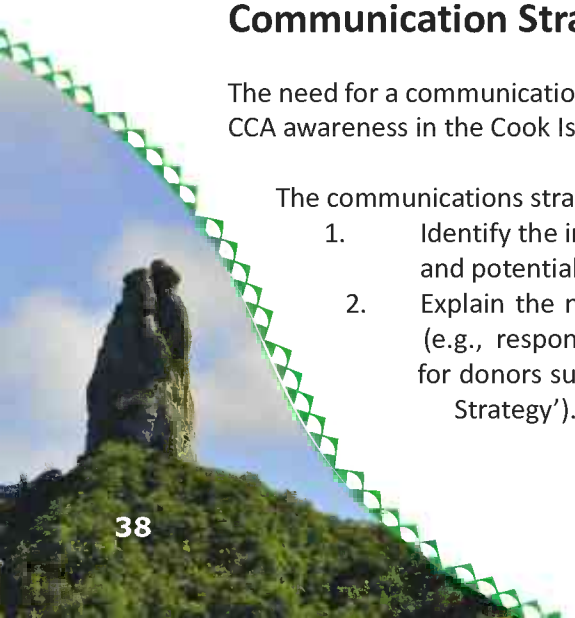
It is essential to the integrity of the JNAP implementation effort that as much as possible EMCI and CCCI is kept informed of the progress by JNAP Project Management Committee members and the National Platform in relation to their respective financing proposals.

Communication Strategy

The need for a communications strategy to support JNAP implementation and general DRM and CCA awareness in the Cook Islands was discussed at length during consultations.

The communications strategy will need to:

1. Identify the intended stakeholders in the JNAP, including beneficiaries and potential donors for implementation.
2. Explain the nature of the 'message(s)' that need to reach those stakeholders (e.g., responsibilities of and benefits to beneficiaries, strategic information for donors such as investment returns as indicated above under the 'Financing Strategy').



3. Maximise the use of the implementation of JNAP actions as opportunities for communication.
4. Utilise the selected mediums of communication to:
    a. create awareness and inform;
    b. build capacity of the target beneficiaries;
    c. influence behavioural change; and
    d. serve as a mechanism to facilitate feedback for the purposes of monitoring and evaluation.

The development of a communications strategy is to be led by the EMCI through the Information and Communications Officer who is to mobilise a small committee to assist the process. Whilst JNAP PMC members serve as the obvious choice for the committee, consideration should be given to involving other personalities in the Cook Islands who are familiar with media and marketing as well as those having an involvement for instance in existing community support activities. The benefits of involving a wider group lies in the diverse range of ideas that are likely to surface and that will strengthen overall communication and the sustainability of JNAP implementation.

Monitoring and Evaluation

The Government has invested significantly in consultations to improve the standard and mode of performance reporting to be used by Ministries and agencies. A review in 2008 (OPM 2008) resulted in the development of a Monitoring and Evaluation Readiness Assessment. (This review highlighted a number of key issues that need to be taken into account in the development of a monitoring and evaluation framework for the JNAP.

A key consideration in monitoring and evaluation is to ensure that the reporting system focuses on the delivery of Strategic Outcomes in addition to the delivery of Actions (or outputs). Furthermore, the monitoring and evaluation system should provide an opportunity for feedback and improvement in terms of the NAP. It should also provide an opportunity to build capacity whereby those utilising the system should benefit by increasing their competence and be able to identify and develop improvements to the monitoring and evaluation framework as an on-going outcome of implementation. In addition, the target beneficiaries of the JNAP (such as community groups) should also benefit by increasing their understanding of the importance of monitoring and evaluation as a requirement of the development planning and implementation process.

The Monitoring and Evaluation Readiness Assessment Report has highlighted various requirements which will need to be considered for adoption in the monitoring and evaluation system for the JNAP. These have been contextualised below in relation to the JNAP implementation:

1. The need to reflect:
    a. clear targets;
    b. performance indicators;
    c. responsibility for target delivery; and
    d. means of verifying that results have been achieved.[27]

[27] Typical means of verification would be reports and publications. However where these are not applicable in terms of the nature of the JNAP Action then a suitable means of verification will need to be provided.

2. Ministries and agencies to use targets and performance indicators presented in the budget proposals as the basis for internal monitoring and management.
3. Ministries and agencies to provide PSC, MFEM and OPM (CPPO) with 6-monthly progress reports:
    a. PSC: to use 6-monthly review reports and provide feedback to HOMs on agency performance.
    b. MFEM: to review performance in connection with budget figures and provide feedback to HOMs.
    c. CPPO: to review performance against the achievement of the relevant NSDP indicators and provide feedback to HOMs, EMCI, CCCI and JNAP PMC.
4. EMCI, CIMS and the CCCI to prepare 6-monthly progress reports for the Nat. DRM and CC Council and Cabinet. This should include:
    a. results achieved including (if possible) impact of JNAP implementation in relation to the achievement of JNAP Goals and the relevant NSDP indicators.
    b. Lessons learned.
    c. Actions taken to improve performance and address issues/risks arising from implementation.
    d. Forecast programme for the next 6 months.
5. EMCI, CIMS and CCCI to submit reports to MFEM on utilisation of financial support directed to non government, civil society and auxiliary organisations etc. These would be based on reports submitted to EMCI, CIMS and CCCI by relevant NGOs, CSOs and auxiliary organisations.
6. EMCI to submit progress reports (as in 4 above) to SOPAC for the information of the Pacific DRM Partners Network and for inclusion in the on-line reporting system developed by SOPAC for national progress reporting against Pacific DRR and DM Framework for Action 2005 – 2015 and the Hyogo Framework for Action.
7. CCCI to submit progress reports to SPREP.
8. Non government and civil society organisations involved in JNAP implementation to provide reports to EMCI, CIMS, and CCCI and to respective donors, as appropriate.
9. Village and community groups to ensure active participation in the review process for JNAP implementation.

The format for all reports referred to above will be developed by technical assistance engaged through EMCI to support JNAP implementation. In this regard care should be taken to ensure conformity with the reporting requirements developed in connection with the MTBF and others as may be stipulated by OPM/CPPO and the PSC. In relation to the development of the JNAP monitoring and evaluation framework some attention will need to be given to the sequencing of reports and reporting so as to ensure that overall reporting timeframes are adhered to. This can be achieved through the development of a calendar for JNAP reporting as part of the monitoring and evaluation framework.

Table 5 lists the reporting requirements for the monitoring and evaluation of the JNAP implementation.

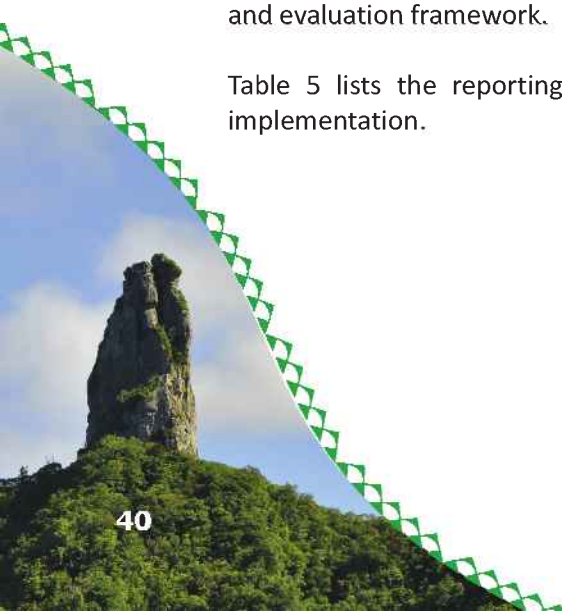


Table 5 – M&E Reporting Requirements

Stakeholder Group/Ministry/ Agency	Reports To	Frequency	Reporting Modality	Stakeholder Group/Ministry/ Agency to provide feedback to
Nat. DRM and CC Council	Cabinet	6 months	Cabinet paper	EMCI, CIMS, NCCE, National DRM and CCCI
JNAP PMC	Nat. DRM and CC Council	6 months	JNAP PMC paper	HOMs/Agencies
EMCI	Nat. DRM and CC Council, SOPAC, MFEM	6 months	As appropriate to receiving agency/ group	OPM
CCCI	Nat. DRM and CC Council, SPREP, MFEM	6 months	As appropriate to receiving agency/ group	OPM
MFEM	Cabinet	Annual	Cabinet paper	HOMs/Agencies
CPPO	Cabinet, Nat. DRM and CC Council	Annual	Cabinet paper	EMCI, NCCE, National DRM and CCCI, HOMs
Ministries and Agencies	MFEM, CPPO, PSC	6 months	As appropriate to receiving agency/ group	National DRM and CCA Coordinating Committee, NCCE, EMCI
NGOs and CSO	EMCI, CCCI, CICAN, CIANGO	6 months	As appropriate to receiving agency/ group	Community groups and other stakeholders

Taro Swamp Area near Airport, Panama, Rarotonga

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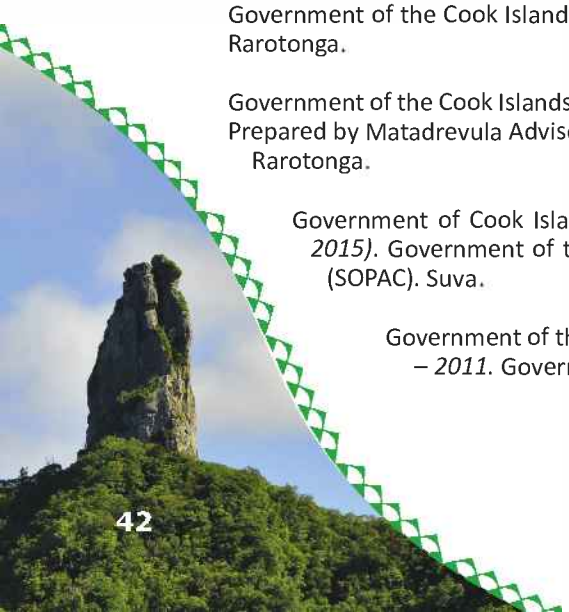

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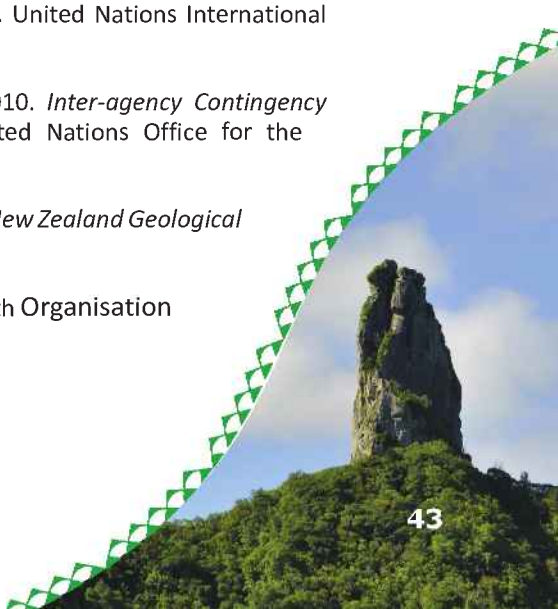


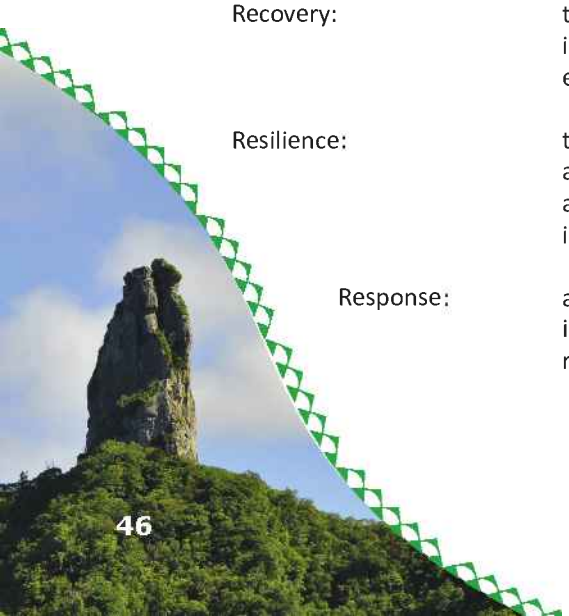
ANNEX 1 - LIST OF ACRONYMS

ADB	Asian Development Bank
AusAID	Australian Agency for International Development
CCA	Climate Change Adaptation
CCCI	Climate Change Cook Islands
CCC	Cook Islands Country Team
CIANGO	Cook Islands Alliance of Non Governmental Organisations
CIG	Cook Islands Government
CIIC	Cook Islands Investment Corporation
CINCW	Cook Islands National Council of Women
CINHT	Cook Islands Natural Heritage Trust
CIRC	Cook Islands Red Cross
CIMS	Cook Islands Meteorological Service
CLO	Crown Law Office
CPPO	Central Policy and Planning Office
CSO	Civil Society Organisation
DM	Disaster Management
DRM	Disaster Risk Management
DRR	Disaster Risk Reduction
EMCI	Emergency Management Cook Islands
FAO	Food and Agriculture Organisation
HOM	Head of Ministry
IFRC	International Federation of Red Cross and Red Crescent Societies
INTAFF	Ministry of Internal Affairs
ITCZ	Intertropical Convergence Zone
JNAP DRM CCA	joint National Action Plan for Disaster Risk Management and Climate Change Adaptation
JNAP PMC	JNAP Project Management Committee
M&E	Monitoring and Evaluation
MCDEM	Ministry for Civil Defence and Emergency Management
MFAI	Ministry of Foreign Affairs and Immigration
MFEM	Ministry of Finance and Economic Management
MMR	Ministry of Marine Resources
MOA	Ministry of Agriculture
MOE	Ministry of Education
MOIP	Ministry of Infrastructure and Planning

MOT	Ministry of Transport
MTBF	Medium Term Budgetary Framework
NAPAC	National Action Plan Advisory Committee
NDMO	National Disaster Management Office
NDRMC	National Disaster Risk Management Council
NES	National Environment Service
NESAF	National Environment Strategic Framework
NGO	Non-Government Organisation
NIWA	National Institute of Water and Atmospheric Research (New Zealand)
NSDC	National Sustainable Development Committee
NSDP	National Sustainable Development Plan
NZAID	New Zealand Agency for International Development
OPM	Office of the Prime Minister
PACC	Pacific Adaptation to Climate Change Project
PASAP	Pacific Adaptation Strategy Assistance Program
PDRMPN	Pacific Disaster Risk Management Partnership Network
REDD	Renewable Energy Department
PIFS	Pacific Islands Forum Secretariat
PRAFI	Pacific Catastrophe Risk Assessment and Financing Initiative
PSC	Public Service Commission
SIDS	Small Island Developing States
SOPAC	Applied Geoscience & Technology Division of the Secretariat of the Pacific Community
SPREP	Secretariat for the Pacific Regional Environment Programme
TAF OFDA	The Asia Foundation and the USAID Office for Foreign Disaster Assistance
UNDP	United Nations Development Programme
UNESCO	United Nations Educational, Scientific and Cultural Organisation
UNICEF	United Nations Children's Fund
UN ISDR	United Nations International Strategy for Disaster Reduction
UNOCHA	United Nations Office for the Coordination of Humanitarian Affairs
UNV	United Nations Volunteers
UN WOMEN	United Nations Entity for Gender Equality and the Empowerment of Women
USP	University of the South Pacific
WCDR	World Conference on Disaster Reduction
WHO	World Health Organisation
WMO	World Meteorological Organisation
WSSD	World Summit on Sustainable Development

ANNEX 2 – LIST OF DEFINITIONS

Climate Change:	a change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods.
Climate Change Adaptation:	a process involving the identification and implementation of measures or actions to help countries and their communities to reduce the risks posed by climate-hazards such as extreme weather events, sea level rise and prolonged droughts.
Disaster:	an actual event, or a high probable risk, involving serious disruption to the functioning of a community causing widespread human, material, economic or environmental loss and which exceeds the ability of the affected community to cope using its own resources.
Disaster Risk Management:	performing and undertaking all activities including structural and non-structural measures to avoid or to limit risks and lessen the impacts of natural, man-made, environmental or technological disasters or emergencies.
Disaster Risk Reduction:	minimising and reducing disaster risks or vulnerabilities so as to avoid adverse impacts of hazards within the broad context of sustainable development.
Emergency:	an actual or imminent event that endangers or threatens life, property or the environment and which requires a significant coordinated response.
Mitigation (Disaster):	regulatory and physical measures to ensure that emergency and disaster events are prevented or their effects mitigated.
Mitigation (Climate Change):	interventions to reduce the sources or enhance the sinks of greenhouse gases. Examples include using fossil fuels more efficiently for industrial processes or electricity generation, switching to renewable energy (solar energy or wind power), improving the insulation of buildings, and expanding forests and other "sinks" to remove greater amounts of carbon dioxide from the atmosphere.
Preparedness:	having arrangements and systems in place to ensure that should an event occur the resources required for an affected community to cope are efficiently mobilised and deployed.
Recovery:	the coordinated process of supporting communities affected by an event in reconstruction of physical infrastructure and restoring their social, economic and physical wellbeing.
Resilience:	the ability of a system, community or society exposed to hazards to resist, absorb, accommodate and recover from the effects of a hazard in a timely and efficient manner, including through the preservation and restoration of its essential basic structures and functions.
Response:	activities undertaken during and immediately after an event to ensure that its effects are minimised and that the people affected are given immediate relief and support.



ANNEX 3

JOINT NATIONAL ACTION PLAN

for

DISASTER RISK MANAGEMENT

and

CLIMATE CHANGE ADAPTATION

2011 – 2015

NSDP Priority 7 - RESILIENCE

Our Goal:

A COOK ISLANDS WHERE OUR PEOPLE ARE RESILIENT TO DISASTERS AND CLIMATE CHANGE TO ACHIEVE SUSTAINABLE LIVELIHOODS

Our Objectives:

1. Our people are prepared for disasters and climate change impacts
2. The impacts of disasters and climate change are reduced

FULL PROJECT MATRIX

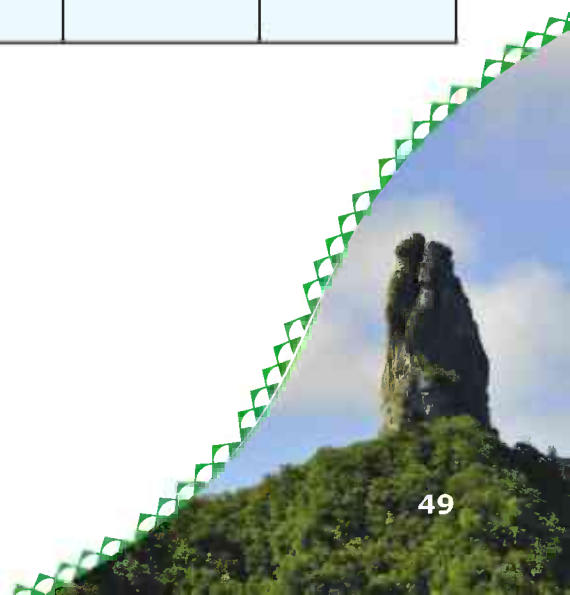
(Strategic Areas, Strategies, Actions, Indicative Sub-Actions,
Key Performance Indicators, Lead and Support Agencies, Strategic Partners)

STRATEGIC AREA 1 GOVERNANCE

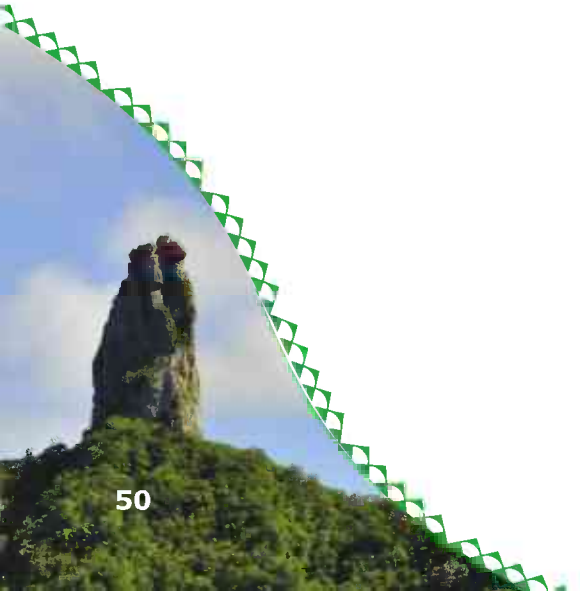
STRATEGY 1: STRENGTHEN GOVERNANCE ARRANGEMENTS FOR DRM AND CCA

ACTIONS	INDICATIVE SUB-ACTIONS	KEY PERFORMANCE INDICATORS	LEAD & SUPPORT AGENCIES	STRATEGIC PARTNERS
1. Strengthen and consolidate policies, plans and institutions for Disaster Risk Management and Climate Change Adaptation	1. Establish a central agency to coordinate Climate Change, Disaster Risk Reduction and Adaptation activities	1. Funding for central climate change agency procured and director appointed	OPM with PSC	PASAP,SOPAC
	2. Formalise a combined institutional structure for oversight of DRM & CCA	2. Merged structure approved by Cabinet	OPM with CCCT, NAPAC, NDRMC and NSDC	SOPAC, UNISDR
	3. Develop a National Climate Change Policy	3. Climate Change Policy developed and endorsed by Cabinet	CCCI withCPPO andNES	NES, Govt. of Italy, SPREP, PASAP
	4. Develop an Integrated Coastal Management (ICM) Policy Framework, which takes into account the impacts of climate change.	4. ICM Policy developed and implemented	NESwith CPPO and MOIP	SOPAC
	5. Develop a gender-responsive contingency plan to maintain emergency medical supply at all times, including the special needs of vulnerable groups	5. Emergency health supply contingency plan in place that caters for the different needs of men and women and vulnerable groups	MOHwith CIRC, EMCI, INTAFF and CINCW	WHO, IFRC, UNOCHA, SPC (Gender)
	6. Develop Contingency Plans for access to safe water during droughts for all islands, including issues of long term water access due to climate change	6. Emergency water supply contingency plan in place for all islands, building resilience to the impacts of climate change	MOIP with EMCI and CIRC	SOPAC
	7. Develop a National Strategy for Long-term Water Security, also addressing the longer term impacts of climate change.	7. National Strategy developed and being implemented	MOIP	SOPAC
	8. Develop a gender-responsive Health and Climate Change Adaptation Plan to include a focus on vulnerable groups	8. Plan acknowledging links between health, climate change and gender in place	MOH with CIRC, INTAFF and CINCW	WHO, SPC (Gender)
	9. Develop a Disaster Preparedness and Response Plan for the tourism sector, which takes into account the impacts of climate change.	9. Preparedness and Response Plan in place and implemented	CITC, CICC	
	10. Ensure a stronger representation of women in formal and informal DRM and CCA institutional arrangements	10. Increase in the number of women participating in DRMand CCA	EMCI with CCA and INTAFF	SPC (Gender), UNV
2. Create sustainable national financing mechanisms for DRM and CCA	1. Establish an Emergency Trust Fund for Disaster Management (preparedness, response and early recovery)	1. CI-DM-TF established	MFEM with EMCI	SOPAC
	2. Establish a Trust Fund for DRR and CCA (risk reduction and adaptation) and include gender criteria in fund management policy	2. Gender-responsive CI-DRMCCA-TF established	MFEM with CCCI, INTAFF and CINCW	SOPAC, SPREP
	3. Establish disaster risk financing mechanisms (e.g. regional risk insurance, contingent credit facilities, etc.)	3. Risk financing mechanisms in place	MFEM with EMCI, CCCI and CPPO	SOPAC, World Bank (PRAFI)

ACTIONS	INDICATIVE SUB-ACTIONS	KEY PERFORMANCE INDICATORS	LEAD & SUPPORT AGENCIES	STRATEGIC PARTNERS
3. Strengthen capacity of government agencies, Island Councils and NGOs	1. Appoint focal points for DRM and CCA in all agencies, NGOs and at all levels, clarify their roles and provide on-going support – ensure a good representation of both men and women	1. Up-to-date database of names, positions and contacts showing a good mix of men and women	EMCI and CCCI with all agencies as appropriate	
	2. Conduct a training needs analysis and provide regular in-service technical training for focal points, policy makers, technical officers and Island Administrations	2. Training needs analysis and record of trainings	EMCI and CCCI with all agencies as appropriate	SOPAC, SPREP, TAF/OFDA
	3. Create partnerships with outside organisations for technical backstopping	3. Number of active partnerships	All agencies as appropriate incl. CIANGO OPM, PSC	CROP agencies, International and regional organisations
	4. Supplement staff at CCCI and EMCI	4. Support position created and filled	OPM with MFEM (Budget Committee)	PASAP, UNV, UNOCHA, Donors
	5. Increase EMCI and CCCI budget allocations	5. Annual incremental increase in budgets	EMCI andCCCI	TAF/OFDA, USP
	6. Train DRM and CCA stakeholders in writing funding proposals	6. Number of stakeholders trained		
4. Strengthen DRM andCCA planning at the local level	1. Refine, clarify and regularly test DM operational procedures for all inhabited islands	1. Number of drills held and outcomes of drill reviews	EMCI	SOPAC
	2. Develop and implement gender-responsive Local Level DRR andCCA Action Plans for all inhabited islands	2. Gender-responsive LL DRM CCA Action Plans exist and are being implemented	CCCI with INTAFF and CINCW	UNDP, Adaptation Fund, SPC (Gender)
5. Strengthen legal preparedness for the facilitation and regulation of international disaster response	1. Implement the National Inter-Agency Contingency Plan for Humanitarian Response	1. Regular drills successfully implemented	All agencies in the plan	UNOCHA, SOPAC, IFRC
	2. Review existing legal framework and practices in the Cook Islands with reference to the IDRL Guidelines and the IDRL Model Act to identify obstacles to the efficient and effective delivery of international disaster relief	2. Review study completed and submitted to cabinet	CIRC	IFRC
	3. To develop policies and enact legislation to provide a central, unified, approach for Government in disaster response, relief and reconstruction and including facilitation of international disaster relief	3. Relevant laws, policies and plans are reviewed and developed	CLO with MFAI, OPM, EMCI and CIRC	IFRC



STRATEGY 2: MAINSTREAM NATURAL HAZARD AND CLIMATE CHANGE RELATED RISK CONSIDERATIONS IN PLANNING AND BUDGETARY SYSTEMS				
ACTIONS	**INDICATIVE SUB-ACTIONS**	**KEY PERFORMANCE INDICATORS**	**LEAD & SUPPORT AGENCIES**	**STRATEGIC PARTNERS**
1. Mainstream DRM and CCA into national development plans, sector plans, policies, legislation and budgeting	1. Incorporate DRM and CCA in national development plans	1. DRM and CCA integrated in the NSDP	CPPO	SOPAC, UNDP, SPREP
	2. Develop a policy paper on disaster risk management and climate change adaptation mainstreaming	2. Policy paper developed and endorsed by Cabinet	CPPO with EMCI and CCCI	SOPAC, UNDP, SPREP
	3. Raise awareness within government on the importance of mainstreaming	3. Mainstreaming workshop with MPs and handbook for parliamentarians	CPPO with EMCI and CCCI	SOPAC, UNDP, SPREP
	4. Integrate natural hazard and climate change related risk considerations into sector policies, plans and legislation	4. Relevant policies, plans and legislation have sections on DRM	CPPO with all ministries & agencies as appropriate	SOPAC, UNDP, SPREP, SPC
	5. Integrate natural hazard and climate change related risk considerations into community and island development planning processes	5. Island development plans have sections on DRM	EMCI and CCCI with Island Administrations	SPC, UNDP, SPREP
	6. Incorporate NAP actions in ministry and agency work plans and annual budget submissions	6. NAP actions are reflected in relevant agencies work plans	EMCI & CCCI with all ministries & agencies as appropriate	
	7. Ensure the integration of gender concerns in disaster risk reduction and climate change adaptation plans	7. Number of plans making reference to gender issues	INTAFF with EMCI and CCCI	SPC, UN Women, UNOCHA
2. Mainstream hazard risk considerations in development planning regulations	1. Review and update development planning regulations to ensure that hazard and climate risks have been incorporated.	1. Recommendations for strengthening hazard risk components of regulations accepted	MOIP (Building Board)with EMCI, CCCI, CCIC and CLO	SOPAC
	2. Strengthen capacity of central and technical agencies in risk management and climate change adaptation based approaches to planning	2. Number of trainings and software delivered	CPPO with EMCI and CCCI	SOPAC
	3. Raise awareness of developers of hazard and climate change related risks	3. Number of workshops held	EMCI and CCCI	SOPAC
	4. Develop and implement Land Use Planning Policy	4. Land Use Policy in use	NES with MOIP	SOPAC
	5. Train builders in cyclone-proof building methods	5. Trainings and resources	MOIP with EMCI and CCCI	SOPAC



STRATEGIC AREA 2 MONITORING

STRATEGY 1: MONITOR AND ASSESS RISKS AND VULNERABILITIES, INCLUDING VULNERABILITIES TO CLIMATE CHANGE

ACTIONS	INDICATIVE SUB-ACTIONS	KEY PERFORMANCE INDICATORS	LEAD & SUPPORT AGENCIES	STRATEGIC PARTNERS
1. Monitor and assess geophysical and climate change risks and incorporate into development planning	1. Strengthen use of spatial mapping technologies and extend the development of risk exposure databases, taking into account the risks related to climate change	1. Spatial location of risk is mapped	EMCI with MOIP and NES	SOPAC, World Bank
	2. Monitor and assess climate change impacts in near-shore, coastal and terrestrial ecosystems (incl. agriculture and fisheries)	2. Monitoring systems in place	CCCI with NES, MOA and MMR	USP, SOPAC, SPREP, SPC, WHO, FAO, UNDP
	3. Establish an on-going research & monitoring programme on climate related risks leading to disease outbreaks, transmission & distribution	3. Health and climate change research and monitoring systems in place	MOH	USP, WHO, SPC
	4. Conduct climate and sea-surge modelling for areas at risk and to inform new coastal developments	4. Risk modelling and projections used in project planning	MOIP with EMCI, CCCI and CIIC	SOPAC, NIWA
	5. Strengthen system of weather data collection and monitoring on all islands	5. Good quality data at all times	CIMS with Island Administrations	WMO, UNDP
	6. Monitor water quality on all islands (seawater, ground water, surface water)	6. Good water quality data at all times	NES with MMR, MOH, INTAFF, CIRC and Island Administrations	SOPAC, WHO
	7. Monitor of target fish species, problem species, keystone species and other marine organisms	7. Monitoring systems in place	MMR	USP, SPREP
	8. Monitor the impacts and distribution of ciguatera	8. Monitoring systems in place	MMR with MOH and NES	USP, WHO, SPREP
	9. Build capacity for participatory monitoring	9. Communities actively participate in monitoring climate change	CCCI with EMCI, NES, MOA, MMR, MOA and INTAFF	UNDP, USP, SPC, SPREP
2. Consolidate climate change Vulnerability Assessments for all inhabited Islands (including a focus on vulnerable groups) and incorporate into development planning	1. Conduct participatory climate change vulnerability and hazard risk mapping for all islands	1. GIS risk maps exist for all major hazards for all inhabited islands, including climate change hazards.	EMCI with NES	USP, Consultants, NGOs, SPREP, SOPAC
	2. Conduct participatory Climate Change Adaptation Assessments for all islands and integrate results into Island Development Plans	2. Priority climate change adaptation options identified for all islands	CCCI with NES	USP, Consultants, NGOs, SPREP, SOPAC
	3. Hold technical workshops for pooling data and develop and disseminate user-friendly resources	3. Spatial and priority climate change adaptation options integrated into development planning systems	EMCI and CCCI with NES	SOPAC, SPREP
3. Strengthen coordination of hazard risk information (including climate change) management	1. Set up a central database and website	1. Risk information is openly available to all planners	EMCI with CCCI and MOIP	UNDP, USP
	2. Source relevant information by regularly trawling all ministries, agencies and NGOs	2. All risk relevant information is centralised	EMCI	EMCI
	3. Establish a protocol for information sharing	3. Clarity and structure in information sharing arrangements	EMCI with CCCI,MOIP and others as relevant	SOPAC
	4. Provide risk information management in-service training for relevant agencies	4. Number and quality of trainings held	EMCI	SOPAC, USP

STRATEGY 2: DOCUMENT AND PROMOTE TRADITIONAL KNOWLEDGE AND COPING MECHANISMS				
ACTIONS	**INDICATIVE SUB-ACTIONS**	**KEY PERFORMANCE INDICATORS**	**LEAD & SUPPORT AGENCIES**	**STRATEGIC PARTNERS**
1. Use traditional knowledge and coping strategies to inform the design of DRR and Climate Change Adaptation activities	1. Record traditional knowledge on early warning signs and coping strategies paying attention to gender dimensions 2. Promote traditional knowledge in public awareness and DRR and CCA programmes	1. Interviews with elders have been captured on media 2. Traditional knowledge is kept alive and used in the design of DRR and CCA activities, incl. early warnings	EMCI with CCCI,NES, Media companies, MOE, MOH, MOA., MMR and INTAFF	USP, SOPAC, SPREP, UNESCO

STRATEGIC AREA 3 DISASTER MANAGEMENT AND CLIMATE CHANGE ADAPTATION STRATEGY 1: STRENGTHEN PREPAREDNESS, RESPONSE AND EARLY RECOVERY SYSTEMS				
ACTIONS	**INDICATIVE SUB-ACTIONS**	**KEY PERFORMANCE INDICATORS**	**LEAD & SUPPORT AGENCIES**	**STRATEGIC PARTNERS**
1. Maintain high levels of community awareness and preparedness at all times to both natural and climate change related disasters	1. Prepare and implement a gender-sensitive on-going Public Outreach and Education Programme 2. Introduce disaster risk management and climate change into the school curriculum	1. Number of Public Outreach and Education events taking place 2. DRM andclimate change part of the school curriculum	CCCI with EMCI,NES and INTAFF EMCI with MOE	Adaptation Fund, PASAP, SPC (Gender) SOPAC
3. Enhance national capacity to provide early warnings for slow and fast-onset hazards, including those related to climate change.	1. Build the capacity of Met Services to provide short, medium and long-term forecasts 2. Upgrade the Frontline Emergency Response Network system to a web-based platform (FERN II) and populate with relevant VCA data for all areas. 3. Investigate and procure back-up alternative emergency communication systems (SW Ham) 4. Incorporate traditional means of early warning signals at the Island level 5. Develop and conduct early warning public awareness programmes for the general public, school children and vulnerable groups 6. Promote public awareness on tsunami evacuation routes including special arrangements for vulnerable groups 7. Conduct regular table top and operational exercises (drills) to test the early warning systems	1. Weather forecasts for different timescales are provided on a regular basis 2. FERN II up and running 3. Fail-safe communication systems in place for early warnings 4. Traditional methods of early warning form part of official early warning system 5. Public awareness programmes in place 6. Public is aware of tsunami alert response procedures 7. Emergency services are well prepared and understand their role in a response.	CIMS with EMCI and CCCI EMCI EMCI EMCI with Island Administrations EMCI and CCCI with Media companies and MOE and CIRC EMCI EMCI with Police Service, Airport Authority, Ports Authority, Fire Service, CIMS, Media, MOE & CIRC	WMO SOPAC UNESCO, UNDP (AF) UNICEF, WHO NZAID
4. Develop disaster and climate change adaptation response plans and conduct operational exercises for relevant agencies	1. All agencies develop disaster response plans in accordance with DRM legislation and policy 2. Monitor and facilitate compliance of agencies 3. Conduct operational exercises (drills) involving all relevant stakeholders 4. Strengthen procedures for inter-agency coordination of disaster damage assessments 5. Raise awareness of the different needs of men and women and of vulnerable groups	1. Agency response plans exist and are updated annually 2. Number of representations made 3. Number and quality of drills held 4. Clear procedures in place and understood 5. Special needs of men and women and vulnerable groups catered for in plans	Relevant agencies as per DRM Act EMCI EMCI with Emergency Services EMCI with all agencies CIRCwith INTAFF and CINCW, EMCI, CCCI	MCDEM SOPAC, UNOCHA UNDP, UNICEF, UNIFEM, SPC (Gender)

ACTIONS	INDICATIVE SUB-ACTIONS	KEY PERFORMANCE INDICATORS	LEAD & SUPPORT AGENCIES	STRATEGIC PARTNERS
5. Build a dedicated National Emergency Operations Centre (NEOC)	1. Scope suitable location 2. Design building making allowance for the disabled 3. Build NEOC	1. Suitable disaster-proof location identified 2. Climate and disaster proof disabled friendly building designed 3. Dedicated NEOC built and operational	EMCI with CIIC andMOIP EMCI with CIIC and INTAFF OPM with EMCI	SOPAC, MCDEM SOPAC, MCDEM Donors
4. Strengthen capacity for search and rescue on sea & on land	1. Review existing search and rescue arrangements and capacity needs 2. Implement the review recommendations	1. Review completed 2. Recommendations implemented	Police with EMCI and Fire Service Police with EMCI and Fire Service	
5. Strengthen capacity to provide emergency health care at times of disasters	1. See STRATEGY 1 ACTION 1.7 – Contingency plan 2. Purchase protective clothing to be stockpiled with medical provisions. [NZD20K] 3. Increase capacity to conduct social and health impact assessment after a disaster, including use of gender and age-based measures 4. Train community members in first aid and keep an updated register of trained people 5. Arrange gender-responsive trauma counselling trainings for supervisors, nurses and other relevant health ministry staff 6. Inventory stocktake and review of current hospital infrastructure (coping capacity)	2. Protective clothing purchased and stockpiled 3. Number and quality of trainings held 4. First Aid training register 5. Number and quality of trainings 6. Hospital infrastructure review completed	MOH MOHwith CIRC and INTAFF CIRC with MOH MOH with CIRC, INTAFF and CINCW MOH with EMCI	WHO WHO, UNICEF, UNWOMEN WHO WHO, MCDEM
6. Ensure that the public has access to safe places during cyclones & that vulnerable groups are catered for	1. Strengthen the system of emergency safety shelters and their management on all inhabited islands 2. Stockpile emergency supplies including special needs of men and women and vulnerable groups	1. All inhabited islands have safety shelters that are well managed 2. All safety shelters have stockpiles of emergency supplies	MOIP with EMCI, CIIC, CIRC andMOE CIRC with EMCI, INTAFF and CINCW	Donor partners IFRC, Donor partners
7. Strengthen capacity to manage hazardous substances importation, use and disposal including responses to hazardous substances disaster events	1. Regularly collect hazardous waste from the outer islands 2. Develop a policy and protocol for importation, use and disposal of hazardous substances (using market based mechanisms, user-pays principle, etc.) 3. Assess needs of emergency response agencies and confirm arrangements. Procure appropriate equipment & materials such as booms & chemicals, etc. 4. Conduct appropriate training for relevant agencies 5. Develop Standard Operating Procedures and conduct operational exercises.	1. No harmful buildup of hazardous waste on the outer islands 2. Policy and protocol developed and implemented 3. Needs assessment completed and materials procured 4. Number and quality of trainings 5. SOPs developed and successful drills held	MOIP with NES and Island Administrations NES with CPPO Fire Service with EMCI Fire Service with EMCI Fire Service with EMCI and Island Administrations	UNDP (GEF)

STRATEGIC AREA 4 RISK REDUCTION AND CLIMATE CHANGE ADAPTATION

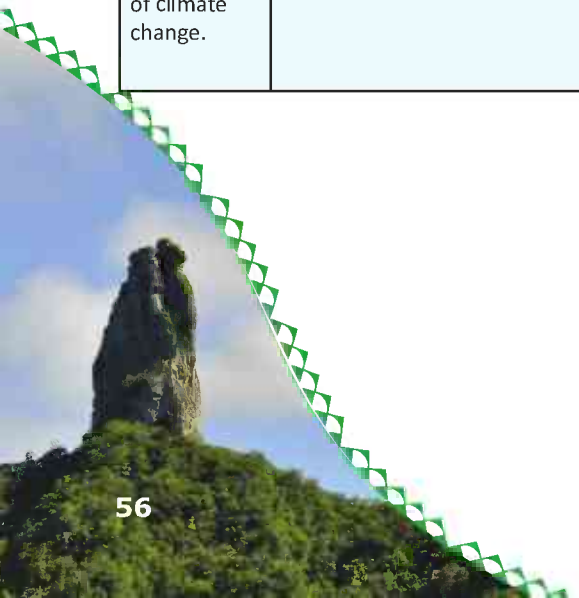
STRATEGY 1: STRENGTHEN INFRASTRUCTURE AND SAFEGUARD ESSENTIAL SERVICES

ACTIONS	INDICATIVE SUB-ACTIONS	KEY PERFORMANCE INDICATORS	LEAD & SUPPORT AGENCIES	STRATEGIC PARTNERS
1. Strengthen and climate-proof key infrastructure in the coastal zone	1. Identify coastal infrastructure in need of strengthening to the impacts of climate change (e.g. reticulation systems, airports, coastal roads, etc.) 2. Construct appropriate coastal protection structures to prevent flooding and damage from storm sea-surge, e.g. for Avatiu and Avarua townships 3. Upgrade coastal protection structures and harbours to higher cyclone and storm standards, and to any additional impacts of climate change and sea level rise.	1. Studies on climate change vulnerability of coastal infrastructure and services completed 2. All vulnerable coastal infrastructure is identified and climate-proofed 3. Coastal protection structures and harbours are strengthened and climate proofed	MOIP MOIP MOIP	SOPAC, Donors PACC, SOPAC SOPAC
2. Promote integrated management of the coastal zone to build resilience to natural hazards including climate change and sea level rise	1. SEE STRATEGY 1 ACTION 1.6 – Integrated Coastal Management Framework (incl. regulation of inappropriate seawalls and sand mining) 2. Develop regulations on coastal set back lines (buffer zones) 3. Put in place measured to reverse coastal erosion (e.g. planting of native trees, sand traps) 4. Raise awareness through the establishment of pilot demonstration projects	2. Reduction in vulnerable developments close to the seashore 3. Rate of coastal erosion reduced 4. ICM pilot projects established	MOIP with NES and CLO MOIP with NES MOIP with NES	SOPAC UNDP Small Grants, GEF UNDP Small Grants, GEF, PACC
3. Strengthen energy transportation, supply & storage systems in the outer islands to reduce risks to the communities, including to the impacts of climate change.	1. Strengthen capacity for management of energy supply in Outer Islands at all times 2. Reduce risk of exposure (including climate risks) to poorly located fuel depots and power stations 3. Progressively replace fossil fuels with renewable energy sources on all islands	1. Safety of fuel loading and fuel storage improved 2. Buffer zones in place around fuel depots 3. 50% Renewables by 2015, 100% renewables by 2020.	MOIP with Island Administrations and MOT MOIP with Island Administrations and MOT REDD with MOIP and Te Upunga Uira	SPC, SPREP, GEF, UNDP, Donors SPC, SPREP, GEF, UNDP, Donors SPC, SPREP, GEF,UNDP, Donors
4. Promote long term water security for all islands to cope with prolonged dry spells and other impacts of climate change and sea level rise.	1. See STRATEGY 1 ACTION 1.8 – National Long-term Water Supply Strategy 2. Investigate and implement measures to increase the capacity of each island's water storage 3. Ensure clean water through effective management of watersheds (health regulations) 4. Build local capacity for water tank maintenance 5. Investigate alternative sources of ground water 6. Promote water conservation measures 7. Purchase a desalination plant for each island for emergencies	2. Water storage capacity increased 3. Health regulations concerning piggeries and septic tanks applied 4. Household water storage tanks are well maintained 5. Greater use is being made of ground water sources 6. Existing water supplies are being used more efficiently 7. Each inhabited island has a backup desalinisation plant	MOIP with Island Administrations MOHwith NES and MOA MOIP MOIP MOIP with NES and CCCI MOIP with CCCI and EMCI	SOPAC WHO SOPAC Donors

ACTIONS	INDICATIVE SUB-ACTIONS	KEY PERFORMANCE INDICATORS	LEAD & SUPPORT AGENCIES	STRATEGIC PARTNERS
5. Strengthen sanitation infrastructure to address health, environmental and climate related risks on all islands	1. Investigate sanitation systems on all islands and monitor impact on water quality and public health 2. Upgrade sanitation systems on all islands to eliminate health risks	1. High risk areas identified 2. Sub-standard sanitation systems upgraded	MOIP with NES, MOH, CIRC & Island Administrations MOIP with Island Administrations	SOPAC, WHO, SPREP SOPAC, Donors

STRATEGY 2: STRENGTHEN ECONOMIC DEVELOPMENT AND LIVELIHOOD SYSTEMS IN KEY SECTORS				
ACTIONS	**INDICATIVE SUB-ACTIONS**	**KEY PERFORMANCE INDICATORS**	**LEAD & SUPPORT AGENCIES**	**STRATEGIC PARTNERS**
6. Promote agricultural livelihood resilience and food security, and resilience to the impacts of climate change.	1. Invest in Research and Development of new crop varieties, including those resilient to climate change impacts. 2. Ensure adequate supplies of food crop planting materials on all inhabited islands ahead of cyclone season 3. Provide training for improved food storage and processing techniques and promote food storage ahead of cyclone season 4. Introduce coconut and other food crop replanting programmes on all inhabited islands 5. Provide nutritional supplements to Islanders and vulnerable groups 6. Introduce resilient plant species, cyclone resistant crops and salt tolerant plants with high nutritional value, e.g. rukau viti, white taro rukau 7. Introduce organic farming and pest control techniques as well as home food gardens 8. Promote alternative livelihood options (e.g. livestock production) where feasible 9. Promote sustainable land management practices including removal of water-thirsty, flammable, alien vegetation	1. New strains developed that are better adapted to changing conditions, including climate change related impacts. 2. Seedlings and cuttings prepositioned on each island 3. Number and quality of trainings and food storage by households 4. Greater variety and more food being grown locally 5. Nutritional supplements being consumed by Island communities 6. Climate change resilient crops available on all islands 7. New methods of sustainable agriculture being promoted on all islands 8. Alternative livelihood options being promoted on all islands 9. Productivity of soils retained; improved soil water retention and reduced fire risk	MOA MOAwith Island Administrations MPAwith NGOs and Churches MOA with Island Administrations MOH with INTAFF and Island Administrations MOA with NGO and Churches MOA with NGOs and Churches MOA with NGOs and Churches MOIP with MOA, NES, NGOs and Churches	FAO, SPC FAO, SPC FAO, SPC FAO, SPC WHO, SPC FAO, SPC FAO, SPC FAO, SPC UNDP GEF SLM, FAO, SPC
7. Strengthen systems for preventative health care and research	1. Ensure a full complement of Health personnel on all inhabited islands at all times 2. Ensure adequate supplies of vector control equipment and (organic) insecticide on all islands during rainy season 3. Investigate threat to workforce and economy posed by the rapid increase in people with Non Communicable Diseases	1. All health positions are filled according to staffing plan 2. Stocks of vector control equipment and insecticide available 3. Risk posed by NCDs fully understood and addressed	MOH and PSC MOH MOH	WHO WHO WHO, USP

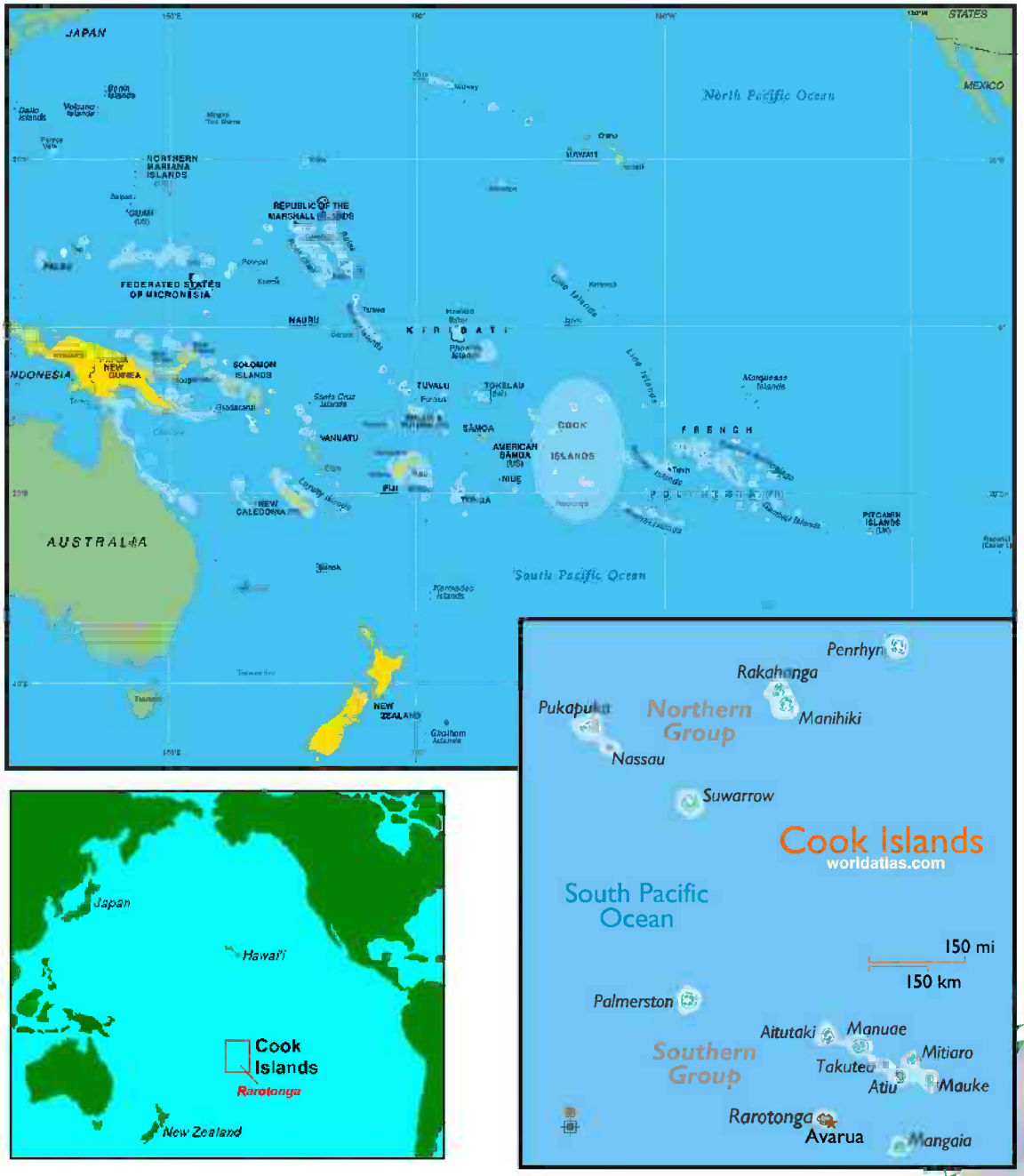
STRATEGY 2: STRENGTHEN ECONOMIC DEVELOPMENT AND LIVELIHOOD SYSTEMS IN KEY SECTORS				
ACTIONS	**INDICATIVE SUB-ACTIONS**	**KEY PERFORMANCE INDICATORS**	**LEAD & SUPPORT AGENCIES**	**STRATEGIC PARTNERS**
8. Strengthen and build resilience in the fisheries sector, ensuring a higher resilience to the impacts of climate change.	1. Participate in regional research programmes on monitoring migratory fish species, including the impacts of climate change. 2. Develop management plans for lagoons and target fish species, taking into account the impacts of climate change. 3. Implement management plans and guidelines for the aquaculture sector 4. Strengthen and expand the system of ra'ui protected marine areas, to strengthen resilience against climate change impacts	1. Active participation in research programmes 2. Management plans in place 3. Aquaculture management plans in place and implemented 4. Ra'ui protected areas strengthened and expanded	MMR MMRwith NES MMR MMR with CLO and Aronga Mana	SPC, USP, SPREP SPC, USP, SPREP SPC, USP, SPREP
9. Improve the conservation and management of biodiversity, to increase resilience to the impacts of climate change	1. Monitor the impacts of climate change on animal and plant population health and distribution 2. Protect rare and endangered environments and species, incl. vairakau maori through promotion of Community Based Protected Area Plans 3. Develop,where needed, appropriate regulatory mechanisms for all islands 4. Strengthen the institutional capacity of enforcement agencies 5. Eradicate invasive plants and animals 6. Promote the planting of native trees	1. Monitoring systems in place 2. Protection of endangered environments and species strengthened 3. Env. Act applies to all islands 4. Trainings and legal mandate 5. Programmes in place to eradicate alien invasive species 6. Native tree planting programmes in place	NES with CINHT and NGOs NES with CINHT and NGOs NESwithCLO and Island Administrations NESwithNGOs, MOIP, and CINHT NES withMOE, NGOs and Churches	IUCN, SPREP IUCN, SPREP SPREP, UNDP SPREP, UNDP SPREP, UNDP
10. Strengthen and build resilience in the tourism sector to the impacts of climate change.	1. Introduce set back lines and coastal buffer zones for new tourism developments 2. Encourage new and existing resort developments to become energy and waste self-sufficient 3. Encourage hotel operators to set up cyclone shelters for their guests	1. Setback lines reviewed and updated to cater for CC and SLR 2. Increase in number of resorts implementing sustainable principles 3. Hotels and resorts have safe areas for guests	NES with CITC, CIIC and CCCI CITC with NES, CIIC, and CCCI CITC with EMCI	UNDP , SPC UNDP, SPC UNDP. SPC



ANNEX 4
COOK ISLANDS COUNTRY PROFILE

Geographical setting

The Cook Islands is located in the southern Pacific Ocean between American Samoa in the west and French Polynesia in the east (5° - 25°S, 150 - 175°W). It lies in the centre of what is referred to as the Polynesian Triangle, a region anchored between the islands of Hawai'i (4,730 km to the north), Rapa Nui (Easter Island – 5,179 km to the east), and New Zealand (3,010 km to the south west) (Figure 1).



The country comprises thirteen inhabited and two uninhabited islands which are clustered towards the northern and southern extremes of the nation's nearly two million square kilometres of territorial waters. The islands in the north – referred to collectively as the Northern Group – comprise the atoll islands of Pukapuka, Rakahanga, Manihiki, Penrhyn, Nassau and Suwarrow. The islands in the south – referred to collectively to as the Southern Group – are of volcanic origin and include the islands of Rarotonga, Aitutaki, Mangaia, Palmerston, Manuae, Mitiaro, Mauke, Takutea and Atiu. The Cook Islands represents one of the smaller 'small islands states' with a combined land area of only 240 square kilometres.

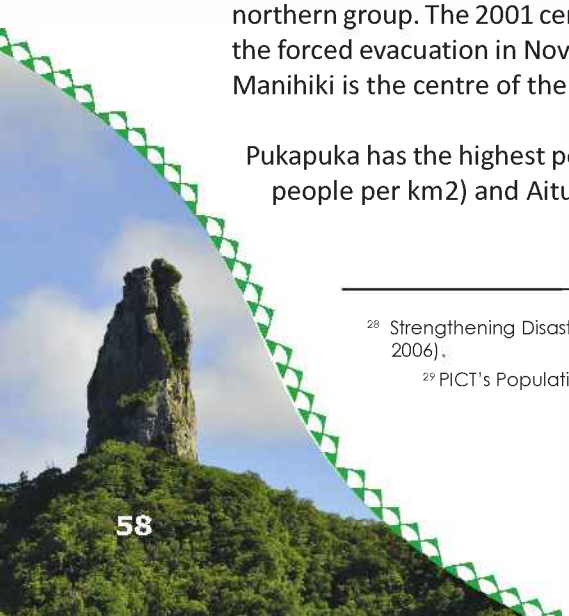
The majority of the resident population lives on Rarotonga (67 km2), the capital island and main commercial centre. Rarotonga has an international airport, is the centre of government and is a popular tourist destination. The national airline – Air Rarotonga – has scheduled flights connecting Rarotonga with the other islands in the Southern Group. Islands in the Northern Group are however difficult to reach given the vast distances and absence of regular connecting transportation. As a result of their isolation they remain relatively less developed and rural in nature.

The climate of the Cook Islands is maritime tropical, dominated by easterly trade winds. There is a marked seasonality in the rainfall regime, with a dry season from May to October (average rainfall 666 mm) and a wet season from November to April (average rainfall 1333 mm). The wet season is also the tropical cyclone season, and is associated with the easterly shift of the South Pacific Convergence Zone (SPCZ) over the country. The monthly average temperatures range between 21°C and 28°C. Extreme temperatures have been recorded in the mid-thirties and mid-teens. The climate of the Cook Islands displays large inter-annual variability, especially in relation to the El Niño/Southern Oscillation (ENSO)[28].

Population

The resident population of the Cook Islands in 2008 was estimated at approximately 15,750 people[29] of which approximately two thirds live in Rarotonga. Since 1965 the Cook Islands population has been in decline. Issues relating to the continuing outward migration of Cook Islanders is a major priority for Government, so much so that it is listed as a major threat to sustainable development. A national census conducted in 2001 revealed that all islands except Rarotonga suffered a decline in population since the previous census in 1996 - Atiu, Mangaia, Nassau, Rakahanga and Penrhyn all experienced declines of over 30% in five years. Aitutaki is the most populous outer island in the Southern Group reflecting the impact of the development of the tourism industry on that island and Pukapuka remains the most populous island in the northern group. The 2001 census report shows a recovery in the population of Manihiki following the forced evacuation in November 1997 as a result of the devastating effects of Cyclone Martin. Manihiki is the centre of the Cook Islands black pearl industry.

Pukapuka has the highest population density (188 people per km2) followed by Rarotonga (179 people per km2) and Aitutaki (167 people per km2).



[28] Strengthening Disaster Management and Mitigation. Volume 4 – Climate Change Considerations. (ADB, 2006).

[29] PICT's Population Estimates. Excludes tourists and visitors.(SPC Statistics and Demography Unit, 2008)

Table 1 Geography of the Cook Islands[30]

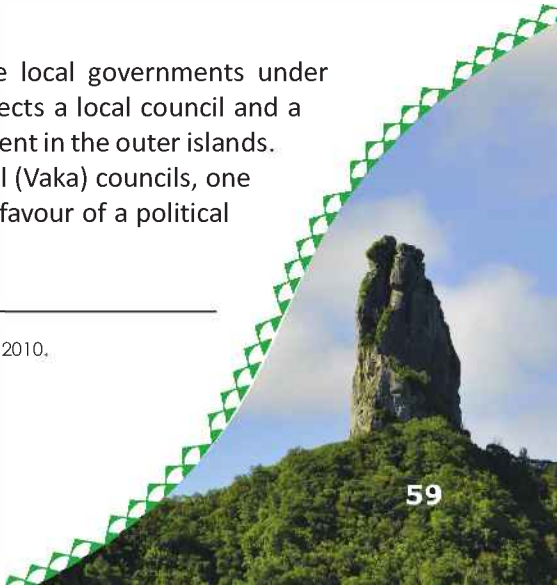
Island	Type	No. of Villages	Estimated 2008 Resident Population	Estimated Land Area (km2)	Distance (km) from Rarotonga	Highest point (m)
Southern Cooks		**26**	**14,440**	**213**	-	-
Rarotonga	high island, volcanic	5	10,600	67	0	652
Aitutaki	almost-atoll	7	2,000	18	225	124
Mangaia	raised coral (makatea)	3	640	52	175	169
Atiu	makatea	5	560	27	185	72
Mauke	makatea	3	390	18	240	29
Mitiaro	makatea	2	190	22	230	15
Palmerston	atoll	1	60	2	430	5
Northern Cooks		**12**	**1310**	**24.5**	-	-
Manihiki	atoll	2	350	5.5	1040	5
Penrhyn	atoll	2	250	10	1180	5
Rakahanga	atoll	4	140	4	1080	5
Pukapuka	atoll	3	500	3.5	1145	5
Nassau	sand cay	1	70	1	1075	9
Total		**33**	**15,750**	**237.5**		

Tourist arrivals have been consistently growing in recent years and in 2007 stood at 97,000 tourists per annum – over six times greater than the resident population.

Governance

The Cook Islands have been a self-governing nation in free association with New Zealand since 1965. As a result of this special relationship Cook Islanders are citizens of New Zealand. Cook Islands' Head of State is the Queen of England, represented in the Cook Islands by an appointed Queen's Representative (QR). Government is headed by a Prime Minister. Cook Islands' Parliament has 25 elected Members – 10 from Rarotonga, 14 from the outer islands and one representing Cook Islands' overseas constituency.

In addition to the central government, the outer islands operate local governments under statutory powers devolved by Parliament to local councils. Each elects a local council and a Mayor. An Island Secretary manages operations of the local government in the outer islands. Until 2008, local government in Rarotonga was by way of three local (Vaka) councils, one for each of the three districts. The Vaka councils were abolished in favour of a political arrangement under elected Members of Parliament.



[30] Sources: i. EMCI Business Plan,2009; ii. CI 2nd National Communication to the UNFCCC, 2010.

Economy

The four leading producers of income in the Cook Islands are tourism, fishing (including pearl farming), agriculture and financial services.

Tourism has been the leading growth sector, bringing huge economic benefits and major developments in tourist infrastructure on both Rarotonga and the northern island of Aitutaki. Tourism and related service industries have generated an average of 80 percent of gross domestic product in recent years. The main markets for tourism are New Zealand, Australia, Europe, the United States and Canada.

In recent years, the fisheries sector has dominated the export sector accounting for 60 to 80 per cent of total exports and earning between $7 and $14 million over the period (2003 – 2005). The development of the commercial offshore fisheries since 2000 has seen a rise in fresh chilled fish exports from the tuna industry, a timely development given the steep decline in the pearl industry around this time as a result of a disease outbreak.

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. Agricultural production for export has been in decline since the removal of preferential tariffs by New Zealand in the mid 1980s.

The Cook Islands have a well developed offshore financial services business sector. The industry's total contribution to the national economy is about 8.2 percent of GDP.

The Economic Recovery Programme

The Cook Islands experienced a major economic crisis in the mid-1990s. Factors contributing to the crisis included a bloated civil service, large foreign debt, a downturn in tourism and an outbreak of dengue fever. As a result Gross Domestic Product fell by seven percent from 1996 to 1997 and by 3.2 percent in 1997-1998.

In 1996 the Government introduced a programme designed to revive the economy by reducing the number of public servants, selling state assets and encouraging strong economic growth in the public sector. The number of Ministries was cut from 52 to 22 and this also resulted in the reduction of about 1600 government jobs. Some people were absorbed into the private sector, but the near-collapse of the country's economy trigged major emigration by Cook Islanders to New Zealand, Australia and other countries. The exodus contributed to increasing human resource challenges in government and elsewhere.

Socio-economic status

The Cook Islands has a high GDP per capita compared to many other countries in the Pacific region and is on track to meet most of the MDGs by 2015[31]. While the levels of

[31] Cook Islands Millennium Development Goals National Report 2005.

human development are good by Pacific standards there remains concern over the unequal distribution of development benefits. 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.

Of national concern is the growing number of young adults and school leavers without formal education qualifications and lacking the necessary skills for the local job market. The high rate of teenage pregnancies is also an issue of concern.

The Cook Islands has a well functioning social welfare system based on non-contributory state grants. In 2001, 38 percent of the outer island population were dependent on welfare benefits. In the same year unemployment on the outer islands was between 27 and 35 percent. Highlighting the spatial disparities in socio-economic status further, income levels on Rarotonga were 80% higher than on the outer islands.

As in other Pacific Island Countries, Non Communicable Diseases (NCDs) linked to changing lifestyles are a major cause of morbidity and mortality in the adult Cook Islands population.

Environment

Despite growing pressure from modernisation, tourism development, agriculture and fishing, the natural environment of the Cook Islands is still of a high quality, although there are signs that this may be changing. Threats to the environment are many and varied: e.g. pollution (liquid and solid waste) and sedimentation of in-shore coastal ecosystems, contamination of underground water, soil erosion, over-harvesting of coastal marine resources, and loss of biodiversity resulting from the transformation of natural landscapes. In response Government has made significant progress in putting in place stronger environmental management systems, raising public awareness and building institutional capacity.

An Environment Act was promulgated 2003 and following a number of comprehensive national environmental assessments, a five-year National Environment Strategic Action Framework (NESAF) was developed in 2005 and is currently being updated. A National Capacity Self Assessment stocktake was undertaken in 2003.

In terms of the Environment Act development applications are now subject to a robust system of Environmental Impact Assessment. There was an initiative to introduce a system of agro-ecological land-use zoning to better manage the impact of development activities linked to agriculture, tourism and industrial expansion. However, the impetus around this initiative has dwindled and there is a need to reinvigorate the process.

The Government, together with the private sector, promotes an active programme of recycling with increasing volumes of recycled waste being shipped to New Zealand. The country has also rid itself of stockpiles of persistent organic pollutants (POPs) and tighter controls are now in place to manage the importation of agricultural fertilisers and pesticides. Despite these achievements, it is acknowledged that more needs to be done with regard to the management, importation and disposal of hazardous and retractable waste.

Planning for Adaptation to the impacts of Climate Change is gaining momentum

at the national and community levels. The NESAF includes a strategy dealing specifically with this issue and proposes a number of immediate, short-term and medium-term actions to strengthen capacity and resilience. A number of projects are either being implemented, e.g. the Pacific Adaptation to Climate Change Project (PACC), have been completed, e.g. the Climate Change Adaptation Programme for the Pacific (CLIMAP), or are in the pipeline, e.g. the Cook Islands Adaptation Fund Proposal.

With regard to Climate Change Mitigation, the Cook Islands Government has committed itself to the target of halving carbon emissions by 2017 with the aim of becoming completely carbon neutral by 2020. Naturally this implies a strong focus on the development of renewable energy technologies and this sector is expected to undergo tremendous growth in the medium term. It should be pointed out that CC Mitigation is not included in this National Action Plan, as it is the preference of the CIG that Mitigation be dealt with separately as part of a national review of the energy sector.

Management of sewerage waste remains a concern, particularly with many of the high density tourist facilities discharging treated effluent into the lagoon. The wide spread use of septic tanks also contributes to pollution of both ground and in-shore waters. A new sewerage code has recently been introduced to strengthen environmental management in this area, but enforcement of the code requires strengthening.

Wetlands, Ngatangiia, Rarotonga

Avatiu Mariner, Rarotonga

Banana Plantation in Aitutaki after TC Pat 2010

Damaged building in Pukapuka after TC Sally 2005

ANNEX 5
DISASTER RISK REDUCTION AND CLIMATE CHANGE ADAPTATION PROJECTS IN THE COOK ISLANDS SINCE 2002

PROJECT NAME	TIME FRAME	FUNDER/IA	DETAILS
Strengthening Disaster Management and Mitigation: Component One - Strengthening DRM	2005-2006	SOPAC, MCDEM	Designed to strengthen the disaster mitigation and preparedness arrangements in CI.
Strengthening Disaster Management and Mitigation: Component Two - Preventative Infrastructure Master Plan	2007	ADB	Review, prioritisation and design of existing and future infrastructure projects on Rarotonga and the Outer Islands with a view to economic growth and 'climate-proofing'. Included a review of the Building Code, and the development of a Climate Risk Profile for the Cook Islands. Developed 111 project briefs, of which 44 were prioritised for the first 5 years. Projects at risk from climate change were identified and adaptation measures identified as well as a process for additional CC studies to test feasibility.
Cyclone Pat: Recovery and Reconstruction Project (Aitutaki)	2010 - 2011	NZAID, CIG	Estimated costs: NZD9.5million. NZAID contributed NZD5.5million.
Cyclone Emergency Assistance Project (CEAL)	2005 - ?	ADB, CIG	ADB provided a loan of US$2.85 million to assist the Government implement a comprehensive recovery programme following the five cyclones experienced in 2005. The total cost of the CEAL Project is estimated at US$7.9 million.
Cyclone Recovery and Reconstruction (CRR) and Outer Island Development (OID) Programmes	2007 - 2012	NZAID, CIG	Includes: • Building of new building for the CI Red Cross, which will double up as a Cyclone Safety Shelter • Supply of new roofing sheets and rainwater tanks to households in PukaPuka, Nassau, Penrhyn, Rakahanga • Repair of Community tanks in Manihiki • Harbour wharf repairs: Mauke, Mitiaro • Manihiki CMCs Refurbishment • Mauke Water Upgrade
Puka Puka Cyclone Safety Shelter	2011	EU, CIG	Building of a modern, climate-proof Emergency Safety Shelter
Pacific Islands Climate Change Assistance Project (PICCAP)	1998 - 2001	GEF SPREP UNDP	Assisted Countries in preparation of their initial National Communications
National Capacity Self Assessment (NCSA)	2006 - 2009	GEF	Looked at capacity needs to address UN Multilateral Environmental Agreements, UNCCD, UNCBD and UNFCCC. Development and Final Report, May 2009.
Assessment of Impacts and Adaptation to Climate Change (AIACC)	2002 -2005	GEF UNEP	Regional project. To build in-country research capacity for monitoring and assessments using new integrated assessment approach. The intention was to use the method to conduct three case studies representing low atoll, high volcanic and large island situations.
Climate Change Adaptation Programme for the Pacific (CLIMAP)	2002 - 2005	ADB	Regional project. To enhance adaptive capacities and resilience through risk assessment, adaptation planning and policy development and by identifying ways of "climate proofing"

PROJECT NAME	TIME FRAME	FUNDER/IA	DETAILS
Capacity Building for the Development of Adaptation Measures in Pacific Island Countries (CBDAMPIC)	2002 - 2005	SPREP	road aim of increasing the ability of Pacific Island people to cope with climate change. Focused on the issue of rainwater harvesting on Aitutaki.
Cook Islands Second National Communications Project	2006 - 2010	GEF UNDP CIG	A number of enabling activities including island Specific Vulnerability an Adaptation Assessments for Mauke, Mitiaro and the Community of Ngatangiia (Rarotonga)
National Adaptation Planning Assistance	2009 - 2011	Gov. of Italy	Preparation of a Joint Climate Change Adaptation and Disaster Risk Management National Policy
The Pacific Adaptation to Climate Change (PACC)	2009 - 2013	GEF UNDP SPREP	To develop an Integrated Coastal Management Framework for the Cook Islands using an extensive process of assessments, training and consultations. ICMF scheduled for completion in 2013. To develop guidelines and to demonstrate how to integrate CC into coastal development planning (all relevant sectors) by conducting detailed studies (V&A + technical) at one pilot site (Mangaia harbour?). To build a comprehensive communications and awareness of PACC at all levels. This project demonstrates a good working relationship between agencies and departments. NES developed the proposal and MOIP is implementing it.
Technology Needs Assessment – Adaptation 2009 (TNA-A)	2009	NES	Commissioned by the NES under the 2nd Nat. Comm. as an enabling activity, this study looked at the technology needed for Adaptation to Climate Change in Health, Water, Agriculture, and the Coastal Zone (inclusive of Infrastructure, Tourism and Biodiversity). It also looked at Mitigation Technology Needs.
Development of Sustainable Agriculture in the Pacific.	2007 – 2009	FAO	Produced a case study report of Climate Change and Food Security for the Cook Islands. Commenced trial planting of certain crop types
Food Security for Sustainable Livelihoods Programme (FSSLP).	2010 -	FAO	A Food Security Assessment is currently being compiled for the Cook Islands. Focused in the Southern Group of islands
Preparedness for Climate Change Programme	2009 -	CI Red Cross	Various activities planned for the Outer Islands e.g. documenting traditional methods of food preparation The CIRC has also programmed to start Vulnerability Community Assessments for each of the outer islands where the Assessments have not been completed
Managing Climate Change Risk in Cook Islands' Vulnerable Communities (ADB-SGA-WWF)	2010	ADB Small Grants WWF	A pilot in 3 communities (Arutanga-Ureia in Aitutaki, Matavera and Rua'au districts in Rarotonga), carrying out participatory climate risk assessments using GIS, in order to develop methods and tools.
Community-centered Sustainable Development Programme	2008	UNDP	Supported by UNDP, Sustainable Village Development Plans have 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.

PROJECT NAME	TIME FRAME	FUNDER/IA	DETAILS
Enhancing resilience of communities of Cook Islands through integrated climate change adaptation and disaster risk management measures	2011 - 2015	Kyoto Protocol Adaptation Fund, UNDP	The project design is based on an inter-linked three-pronged approach that combines a greater emphasis on Island-level work, institutional strengthening at all levels, and improved knowledge management. US$4,9 million (Proposal phase)
Climate Change Adaptation Institutional Structure Development	2011/12	Australian Department of Climate Change and Energy Efficiency (DCCE)	Establishment of a Climate Change Coordination Division within the Office of the Prime Minister. AUS$100,000 over 12 months Pacific Adaptation Strategy Assistance Program (PASAP)
Coastal Adaptation Needs for Extreme Events and Climate Change, Avarua, Rarotonga, Cook Islands	2011/12	Australian Department of Climate Change and Energy Efficiency (DCCEE)	The goal is to understand the coastal vulnerability of Rarotongan infrastructure and community in the study area, which includes Avarua and its harbours, to climate change-related sea level, wave and inundation impacts, and to identify needs and options for adaptive response to those changes. AUD$400,000 over 37 weeks Pacific Adaptation Strategy Assistance Program (PASAP)
Piloting the Integration of Community Vulnerability Mapping and Adaptation Planning into the Development of a National Disaster Risk Management and Climate Change Policy	2011/12	Australian Department of Climate Change and Energy Efficiency (DCCEE)	Community-based vulnerability risk mapping, adaptive capacity assessment, and adaptation planning will be undertaken in Rarotonga and 8 of the 12 inhabited Outer Islands in order to develop a site, island and community-specific baseline on vulnerability, risks and adaptive capacity. Pacific Adaptation Strategy Assistance Program (PASAP)

TC Sally 2005 in Pukapuka

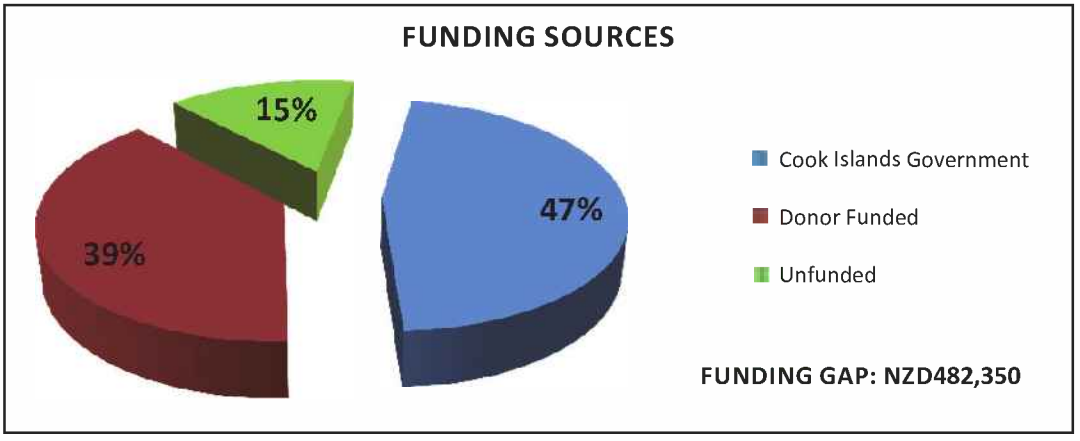
Water tank in Pukapuka

ANNEX 6 - JNAP INDICATIVE COST BREAKDOWNS

STRATEGIC AREA 1 GOVERNANCE NZD 3,300,894

		Total	CIG funded	Donor funded	Unfunded
Strategy 1	***Strengthen governance arrangements for DRM & CCA***	***2,798,360***	***1,206,860***	***1,281,400***	***310,100***
Action 1	Strengthen and consolidate policies, plans and instructions for Disaster Risk Management and Climate Change Adaptation	967,600	571,500	275,400	120,700
Action 2	Create sustainable national financing mechanisms for DRM & CCA	236,020	204,120	21,000	10,900
Action 3	Strengthen capacity of government agencies, Islands Councils and NGOs	591,200	412,700	0	178,500
Action 4	Strengthen DRM & CCA planning at the local level	1,003,540	18,540	985,000	0
Strategy 2	***Mainstream natural risk considerations in planning and budgetary systems***	***502,534***	***330,284***	***0***	***172,250***
Action 1	Mainstream DRM into national development plans, sector plans, policies, legislation and budgeting	87,554	63,654	0	23,900
Action 2	Mainstream hazard risk considerations in development planning regulations	414,980	266,630	0	148,350

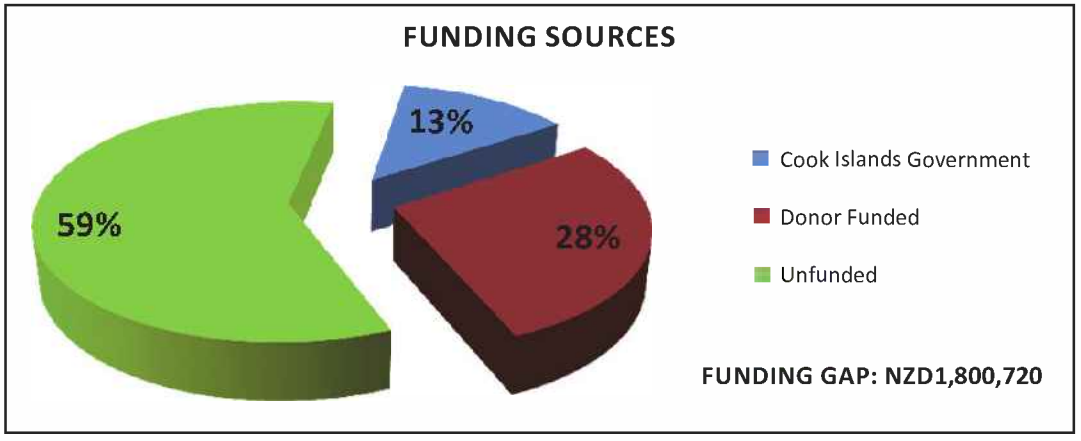
Summary	**NZD**	**%**
Workshop	53,250	2
Technical Assistance (consultancy)	288,900	9
Government of Cook Islands personnel time	272,744	8
Office equipment and supplies	7,500	0
Maintenance and repairs	0	0
Advertising / awareness raising	25,650	1
Refreshments	144,000	4
DSA	55,550	2
Flights	97,800	3
Volunteers	0	0
Increases to EMCI & CCCI budgets (incl staffing)	970,000	29
Capital Projects:	1,385,500	42
Disaster Emergency Trust Fund	200,000	
DRM & CCA Trust Fund	500	
Local level DRM & CCA Action Plans	985,000	
Implementation of Land Use Policy	200,000	
TOTAL OVER 5 YEARS	**3,300,894**	**100**



STRATEGIC AREA 2 MONITORING NZD 3,054,030

		Total	CIG funded	Donor funded	Unfunded
Strategy 1	***Monitoring and assess risks and vulnerabilities***	***3,026,670***	***375,950***	***865,000***	***1,785,720***
Action 1	Monitor and assess geophysical and climate change risks and incorporate into development planning	2,259,220	199,820	600,000	1,459,400
Action 2	Consolidate Vulnerability Assessments for all inhabited Islands (including a focus on vulnerable groups) and incorporate into development planning	626,080	105,060	265,000	256,020
Action 3	Strengthen coordination of hazard risk information management	141,370	71,070	0	70,300
Strategy 2	***Documents and promote traditional knowledge and coping mechanisms***	***27,360***	***12,360***	***0***	***15,000***
Action 1	Use traditional knowledge and coping strategies to inform the design of DRR and Adaptation activities	27,360	12,360	0	15,000

Summary	**NZD**	**%**
Workshop	113,500	4
Technical Assistance	91,000	3
Government of Cook Islands personnel time	388,310	13
Advertising / awareness raising (commercial printing of profiles)	32,500	1
Office equipment	50,000	2
Flights 96,455	140,800	5
Refreshments	274,000	9
DSA 180,000	63,920	2
Modelling (Sea surge and flood inundation)	1,500,000	49
Capital Projects:	400,000	13
Automatic weather stations	400,000	
TOTAL	**3,054,030**	**100**



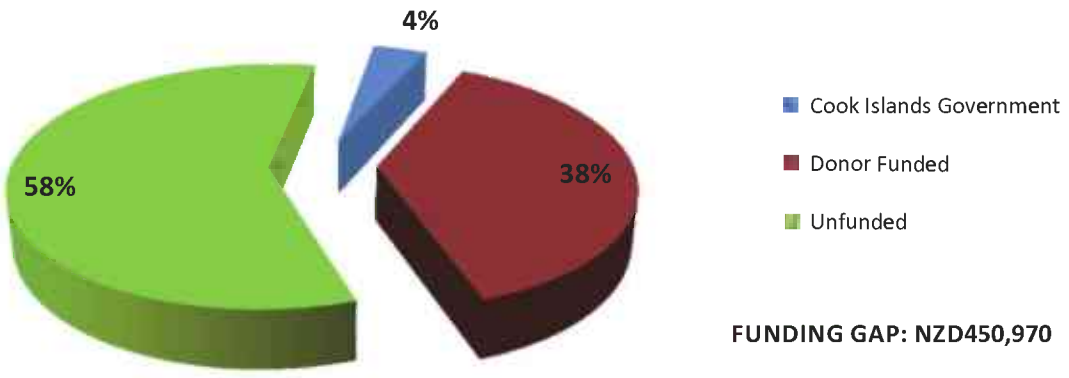
STRATEGIC AREA 3 DISATER MANAGEMENT NZD 7,798,934

		Total	CIG funded	Donor funded	Unfunded
Strategy 1	***Strengthen preparedness, response and early recovery systems***	***7,798,934***	***289,224***	***3,000,000***	***4,509,710***
Action 1	Maintain high levels of community awareness and preparedness at all times	185,005	24,720	0	160,285
Action 2	Enhance national capacity to provide early warnings for slow and fast-onset hazards	526,100	77,250	0	448,850
Action 3	Develop disaster response plans and conduct operational exercises for relevant agencies	160,604	130,604	0	30,000
Action 4	Build a dedicated National Emergency Operations Centre (NEOC)	1,014,000	0	0	1,014,000
Action 5	Strengthen capacity for search and rescue on sea and on land	49,310	22,660	0	26,650
Action 6	Strengthen capacity to provide emergency MOH care at times of disasters	220,735	7,210	0	213,525
Action 7	Ensure that the public has access to safe places during cyclones and that vulnerable groups are catered for	5,030,000	0	3,000,000	2,030,000
Action 8	Strengthen capacity to manage hazardous substances importation, use and disposal including responses to hazardous substances disaster events	613,180	26,780	0	586,400

Summary	**NZD**	**%**
Workshop	167,550	2
Technical Assistance	114,800	1
Government of Cook Islands personnel time	289,224	4
Office equipment and supplies	55,000	1
Maintenance and repairs (Safety shelters)	1,000,000	13
Advertising / awareness raising	268,100	3
Consultant DSA	24,200	0
CI-NZ flights	96,455	1
TA outer island flights	0	0
DSA	4,400	0
Government officer flight	0	0
Refreshments	99,205	1
Bursaries	180,000	2
New Contracts:	500,000	6
Regularly collect hazardous waste from the outer islands	500,000	
Capital Projects:	5,000,000	64
Build dedicated NEOC	1,000,000	
Safety shelters	4,000,000	
TOTAL	**7,798,934**	**100**

STATEGIC AREA 3: DISASTER MANAGEMENT

FUNDING SOURCES



FUNDING GAP: NZD450,970

Avatiu Harbour, Rarotonga

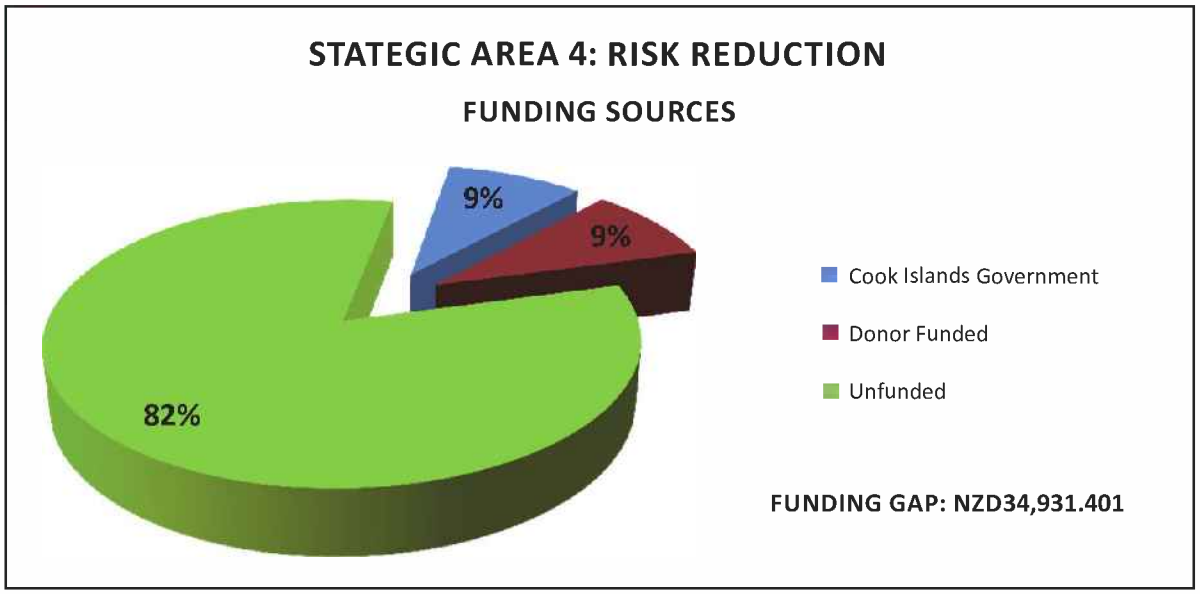
Harbour in Mangaia

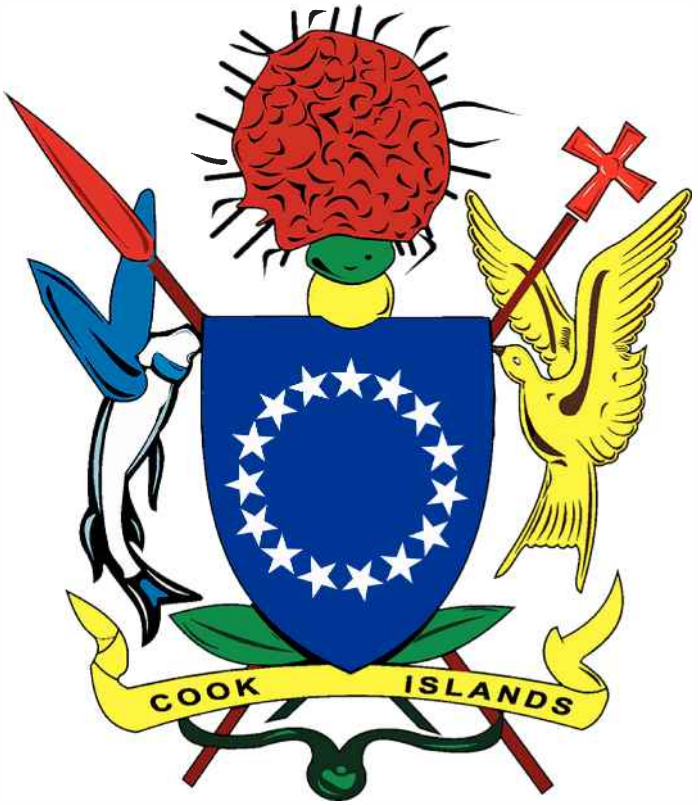
Swamp Taro in Mangaia

STRATEGIC AREA 4 RISK REDUCTION AND CLIMATE CHANGE ADAPTATION NZD 42,471,547

		Total	CIG funded	Donor funded	Unfunded
Strategy 1	***Strengthen infrastructure and safeguard essential services***	***738,419,757***	***3,313,006***	***3,645,000***	***31,461,751***
Action 1	Strengthen and climate-proof key infrastructure in the coastal zone (Note: does not include cost of works estimated at NZD237 mill. (ADB, 2007)	299,020	14,420	0	284,600
Action 2	Promote integrated management of the coastal zone to build resilience to natural hazards including climate change and sea level rise	14,460	2,060	0	12,400
Action 3	Strengthen energy transportation, supply and storage systems in the outer islands to reduce risks to the communities	29,512,582	95,832	3,645,000	25,771,750
Action 4	Promote long term water security for all islands to cope with prolonged dry spells	3,428,695	3,200,694	0	228,001
Action 5	Strengthen sanitation infrastructure to address MOH and environmental risks on all islands	5,165,000	0	0	5,165,000
Strategy 2	***Strengthen economic development and livelihood systems in key sectors***	***4,051,790***	***682,140***	***0***	***3,469,650***
Action 1	Promote agricultural livelihood resilience and food security	2,829,494	529,494	0	2,400,000
Action 2	Strengthen systems for preventative MOH care and research	23,720	4,120	0	19,600
Action 3	Strengthen and build resilience in the fisheries sector	301,760	105,060	0	196,700
Action 4	Improve the conservation and management of biodiversity	875,016	40,376	0	834,640
Action 5	Strengthen and build resilience in the tourism sector	21,800	3,090	0	18,710

Summary	NZD	%
Workshop	75,401	0
Technical Assistance	192,500	0
Government of Cook Islands personnel time	274,186	1
Planting material	416,000	1
Office equipment and supplies	25,000	0
Maintenance and repairs: (Maintaining water intakes)	420,000	1
Advertising / awareness raising	264,400	1
Consultant DSA	64,900	0
CI-NZ flights	42,450	0
TA outer island flights	90,000	0
DSA 32,040	0	
Government officer flight	225,000	1
Refreshments	194,670	0
Bursaries and Study Grants	500,000	1
Capital Projects:	39,655,000	93
Progressively replace fossil fuels with renewable energy sources on all islands	*29,440,000*	
Purchase a desalination plant for each island for emergencies	*2,750,000*	
Upgrade sanitation systems on all islands to eliminate MOH risks	*5,165,000*	
Promote alternative livelihood options (e.g. livestock production) where feasible	*1,100,000*	
Promote sustainable land management practices including removal of water-thirsty, flammable, alien vegetation	*1,200,000*	
TOTAL	**42,471,547**	**100**





Emergency Management Cook Islands

Acknowledge Photos
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CIPS Collection

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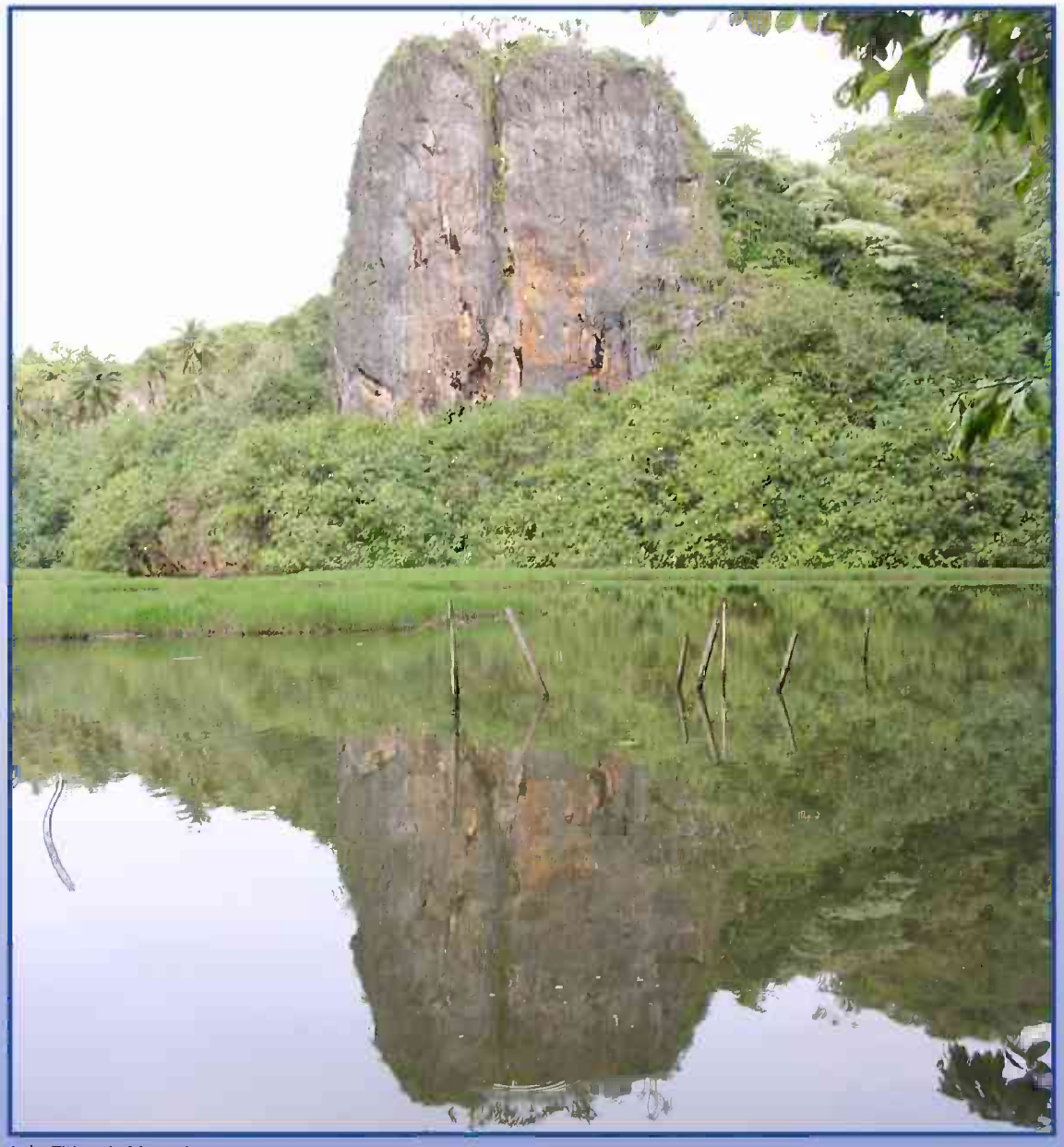

Lake Titiara in Mangaia

SPREP
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SOPAC

UNDP

Pacific Disaster Risk Management Partnership Network