



# JNAP II – ARE WE RESILIENT?

## THE COOK ISLANDS 2<sup>ND</sup> JOINT NATIONAL ACTION PLAN

A sectoral approach to Climate Change  
and Disaster Risk Management



# 2016 - 2020



Cook Islands  
Government



THIS PLAN IS DEDICATED TO THE MEMORY OF  
OUR FALLEN COOK ISLANDS CLIMATE WARRIORS.

YOUR PASSION AND CONTRIBUTION TOWARDS BUILDING THE  
RESILIENCE OF OUR NATION WILL NOT BE FORGOTTEN.



**TERESA MIIMETUA  
MATAMAKI  
1983 - 2016**



**RIO RANGATIRA ERUERA  
TE WHITI NIA  
1951 - 2016**



**TANIA ANNE RAERA  
TEMATA  
1970 - 2012**

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Cook Islands Second Joint National Action Plan for Climate Change and Disaster Risk Management 2016-2020

developed by the Government of Cook Islands

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E kite te tangata i tōna turanga 'aka'aka  
kia rauka 'iaia te no'o 'au e te tiratiratū  
i roto i te au natura e te mekameka o  
teiane i ao

*Man must realise his rightful humble place  
on earth and live in harmony with the  
natural world around him*

– Geoffrey Arama Henry

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**Sunrise at Avana**

Image: Alexandrya Herman

# FOREWORD

The vast Te Moana Nui Ō Kiva is the most important source of climate anomalies in the Pacific, and around the world through teleconnection. In the last few decades, we have come to better understand the influence of climate variability throughout the Pacific. In particular, the climate phenomenon known as the El Niño Southern Oscillation (ENSO), has been responsible for intense cyclones, extensive coral bleaching, severe droughts and floods, and the migration of pelagic fishes, all of which can negatively impact infrastructure, ecosystems, services, food and water security, economic development, and public health on small island nations such as the Cook Islands.



Since the turn of the new millennium, we have experienced severe drought periods associated with frequent El Niño events, which impacted agricultural production and threatened water security throughout the southern Cook Islands. We incurred an estimated NZD \$750,000 per year on Rarotonga from the frequent cyclones of the 2000s that have rendered marine resources unusable because of ciguatera poisoning. We have endured the degradation of reefs in the northern and the southern Cook Islands from extensive coral bleaching during a regional ocean warming associated with the recent ENSO events. In addition, saltwater intrusion of agricultural lands in Pukapuka and Rakahanga in the northern group, and the erosion of coastlines throughout the Cook Islands from sea level rise, serve to remind us of the ongoing anthropogenic-driven climate change that can exacerbate the impacts of natural climate variability.

We have made commitments to mitigate and adapt to climate-related impacts in the Cook Islands through the development of the renewable energy plan for 100% coverage by 2020. We ratified the Paris Agreement in 2016 based on our Intended Nationally Determined Contributions report. Under the Sendai Framework for Disaster Risk Reduction 2015-2030 we seek to reduce disaster risk through the implementation of measures that minimise exposure and vulnerability to disaster.

We rolled out the “Strengthening the Resilience of our Islands and Communities to the impacts of Climate Change” programme to assist our people in the Pa Enua cope with the unforeseen challenges of tomorrow. We declared our entire Exclusive Economic Zone as a marine park and developed the Marae Moana policy to guide management, thereby safeguarding our marine resource for future generations. Yet, we recognize that more is needed to ensure that efforts across government, non-government, and private sectors are harmonized to enact true conservation principles regarding our declining marine resources in the face of climate change.

JNAP II aims to strengthen our resilience toward a safe, secure and sustainable future. To complement our efforts moving forward, we must recognize that our traditional ways and practices hold the key to a more resilient community in the long term. In particular, we must embrace a holistic approach and ensure that all pillars of our society are on board.

Kia Manuia  
*The Honourable Henry Puna*  
*Prime Minister and Minister of Climate Change and Disaster Risk Management*  
*Cook Islands*

# CONTENTS

<b>FOREWORD</b> .....	<b>4</b>
<b>EXECUTIVE SUMMARY</b> .....	<b>7</b>
<b>PART I: BACKGROUND INFORMATION</b> .....	<b>13</b>
Introduction .....	14
The Cook Islands .....	17
Climate And Sector Vulnerability In The Cook Islands .....	18
Disaster Risk/Hazards .....	20
Existing CC And DRM Arrangements .....	21
Policy Context.....	21
International .....	21
Regional .....	24
National .....	25
<b>PART 2: JNAP II</b> .....	<b>29</b>
Vision .....	30
Structure Of The JNAP II Strategic Matrix .....	30
Summary Strategic Matrix .....	31
Thematic Area One .....	31
Thematic Area Two.....	33
Thematic Area Three .....	33
<b>PART 3 JNAP II IMPLEMENTATION</b> .....	<b>37</b>
Strategy .....	37
Introduction .....	38
Guiding Principles .....	38
Implementation Mechanisms .....	39
Financing Strategy.....	42
National Budget And Other Internal Sources .....	42
Overseas Development Or Donor Assistance.....	42
Communication Strategy.....	44
Monitoring And Evaluation .....	44
<b>ANNEXES</b> .....	<b>47</b>
Annex 1: JNAP II Strategic Matrix .....	49
ANNEX 2 Cook Islands Country Profile.....	67
Geographical Setting.....	67
Population.....	67
Governance.....	68
Economy.....	68
Socio-Economic Status .....	69
Environment .....	70
ANNEX 3 References.....	71
ANNEX 4 List Of Acronyms.....	72
ANNEX 5 Glossary .....	74
ANNEX 6 Nap Strategies Indicative Costs And Breakdowns .....	76

<b>TABLES</b>	Table 1: JNAP II Indicative Costs .....	10
	Table 2. Census Resident Population 2001-2011 .....	17
	Table 3 Open Water Wave Height .....	18
	Table 4. Climate Change Vulnerabilities In The Cook Islands .....	19
	Table 5: Cook Islands Hazard Risk Management .....	20
	Table 6: Roles And Responsibilities For JNAP II Implementation .....	40
	Table 7 – M & E Reporting Requirements .....	46
	Table 8. Geography Of The Cook Islands .....	69

# EXECUTIVE SUMMARY



## The Cook Islands Second Joint National Action Plan (JNAP II) poses the following question, 'Are we resilient?'

In the event of an unforeseen disaster, are we, the people of the Cook Islands, prepared to respond in an effective and efficient manner to ensure our safety and security?

The Cook Islands is increasingly vulnerable to slow and fast-onset events resulting from natural, man-made and climate related hazards such as coastal erosion from sea level rise, ocean acidification, tropical cyclones and drought. In addition, the existing socio-economic, infrastructure and environmental pressures intensify this vulnerability.

### PART I: BACKGROUND INFORMATION

The Cook Islands is an ocean state 3010km north east of New Zealand. It is comprised of 15 small islands scattered over about two million square kilometres of the Pacific Ocean. 12 of these islands are inhabited and seven islands have a highest point of less than 15 metres. There is a population of only 14,974 people, with most (70%) of the population resides in the main island of Rarotonga, 20 per cent live in the southern group with the rest in the north. The national disability database identified 841 people living with disability, or 28.4 per cent of the population unable to meet basic needs for a decent standard of living (CIG, 2009).

This document records all current and planned Climate Change (CC) and Disaster Risk Management (DRM) related activities in the Cook Islands and is designed to strengthen our resilience and therefore describes the 5 year plan of action to implement Goal 13 of the National Sustainable Development Plan 2016-2020 (NSDP)

#### GOAL 13

Strengthen resilience to combat the impacts of climate change and natural disasters



The NSDP is a national scorecard for development, articulating our national goals and the key performance indicators from the broader national policy suite. The Cook Islands national vision is:

**'TO ENJOY THE HIGHEST QUALITY OF LIFE CONSISTENT WITH THE ASPIRATIONS OF OUR PEOPLE.'**

The 'Climate and Disaster Compatible Development Policy 2013-2016' is our leading policy document for CC and DRM. The goal of this policy is to provide an integrated and coherent policy and planning framework which directs country-led and co-ordinated adaptation and mitigation actions and resources towards climate and disaster compatible development outcomes. In line with this policy, JNAP II proposes actions for climate change adaptation, mitigation and disaster management.

## PART 2: JNAP II

### VISION AND GOAL

The capacity to adapt must be widespread across all levels of society to promote a holistic approach and achieve the JNAP II vision and goal.

#### The vision of the JNAP II 2016-2020 is:

A Safe, Resilient and Sustainable Cook Islands.

#### The goal of the JNAP II 2016-2020 is:

Strengthen climate and disaster resilience to protect lives, livelihoods, economic, infrastructural, cultural and environmental assets in the Cook Islands in a collaborative, sectoral approach.

### JNAP II STRATEGIC MATRIX – A SECTORAL APPROACH

JNAP II promotes a sectoral approach to our CC and DRM response due to the cross-cutting nature of climate change and disaster risk activity. Collaborative implementation will assist to make the best use of resources.

As a result of extensive consultation and planning, the JNAP II is presented in the form of a comprehensive costed **strategic matrix** (*Annex 1*) containing **nine strategies** with **specific outcomes**. It notes the **lead and support agencies** who are responsible for **actions, sub-actions** and **resulting outputs**. The matrix also identifies **potential development partners and CROP agencies** to provide technical and financial assistance.

The strategic matrix is organised as follows:

**Strategy 1 Good governance**

**Strategy 2 Water and food security**

**Strategy 3 Environmental sustainability**

**Strategy 4 Research, monitoring and information management**

**Strategy 5 Cook Islands culture and identity**

**Strategy 6 Energy and transport**

**Strategy 7 Infrastructure**

**Strategy 8 Climate and disaster risk**

**Strategy 9 Health and welfare**

## PART 3: IMPLEMENTATION STRATEGY

JNAP II includes an implementation strategy with guiding principles, an appropriate management structure, financing strategy, communication strategy and monitoring and evaluation procedures.

**Management structure** - A steering committee (JNAP SC) will be responsible for the promotion of the JNAP II with development partners and to seek funding and assistance with implementation. The committee will also oversee the newly appointed JNAP secretariat (JNAP Sec), based within the Central Policy and Planning Office (CPPO), whose key responsibility will be to coordinate, monitor and evaluate the progress of JNAP II implementation. The committee will include a representative from Climate Change Cook Islands (CCCI), Emergency Management Cook Islands (EMCI), National Environment Service (NES), Infrastructure Cook Islands (ICI), a Ministry of Finance and Economic Management (MFEM) representative, a Non-Government Organisation/Civil Society Organisation (NGO/CSO) representative and two island government representatives (one to represent the northern group and one to represent the southern group).

**Financing strategy** - the JNAP II is to be financed through new and existing funding mechanisms including the national budget process, aid funding, climate change funding and disaster related humanitarian aid.

The breakdown of the cost of each strategy and the percentage cost of each strategy over total cost (Table 1).

**Table 1: JNAP II Indicative costs**

	Indicative cost (NZD)	%
<b>Strategy 1 Good governance</b>	\$1,600,000.00	0.3%
<b>Strategy 2 Water and food security</b>	\$54,800,000.00	12.2%
<b>Strategy 3 Environmental sustainability</b>	\$9,900,000.00	2.2%
<b>Strategy 4 Research, monitoring and information management</b>	\$4,200,000.00	0.9%
<b>Strategy 5 Cook Islands culture and identity</b>	\$400,000.00	0.07%
<b>Strategy 6 Energy and transport</b>	\$343,300,000.00	76.4%
<b>Strategy 7 Infrastructure</b>	\$29,800,000.00	6.63%
<b>Strategy 8 Climate and disaster risk</b>	\$2,800,000.00	0.7%
<b>Strategy 9 Health and welfare</b>	\$2,500,000.00	0.6%
<b>TOTAL</b>	<b>\$449,300,000.00</b>	<b>100%</b>

**Communication strategy** - the JNAP II communication strategy will use a variety of mediums of communication to create awareness, build capacity, influence behavioural change, facilitate feedback for the purposes of monitoring and evaluation, and inform the public on the implementation of the JNAP II and its outcomes.

**Monitoring and evaluation** - the monitoring and evaluation framework for the JNAP II will be developed by the JNAP SC, with the support of the CPPO and the Office of the Public Service Commissioner (OPSC), to ensure alignment with existing reporting requirements.



**SRIC-CC Project Manager William Tuivaga inspects apples grown in Mangaia.**

*Image: Melina Tuiravakai*



**Young farmers in Mangaia harvest locally grown carrots.**

*Image: Melina Tuiravakai*

▲▲▲  
PART I:  
BACKGROUND INFORMATION  
▼▼▼



Locals waving from the barge on Pukapuka Island.

Image: Celine Dyer





## INTRODUCTION

The Joint National Action Plan II 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. It brings Climate Change (CC) and Disaster Risk Management (DRM) to the forefront of national planning.

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.

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 led 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 equinox 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, ocean acidification and changes to our ecosystems. 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 because of ocean acidification (a process called coral bleaching) is placing strain on sensitive reef ecosystems.

The loss of habitat and biodiversity because 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 regarding 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.



## JNAP – LESSONS LEARNED

In 2011, the first Joint National Action Plan for Disaster Risk Management and Climate Change adaptation was developed for the Cook Islands. The plan was built upon the 2009 National Action Plan for disaster risk management and was a key national mechanism for harmonising DRM and climate change adaptation in the Cook Islands. It sought 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 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.

The plan was comprehensive however despite extensive consultation, experienced low impetus. JNAP II will seek to address this issue by:

### **Establishing and resourcing a JNAP secretariat and steering committee**

A review of the JNAP reveals almost 80% of actions have at least started or are in progress, there is no central monitoring and evaluation structure. To improve impetus, it is recommended to establish and resource a JNAP secretariat and steering committee to monitor the progress of the plan.

### **Mainstreaming JNAP II with national policy and planning**

The JNAP II strategic matrix contains actions taken directly from national policy and planning documents. The actions are therefore considered national priority and are more likely to be accepted and implemented by stakeholders.

### **Adopting a holistic approach to include climate change mitigation activities**

To facilitate this ‘merger’ a number of changes to the institutional arrangements occurred, 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). The Cook Islands Government has made a bold commitment towards transforming the energy sector 100% reliant on renewable energy by 2020 with specific details set out in the updated Cook Islands Renewable Energy Chart (CIG, 2016).

## JNAP II DEVELOPMENT

JNAP II was developed based on the lessons learned in the previous plan. It was also developed through an extensive engagement process with a wide range of stakeholders at the community and government level. In May 2016, the ‘Brilliant Resilient’ national seminar was held in Rarotonga, bringing together all Pa Enua mayor, government ministries and agencies, NGO and CSO representatives as well as the general public. The initial JNAP II consultations took place on the first two days of the week-long seminar resulting in the creation of the three thematic areas and what was initially ten sector strategies. A technical working group was formed in July 2016 to refine the framework further. The specific actions and activities of the JNAP II were formulated from national policy and planning documents including, the original JNAP, national policy suite, ministry business plans and from the input of key sector stakeholders, with many projects or activities already underway.



The JNAP II is:

- an apolitical document
- intended to assist in building nationwide resilience to, and reducing the impacts of climate change and disaster risk
- a record of current and planned of climate change and disaster risk activities
- a tool to assist in attracting development partner assistance and donor funding
- not prescriptive but rather to be used as a guide for implementing agencies and stakeholders
- supported by a secretariat and a steering committee
- intended to support the national strategy and policy suite
- a living document that will require regular revision
- applicable to natural hazards and climate change

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.



A home made of natural resources in Nassau. Image: Celine Dyer



## THE COOK ISLANDS

The Cook Islands is located in the southern Pacific Ocean at the centre of what is referred to as the Polynesian Triangle, a region anchored between the islands of Hawaii to the north (4,730km), Rapa Nui (Easter Island) to the east (5,179km), and New Zealand to the south west (3,010km). It is a popular tourist destination with direct flights from Auckland (New Zealand), Sydney. (Annex offers a detailed country profile). The country is separated into northern and southern islands commonly referred to as the 'Northern Group' which are atoll islands and the 'Southern Group' which are of volcanic origin. (Australia), Los Angeles (United States) and Tahiti. (Figure 1)

The country comprises of 15 islands, 12 of which are inhabited across an Exclusive Economic Zone (EEZ) of nearly two million square kilometres. The Cook Islands represents one of the 'small islands states with a combined area of only 240 square kilometres. (Figure 2).

The majority of the resident population lives on Rarotonga (67km<sup>2</sup>). As at December 2011, the Cook Islands has a population of 14,974 people. There is a steady decline in the population. Especially in the Pa Enua (outer islands) where there has been a noticeable decrease of 14% due migration and lower fertility rates (SPC, 2014). (Table 2)



Figure 1. World Map - Cook Islands

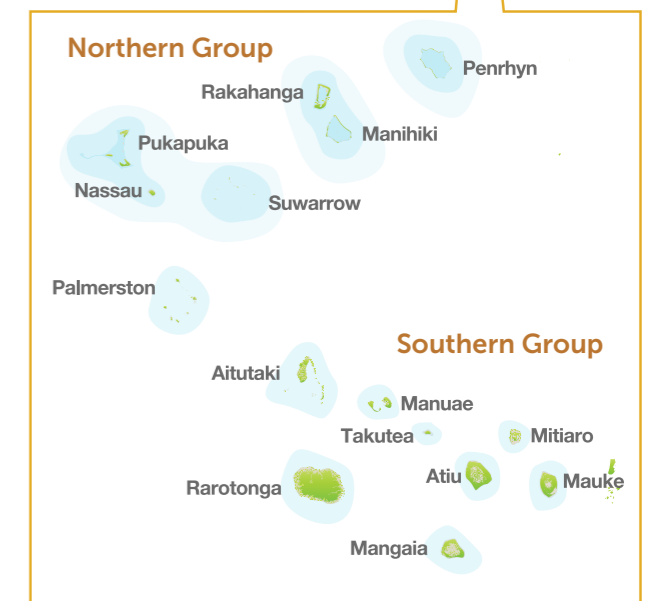


Figure 2. Map of the Cook Islands

Table 2. Census resident population 2001-2011

	2001 census			2006 census			2011 census		
	TOTAL	Male	Female	TOTAL	Male	Female	TOTAL	Male	Female
Cook Islands	14,990	7,738	7,252	15,324	7,822	7,502	14,974	7,409	7,484
Rarotonga	9,424	4,833	4,591	10,266	5,218	5,008	10,572	5,278	5,294
Southern Group	3,777	1,934	1,843	3,729	1,877	1,852	3,290	1,635	1,655
Northern Group	1,789	971	818	1,369	727	642	1,112	577	535

Source: Cook Islands Statistics Office

## CLIMATE AND SECTOR VULNERABILITY IN THE COOK ISLANDS

The Cook Islands is extremely vulnerable to climate risk such as tropical cyclones and drought, geological risk such as earthquakes and tsunami; and human-caused risk such as disease outbreaks.

Our national lies within the 'cyclone belt' and its vulnerability was emphasized in 2005 when we were 'hit' by five cyclones over a period of two months causing damage estimated at NZ\$20 million (ADB, 2006). In January 1987, Cyclone Sally extensively damaged Rarotonga and 10 years later Cyclone Martin destroyed 90 percent of houses and killed 19 people on Manihiki atoll. More recently, Aitutaki was struck by Cyclone Pat, damaging 78% of homes and bringing the agriculture and tourism sectors to a halt and costing an estimated NZ\$9.5million (CIG, 2010).

In February 2016, we were fortunate to only sustain minimal damage to Penrhyn atoll from severe tropical Cyclone Winston, the strongest cyclone in recorded history. It is estimated that the average cost per cyclone in the Cook Islands is currently NZ\$6.5million dollars (Cook, 2011).

To add to our vulnerability, we are currently experiencing one of the most extreme El Niño conditions. The occurrence of tropical cyclones is more frequent in El Niño conditions as we experience warmer than normal sea surface temperatures. A possible consequence of the increased persistence of El Niño conditions in recent decades is also the intensification of these tropical cyclones, as reflected in the systematic increase in upper 10 percentile heights of open water waves associated with tropical cyclones occurring in the vicinity of Rarotonga (SPREP, 2005). (Table 3) From the above it is clear that cyclones are the most obvious and significant natural hazard for the people of the Cook Islands with the effects causing costly and extensive damage and with greater frequency and intensity we can only expect the costs to increase. The cyclone season is November to April.

Drought and flooding also rank highly on the Cook Islands risk profile and can also be linked to the El Niño and La Niña conditions. During El Niño, the Southern Cook Islands experience drought and the Northern group experience more rainfall. During the contrasting La Niña phase, flash flooding in the south and drought in the north.

Other anthropogenic driven climate change such as the loss in salt crystals, rougher seas, sediment build up and coral bleaching due to ocean acidification have been noted in recent years, having widespread effect on food security, economic development, and increasing the risk of island communities to natural disasters (Rongo & Dyer, 2015).

A summary of climate change vulnerabilities in the Cook Islands is provided in Table 4.

**Table 3 Open water wave height (Average top 10%) associated with cyclones affecting Rarotonga**

Year	Cyclone Name	Wave height (m)
1978:	Charles	11
1987:	Sally	10
1991:	Val	14
1997:	Martin	14
2003:	Dovi	17
2004:	Heta	17
2005:	Nancy	22
2005:	Percy	19

Source: Dorrell – interview SPREP, 2005

**Table 4. A summary of climate change vulnerabilities in the Cook Islands**

	Temperature Rise	Rainfall Variation	Extreme Weather events	Sea Level Rise
<b>Coastal Zones Infrastructure and Coral Reefs</b>	Coral bleaching	Runoff, sedimentation, salinity	Wave damage, erosion	Erosion, increased storm surge
<b>Marine Resources / Fisheries</b>	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
<b>Water Supply and Quality</b>	Quantity, demand, quality, vectors	Shortages, blockages, contamination	Water pollution, infrastructure damage	Increased salinity of freshwater table
<b>Agriculture, Food Security and Diet</b>	Prevalence of invasive species, productivity	Drought, flooding, crop diseases	Damage to infrastructure and crops	Increased salinity of low lying growing areas
<b>Biodiversity (Terrestrial and Marine)</b>	Increased prevalence of invasive species, species distribution or migration	Increased prevalence of invasive species	Casualties, habitat, food loss	Degradation of habitat, breeding sites
<b>Human Health and Wellbeing</b>	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.
<b>Cross-cutting Socio-Economic considerations</b>	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

## DISASTER RISK/HAZARDS

The Cook Islands is prone to a range of both natural and man-made hazards with the most common hazards being cyclones and drought, due to our position on the cyclone belt and the current El Nino conditions.

The following table identifies hazards that affect the Cook Islands and the level of risk associated with each hazard. It also identifies the lead and support agencies to refer in responding to these hazards as outlined in the National Disaster Risk Management Plan 2016 (NDRMP, 2016).

**Table 5: Cook Islands Hazard Risk Management**

	Hazard (Source of Risk) (NDRM Plan 2016)	Level of Risk	Lead Agency	Supporting Agency
1.	Cyclone	High	MOT (CIMS), POLICE/EMCI	INTAFF, CCCCI, NES, FAI, INTAF, PUNA, Island Govt, Red Cross
2.	Drought	High	ICI	OPM, NES, MOT, MOH, PA Enuua, Growers,
3.	Food Security	High	MOA	GROWERS, MOH, MMR
4.	Pest/Fruit Fly	High	MOA	NES,
5.	Invasive Species	High	MOA	NES, MOT
6.	Climate Change	High	CCCI/OPM	ALL
7.	Epidemics, Pandemics	Medium	MOH	INTAFF, Police, Puna
8.	Flooding	Medium	ICI	MOT, NES, MOH
9.	Sea Surge	Medium	ICI	MOT, NES,
10.	Hazardous Materials (Dangerous goods)	Medium	NES	INTAF, RFS, MMR, MOH, MOT
11.	Erosion	Medium	ICI	NES
12.	Transport Accident (Aircraft)	Low	AA/POLICE	MOT, INTAFF, MOH, FAI
13.	Transport Accident (Shipping)	Low	MOT	PORTS, INTAFF, POLICE
14.	Marine resource disaster		MMR	NES
15.	Oil Spill	Low	MOT	NES, MARINE, INTAFF
16.	Landslide	Low	ICI	NES
17.	Fire	Low	RFS	VFS
18.	Tsunami	Low	MOT/POLICE/EMCI	RAC, INTAFF
19.	Terrorism Attack	Low	POLICE	MFAI, PORTS, RFS
20.	Animal Disease	Low	MOA	MOH

## EXISTING CC AND DRM ARRANGEMENTS

**Emergency Management Cook Islands (EMCI)** continues to coordinate all DRM activities and provides policy advice to the **National Disaster Risk Management Council (NDRMC)**. The NDRMC is chaired by the Prime Minister.

The 2011 Public Service Functional Review recommended the establishment of a climate change office referred to as **Climate Change Cook Islands (CCCI)**. CCCCI is responsible for coordinating and implementing climate change related activities in an integrated manner. The office also provides input into government policy related to climate change adaptation and mitigation efforts.

In the same year, a renewable energy unit referred to as the **Renewable Energy Development Division (REDD)** was established to administer the Renewable Energy Chart Implementation Plan, working in conjunction with Te Aponga Uira (power company on Rarotonga), the eleven Island Administration and Councils which are responsible for their island energy needs, development partners, the Development Coordination Division (DCD) of the Ministry of Finance and Economic Management (MFEM) and the Renewable Energy Committee, also chaired by the Prime Minister.

The three offices are separate divisions of the Office of the Prime Minister (OPM) and are therefore high priority.

An active National Disaster Risk and Climate Change Platform for climate change and disaster risk management was also formed in 2011 to replace the climate change country team. The platform is comprised of representatives from government and non-government and civil society organisations. These stakeholders meet quarterly to share information and engage in discussion surrounding relevant current and future climate change and disaster management related projects and initiatives in the Cook Islands.

In the Pa Enuua, the responsibility for the development and implementation of CC and DRM Policy and remain with the Mayor, Island Administration and Island Council.

## POLICY CONTEXT

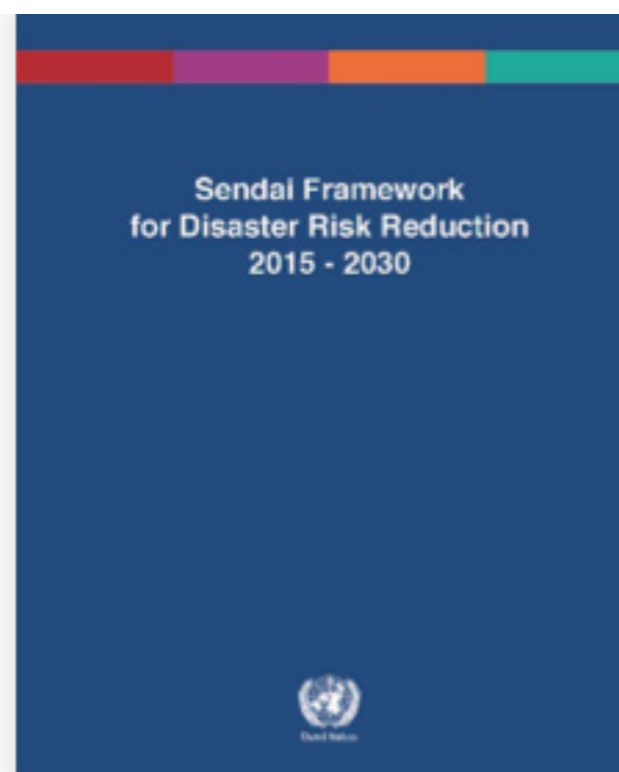
In today's context of multiple and competing development issues, it is important that any national action plan be strongly 'embedded' in the relevant policy instruments. This is done to maximise support for the plan at various levels of governance – national, regional, international, and also to facilitate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

## INTERNATIONAL

The policy context for DRM and CC 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 **Sendai Framework for Action 2015 – 2030 and the United Nations Framework Convention on Climate Change (UNFCCC)**.

The Sendai Framework for Action was the outcome of the Third UN World Conference on Disaster Reduction held in Sendai, Japan, in January 2005. It was attended by more than 4,000 delegates and representatives of 187 UN member states and civil society including the Cook Islands. 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<sup>1</sup>. On the last day of the Conference, the first major agreement of the Post-2015 development agenda was adopted, a far reaching new framework for disaster risk reduction with seven global targets and four priorities for action.



#### ***Priority 1. Understanding disaster risk***

Disaster risk management should be based on an understanding of disaster risk in all its dimensions of vulnerability, capacity, exposure of persons and assets, hazard characteristics and the environment. Such knowledge can be used for risk assessment, prevention, mitigation, preparedness and response.

#### ***Priority 2. Strengthening disaster risk governance to manage disaster risk***

Disaster risk governance at the national, regional and global levels is very important for prevention, mitigation, preparedness, response, recovery, and rehabilitation. It fosters collaboration and partnership.

#### ***Priority 3. Investing in disaster risk reduction for resilience***

Public and private investment in disaster risk prevention and reduction through structural and non-structural measures are essential to enhance the economic, social, health and cultural resilience of persons, communities, countries and their assets, as well as the environment.

#### ***Priority 4. Enhancing disaster preparedness for effective response and to “Build Back Better” in recovery, rehabilitation and reconstruction***

The growth of disaster risk means there is a need to strengthen disaster preparedness for response, take action in anticipation of events, and ensure capacities are in place for effective response and recovery at all levels. The recovery, rehabilitation and reconstruction phase is a critical opportunity to build back better, including through integrating disaster risk reduction

<sup>1</sup> It is generally agreed that \$1 spent on Disaster Risk Reduction will save between \$2 and \$10 in recovery and reconstruction costs.



into development measures.

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 Sendai Framework for Action, this convention also enjoys near universal membership.

Under the convention, governments/parties:

- 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.

In addition, at the twenty-first session of the Conference of the Parties (COP), held in Paris, France, the parties adopted the Paris Climate Change Agreement under the United Nations Framework Convention on Climate Change. On 1 September 2016 the Cook Islands deposited its instrument of ratification of the Paris Agreement with the United Nations



Honourable. Mark Brown (left) with Santiago Villalpando, Chief of the Treaty Section, the United Nations. Image: Alexandrya Herman

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

There has been support for the integration of DRM and CC at international, regional and national level in the Pacific. In 2012, at the Pacific Island Leaders Forum, it was decided to support the development of a single integrated regional strategy on climate change and disaster risk management, to succeed the two separate regional frameworks on climate change and disaster risk management (respectively, the Pacific Islands Framework for Action on Climate Change (PIFACC) and the Pacific Disaster Risk Reduction and Disaster Management Framework for Action (RFA)) after their expiry in 2015. The new framework 2017-2030 Framework for

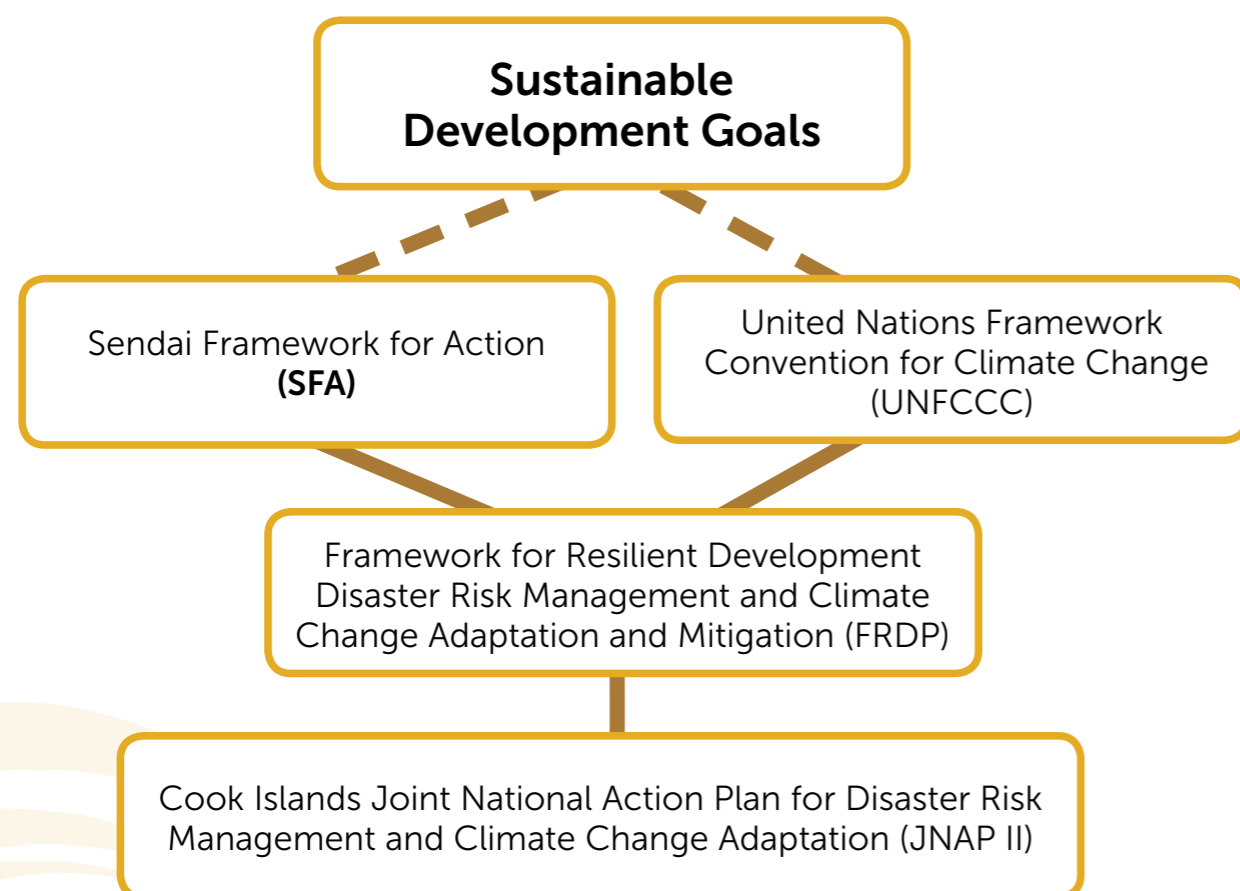


Figure 3 - Vertical linkages to regional and international policy

Resilient Development Disaster Risk Management and Climate Change Adaptation and Mitigation (FRDP) (PICT, 2017-2030 ) was approved in September 2016,

### NATIONAL

The JNAP II aligns itself closely to the National Sustainable Development Plan 2016-2020 (NSDP), the Medium Term Budgeting Framework (MTBF), the National Disaster Risk Management Plan, the Cyclone Recovery Reconstruction Plan, the National Environment Strategic Action Framework, the National Biodiversity Strategy and Action Plan, the Preventative Infrastructure Master Plan, the National Infrastructure Investment Plan and the Pa Enua Community Sustainable Developments Plans.

The NSDP is a five-year plan which captures the aspirations and ambitions of our entire country. The plan articulates key performance indicators from our broader national policy suite to represent national development.

These indicators underpin the sixteen development goals which are aligned to commonly identifiable sectors.

It is third iteration and builds upon the successes of the previous plans as we strive towards our 2020 national vision.

**“To enjoy the highest quality of life consistent with the aspirations of our people, and in harmony with our culture and environment”**

With respect to disaster risk management, the JNAP II identifies priorities and actions to facilitate the effective implementation of existing DRM legislation. In parallel, with JNAP II, EMCI and a local consultant are reviewing the current National Disaster Risk Management Plan (or arrangements) 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.

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.





With respect to climate change, the National Environmental Strategic Action Framework (NESAF), the National Biodiversity Strategy and Action Plan and Third National Communication to the UNFCCC (all of which are currently under review/development) are guiding documents for the JNAP II.

The NESAF is mandated by the Environment Act 2003 and is a key document for the environmental sector including climate change. 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 Third National Communication to the United Nations Framework Convention on Climate Change, planned to be submitted in 2018, will provide 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 II 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 3 provides a synopsis of the main vulnerabilities arising from the different kinds of climate change related hazards to be contained in the report.

In 2013, the Kyoto Protocol Adaptation Fund provided a boost to climate change adaptation planning and implementation in the Cook Islands in the form of the US \$ 5.3 million "Strengthening the Resilience of Our Islands and Our Communities to Climate Change" (SRIC-CC) programme. 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 II 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. Due to SRIC-CC's success, the Cook Islands hopes to upscale the existing programme by submitting a proposal for a further US\$3.0 million.

With respect to the planning hierarchy in the Cook Islands Government, the JNAP II constitutes a 'Sector Plan' for a unified disaster risk management and climate change adaptation sector. The JNAP II 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.



**Composting in Pukapuka**

Image: Celine Dyer



**Mama Emi of Mangaia collecting pupu shells on the makatea.**

Image: Melina Turavakai

▲▲▲  
PART 2:  
JNAP II  
▼▼▼







The purpose of JNAP II is to provide a framework and guidance to the Government of the Cook Islands and all community actions to strengthen resilience and better respond to our vision. JNAP II offers a means to coordinate, collaborate, finance and monitor the progress of integrated actions across a five year period. The vision is strongly tied to Te Kaveinga Nui 2020 vision and Goal 13 of the National Sustainable Development Plan 2016-2020 and the National Disaster Risk Management Plan 2016 (CIG, 2016).

In 2015, the first Joint National Action Plan for DRM and CC expired. In March 2016, work on the development of the new JNAP. JNAP II was initiated and led CCCI and EMCI. In May 2016, the "Brilliant Resilient" national seminar on disaster risk and climate change resilience was held at the National Auditorium in Rarotonga. It was at this seminar that government officials, island governments and administrations, NGO's, CSO's and the private sector provided input into the direction for JNAP II. After the seminar, a Technical Working Group (TWG) was formed to provide technical advice to and support the development of JNAP II. The Technical Working Group initially consisted of representatives from CCCI, EMCI, PEG and CPPO. The group then extended to include further technical input from ICI, NES, MOH, MFAI, MFEM, CIMS, SPREP and UNDP. These organisations worked in partnership on the engagement process and drafting of the JNAP II.

## 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 2020. Each action to be implemented aims to make the Cook Islands Vision a reality. The Vision of the Joint National Action Plan is:

### *"A safe, resilient and sustainable Cook Islands"*

We aspire to strengthen climate and disaster resilience to protect lives, livelihoods, economic, infrastructural, cultural and environmental assets in the Cook Islands

## STRUCTURE OF THE JNAP II STRATEGIC MATRIX

JNAP II is presented in the form of a project planning matrix, the strategic matrix. While the plan is comprehensive it is also integrated. It is comprehensive 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 matrix is separated into three thematic areas which take their lead from the regional FRDP. The nine sector based strategies are then grouped under these thematic areas.

Each strategy seeks to achieve a specific outcome for the sector which can be achieved in part by 29 actions and 146 sub-actions.



## SUMMARY STRATEGIC MATRIX

### THEMATIC AREA ONE

#### Climate change adaptation and disaster risk reduction (SP1, 2&3\*, UNFCCC\*)

Establish programming and initiatives to increase the resilience of vulnerable populations to adapt to the immediate and long-term impacts of climate change and variability. Avoid hazards and mitigate their potential impacts by reducing vulnerabilities and exposure and strengthen capacities of communities to anticipate, cope and recover from the negative impacts of emergency occurrences and disasters.

#### STRATEGY 1: GOOD GOVERNANCE

Strengthen good governance, policy, strategy and legislation for Climate Change (CC) and Disaster Risk Management (DRM)

##### ACTIONS:

1. Formalise institutional arrangements for the oversight of DRM and CC and the review, development and implementation of DRM and CC policy, strategy and legislation.
2. Establish the JNAP steering committee and the JNAP secretariat to coordinate, communicate and collaborate CC and DRM initiatives.
3. Mainstream DRM and CC considerations in existing and new national policy, strategy, community sustainable development plans, ministry business plans and budget submissions.
4. Establish sustainable financing mechanisms for DRM and CC.

#### STRATEGY 2: WATER AND FOOD SECURITY

Improve water quality, efficiency and conservation. Strengthen livelihoods and capacity for climate adaptation in agriculture and fisheries.

##### ACTIONS

5. Promote long term water security for all islands to cope with prolonged dry spells and other impacts of climate change.
6. Improve food security, reduce import reliance and strengthen resilience to the impacts of climate change through the development of the agriculture industry at the community and national level.
7. Strengthen and build resilience in the fisheries sector, ensuring a higher resilience to the impacts of climate change.
8. Strengthen the capacity to regularly monitor and report the salinity, water quality of freshwater used for water supply on all islands.

\*Sendai priority

\* UNFCCC objective



### STRATEGY 3: ENVIRONMENTAL SUSTAINABILITY

Promote sustainable land use practices for the protection and conservation of our environment and the efficient management of waste.

#### ACTIONS

12. Develop land use plans and development guidelines to strengthen planning authorities for effective management of land planning issues related to climate change adaptation and disaster risk management.
13. Improve the conservation and management of marine and terrestrial biodiversity, to the impacts of climate change.
14. Promote integrated management of the coastal zones to build resilience to natural hazards and slow onset disasters including climate change, ocean acidification, coral bleaching and coastal erosion due to sea level rise.
15. Improve and promote solid and hazardous waste management systems to address environmental and climate related risks.
16. Strengthen sanitation infrastructure to address health, environmental and climate related risks on all islands.

### STRATEGY 4: RESEARCH, MONITORING AND INFORMATION MANAGEMENT

Improve climate and disaster research and monitoring, information generation, management and sharing.

#### ACTIONS

9. Strengthen capacity to record and publish research to support effective policy development and improve decision making.
10. Strengthen coordination, sharing and management of information related to climate change and disaster risk for improved decision making.
11. Strengthen the capacity of CIMS to collect and manage data and information on weather and climate variability – especially severe weather and natural hazard events and impacts.

### STRATEGY 5: COOK ISLANDS CULTURE AND IDENTITY

Protect and preserve Cook Islands sovereignty, identity and traditions in building a resilient population.

#### ACTIONS

17. Safeguard Cook Islands sovereignty (EEZ) from the impacts of climate change
18. Encourage a spiritual and cultural approach in promoting coping strategies to inform the design of CC and DRM activities.



### THEMATIC AREA TWO

#### Climate change mitigation & low carbon development (UNFCCC\*)

To promote an integrated approach combining policy, technology and management practices or behavioural change to reduce or prevent the emission of greenhouse gases and assist the country in the move towards a low carbon society.

### STRATEGY 6: ENERGY

Promote sustainable renewable energy, energy security, energy efficiency and safe energy storage and transportation

#### ACTIONS

19. Safeguard Cook Islands sovereignty (EEZ) from the impacts of climate change
20. Encourage a spiritual and cultural approach in promoting coping strategies to inform the design of CC and DRM activities.

### THEMATIC AREA THREE

#### Disaster preparedness, response, recovery and reconstruction (SP4\*)

Save lives and meet the basic subsistence needs of the affected population based on acceptable standards during or immediately after a disaster. Restore and improve facilities, livelihoods and living conditions and organisational capacities of affected communities, and reduced disaster risks in accordance with the “building back better” principle.

### STRATEGY 7: INFRASTRUCTURE

Promote reliable infrastructure and low carbon development

#### ACTIONS

21. Strengthen and climate-proof key infrastructure in the coastal zone.
22. Strengthen existing - and establish new - public, essential services buildings and emergency evacuation centres (including schools, airports, ports, community halls) to better withstand impacts of climate change and disaster risk.



## STRATEGY 8: CLIMATE AND DISASTER RISK RESILIENCE

Strengthen climate and disaster risk resilience through integrated planning and programming at the national and community level and enhancing early warning systems

### ACTIONS

- 23. Develop and implement a national programme for community based integrated vulnerability assessment, climate change adaptation and strengthen disaster risk management and planning.
- 24. Enhance national capacity to provide early warnings for slow and fast-onset hazards, including those related to climate change.
- 25. Strengthen capacity for search and rescue at sea and on land.
- 26. Strengthen and build resilience in the tourism sector to the impacts of climate change and disasters.

## STRATEGY 9: HUMAN HEALTH AND WELFARE

Strengthen human health and welfare during response and recovery of climate and disaster impacts.

- 27. Strengthen capacity to respond to climate-related diseases.
- 28. Strengthen capacity to provide emergency health care and supplies during and after disasters.

The full matrix goes further to describe costed strategies, outcomes, lead agencies, actions, sub-actions, outputs, potential strategic partners and support agencies. It is intended to facilitate JNAP II implementation while the summary matrix serves as a quick reference guide to aid project oversight and policy integration.

A breakdown of the indicative costs of the plan is provided in Part 3 which outlines the JNAP II implementation programme.

### Strategies: The plan is organised into nine strategies,

- Good governance
- Water and food security
- Environmental sustainability
- Research, monitoring and information management
- Infrastructure
- Climate and disaster risk resilience
- Cook Islands culture and identity
- Human health and welfare
- Energy



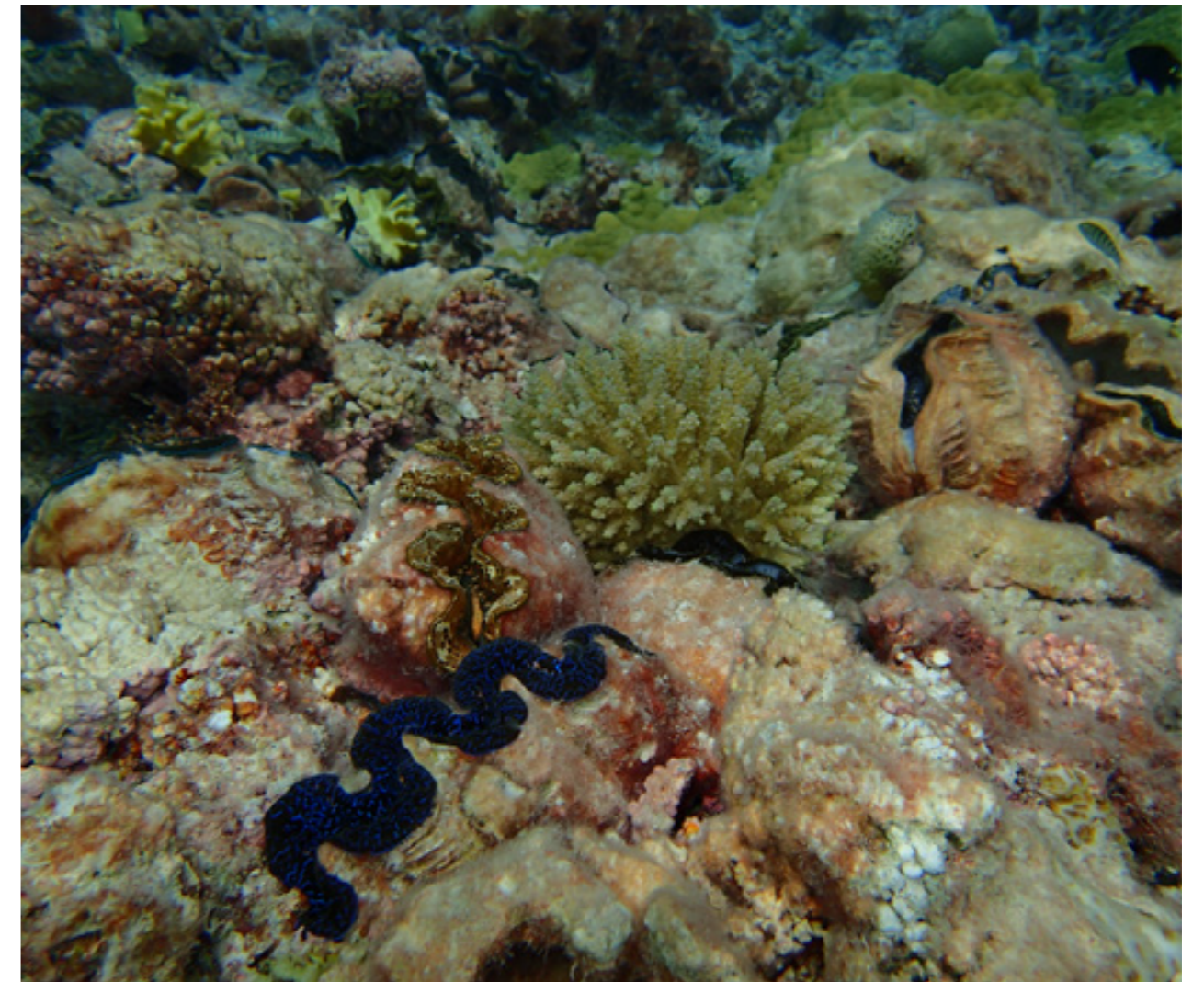
**Strategic Outcomes:** The positive changes that are expected to occur as a result of completed actions.

**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, co-ordinating and reporting on the implementation of the specified actions. Lead agencies are not expected to implement all sub-actions, but should be prepared to report on the progress of these sub-actions.

**Pa Enua:** The isolated populations in the Pa Enua (outer islands) of the Cook Islands are especially vulnerable to the anticipated changes in climate of increased frequency and intensity of rainfall and tropical storms; rising and extreme sea levels and changing wind patterns; and hotter, drier weather. Sub-actions which are relevant to the Pa Enua will be highlighted to Island Councils and Administrations, and enable plans for action to be developed, implemented and monitored.



*Coral and Paua are both feeling the impacts of rising sea temperatures. Image: Dr. Teina Rongo*



**PART 3**  
**JNAP II IMPLEMENTATION**  
**STRATEGY**

Harvest time in the Pa Enua.

*Image: Varo Media*



## INTRODUCTION

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

- » The need for a set of guiding principles for the implementation.
- » The need for appropriate implementation mechanisms defining who is to be responsible for leading JNAP II implementation.
- » The identification of resource mobilisation and approaches for the resourcing of JNAP II actions.
- » The use of a thorough monitoring and evaluation framework which addresses issues in relation to transparency and accountability, and also facilitates a systematic approach to improvements based on progress reporting.

The development of an appropriate communications strategy to help ensure that the message of increased safety and resilience uses the most appropriate media.

The implementation programme has been developed in consultation with JNAP II technical working group, the National Disaster Risk Management Council, the Climate Change Team and other key stakeholders. Institutional arrangements take into account the desire by government to harmonise DRM and CC efforts in the Cook Islands.

## GUIDING PRINCIPLES

The implementation arrangements for the JNAP II have been developed in accordance with a set of guiding principles. These are necessary to protect the integrity and intent of the whole JNAP II development and implementation process. The guiding principles add value to the national vision in the National Sustainable Development Plan 2016 – 2020: “to enjoy the highest quality of life consistent with the aspirations of our people, and in harmony with our culture and environment” and of Goal 13 – “Strengthen resilience to combat the impacts of climate change and natural disasters”

**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 and CC to be able to ensure a meaningful flow on to other potential beneficiaries.

**Inclusivity:** The implementation must, like the development of the JNAP II, 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 JNAP II implementation process.

**Clarity in role definition:** It is essential that the roles of all key players in JNAP II 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 JNAP II, and the importance of DRM and CC, 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 and CC strengthening and capacity building in the Cook Islands.

## IMPLEMENTATION MECHANISMS

The JNAP II is a comprehensive five-year programme that brings together and highlights relevant CC and DRM actions to ensure a coordinated, collaborative and streamlined approach. It is important that all stakeholders recognise JNAP II as a key document which provides leverage with donors, and which was designed and developed using a consultative, whole of government approach. The plan provides indicative costs for these actions to allow external assistance to readily identify the level of development support required.

To improve impetus for the second JNAP II, a new steering committee is to be established to help seek funding and assistance from development partners and donors in the implementation of JNAP II actions (Table 6). The committee will also oversee the newly appointed JNAP secretariat whose key responsibility will be to coordinate, monitor and evaluate JNAP II activities.

The JNAP steering committee will include the following members:

- Director of Climate Change Cook Islands
- Director of Emergency Management Cook Islands
- Head of Ministry (HOM) - National Environment Service
- HOM - Infrastructure Cook Islands
- MFEM representative
- NGO/CSO representative
- Two Pa Enea representatives

## JNAP SECRETARIAT

A JNAP secretariat will be appointed to provide coordination support and ensure lead and supporting agencies are able to carry out specified JNAP II actions. The secretariat will not implement JNAP II actions. The JNAP secretariat will be situated within the Office of the Prime Minister, Central Policy and Planning Office and provide feedback to the JNAP steering committee.

It is essential to the integrity of the JNAP II implementation effort that the EMCI, CCCI and the National Disaster Risk and Climate Change Platform is kept informed of progress by the JNAP Steering Committee, in relation to their respective financing proposals.

The following table (Table 6) outlines the key roles and responsibilities for the successful implementation of JNAP II.



Table 6: Roles and responsibilities for JNAP II implementation

Stakeholder Group	Role/Responsibility
<b>National DRM Council (NDRMC)</b>	<ul style="list-style-type: none"> <li>» High-level oversight, policy guidance and direction</li> <li>» Advocacy at Cabinet and with MFEM and OPSC to ensure the integration of JNAP II actions into the Medium Term Budgetary Framework and annual work/business plans and budgets of the relevant Ministries and agencies</li> <li>» Review of JNAP II implementation progress</li> </ul>
<b>JNAP Steering Committee</b>	<ul style="list-style-type: none"> <li>» Provide direct operational oversight of implementation and support the integration of JNAP II actions into the Medium Term Budgetary Framework and annual work/business plans and budgets of the relevant Ministries</li> <li>» Develop and implement a monitoring and evaluation framework to support JNAP II</li> <li>» Ensure that lessons learned from monitoring and evaluation are accounted for in the on-going implementation of the JNAP II and of DRM and CC activities in the Cook Islands</li> </ul>
<b>JNAP Secretariat</b>	<ul style="list-style-type: none"> <li>» Monitor and evaluate the activities within the JNAP II</li> <li>» Advise and support the JNAP steering committee</li> <li>» Advise and support the lead and support agencies</li> </ul>
<b>National Disaster Risk and Climate Change Platform</b>	<ul style="list-style-type: none"> <li>» Serve as a coordination mechanism to enhance multi-stakeholder collaboration and coordination for the sustainability of DRM and CC activities through a consultative and participatory process in line with the implementation of the SFA and the UNFCCC</li> <li>» Foster an enabling environment for developing a culture of prevention, through advocacy of and awareness-raising on DRM and CC, and the importance of integrating DRM and CC into development policies, planning and programmes</li> <li>» Facilitate the integration of DRM and CC into national policies, planning and programmes in various development sectors, as well as international or bilateral development aid policies and programmes</li> </ul>
<b>EMCI</b>	<ul style="list-style-type: none"> <li>» Provide operational leadership and coordination of the implementation of JNAP II activities</li> <li>» Support JNAP II and general DRM and CC advocacy within Ministries and the private sector, civil society and the community</li> <li>» Facilitate regular meetings of the NDRMC and the JNAP Steering Committee</li> <li>» Follow up on JNAP II implementation with Ministries and agencies</li> <li>» Facilitate reporting to NDRMC, CPPO and SPREP of JNAP II implementation progress</li> </ul>



Stakeholder Group	Role/Responsibility
<b>CCCI</b>	<ul style="list-style-type: none"> <li>» Facilitate linkages with the national climate change (CC) programme as represented by the JNAP II</li> <li>» With EMCI facilitate regular meetings of the NDRMC and the JNAP Steering Committee</li> <li>» Facilitate regular meetings of the National Disaster Risk and Climate Change Platform</li> <li>» Work with EMCI to ensure that the implementation of DRM and CC JNAP II actions are well coordinated to realise greater effectiveness and efficiency in terms of delivery</li> </ul>
<b>MFEM and CPPO</b>	<ul style="list-style-type: none"> <li>» CPPO: Review/validate JNAP II actions for consistency with NSDP</li> <li>» MFEM/CPPO: Analyse the fiscal impact of JNAP II actions and implementation proposals in line with the MTBF</li> <li>» MFEM: Agree with Ministries and agencies on the expenditure estimates for JNAP II actions</li> </ul>
<b>Ministries, agencies and local partners</b>	<ul style="list-style-type: none"> <li>» Ministries and agencies: Facilitate the integration of JNAP II actions into respective Medium Term Budgetary Framework plans and also annual work/business plans and budgets</li> <li>» Local partners: Facilitate integration of JNAP II actions into respective planning and budget systems</li> <li>» Facilitate implementation of JNAP II actions in coordination with the JNAP Steering Committee</li> <li>» Ensure progress reporting on JNAP II implementation and assist in the evaluation</li> <li>» Advocate for improved DRM and CC in the Cook Islands</li> </ul>
<b>Villages and Community groups</b>	<ul style="list-style-type: none"> <li>» Support JNAP II implementation</li> <li>» Provide feedback to assist monitoring and evaluation</li> </ul>

## FINANCING STRATEGY

The successful implementation of JNAP II relies on significant investment by Government through the national budget and/or overseas development and donor assistance.

### NATIONAL BUDGET AND OTHER INTERNAL SOURCES

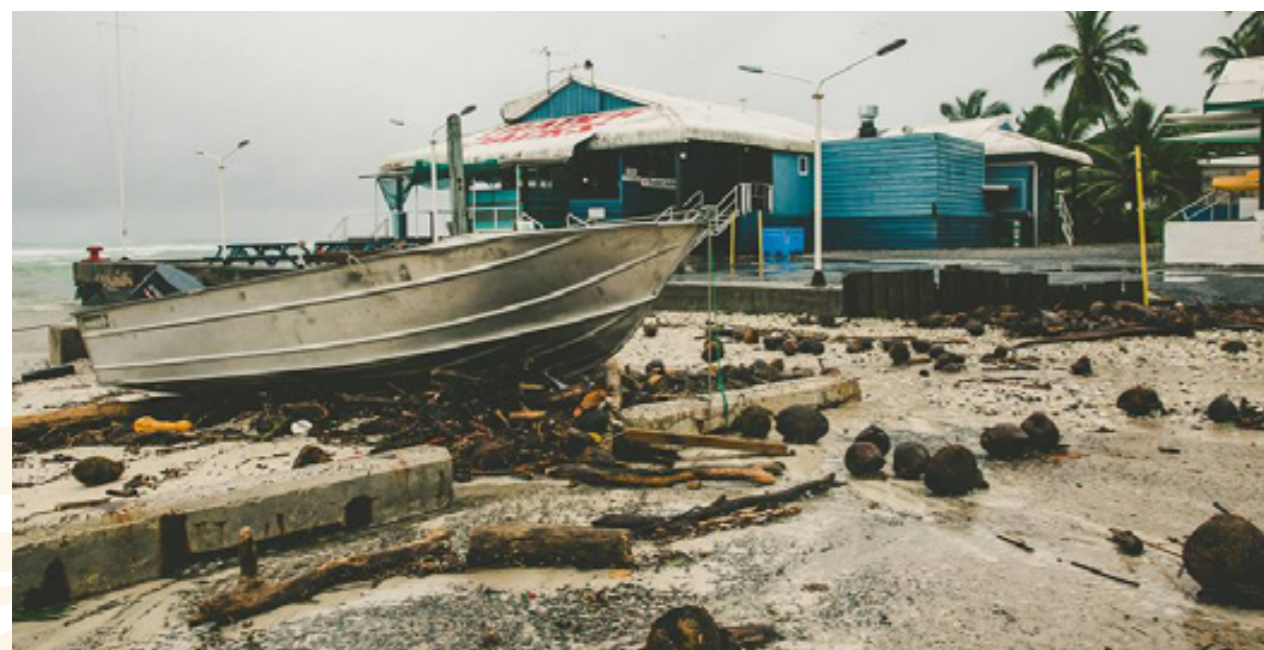
Given the recurring nature of cyclones and other hazards in the Cook Islands, it is prudent for Government to invest in building resilience. With many JNAP II activities already mainstreamed into national policy, plans and budgets, MFEM will play a key role in ensuring that CC and DRM actions that have been integrated are aligned with budget priorities and meet national and reporting standards. In addition, NGOs and CSOs may also contribute to the response efforts.

### OVERSEAS DEVELOPMENT OR DONOR ASSISTANCE

The Government relies upon the existing support of international partners towards the implementation of JNAP II through technical and financial support. It is critical to the implementation of the JNAP that development partner support and donor funding is directed in a way that best complements national priorities and systems, while 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 II 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.

As the JNAP II strategies contain both ongoing and new activities, it will be the role of the JNAP secretariat and the steering committee to identify resource gaps to be presented to development partners at the biennial Development Partners Meeting, and other funding and programming cycles.



The aftermath of Cyclone Bart at Avarua Wharf in 2017. Image: Melanie Cooper

In this regard the following strategy is proposed:

1. For the activation of funds and in-kind contributions through the National Budget:

Strategy	Intended Outcome
1. 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 II and related costs.	<ul style="list-style-type: none"> <li>» Increased awareness of the JNAP II.</li> <li>» Support for the integration of JNAP II actions into respective Ministry MTBF proposals.</li> </ul>
2. JNAP Steering Committee members 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. <ul style="list-style-type: none"> <li>• The proposals are to clearly indicate:               <ul style="list-style-type: none"> <li>» Why the JNAP intervention is proposed and disclosing supportive verifiable information.</li> <li>» The proposed sequencing of JNAP actions within the first, second and third year of the MTBF.</li> <li>» The cost estimates related to the sequencing.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>» JNAP II actions encapsulated within Ministry/Agency MTBF proposals.</li> </ul>

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 direct and bilateral programmes. Under this scenario all Ministries and Agencies would need to comply with the requirements as set out by DCD	Provision of funding to support JNAP II implementation packaged in accordance with stipulated donor guidelines and requirements.
2. Local partners (e.g. the Cook Islands Red Cross Society) with the support of EMCI and JNAP SC to liaise with partners and other regional and international organisations to support their contribution to JNAP implementation. Under this scenario the donor/partner would: <ul style="list-style-type: none"> <li>» Clarify parameters and modalities for support.</li> <li>» Undertake contractual processes to activate support including M&amp;E requirements.</li> </ul>	Funding support available for NGOs, CSOs and other bodies auxiliary to the CIG for their respective JNAP II activities. Improved participation by all JNAP II stakeholders.



## COMMUNICATION STRATEGY

The need for a communications strategy to support JNAP II implementation and general DRM and CC 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 II, 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 II actions as opportunities for communication.
4. Utilise the selected mediums of communication to:
  - a. create awareness and inform;
  - b. build capacity;
  - 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 CPPO through the JNAP Secretariat who is to mobilise a small committee to assist in the process. While JNAP SC members serve as the obvious choice for the committee, consideration should be given to other personalities in the Cook Islands who are familiar with media and marketing as well as those involved 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. The review highlighted a number of key issues to be taken into account in the development of a monitoring and evaluation framework for the JNAP II.

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 build capacity among those using the system to identify and develop improvements to the monitoring and evaluation framework as an ongoing 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 II. These have been contextualised below in relation to the JNAP II 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.
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. OPSC: 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 JNAPSC.
4. EMCI, CIMS and the CCCI to prepare 6-monthly progress reports for the NDRMC and the National CC and DRM and Cabinet. This should include:
  - a. results achieved including (if possible) impact of JNAP II implementation in relation to the achievement of JNAP objectives 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 the use of financial support directed to NGO, CSO 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 the regional FRDP 2017-2030 and the Sendai Framework for Action.
7. CCCI to submit progress reports to SPREP.
8. NGOs and CSOs involved in JNAP II 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 II 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 conform 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 II monitoring and evaluation framework, some attention is needed for the sequencing of reports and reporting so that time-frames are adhered to. This can be achieved through a calendar for JNAP reporting.

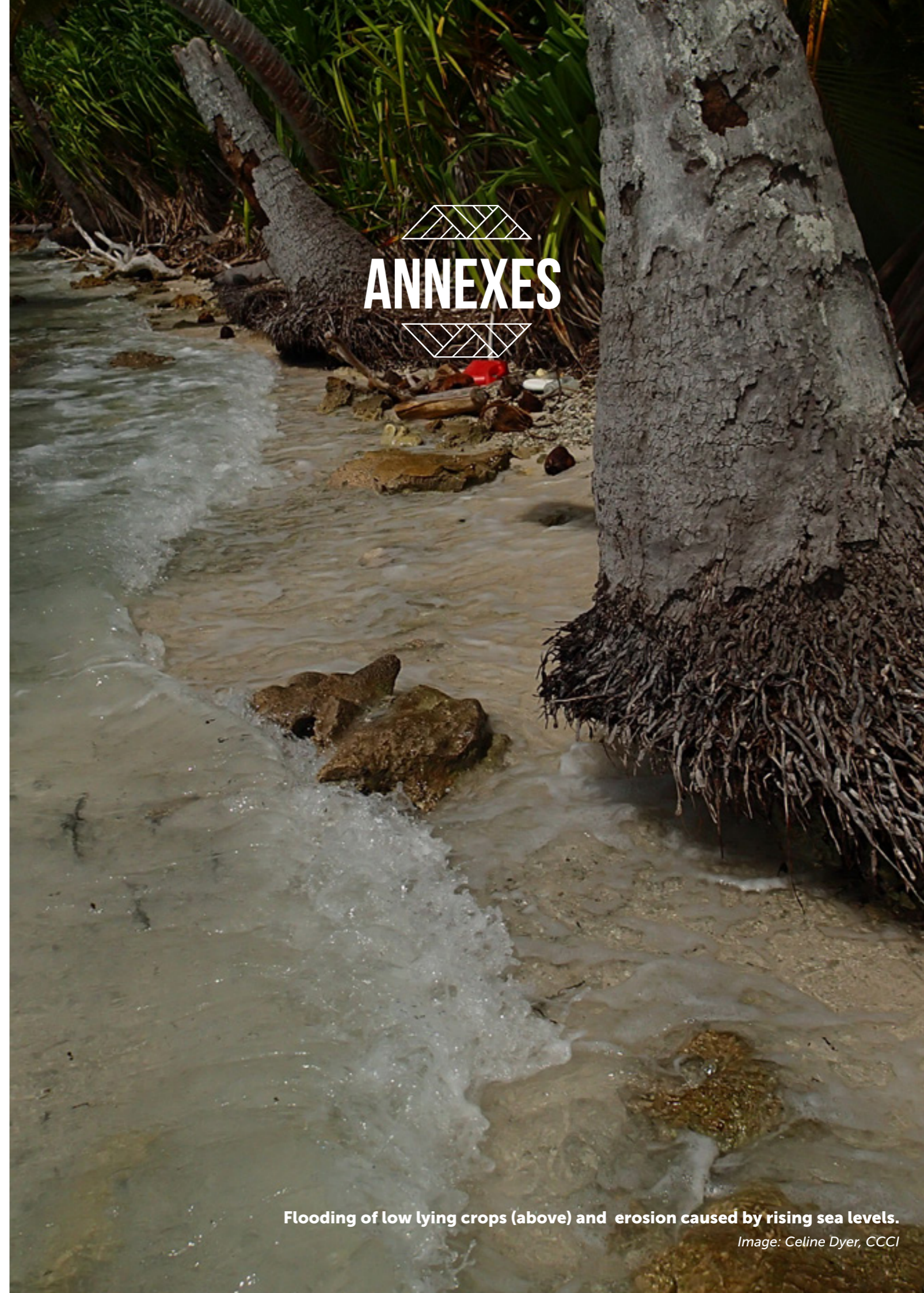




The table below (Table 7) lists the reporting requirements for the monitoring and evaluation of the JNAP implementation.

**Table 7 – M & E Reporting requirements**

Stakeholder Group/ Ministry/Agency	Reports To	Frequency	Reporting Modality	Stakeholder Group/Ministry/ Agency to provide feedback to
NDRMC and National Disaster Risk & Climate Change Platform	Cabinet	6 months	Cabinet paper	EMCI, CIMS, NCCE, NDRMC and CCCI
JNAP SC	NDRMC	6 months	JNAP SC paper	HOMs/Agencies
EMCI	NDRMC, 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 (JNAP Secretariat)	Cabinet, JNAP SC and DR & CC Platform	Annual	Cabinet paper	EMCI, NCCE, National DRM and CCCI, HOMs
Ministries and Agencies	MFEM, CPPO, PSC	6 months	As appropriate to receiving agency/group	NDRMC, CCCI AND EMCI
NGOs and CSOs	EMCI, CCCI, CISCO	6 months	As appropriate to receiving agency/group	Community groups and other stakeholders



**ANNEXES**

**Flooding of low lying crops (above) and erosion caused by rising sea levels.**

*Image: Celine Dyer, CCCI*



ANNEX 1:  
JNAP II STRATEGIC MATRIX

Papa Tua's family keeping  
traditional Mitiaro medicine alive.

Image: Melina Tuiravakai

## JNAP II is organised in to nine strategies which align with 13 NSDP goals.

1

### GOOD GOVERNANCE

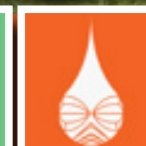
Strengthen governance, policy, strategy and legislation.



2

### WATER AND FOOD SECURITY

Improve water quality, efficiency and conservation. Strengthen livelihoods and capacity for climate adaptation in agriculture and fisheries.



3

### ENVIRONMENTAL SUSTAINABILITY

Promote sustainable practices and protect and conserve our environment and the efficient management of waste.



4

### RESEARCH, MONITORING AND INFORMATION MANAGEMENT

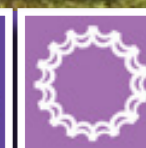
Improve research and monitoring, information generation, management and sharing.



5

### COOK ISLANDS CULTURE AND IDENTITY

Protect sovereignty, our unique identity and build a resilient population.



6

### ENERGY AND TRANSPORT

Promote the use of sustainable renewable energy and energy efficiency and reliable transport.



7

### LAND AND INFRASTRUCTURE

Strengthen land management and promote reliable infrastructure development.



8

### CLIMATE AND DISASTER RISK RESILIENCE

Strengthen climate and disaster risk management and improve early warning systems



9

### HEALTH AND WELFARE

Strengthen the health and welfare service delivery to improve response and recovery of climate and disaster impacts.



Young farmers in Mangaia head out for the harvest.

Image: Varo Media

## STRATEGY 1: GOOD GOVERNANCE

### Strengthen good governance, policy, strategy and legislation for Climate Change Adaptation (CC) and Disaster Risk Management (DRM)

#### Intended outcomes

- Cook Islands governance systems with strengthened institutional frameworks that support CC and DRM
- National and community development plans, policies and strategies have CC and DRM considerations
- Sustainable national financing mechanisms for CC and DRM



Responsible Agencies	Actions and sub-actions	Outputs	Potential development partners	Indicative cost (NZD)
<p><b>Lead:</b> <b>OPM</b> (EMCI &amp; CCCI)</p> <p><b>Support:</b> PSC, CLO, INTAFF &amp; CIRC</p>	<p><b>1. Formalise institutional arrangements for the oversight of DRM and CC and the review, development and implementation of DRM and CC policy, strategy and legislation.</b></p> <p>a. Review CC and DRM institutional arrangements, policy, strategies and legislation.</p> <p>b. Ensure stronger gender responsiveness in government programmes and policies and increased participation of woman at the decision-making level e.g. island councils.</p> <p>c. Review existing legal framework and practices in the Cook Islands in accordance with the IDRL Guidelines and the IDRL Model Act to identify obstacles to the efficient and effective delivery of international disaster relief.</p> <p>d. Develop and enact new legislation for CC and new legislation for DRM to provide a central, unified, approach for Government in climate change related measures, disaster response, relief and reconstruction and including facilitation of international disaster relief.</p>	<ul style="list-style-type: none"> <li>• New structure approved by Cabinet.</li> <li>• CC and DRM Policy developed and endorsed by Cabinet.</li> <li>• Increase the proportion of women in decision making roles within the CC and DRM institutional structure.</li> <li>• Reviewed DRM Act 2007.</li> <li>• Reviewed NDRMP and arrangements.</li> <li>• New Climate Change legislation.</li> </ul>	All development partners and donors.	\$200K
<p><b>Lead:</b> <b>OPM</b> (EMCI &amp; CCCI)</p> <p><b>Support:</b> ICI, All ministries and agencies</p>	<p><b>2. Establish the JNAP steering committee and the JNAP secretariat to coordinate, communicate and collaborate CC and DRM initiatives.</b></p> <p>a. Establish and resource the JNAP steering committee and the JNAP secretariat (Build the capacity of JNAP Secretariat to fulfil its role and responsibilities to coordinate CC and DRM initiatives, events, programmes e.g. training, professional development, appropriate resourcing.).</p>	<ul style="list-style-type: none"> <li>• JNAP steering committee approved by cabinet and JNAP secretariat appointed</li> <li>• JNAP communications are regular and delivered through multimedia i.e. National Disaster Risk and Climate Change Platform meetings, social media and printed resources and reports.</li> </ul>	All development partners and donors.	\$250K

52 The Cook Islands 2nd Joint National Action Plan 2016-2020

<p><b>Lead:</b> <b>OPM</b> (CPPO, EMCI, CCCI &amp; PEG)</p> <p><b>Support:</b> All ministries, Puna, Island government.</p>	<p><b>3. Mainstream DRM and CC considerations in existing and new national policy, strategy, community sustainable development plans, ministry business plans and budget submissions.</b></p> <p>a. Raise awareness within government on the importance of mainstreaming CC and DRM into (national and community), development plans, policies, strategy and legislation.</p> <p>b. Develop guidelines and tools to support the mainstreaming process.</p> <p>c. Monitor all ministry business plans to ensure the incorporation of JNAP activities into the</p>	<ul style="list-style-type: none"> <li>• Annual national policy development workshop with HOMs, Agency CEOs policy makers and parliamentarians.</li> <li>• All relevant national development plans, policies, strategy and legislation have sections on CC and DRM.</li> <li>• Number of Community sustainable development plans with sections on CC and DRM.</li> <li>• Mainstreaming guidelines and tools developed.</li> </ul>	All development partners and donors.	\$850K
<p><b>Lead:</b> <b>MFEM</b></p> <p><b>Support:</b> (EMCI &amp; CCCI)</p>	<p><b>4. Establish sustainable financing mechanisms for DRM and CC.</b></p> <p>a. Investigate and evaluate innovative, feasible, sustainable financing mechanisms to implement in the Cook Islands.</p> <p>b. Explore and maintain appropriate, feasible, sustainable climate and disaster risk financing mechanisms from government as well as new and additional funding from development partners (e.g. PCRAFI regional risk insurance, contingent credit facilities, etc.).</p> <p>c. Maintain and grow the Disaster Emergency Trust Fund for Disaster Management.</p> <p>d. Build capacity to develop fundable projects appropriate for the access criteria of the Green Climate Fund (GCF), Adaptation Fund (AF) and the Global Environment Facility (GEF).</p> <p>e. Take steps towards becoming accredited entities to climate financing mechanisms.</p> <p>f. Strengthen DRM and CC stakeholders in writing funding proposals.</p>	<ul style="list-style-type: none"> <li>• Evaluation of sustainable financing mechanisms (Report).</li> <li>• Disaster risk finance mechanisms that meet (sustainability, feasibility) criteria.</li> <li>• Cook Islands-Disaster Emergency Trust Fund.</li> <li>• Accreditation for NIE/s.</li> </ul>	All development partners and donors.	\$300K
<b>Total cost – Strategy 1</b>				<b>\$1.6M</b>

53 The Cook Islands 2nd Joint National Action Plan 2016-2020

## STRATEGY 2: WATER AND FOOD SECURITY

**Improve water quality, efficiency and conservation. Strengthen livelihoods and capacity for climate adaptation in agriculture and fisheries**  
*Intended outcomes:*

- Communities have constant access to reliable, potable water
- Communities achieve food security
- Communities engage in sustainable agricultural and fishing practices



Responsible Agencies	Actions and sub-actions	Outputs	Potential development partners	Indicative cost (NZD)
<p><b>Lead:</b> <b>ICI</b> (P&amp;D, WATSAN) Island government</p> <p><b>Support:</b> OPM (CCCI, EMCI, PEG), MOH, MOA, NES, CIRC</p>	<p><b>5. Promote long term water security for all islands to cope with prolonged dry spells and other impacts of climate change .</b></p> <p>a. Develop a Cook Islands Contingency Plan for access to safe and potable water during droughts for all islands.</p> <p>b. Implement drought response activities for all islands.</p> <p>c. Develop a National Strategy for Long-term Water Security, addressing the long-term impacts of climate change.</p> <p>d. Develop and conduct education and awareness programmes on protecting water resources and conserving water.</p> <p>e. Investigate and implement measures to increase capacity, facilitate cartage to and from, and protect, for emergency purposes, each island's water storage.</p> <p>f. Ensure clean water through effective management of watersheds (health regulations).</p> <p>g. Build local capacity for water tank maintenance.</p> <p>h. Promote household water collecting structures.</p> <p>i. Investigate alternative sources of ground water.</p> <p>j. Conduct a feasibility study for the purchase of a desalination plant for each island for emergencies.</p> <p>k. Establish and provide training on GIS applications for water resource management.</p> <p>l. Conduct regular water assessments on water level, water use, care and maintenance of natural water resources and infrastructure on all islands.</p> <p>m. Annual report on the status of our water lens and water protection zones.</p>	<ul style="list-style-type: none"> <li>• NSDP Indicator 4.1.</li> <li>• Emergency water supply contingency plan in place for all islands, building resilience to the impacts of climate change.</li> <li>• Decrease of reported emergencies caused by drought.</li> <li>• Results of water testing to national water standards.</li> <li>• Number of communities, schools, islands that received awareness material on the protection of water sources and water conservation.</li> <li>• Water storage capacity increased.</li> <li>• Health regulations concerning piggeries and septic tanks applied.</li> <li>• Household water storage tanks are well maintained.</li> <li>• Each inhabited island has a backup desalination plant.</li> <li>• GIS is being used for water resources and management.</li> <li>• Water assessments conducted and data is available for all islands.</li> </ul>	<p>New Zealand, Peoples Republic of China, GCF</p>	\$44.6M

54 The Cook Islands 2nd Joint National Action Plan 2016-2020

<p><b>Lead:</b> <b>MOA</b> Island government</p> <p><b>Support:</b> MOH, NGOs, CIRC</p>	<p><b>6. Improve food security, reduce import reliance and strengthen resilience to the impacts of climate change through the development of the agriculture industry at the community and national level.</b></p> <p>a. Invest in research and development of new crop varieties and livestock breeds, including those resilient to climate change impacts.</p> <p>b. Ensure adequate supplies of food crop planting materials on all inhabited islands ahead of cyclone season.</p> <p>c. Introduce coconut and other food crop replanting programmes on all inhabited islands.</p> <p>d. Provide nutritional supplements to islanders and vulnerable groups.</p> <p>e. Promote sustainable land management and farming practices (including removal of water-thirsty, flammable, alien vegetation), organic farming and pest control techniques.</p> <p>f. Promote livelihood options in crop and livestock production where feasible.</p> <p>g. Promote subsistence farming with emphasis on organic farming (home and school gardens).</p> <p>h. Promote agricultural micro-business and small business.</p> <p>i. Identify pilot communities for community based agricultural business.</p> <p>j. Develop and deliver training for improved food preservation, storage and processing techniques and promote food storage ahead of cyclone season</p>	<ul style="list-style-type: none"> <li>• New strains developed that are better adapted to changing conditions, including climate change related impacts and resilient crops available on all islands.</li> <li>• Seedlings and cuttings prepositioned on each island.</li> <li>• Greater variety and more food being grown locally.</li> <li>• Nutritional supplements being consumed by island communities.</li> <li>• New methods of sustainable agriculture being promoted on all islands.</li> <li>• Productivity of soils retained. Improved soil water retention and reduced fire risk.</li> <li>• Livelihood options being promoted on all islands.</li> <li>• Reports, documents and training material on food preservation and storage produced and delivered.</li> </ul>	<p>FAO</p>	\$5.4M
<p><b>Lead:</b> <b>MMR</b> Island government</p> <p><b>Support:</b> MOA, NGOs, TIS, Aronga Mana .</p>	<p><b>7. Strengthen and build resilience in the fisheries sector, ensuring a higher resilience to the impacts of climate change.</b></p> <p>a. Identify pilot communities for community based fisheries management.</p> <p>b. Implement management plans and guidelines for the aquaculture sector.</p> <p>c. Promote livelihood options in fisheries where feasible.</p> <p>d. Document traditional knowledge on fishing, navigation and preservation techniques.</p> <p>e. Review the impact of commercial fishing on subsistence fishing.</p>	<ul style="list-style-type: none"> <li>• Increase in household consumption of oceanic and aquaculture seafood.</li> <li>• Aquaculture management plans in place and implemented.</li> <li>• Ra'ui protected areas strengthened and expanded.</li> <li>• Livelihood options being promoted on all islands.</li> <li>• Traditional knowledge and preservation techniques published and awareness material distributed to communities.</li> </ul>	<p>UNDP</p>	\$4.3M
<p><b>Lead:</b> <b>MOH</b> (Island government)</p> <p><b>Support:</b> MMR, ICI, ISACI</p>	<p><b>8. Strengthen the capacity to regularly monitor and report the salinity, water quality of freshwater used for water supply on all islands.</b></p> <p>a. Conduct training on analysing data and provide support for reporting.</p> <p>b. Acquire monitoring equipment and provide training to local counterparts</p>	<ul style="list-style-type: none"> <li>• Appropriate training programmes and evaluation.</li> </ul>	<p>UNDP, New Zealand</p>	\$500K

**Total cost – Strategy 2 \$54.8m**

55 The Cook Islands 2nd Joint National Action Plan 2016-2020

## STRATEGY 3: ENVIRONMENTAL SUSTAINABILITY

Promote sustainable land use practices and the protection and conservation of our environment and the efficient management of waste

Intended outcomes:

- Communities have constant access to reliable, potable water
- Communities achieve food security
- Communities engage in sustainable agricultural and fishing practices



Responsible Agencies	Actions and sub-actions	Outputs	Potential development partners	Indicative cost (NZD)
<p>Lead: <b>ICI</b> (P&amp;D) Island government</p> <p>Support: ICI (GIS), EMCi, NES, MOE, MOA, MOJ, Aronga Mana, CPPO</p>	<p><b>9. Develop land use plans and development guidelines to strengthen planning authorities for effective management of land planning issues related to climate change adaptation and disaster risk management.</b></p> <p>a. Strengthen and develop capacity within land planning authorities for land use planning with relevant training, appropriate equipment and software.</p> <p>b. Adopt and implement land use plans and development guidelines for all islands.</p> <p>c. Strengthen capacity of central and technical agencies in risk management and climate change adaptation based approaches to planning</p> <p>d. Train builders in cyclone-proof building methods.</p> <p>e. Raise awareness of developers of hazard and climate change related risks.</p> <p>f. Revisit and review exposure database of islands buildings and infrastructure.</p> <p>g. Review asset management plan (live document).</p>	<ul style="list-style-type: none"> <li>• Land planning authorities are provided with adequate training and equipment.</li> <li>• Land Use Policy .</li> <li>• Training held and resources procured.</li> <li>• Recommendations for strengthening hazard risk components of regulations accepted.</li> </ul>	SPREP, Australia	\$500K
<p>Lead: <b>NES</b> Island government</p> <p>Support: CINHT, TIS, NGOs, CLO, CCCI, MMR, MOA, Marae Moana</p>	<p><b>10. Improve the conservation and management of marine and terrestrial biodiversity to increase resilience to the impacts of climate change.</b></p> <p>a. Monitor the impacts of climate change on animal and plant population health and distribution.</p> <p>b. Develop community based protected areas to protect rare and endangered environments and species.</p> <p>c. Develop and implement actions to protect and reduce the vulnerability of endangered species (plants, animals).</p> <p>d. Develop, where needed, appropriate regulatory mechanisms for all islands.</p> <p>e. Strengthen the institutional capacity of enforcement agencies.</p> <p>f. Eradicate and control invasive plants and animals Promote effective control of marine litter from land sources.</p>	<ul style="list-style-type: none"> <li>• NSDP Indicator 11.2, 11.3.</li> <li>• Monitoring systems in place.</li> <li>• Total area of protected areas identified to protect endangered environments and species.</li> <li>• Environment regulations exist on all islands.</li> <li>• Programmes in place to eradicate alien invasive species.</li> </ul>	SPREP, UNDP	\$900K

56 The Cook Islands 2nd Joint National Action Plan 2016-2020

<p>Lead: <b>MMR</b> Island government</p> <p>Support: ICI, CLO, Tourism, ISACI, TIS, Marae Moana</p>	<p><b>11. Promote integrated management of the coastal zones to build resilience to natural hazards and slow onset events including ocean acidification, ocean warming and sea level rise.</b></p> <p>a. Monitor reef health.</p> <p>b. Raise awareness through the establishment of pilot demonstration projects.</p> <p>c. Develop regulations on coastal set back lines (buffer zones) where appropriate.</p> <p>d. Put in place monitored and integrated measures to minimise or reverse coastal erosion e.g. planting of native trees, sand traps.</p> <p>e. Monitor the safety and maintenance need of the coastal zones for low lying atolls.</p>	<ul style="list-style-type: none"> <li>• NSDP Indicator 12.1 - (State of the reef).</li> <li>• Reduction in vulnerable developments close to the seashore.</li> <li>• Rate of coastal erosion reduced.</li> <li>• ICM pilot projects established.</li> <li>• Total area of land covered by native trees.</li> </ul>	SPREP, UNDP, CCCI, NES, IUCN, SPC, FFA, AF, GCF	\$500K
<p>Lead: <b>MOH</b> (Island government)</p> <p>Support: MOA, ICI, MOH, CIGT, WATSAN, OPM (PEG), NES, ISACI, TIS, CIRC</p>	<p><b>12. Improve and promote solid and hazardous waste management systems to address environmental and climate related risks.</b></p> <p>a. Implement environmentally sound waste management systems on all islands and regularly monitor impacts on public health (air and water quality near major commercial installations).</p> <p>b. Upgrade appropriate waste management systems on all islands to eliminate health risks e.g. land-fill long term plans.</p> <p>c. Improve and promote animal waste management technologies.</p> <p>d. Develop a policy and protocol for importation, use and disposal of non-bio-degradable and hazardous substances and chemicals. (using market based mechanisms, user-pays principle, etc.).</p> <p>e. Promote waste management within businesses, communities and households.</p> <p>f. Strengthen response to climate event-related waste e.g. Green response.</p> <p>g. Regularly collect hazardous waste from the outer islands.</p>	<ul style="list-style-type: none"> <li>• NSDP Indicator 3.1, 3.2.</li> <li>• High risk areas identified.</li> <li>• Sub-standard waste management systems upgraded.</li> <li>• Policy and protocol developed and implemented.</li> <li>• No harmful build-up of hazardous waste on the outer islands.</li> </ul>	SPREP	\$2.5M
<p>Lead: <b>ICI</b> (Island government)</p> <p>Support: MOH, NES, CCCI, Tourism, WATSAN, ISACI</p>	<p><b>13. Strengthen sanitation infrastructure to address health, environmental and climate related risks on all islands.</b></p> <p>a. Investigate sanitation systems on all islands and monitor impact on water quality and public health including for persistent toxic substances.</p> <p>b. Upgrade sanitation systems on Rarotonga and Aitutaki to eliminate health, environmental and climate risks.</p> <p>c. Enforce legislation for sanitation.</p> <p>d. Strengthen the implementation and monitoring of existing</p>	<ul style="list-style-type: none"> <li>• NSDP indicator 4.1.</li> <li>• High risk areas identified.</li> <li>• Sub-standard sanitation systems upgraded.</li> </ul>	GCF	\$5.9M

Total cost – Strategy 3 \$10.3M

57 The Cook Islands 2nd Joint National Action Plan 2016-2020

## STRATEGY 4: RESEARCH, MONITORING AND INFORMATION MANAGEMENT

Improve climate and disaster research and monitoring, information generation, management and sharing.

*Intended outcomes:*

- Coordinated and centralised management of climate and disaster related research
- Capacities for data collection, assessment, analysis and interpretation, monitoring and reporting are strengthened



Responsible Agencies	Actions and sub-actions	Outputs	Potential development partners	Indicative cost (NZD)
<p><b>Lead:</b> <b>OPM</b> Island government</p> <p><b>Support:</b> NES, MOH, ICI, MFEM (Statistics Office), MOE, USP, NGOs, CSOs, EMCI, CCCI, CIRA</p>	<p><b>14. Strengthen capacity to record and publish research to support effective policy development and improve decision making .</b></p> <ol style="list-style-type: none"> <li>Conduct stock-take of research completed and currently in progress related to CC and DRM (e.g. Environment, Health, Fisheries).</li> <li>Conduct an analysis on CC and DRM research needs.</li> <li>Provide funding for an effective national research committee and secretariat.</li> <li>Develop inter-agency relationships to support research and publication of research within the schools, universities and in the workforce.</li> <li>Develop inter-agency relationships to support research and publication of research within the schools, universities and in the workforce.</li> <li>Support the implementation of the Cook Islands Strategy for the Development of Statistics.</li> </ol>	<ul style="list-style-type: none"> <li>• NSDP Indicator 15.5 (Research applications).</li> <li>• National research unit established.</li> <li>• Up to date information on research is readily available on-line.</li> <li>• All risk relevant information is centralised.</li> <li>• Clarity and structure in information sharing arrangements.</li> </ul>	<p>USP, SPC, SPREP, FAO, WHO, other UN Agencies</p>	\$2.1M
<p><b>Lead:</b> <b>NES</b> Island government</p> <p><b>Support:</b> CINHT, TIS, NGOs, CLO, CCCI, MMR, MOA, Marae Moana</p>	<p><b>15. Strengthen coordination, sharing and management of information related to climate change and disaster risk for improved decision making.</b></p> <ol style="list-style-type: none"> <li>Conduct a stock-take of available databases (Environmental, Meteorological).</li> <li>Strengthen national data and information centre (geoportal, central database and website).</li> <li>Source relevant information by regularly trawling all ministries, agencies and NGOs.</li> <li>Establish a protocol for information sharing.</li> <li>Establish a linkage mechanism between national data and information centre and all islands.</li> <li>Provide risk information management in-service training for relevant agencies.</li> </ol>	<ul style="list-style-type: none"> <li>• Risk information is openly available to all planners.</li> <li>• All risk relevant information is centralised.</li> <li>• Clarity and structure in information sharing arrangements.</li> <li>• Number and quality of trainings held.</li> <li>• Readily accessible, transparent and understandable information is available on-line.</li> </ul>	<p>USP, SPC, SPREP, FAO, WMO, other UN Agencies</p>	\$600K
<p><b>Lead:</b> <b>CIMS</b> Island government</p> <p><b>Support:</b> ICI, CLO, CCCI, Tourism, NES, ISACI, TIS, Marae Moana</p>	<p><b>16. Strengthen the capacity of CIMS to collect and manage data and information on weather and climate variability – especially severe weather and natural hazard events and impacts.</b></p> <ol style="list-style-type: none"> <li>Modernise data logging.</li> <li>Mobilise 24/7 staffing at the main office.</li> <li>Build capacity with weather forecasting, data analysis and equipment maintenance.</li> <li>Build capacity for climate forecasting, data analysis and equipment maintenance.</li> <li>Conduct training on generating, analysing, interpreting and communicating in real time.</li> <li>Develop GIS that integrates weather/climate and natural disaster information.</li> <li>Collect information, data and traditional knowledge, relevant to adaptive fishing and farming (Arapo).</li> </ol>	<ul style="list-style-type: none"> <li>• Number of trained and qualified staff.</li> <li>• Availability of special bulletins.</li> <li>• Farmers are using adaptive fishing and farming methods.</li> </ul>	<p>SPREP</p>	\$1.5M
<b>Total cost – Strategy 4</b>				<b>\$4.2M</b>

48 The Cook Islands 2nd Joint National Action Plan 2016-2020

59 The Cook Islands 2nd Joint National Action Plan 2016-2020

## STRATEGY 5: COOK ISLANDS CULTURE AND IDENTITY

**Protect and preserve Cook Islands sovereignty, identity and traditions in building a resilient population.**

*Intended outcomes:*

- The rights of the Cook Islands over its existing EEZ and the resources within it are protected for the people of the Cook Islands
- Spiritual and traditional knowledge and coping strategies are preserved



Responsible Agencies	Actions and sub-actions	Outputs	Potential development partners	Indicative cost (NZD)
<p><b>Lead:</b> <b>OPM</b> (CCCI) Island government</p> <p><b>Support:</b> MMR, CLO, OPM, MFAI, TIS, Marae Moana, MET service, Aronga Mana</p>	<p><b>17. Safeguard Cook Islands sovereignty (EEZ) from the impacts of climate change.</b></p> <p>a. Conduct research on the impacts of sea level rise on our most vulnerable communities and support the development of policies to address climate and disaster related displacement and migration.</p> <p>b. Protect marine areas under the Cook Islands EEZ by developing management plans and regulations for fisheries and other natural resources.</p> <p>c. Amend legislation as appropriate to safeguard Cook Islands sovereignty.</p>	<ul style="list-style-type: none"> <li>NSDP Indicator 12.2.</li> <li>Research completed with recommendations for the EEZ in relation to climate change.</li> <li>An internationally recognised agreement between UNCLOS members to safeguard the Cook Islands EEZ.</li> </ul>	UNDP	\$200K
<p><b>Lead:</b> <b>OPM</b> (EMCI, CCCI) Island government</p> <p><b>Support:</b> MOC, NES, Media, MOE, MOH, MOA, MMR, RAC, Aronga Mana</p>	<p><b>18. Encourage a spiritual and cultural approach in promoting coping strategies to inform the design of CC and DRM activities.</b></p> <p>a. Encourage partnerships with the various Christian denominations and Aronga Mana to foster community cohesiveness, climate change awareness, and environmental stewardship</p> <p>b. Record traditional knowledge on early warning signs and coping strategies paying attention to gender considerations.</p> <p>c. Promote traditional knowledge in public awareness and within CCA and DRM programmes where relevant.</p>	<ul style="list-style-type: none"> <li>NSDP Indicator 14.3.</li> <li>Interviews with elders have been captured on media.</li> <li>Annual cyclone prayer meeting.</li> <li>Number of church groups involved with the implementation of climate change related projects</li> <li>Integration of climate change and environmental issues into church activities.</li> <li>Traditional knowledge is kept alive and used in the design of CC and DRM activities including early warnings.</li> </ul>	UNDP, FAO, AF, GCF, Japan Fund, India Fund, SIF	\$200K
<b>Total cost – Strategy 5 \$400K</b>				

60 The Cook Islands 2nd Joint National Action Plan 2016-2020

## STRATEGY 6: ENERGY AND TRANSPORT

**Promote sustainable renewable energy, energy security, energy efficiency and safe energy storage and transportation**

*Intended outcomes:*

- The Cook Islands is powered 100% by renewable energy
- Low carbon development
- Reduced greenhouse gas emissions
- Safe management of fossil fuels through resilient energy infrastructure



Responsible Agencies	Actions and sub-actions	Outputs	Potential development partners	Indicative cost (NZD)
<p><b>Lead:</b> <b>OPM</b> (REDD, CCCI) Island government</p> <p><b>Support:</b> CIIC, Ports Authority, Airport Authority, Private sector</p>	<p><b>19. Promote sustainable renewable energy</b></p> <p>a. Develop guidelines, regulation and standards for future solar photovoltaic grid connected systems (including privately owned systems).</p> <p>b. Source appropriate storage technology to power utilities.</p> <p>c. Develop regulations and standards for the safe and reliable supply, generation, transmission and delivery of power to Rarotonga and the Pa Enua.</p> <p>d. Conduct a feasibility study to determine specific actions necessary to develop environmentally sound alternative energy sources e.g. biofuels, wind power, hydro power and solar energy.</p>	<ul style="list-style-type: none"> <li>NSDP Indicator 6.1.</li> <li>Policies established and implemented for renewable energy.</li> <li>Increase in power utilities efficiency due to automation and storage technology.</li> </ul>	NZ Government, EU, ADB, Japan, UN, International Renewable Energy Agency	\$1.0M
<p><b>Lead:</b> <b>OPM</b> (REDD, CCCI) Island government</p> <p><b>Support:</b> ICI, TAU, MOT, NES, MOE</p>	<p><b>20. Promote energy efficiency, low carbon development and conservation to reduce greenhouse gas emissions.</b></p> <p>a. Develop legislation and policy to guide and enforce energy efficiency (transport, public buildings, electricity supply) and energy efficiency standards (electrical goods) e.g. review vehicle and electrical goods importation policy.</p> <p>b. Develop and implement public awareness programmes and education programmes on transport, energy use, electricity use and conservation.</p> <p>c. Establish mechanisms and parameters for offsetting transport and energy (e.g. aviation and shipping) related carbon emissions produced by the industry e.g. reforestation and green policies.</p> <p>d. Undertake a Green House Gas Inventory at least every five years.</p> <p>e. Conserve and sustainably manage forests, coasts, wetlands, lagoons and other natural ecosystems to enhance carbon uptake.</p> <p>f. Develop and promote programmes and training to support low carbon development and the reduction of Green House Gases.</p>	<ul style="list-style-type: none"> <li>NSDP Indicator 11.1.</li> <li>NSDP Indicator 11.2.</li> <li>Decrease in GHG Emissions per capita.</li> </ul>	NZ Government, EU, ADB, Japan, UN, International Renewable Energy Agency	\$1.5M

61 The Cook Islands 2nd Joint National Action Plan 2016-2020



## STRATEGY 6: ENERGY AND TRANSPORT (continued)

Responsible Agencies	Actions and sub-actions	Outputs	Potential development partners	Indicative cost (NZD)
<p><b>Lead:</b> <b>OPM</b> (REDD, CCCI) Island government</p> <p><b>Support:</b> ICI, TAU, MOT, INTAFF</p>	<p>21. Strengthen energy infrastructure, transportation and supply and storage systems in the Pa Enua to reduce risks to the communities from hazard, weather extremes and climate change</p> <p>a. Strengthen the design, location, operation and maintenance of energy infrastructure in the Pa Enua.</p> <p>b. Reduce risk of exposure (including climate and hazard risks) to poorly located fuel depots and power stations.</p> <p>c. Support the initiatives of the Cook Islands Renewable Energy Chart 2016.</p>	<ul style="list-style-type: none"> <li>• Safety of fuel loading processes and fuel infrastructure improved.</li> <li>• Buffer zones in place around fuel depots.</li> <li>• 100% renewables by 2020.</li> <li>• Cook Islands Renewable Energy Chart implemented.</li> </ul>	NZ Government, EU, ADB, Japan, UN, International Renewable Energy Agency	\$340.8M
<b>Total cost – Strategy 6</b>				<b>\$343.3M</b>

62 The Cook Islands 2nd Joint National Action Plan 2016-2020

## STRATEGY 7: INFRASTRUCTURE

### Promote reliable infrastructure and low carbon development

#### Intended outcomes:

- Sound and reliable public buildings, infrastructure and utilities are resilient to climate change and disasters (climate proofing)
- Appropriate and effective sanitation infrastructure



Responsible Agencies	Actions and sub-actions	Outputs	Potential development partners	Indicative cost (NZD)
<p><b>Lead:</b> <b>ICI</b> Island government</p> <p><b>Support:</b> CIIIC, Ports Authority, Airport Authority, Private sector</p>	<p>22. Strengthen capacity to record and publish research to support effective policy development and improve decision making .</p> <p>a. Identify coastal infrastructure in need of strengthening to the impacts of climate change on households, reticulation systems, airports and coastal roads.</p> <p>b. Construct and upgrade appropriate coastal protection structures to prevent flooding and damage from storm sea-surge, e.g. for Avatiu and Avarua townships.</p> <p>c. Support the implementation of the NIIP, where it relates to low carbon development and climate proofing</p>	<ul style="list-style-type: none"> <li>• Studies on climate change vulnerability of coastal infrastructure and services completed.</li> <li>• All vulnerable coastal infrastructure is identified and climate-proofed.</li> <li>• Coastal protection structures and harbours are strengthened and climate-proofed.</li> </ul>	ADB	\$18.1M
<p><b>Lead:</b> <b>NES</b> Island government</p> <p><b>Support:</b> CINHT, TIS, NGOs, CLO, CCCI, MMR, MOA, Marae Moana</p>	<p>23. Strengthen existing and establish new public, essential services buildings and emergency evacuation centres (including schools, airports, ports, community halls) to better withstand impacts of climate change and disaster risk.</p> <p>a. Review and assess the building code and the status of public and essential services buildings and infrastructure in the context of climate variability as disaster risk.</p> <p>b. Build emergency evacuation centres on all islands. \</p> <p>c. Build NEOC</p>	<ul style="list-style-type: none"> <li>• NSDP Indicator 5.4.</li> <li>• NSDP Indicator 13.2.13.3.</li> <li>• Higher percentage of public and essential services buildings and infrastructure complying with building code.</li> <li>• All islands maintain compliant emergency evacuation centres.</li> </ul>	SPC	\$11.7M
<b>Total cost – Strategy 7</b>				<b>\$29.8M</b>

63 The Cook Islands 2nd Joint National Action Plan 2016-2020

## STRATEGY 8: CLIMATE AND DISASTER RISK RESILIENCE

**Strengthen climate and disaster risk resilience through integrated planning and programming at the national and community level and enhancing early warning systems**

*Intended outcomes:*

- National, community and island government adaptation practices developed and implemented to respond to climate change-induced stresses and disaster risk in development sectors and vulnerable ecosystems
- Government agencies, island governments, schools and the wider community have capacities to act on climate change adaptation, emission mitigation and disaster risk reduction
- Damage to infrastructure and properties, and injuries and loss of life are reduced



Responsible Agencies	Actions and sub-actions	Outputs	Potential development partners	Indicative cost (NZD)
<p>Lead: <b>OPM</b> (EMCI, CCCI) Island government</p> <p>Support: NES, PEG, MOE, ICI, CIRC, TIS, ISICI, NGOs, CSOs (All agencies)</p>	<p><b>24. Develop and implement a national programme for community based integrated vulnerability assessment, climate change adaptation and strengthen disaster risk management and planning</b></p> <p>a. Encourage partnerships with various church denominations and Aronga Mana to foster community cohesiveness, climate change awareness, and environmental stewardship.</p> <p>b. Conduct integrated participatory climate change vulnerability and hazard risk mapping for all islands as appropriate.</p> <p>c. Conduct participatory climate change adaptation assessments for all islands as appropriate and integrate results into CSDPs.</p> <p>d. Conduct a training needs analysis. Develop and conduct regular training for focal points, policy makers, technical officers and island governments on DRM and CC in all agencies, NGOs, CSOs and at all levels. Prepare hazard DRM plans for each hazard and for all islands.</p> <p>e. All agencies develop gender responsive disaster response plans in accordance with DRM legislation, policy and the NDRMP that consider the specific needs of the vulnerable.</p> <p>f. Conduct operational exercises (drills) involving all relevant stakeholders e.g. Aero-drome emergency plan.</p> <p>g. Strengthen procedures for inter-agency coordination of disaster damage assessments.</p> <p>h. Refine, clarify and regularly test DM operational procedures for all inhabited islands.</p> <p>i. Develop national partnerships with outside organisations for technical backstopping.</p> <p>j. Develop, prepare and implement gender-sensitive ongoing public outreach and education programmes e.g. public seminars, workshops and training.</p> <p>k. Incorporate CC and DRM advocacy into the school curricula, as appropriate.</p>	<ul style="list-style-type: none"> <li>• GIS risk maps exist for all major hazards for all inhabited islands as appropriate, including climate change hazards.</li> <li>• Spatial and priority climate change adaptation options integrated into development planning systems.</li> <li>• Hazard DRM plans in place for each hazard and for all islands.</li> <li>• NSDP Indicator 13.1.</li> <li>• Agency response plans exist and are updated annually.</li> <li>• Clear procedures in place and understood.</li> <li>• Special needs of men and women and vulnerable groups catered for in plans.</li> <li>• Gender-responsive LL DRM Action Plans exist and are being implemented.</li> <li>• Up-to-date gender balanced database of names, positions and contacts.</li> <li>• CC and DRM formalised as a part of the school curricula, as appropriate.</li> <li>• # church groups involved in the implementation of climate change related projects.</li> <li>• Integration of climate change and environment related issues into church activities.</li> </ul>	<p>EU, World Bank, SPREP, NZAID, UNDP</p>	\$1.5M

64 The Cook Islands 2nd Joint National Action Plan 2016-2020

<p>Lead: <b>OPM</b> (EMCI, CCCI) Island government</p> <p>Support: CIMS, ICI, MOE, CIRC, TIS, Media, Police Service, Airport Authority, Ports Authority and Fire Service</p>	<p><b>25. Enhance national capacity to provide early warnings for slow and fast-onset hazards, including those related to climate change.</b></p> <p>a. Build the capacity of CIMS to provide short, medium and long-term forecasts</p> <p>b. Upgrade the Frontline Emergency Response Network system to a web-based platform (FERN II) and populate with relevant VCA data for all areas.</p> <p>c. Investigate and procure back-up alternative emergency communication systems (SW Ham).</p> <p>d. Incorporate traditional means of early warning signals at the island level.</p> <p>e. Develop and conduct early warning public awareness programmes for the general public, school children and vulnerable groups (tsunami, heat stress).</p> <p>f. Conduct regular table top and operational exercises (drills) to test the early warning systems.</p> <p>g. Implement the National Inter-Agency Contingency Plan for Humanitarian Response.</p>	<ul style="list-style-type: none"> <li>• Weather forecasts for different timescales are provided on a regular basis.</li> <li>• FERN II up and running.</li> <li>• Fail-safe communication systems in place for early warnings.</li> <li>• Traditional methods of early warning form part of official early warning systems.</li> <li>• Regular drills successfully implemented.</li> <li>• Emergency services are well prepared and understand their role.</li> </ul>	<p>WMO, UNDP, New Zealand</p>	\$1.0M
<p>Lead: <b>POLICE</b> (EMCI) Island government</p> <p>Support: ICI, MOH, Airport Authority and Fire Service</p>	<p><b>26. Strengthen capacity for search and rescue at sea and on land.</b></p> <p>a. Review existing search and rescue arrangements and capacity needs</p> <p>b. Conduct training and upgrade equipment for search and rescue.</p> <p>c. Review the capacity of the Police service and implement fire fighting priorities.</p> <p>d. Review Cook Islands fire fighting services.</p> <p>e. Work with community policing and develop community awareness of fire safety.</p>	<ul style="list-style-type: none"> <li>• Review completed.</li> <li>• Search and rescue equipment procured.</li> </ul>	<p>New Zealand</p>	\$200k
<p>Lead: <b>POLICE</b> (EMCI) Island government</p> <p>Support: ICI, MOH, Airport Authority and Fire Service</p>	<p><b>27. Strengthen and build resilience in the tourism sector to the impacts of climate change and disasters.</b></p> <p>a. Promote policies for new and existing resort developments to become self-sufficient in terms of energy and environmentally sound waste management.</p> <p>b. Encourage hotel operators to identify cyclone shelters for their guests.</p> <p>c. Develop a Disaster Preparedness and Response Plan for the tourism sector, which considers the impacts of climate change and waste management e.g. algae and procurement of plastic packaging.</p>	<ul style="list-style-type: none"> <li>• Increase in number of resorts implementing sustainable practices.</li> <li>• Hotels and resorts have safe areas for guests.</li> </ul>	<p>New Zealand, UNDP</p>	\$100k
<b>Total cost – Strategy 8</b>				<b>\$2.8M</b>

65 The Cook Islands 2nd Joint National Action Plan 2016-2020

## STRATEGY 9: HUMAN HEALTH AND WELFARE

**Protect and preserve Cook Islands sovereignty, identity and traditions in building a resilient population.**

*Intended outcomes:*

- The rights of the Cook Islands over its existing EEZ and the resources within it are protected for the people of the Cook Islands
- Traditional knowledge and coping strategies are preserved



Responsible Agencies	Actions and sub-actions	Outputs	Potential development partners	Indicative cost (NZD)
<b>Lead:</b> <b>MOH</b> (EMCI) Island government  <b>Support:</b> MOA, Puna, CINHT, NGOs and CSOs	<b>30. Strengthen capacity to respond to climate-related disease</b> a. Support a full complement of health personnel and adequate medical supplies on all inhabited islands. b. Develop and resource a gender-responsive contingency plan to maintain emergency medical supply, including the special needs of vulnerable groups. c. Work with development partners to provide an adequate supply and maintenance of vector control equipment and (organic) insecticide on all islands during the rainy season. d. Monitor the incidence of climate-related disease on all islands e.g. ciguatera poisoning and vector borne diseases. e. Monitor the disease vectors on all islands annually, in particular, mosquitoes. f. Develop health-related awareness and educational materials to be used within the community (schools, households and in public areas).	<ul style="list-style-type: none"> <li>• All health positions are filled according to staffing plan.</li> <li>• Emergency health supplies in place.</li> <li>• Stocks of vector control equipment and (organic)insecticide available.</li> <li>• A reduction in reported climate related disease.</li> </ul>	WHO	\$2M
<b>Lead:</b> <b>MOH</b> (EMCI) Island government  <b>Support:</b> INTAFF, CIRC	<b>31. Encourage a spiritual and cultural approach in promoting coping strategies to inform the design of CC and DRM activities.</b> a. Purchase protective clothing to be stockpiled with medical provisions. b. Increase capacity to conduct social and health impact assessment after a disaster, including use of gender and age-based measures. c. Conduct community first aid training and maintain an updated register. d. Arrange gender-responsive trauma counselling training for supervisors, nurses and relevant health ministry staff. e. Review of current hospital infrastructure and inventory (coping capacity).	<ul style="list-style-type: none"> <li>• Protective clothing purchased and stockpiled.</li> <li>• Social and health impact assessments are accurately conducted in a coordinated and efficient manner.</li> <li>• All safety shelters have stockpiles of emergency supplies.</li> <li>• First aid register.</li> <li>• Hospital infrastructure and inventory review completed.</li> </ul>	WHO	\$500K

**Total cost – Strategy 9 \$2.5M**

66 The Cook Islands 2nd Joint National Action Plan 2016-2020

## ANNEX 2 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)

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 Suvarrow. 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 km<sup>2</sup>), 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 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) (ADB, 2006).

## POPULATION

The resident population (exclusive of tourists and short term visitors) of the Cook Islands in September 2016 was estimated at approximately 11,700 people (CIG, Vital Statistics and Population Estimates, 2016) of which approximately two thirds live in Rarotonga. This represents an 11.5 per cent decline since June 2015. 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. 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.

Pukapuka has the highest population density (188 people per km<sup>2</sup>) followed by Rarotonga (179 people per km<sup>2</sup>) and Aitutaki (167 people per km<sup>2</sup>).

Tourist arrivals have been consistently growing in recent years and in 2016 stood at 146,000 tourists per annum – over twelve times greater than the resident population.

**Table 8. Geography of the Cook Islands**

	Island	Type	No of villages	Resident population (Census 2011)	Estimated land area (km <sup>2</sup> )	Distance (km) from Rarotonga	Highest point
Southern group	Rarotonga	Volcanic, high island	5	11,700 (Sept 2016 estimate)	67	0	652
	Aitutaki	Almost atoll	7	2038	18	225	124
	Mangaia	Raised coral (makatea)	3	572	52	175	169
	Atiu	Raised volcanic makatea	5	480	27	185	72
	Mauke		3	307	18	240	29
	Mitiaro	Low lying makatea	2	189	22	230	15
	Palmerston	Atoll	1	60	2	430	5
Northern Group	Manihiki	Atoll	2	239	5.5	1040	5
	Penrhyn	Low lying atolls	2	213	10	1180	5
	Rakahanga		5	77	4	1080	5
	Pukapuka		3	451	3.5	1145	5
	Nassau	Sand Cay	1	73	1	1075	9

## 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.

Government is headed by a Prime Minister. The Cook Islands Parliament has 24 elected Members – 10 from Rarotonga, 14 from the outer islands and one representing Cook Islands' overseas constituency. The Pa Enua (outer islands) operate local governments under statutory powers devolved by Parliament to local councils where each elects a local council and a Mayor. An Island Secretary manages operations of the local government in the outer islands.

## ECONOMY

Tourism is by far the leading growth sector, bringing huge economic benefits and major developments in tourist infrastructure on both Rarotonga and 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 and Australia.

Significant investment in capital works places construction as a recent and strong driver of economic growth with more works planned in the short to medium term, such as the Southern Group Solar Energy project. Other leading producers of income in the Cook Islands are fishing (including pearl farming), agriculture and financial services.

In recent years, the fisheries sector has dominated the export sector accounting for 96 percent of total exports and earning over NZD19 million over the 2015 period (CIG, www.mfem.gov.ck, 2016). 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.

The black pearl industry has been important for export earnings, representing an economic lifeline for some remote communities in Manihiki, the centre of pearl production. Unfortunately, environmental factors, such as cyclones, pearl oyster disease and the mass mortality of shellfish due to hypoxia, have had a negative impact and the industry needs revitalising (SPC 2013).

In the Pa Enua, other than the pearl industry in Manihiki, Rakahanga and Penrhyn and tourism on Aitutaki and Atiu, there is very limited economic activity. However, with the introduction of new crops and new technology supported by climate change programmes such as the SRICC Program, the Pa Enua are increasing activity in the agricultural sector both for commercial and sustenance farming and fishing.

About 63 percent of all households in the Cook Islands engage in some form of agricultural activity (CIG, Cook Islands Population and Housing Census, 2011), with the tourism sector constituting an important market outlet. Agriculture contributes about five 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 also have a well-developed offshore financial services business sector. The industry's total contribution to the national economy is about 8.2 per cent of GDP.

## SOCIO-ECONOMIC STATUS

The Cook Islands has a high GDP per capita compared to many other countries in the Pacific region. While the levels of human development are good by Pacific standards there remains concern over the unequal distribution of development benefits. Communities on the Pa Enua 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. The social welfare system is based on non-contributory state grants.

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. Unemployment in the Pa Enua is also an issue, with an unemployment rate of 15 per cent in the Southern Group (CIG, Economic Activity and Labour Force of the Cook Islands, 2015). This also results in more residents migrating to Rarotonga or overseas in search of employment.

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. The high rate of teenage pregnancies is also an issue of concern.

## 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.

The Environment Act 2003 ensures 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.

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. This sector is undergoing tremendous growth with a rise in the popularity of private solar farms and major investment on the Pa Enea renewable energy space.

Management of sewerage waste remains a concern, particularly with many of the high density tourist facilities discharging treated effluent into the lagoon. The widespread use of septic tanks also contributes to pollution of both ground and in-shore waters. A new Sanitation Policy is currently under development and is intended to strengthen environmental management in this area, but enforcement of the code requires strengthening.

## ANNEX 3 REFERENCES

- ADB. (2006). Strengthening Disaster Management and Mitigation. Volume 4: Climate Change Considerations.
- CIG. Cook Islands Government - Budget Estimates. Book 1 Appropriation Bill 2016/17. Avarua, Rarotonga.
- CIG. (2011). Cook Islands Population and Housing Census. Avarua, Rarotonga.
- CIG. (2015-2025). Cook Islands Strategy for the Development of Statistics.
- CIG. (2010). Cyclone Pat Recovery and Reconstruction Plan. Avarua, Rarotonga.
- CIG. (2015). Economic Activity and Labour Force of the Cook Islands. Avarua, Rarotonga.
- CIG. (2012). Enea Manu Climate Change - Vulnerability and Adaptation Assessment. Avarua, Rarotonga.
- CIG. (2013-2016). Kaveinga Tapapa Climate and Disaster Compatible Development Policy . Avarua, Rarotonga.
- CIG. (2012). Manihiki Henua Climate Change - Vulnerability and Adaptation Assessment. Avarua, Rarotonga.
- CIG. (2002). National Biodiversity Strategy and Action Plan . Avarua, Rarotonga.
- CIG. (2016). National Disaster Risk Management Plan. Avarua, Rarotonga.
- CIG. (2005). National Environment Strategic Action Framework. Avarua, Rarotonga.
- CIG. (2009). National Millennium Development Goals Report. Avarua, Rarotonga.
- CIG. (2016-2020). National Sustainable Development Plan. Avarua, Rarotonga.
- CIG. (2012). Rakahanga Enea Climate Change - Vulnerability and Adaptation Assessment. Avarua, Rarotonga.
- CIG. (2012). Second National Communication to the UNFCCC. Avarua, Rarotonga.
- CIG. (2016). Updated: Cook Islands Renewable Energy Chart. Avarua, Rarotonga.
- CIG. (2016). Vital Statistics and Population Estimates. Avarua, Rarotonga: Statistics Cook Islands.
- CIG. (2013). Vulnerability and Adaptation Assessment Report for the Island of Penrhyn . Avarua, Rarotonga.
- CIG. (2016). [www.mfem.gov.ck](http://www.mfem.gov.ck).
- Cook. (2011). Establishing a Disaster Risk Management Fund in the Cook Islands. An options analysis.
- (2007). Disaster Risk Management Act. Avarua, Rarotonga.
- (2012). Pa Enea Governance Act.
- PICT. (2017-2030). Framework for Resilient Development Disaster Risk Management and Climate Change Adaptation and Mitigation.
- Rongo, T., & Dyer, C. (2015). Using local knowledge to understand climate variability in the Cook Islands. Avarua, Cook Islands.
- (2015-2030). Sendai Framework for Disaster Risk Reduction. Sendai, Japan.
- SPC. (2013). SPC working with the Cook Islands: 2013 Annual Report.
- SPC, H. G. (2014). Cook Islands 2011 Demographic Profile. Samoa: SPC.
- SPREP. (2005). The Cook Islands - Climate Risk Profile. Samoa: SPREP.

## ANNEX 4 LIST OF ACRONYMS

<b>AA</b>	Airport Authority	<b>GCF</b>	Green Climate Fund	<b>NDRMP</b>	National Disaster Risk Management Plan	<b>PSC</b>	Public Service Commission
<b>ADB</b>	Asian Development Bank	<b>HOM</b>	Head of Ministry	<b>NES</b>	National Environment Service	<b>REDD</b>	Renewable Energy Development Division
<b>AusAID</b>	Australian Agency for International Development	<b>ICI</b>	Infrastructure Cook Islands	<b>NESAF</b>	National Environment Strategic Action Framework	<b>SDG</b>	Sustainable Development Goals
<b>APS</b>	Aitutaki Power Supply	<b>IDRL</b>	International Disaster Response Laws	<b>NGO</b>	Non-Government Organisation	<b>SFA</b>	Sendai Framework for Action
<b>CC</b>	Climate Change	<b>INTAFF</b>	Ministry of Internal Affairs	<b>NIWA</b>	National Institute of Water and Atmospheric Research (NZ)	<b>SLR</b>	Sea Level Rise
<b>CCCI</b>	Climate Change Cook Islands	<b>ITCZ</b>	Intertropical Convergence Zone	<b>NSDC</b>	National Sustainable Development Committee	<b>SOPAC</b>	Applied Geoscience & Technology Division of the Secretariat of the Pacific Community
<b>CCC</b>	Cook Islands Country Team	<b>JNAP</b>	Joint National Action Plan	<b>NSDP</b>	National Sustainable Development Plan	<b>SP</b>	Sendai Priority
<b>CICSO</b>	Cook Islands Civil Society Organisation	<b>JNAP SC</b>	JNAP Steering Committee	<b>NZAID</b>	New Zealand Agency for International Development	<b>SPREP</b>	Secretariat for the Pacific Regional Environment Programme
<b>CIG</b>	Cook Islands Government	<b>M&amp;E</b>	Monitoring and Evaluation	<b>OPM</b>	Office of the Prime Minister	<b>SRIC-CC</b>	Strengthening the Resilience of Our Islands and Our Communities to Climate Change
<b>CIGT</b>	Cook Islands General Transport	<b>MCDEM</b>	Ministry for Civil Defence and Emergency Management	<b>P&amp;D</b>	Planning and Design	<b>TAU</b>	Te Aponga Uira
<b>CIIC</b>	Cook Islands Investment Corporation	<b>MFAI</b>	Ministry of Foreign Affairs and Immigration	<b>PACC</b>	Pacific Adaptation to Climate Change Project	<b>TIS</b>	Te Ipukarea Society
<b>CINCW</b>	Cook Islands National Council of Women	<b>MFEM</b>	Ministry of Finance and Economic Management	<b>PEGCI</b>	Pa Enea Governance Cook Islands	<b>UNDP</b>	United Nations Development Programme
<b>CINHT</b>	Cook Islands Natural Heritage Trust	<b>MOA</b>	Ministry of Marine Resources	<b>PASAP</b>	Pacific Adaptation Strategy Assistance Program	<b>UNESCO</b>	United Nations Educational, Scientific and Cultural Organisation
<b>CIRC</b>	Cook Islands Red Cross	<b>MOC</b>	Ministry of Agriculture	<b>PDRMPN</b>	Pacific Disaster Risk Management Partnership Network	<b>UNFCCC</b>	United Nations Framework Convention on Climate Change
<b>CIMS</b>	Cook Islands Meteorological Service	<b>MOE</b>	Ministry of Education	<b>POPs</b>	Persistent Organic Pesticides	<b>USP</b>	University of the South Pacific
<b>CLO</b>	Crown Law Office	<b>MOH</b>	Ministry of Health	<b>PIFS</b>	Pacific Islands Forum Secretariat	<b>WHO</b>	World Health Organisation
<b>CPPO</b>	Central Policy and Planning Office	<b>MOIP</b>	Ministry of Infrastructure and Planning	<b>PRAFI</b>	Pacific Catastrophe Risk Assessment and Financing Initiative		
<b>CROP</b>	Council of Regional Organisations in the Pacific	<b>MOT</b>	Ministry of Transport				
<b>CSO</b>	Civil Society Organisation	<b>MTBF</b>	Medium Term Budgeting Framework				
<b>DCD</b>	Development Coordination Division	<b>NAPAC</b>	National Action Plan Advisory Committee				
<b>DM</b>	Disaster Management	<b>NDSAP</b>	National Biodiversity Strategy and Action Plan				
<b>DRM</b>	Disaster Risk Management	<b>NDMO</b>	National Disaster Management Office				
<b>DRR</b>	Disaster Risk Reduction	<b>NDRMC</b>	National Disaster Risk Management Council				
<b>EEZ</b>	Exclusive Economic Zone						
<b>EMCI</b>	Emergency Management Cook Islands						
<b>ENSO</b>	El Nino – Southern Oscillation						
<b>EU</b>	European Union						
<b>FAO</b>	Food and Agriculture Organisation						

## ANNEX 5 GLOSSARY

<b>Aronga Mana</b>	those persons invested with or having custody of a title in accordance with native custom and usage of the island upon which that person is a resident and which title is recognised by such native custom and usage as entitling the holder or custodian to be a member of the Aronga Mana of that island (Pa Enea Governance Act, 2012).
<b>Climate Change</b>	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.
<b>Climate Change Adaptation</b>	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.
<b>Disaster</b>	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.
<b>Disaster Risk Management</b>	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.
<b>Disaster Risk Reduction</b>	minimising and reducing disaster risks or vulnerabilities so as to avoid adverse impacts of hazards within the broad context of sustainable development.
<b>Emergency</b>	an actual or imminent event that endangers or threatens life, property or the environment and which requires a significant coordinated response.
<b>Medium term budgeting</b>	a framework for integrating fiscal policy and budgeting over the medium-term by linking a system of aggregate fiscal forecasting to a disciplined process of maintaining detailed medium-term budget estimates by ministries reflecting existing government policies.
<b>Mitigation (Disaster)</b>	regulatory and physical measures to ensure that emergency and disaster events are prevented or their effects mitigated.
<b>Mitigation (Climate Change)</b>	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.

<b>Pa Enea</b>	is the term used for 'outer islands' in Cook Islands Maori
<b>Preparedness</b>	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.
<b>Ra'ui</b>	a form of tapu (taboo) restricting access to an area or resource.
<b>Recovery</b>	the coordinated process of supporting communities affected by an event in reconstruction of physical infrastructure and restoring their social, economic and physical wellbeing.
<b>Resilience</b>	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.
<b>Response</b>	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 6 JNAP STRATEGIES INDICATIVE COSTS AND BREAKDOWNS

Strategy	Action	Details	Indicative Cost	
Strategy 1 Good governance	1	Formalise institutional arrangements for the oversight of DRM and CC and the review, development and implementation of DRM and CC policy, strategy and legislation.	\$200K	
	2	Establish the JNAP steering committee and the JNAP secretariat to coordinate, communicate and collaborate on CC and DRM initiatives.	\$250K	
	3	Mainstream DRM and CC considerations in existing and new national policy, strategy, community sustainable development plans, ministry business plans and budget submissions.	\$850K	
	4	Establish sustainable financing mechanisms for DRM and CC.	\$300K	
	<b>TOTAL INDICATIVE COST</b>		<b>\$1.6M</b>	
	<b>Summary</b>			
	Workshop		\$150K	
	Contractual Services, Technical Assistance		\$450K	
	Awareness: Advertising and printing		\$150K	
	CIG contribution		\$250K	
Materials, vehicles, tools and equipment		-		
Capital Projects: JNAP III Development DRM and CC local level plans		\$100K \$500K		

Strategy 2 Water and food security	5	Promote long term water security for all islands to cope with prolonged dry spells and other impacts of climate change.	\$44.6M	
	6	Improve food security, reduce import reliance and strengthen resilience to the impacts of climate change through the development of the agriculture industry at the community and national level.	\$5.4M	
	7	Strengthen and build resilience in the fisheries sector, ensuring a higher resilience to the impacts of climate change.	\$4.3M	
	8	Strengthen the capacity to regularly monitor and report the salinity, water quality of freshwater used for water supply on all islands.	\$500K	
	<b>TOTAL INDICATIVE COST</b>		<b>\$54.8M</b>	
	<b>Summary</b>			
	Workshop		\$500K	
	Contractual services, Technical assistance		\$1.2M	
	Awareness: Advertising and printing:		\$600K	
	CIG contribution		\$1.34M	
Materials, vehicles, tools and equipment		\$11.5M		
Capital Projects: Te Mato Vai water upgrade (7.7M Donor funding) New Water Galleries Water network maintenance Central laboratory		\$36.3M \$860K \$2M \$500K		

Strategy	Action	Details	Indicative Cost	
Strategy 3 Environmental sustainability	9	Develop land use plans and development guidelines to strengthen planning authorities for effective management of land planning issues related to climate change adaptation and disaster risk management.	\$500K	
	10	Improve the conservation and management of marine and terrestrial biodiversity, increase resilience to the impacts of climate change.	\$900K	
	11	Promote integrated management of the coastal zones to build resilience to natural hazards and slow-onset events including ocean acidification, ocean warming and sea level rise.	\$500K	
	12	Improve and promote solid and hazardous waste management systems to address environmental and climate related risks.	\$2.5M	
	13	Strengthen sanitation infrastructure to address health, environmental and climate related risks on all islands.	\$5.9M	
	<b>TOTAL INDICATIVE COST</b>		<b>\$10.3M</b>	
	<b>Summary</b>			
	Workshop			
	Contractual services, Technical assistance			
	Awareness: Advertising and printing:			
CIG contribution				
Materials, vehicles, tools and equipment				
Capital Projects: Sanitation upgrade programme		\$5.9M		

Strategy 4 Research, monitoring and information management	14	Strengthen capacity to record and publish research to support effective policy development and improve decision making.	\$2.1M	
	15	Strengthen coordination, sharing and management of information related to climate change and disaster risk for improved decision making.	\$600K	
	16	Strengthen the capacity of CIMS to collect and manage data and information on weather and climate variability – especially severe weather and natural hazard events and impacts.	\$1.5M	
	<b>TOTAL INDICATIVE COST</b>		<b>\$4.2M</b>	
	<b>Summary</b>			
	Workshop		\$500K	
	Contractual services, Technical assistance		\$600K	
	Awareness: Advertising and printing:		\$20K	
	CIG contribution		\$1.8M	
	Materials, vehicles, tools and equipment		\$80K	
Capital Projects: Establish central national database Upgrade Geoportal Modernise weather data logging		\$400K \$200K \$600K		



Strategy	Action	Details	Indicative Cost	
Strategy 5 Cook Islands culture and identity	17	Safeguard Cook Islands sovereignty (EEZ) from the impacts of climate change.	\$200K	
	18	Encourage a spiritual and cultural approach in promoting coping strategies to inform the design of CC and DRM activities.	\$200K	
	<b>TOTAL INDICATIVE COST</b>		<b>\$400K</b>	
	<b>Summary</b>			
		Workshop	\$150K	
		Contractual Services, Technical Assistance	\$100K	
		Awareness: Advertising and printing	\$100K	
		CIG contribution	\$200K	
		Equipment: Materials	-	
		Capital Projects:		

Strategy 6 Energy and Transport	19	Promote sustainable renewable energy.	\$1.0M	
	20	Promote energy efficiency, low carbon development and conservation to reduce greenhouse gas emissions.	\$1.5M	
	21	Strengthen energy infrastructure, transportation, and supply and storage systems in the Pa Enua to reduce risks to the communities from hazards, weather extremes and climate change.	\$340.8K	
	<b>TOTAL INDICATIVE COST</b>		<b>\$343.3M</b>	
	<b>Summary</b>			
		Workshop	\$300K	
		Contractual Services, Technical Assistance	\$650K	
		Awareness: Advertising and printing	\$750K	
		CIG contribution	\$300K	
		Equipment: Materials	\$1M	
	Capital Projects: Renewable Energy projects for all islands	\$340.3M		

Strategy	Action	Details	Indicative Cost	
Strategy 7 Infrastructure	22	Strengthen and climate-proof key infrastructure in the coastal zone	\$18.1M	
	23	Strengthen existing and establish new public, essential services buildings and emergency evacuation centres. (including schools, airports, ports, community halls) to better withstand impacts of climate change and disaster risk.	\$11.7M	
	<b>TOTAL INDICATIVE COST</b>		<b>\$29.8M</b>	
	<b>Summary</b>			
		Workshop	\$500K	
		Contractual Services, Technical Assistance	\$200K	
		Awareness: Advertising and printing	\$20K	
		CIG contribution	\$1.8M	
		Equipment: Materials	\$80K	
		Capital Projects: Orongo Development – Aitutaki – Climate proofing Penrhyn coastal protection Rutaki Rock Revetment Avarua bridges Cyclone centre programme Build dedicated NEOC	\$15.0M \$4.0M \$2.6M \$5.0M \$2.0M \$1.0M	

Strategy 8 Climate and disaster risk resilience	24	Develop and implement a national programme for community based integrated vulnerability assessment, climate change adaptation and strengthen disaster risk management and planning.	\$1.5M	
	25	Enhance national capacity to provide early warnings for slow and fast-onset hazards, including those related to climate change.	\$1.0M	
	26	Strengthen capacity for search and rescue at sea and on land.	\$200K	
	27	Strengthen and build resilience in the tourism sector to the impacts of climate change and disasters.	\$100K	
	<b>TOTAL INDICATIVE COST</b>		<b>\$2.8M</b>	
	<b>Summary</b>			
		Workshop		
		Contractual Services, Technical Assistance		
		Awareness: Advertising and printing		
		CIG contribution		
	Materials, vehicles, tools and equipment			
	Capital Projects:			

Strategy	Action	Details	Indicative Cost	
Strategy 9 Human health and welfare	28	Strengthen capacity to respond to climate-related disease.	\$2M	
	29	Strengthen capacity to provide emergency health care and supplies during and after disasters.	\$500K	
	<b>TOTAL INDICATIVE COST</b>		<b>\$2.5M</b>	
	<b>Summary</b>			
		Workshop	\$500K	
		Contractual Services, Technical Assistance	\$400K	
		Awareness: Advertising and printing	\$200K	
		CIG contribution:	\$1.5M	
		Equipment: Materials	\$400K	
	Capital Projects:			



Cook Islands  
Government