

# Government of the Republic of Marshall Islands



## Adaptation Communication – Republic of the Marshall Islands (RMI)

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Adaptation Communication – December 2020

# Adaptation Communication Report



Submitted by: Climate Change Directorate (CCD), Republic of the Marshall Islands (RMI)

December 2020

*"Impacts of climate change [are] hitting us faster and harder... Even me: I was living on an outer island and had to move to Majuro because we had run out of water. [Currently] We have had three different disaster declarations for months. Now we have a dengue epidemic. We have COVID, we have drought. Soon we come into king tide period. The tides are different now. This morning I was woken by the tide coming into my backyard. It never used to be like that".*

- A Marshall Island respondent describes the impact of climate change during an interview with SIDS evaluation team. (from "Independent Evaluation of the Relevance and Effectiveness of GCF Investments in Small Island Development States (SIDS) – October 2020).

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# Executive Summary

The Marshallese people have shown their resilience repeatedly throughout our nation's history. They have built a strong society and thriving culture in one of the most challenging terrains on the planet, which has persevered throughout colonialism, war, and devastating nuclear testing. According to the National Strategic Plan 2020-30:

*Building the resilience of our people and ecosystems is necessary for sustainable development. Protecting our natural capital and strengthening our human capital is essential for meeting our national development objectives and ensuring the sustainability of economic growth regardless of the environmental impacts we may face in the future... Fundamentally, 'resiliency' can be defined as the empowerment of individuals to make the most of opportunities and resources available so that families and communities can adapt to changing circumstances, including the environment.*

As the Government of the Republic of the Marshall Islands (GoRMI) confronts the challenges of adapting to climate change impacts, we will draw on, respect, and nurture the fundamental resilience of our people, ensuring that our government provides an environment for that collective resilience to thrive and for our people to determine their future.

This National Adaptation Communication sets out the national circumstances of RMI, and the particular vulnerabilities facing the country. As a large ocean state, with already-limited land territory and a remote and challenging natural environment, sea level rise is a key threat. This is expected to affect the low-lying Marshall Islands not only through wave inundation, but also through extreme events such as king tides, and increase of drought, economic impacts, and health issues.

The principles underpinning the National Adaptation Plan (NAP) process are crucial towards ensuring the delivery of an effective and implementable "National Survival Plan" that protects the best interests of all Marshallese people. The GoRMI is developing the NAP in close consultation with communities at the atoll/island level, merging the best available science with the traditional and local knowledge of the Marshallese people. It is also important to note that the adaptation planning process is situated in the broader context of a national development plan, and recognizes the importance of ecological and socioeconomic resilience as a backbone of adaptation and development planning.

Climate change will have a profound environmental, social, and economic impact on the RMI, and under high emissions scenarios, may pose a threat to our human rights including the right to self-determination. Self-determination is therefore the primary driver of our NAP process. The actions of other states, particularly those with high emissions, make it increasingly difficult for our people to pursue economic, social and cultural development and territorial security. According to the *Declaration on Principles of International Law Concerning Friendly Relations and Co-Operation Amongst States in Accordance with the Charter of the United Nations*, the principle of equal rights and self-determination of peoples secures the right of all people "freely to determine, without external interference, their political status and to pursue their economic, social and cultural development". It could not be clearer that our economic, social and cultural life is under threat as a result of climate change. Climate change poses a direct affront to our right to self-determination and adaptation is our response: our assertion of the continued collective right to self-determination inherent in our nationhood.

The RMI Government is pursuing a locally-focused approach to self-determination based on an understanding of the specific situations, circumstances and vulnerabilities (both social and environmental) of the atolls and their communities. This understanding will help identify

appropriate resilience and adaptation measures to progressively address and prepare for projected climate change impacts.

The principles and processes for adaptation planning are set out in Section 2. Eight areas have been identified as key issues for consideration as RMI plans for adaptation and resilience-building:

- Ecosystem Management, Protection and Conservation;
- Land tenure rights;
- Infrastructure;
- Governance and capacity;
- Social well-being;
- Economic development;
- Cultural heritage;
- Security.

Significant challenges face RMI as it develops and delivers its adaptation objectives. These include the need for further, more detailed data at island and atoll levels; uncertainties in climate modelling and predictions; limits to human and technical capacity within GoRMI; and a lack of sustainable financing mechanisms to support current and future adaptation efforts.

# 1 National Circumstances

## 1.1 Principles and approach

### 1.1.1 Atoll Adaptation: Guiding Principles

The GoRMI National Strategic Plan, 2020-2030 incorporates several broad adaptation principles in the discussion of the "*Environment, Climate Change and Resilience*" as one of five pillars underpinning the RMI's national vision and development goals. These are set out in Table 1.1.

1. Right to remain	The natural, inalienable right for people to remain on their islands.
2. Resilience imperative	Resilience as the fundamental focus.
3. Integrated adaptation	Recognition of the complex and multidimensional reality.
4. Knowledge first	Scientific and knowledge-first approach.
5. Adaptive capacity	Strengthening capacity to adapt.
6. Consensus and inclusion	Emphasizing consultation, consensus building.
7. Technology and tradition	Embracing innovation, traditional knowledge.
8. Security	Recognizing the place of security, well-being, identity, self-determination, human rights, and survival.

Table 1.1: Adaptation Principles

With regard to the development of a RMI NAP, these broad principles represent a point of departure. Thus, the NAP process has taken a stance of starting with an understanding of the local situation, circumstances and vulnerabilities (both social and environmental) of its atolls and communities, their need for improved resilience, and their right to be involved.

The primary driver of the NAP process is self-determination. This focus sits above and alongside the following key approaches:

- Decisions supported by observation, knowledge (local and external) and science;
- Adaptation driven development delivered through the sectors and at the community level;
- Resilience measures to extend well-being and habitability recognized as adaptation;
- Identifying progressive adaptation pathways to prepare for and adjust to actual climate change impacts over time.

The NAP process will incorporate a consultation framework to give effect to these principles. Other principles of development also apply, including inclusion, gender, equity, identity and integration.

It is important to note that no development plan can progress without consulting indigenous residents, since all land in RMI comes under traditional ownership. Therefore, no initiatives can

take place anywhere without consultation and consent from those landowners. Challenges to consultation do exist, but the Government of RMI (GoRMI) will continue to pursue effective and transparent consultation processes that reflect and respect indigenous Marshallese culture and society.

### 1.1.2 Progressive Adaptation Pathways

Adaptation and resilience-building efforts to date have focused mostly on tangible investments, infrastructure, and project-based initiatives and interventions. The focus has been placed on protecting what we have here and now, in order to defend the existing physical assets and resources.

The RMI NAP is taking a broader focus to include non-physical dimensions of well-being, livelihood and habitability, and to address issues of cultural and land rights, the legal, economic and sovereign aspects of potential extreme climate impacts, and the enabling environment which will be required to deal with these.

With the continued rise in global emissions, temperatures, and sea levels, the RMI is facing a future of significant climate impacts. These impacts have the potential to become extreme over time, testing the limits of habitability. The NAP support team has undertaken a stocktake of the available climate projections to 2100 and beyond and has identified climate scenarios to inform the adaptation planning and NAP development.<sup>1</sup>

The NAP aims to identify adaptation pathways to initially improve sector and community resilience, addressing issues of well-being and livelihood and looking to nature-based solutions to improve and protect vulnerable eco-systems necessary for supporting well-being. Progressively, planning, infrastructure and hard protection measures will be addressed with the intention to extend the habitability of the atolls threatened by continuing sea level rise and wave overwash along with drought and the potential increasing incidence of disease and ecosystem impacts. Also included are measures to address the enabling environment - both traditional and government.

These measures are intended to improve resilience, well-being and livelihoods, protect ecosystems to the extent possible, and extend habitability of the atolls. Also they are intended to prepare communities and government to respond to potential extreme impacts as they develop.

With this there is a clear recognition that as the climate crisis worsens, its effects may become deeper and more complex, driving the implementation of more radical adaptation measures that seek to preserve and protect Marshallese institutions and society in general.

This issue is discussed in more detail within Section 3.3.

### 1.1.3 Adaptation Communications in the Paris Agreement

As outlined in decision 9/CMA.1, the purpose of the Adaptation Communication (AC) is to increase the visibility and profile of adaptation and its balance with mitigation; strengthen

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<sup>1</sup> NAP Support team / CCD: Climate Science Stock-take and Gaps for the RMI NAP Report



adaptation action and support for developing countries; provide input to the global stocktake; and enhance learning and understanding of adaptation needs and actions.

Article 7.10 of the Paris Agreement also states that:

*"Each Party should, as appropriate, submit and update periodically an adaptation communication, which may include its priorities, implementation and support needs, plans and actions, without creating any additional burden for developing country Parties".*

Article 7.11 of the Paris Agreement states further that the ACs *"...shall be, as appropriate, submitted and updated periodically, as a component of or in conjunction with other communications or documents, including a national adaptation plan, a nationally determined contribution as referred to in Article 4, paragraph 2, and/or a national communication".*

Importantly, RMI committed, within its Climate Strategy 2050 (Tile Til Eo) *"to submitting an Adaptation Communication to the UNFCCC by 2020 at the latest"*. This submission honors this statement in full.

#### **1.1.4 Format of this Adaptation Communication**

Article 7.11 neither prescribes nor excludes any particular vehicle for an adaptation communication; nor does it appear to envision it as an additional, stand-alone instrument. Annex I to decision 9/CMA.1 provides additional guidance on elements of the AC that Parties are invited to include in their submissions.

As per paragraph 7 of decision 9/CMA.1, Parties are invited "according to their national circumstances and capacities, to provide in their adaptation communication information on the elements referred to in paragraph (a–d) of the annex and to provide, as appropriate, additional information on the elements referred to in paragraph (e–i) of the annex." To this end, this report is organized in line with Annex I to decision 9/CMA.1.

## **1.2 Baseline context**

### **1.2.1 Geography**

RMI is a large ocean, small island developing state (SIDS) located near the equator in the Pacific Ocean about halfway between Hawaii and Australia. RMI is a collection of 29 geographically dispersed coral atolls and five islands with a total land area of only 182 km<sup>2</sup>, spread across over 2,000,000 km<sup>2</sup> of ocean. There are 24 inhabited atolls and islands, most of which are remote and lie merely two meters above sea level, on average. There are no rivers, streams or lakes in RMI, and the number of small surface ponds is very limited<sup>2</sup>.

### **1.2.2 Climate and Disasters (Extreme Events)**

RMI has a hot and humid tropical climate highly influenced by the El Niño – Southern Oscillation (ENSO) and trade winds. RMI experiences a wet season (May to October) and a dry season (November to April). Its average temperature is 27°C, and annual precipitation is approximately 350 cm.<sup>3</sup> Changes in climate have already been observed, including changes in rainfall patterns, more frequent droughts and a longer dry season, rising sea levels, increased temperatures and increased water scarcity. Rainfall has declined over the last 45 years and the 2015 – 2016 drought was the worst on record. Near Majuro, the sea level has risen approximately 0.3 inches per year since 1993; nearly triple the global average.<sup>4</sup> Average temperatures in the region have increased by 1°C since 1970, and the number of hot days and nights has increased significantly.

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<sup>2</sup> GCF. (2019a).

<sup>3</sup> World Bank. (2020a).

<sup>4</sup> GCF. (2019a).

### 1.2.3 Economy

RMI is a lower middle-income country. In 2016, it had a per capita income of USD 3,665. Given its small and sparsely distributed land and population, RMI's economy is fragile. Because RMI's private sector growth is limited by its size, remoteness and dispersion, its economy depends heavily on payments to the RMI by the United States under the Compact of Free Association (the "Compact" - see Section 1.2.4) – the total official development assistance received in 2016 was USD 57 million, accounting for 32 per cent of the national income. The remaining national income is derived from the service sector, royalties from the fisheries sector, small-scale handicrafts and subsistence agriculture. Industry is limited to the processing of coconut products and tuna.

Due to the limited land and significant distances between islands and atolls, the cost of economic activity is high and economies of scale are hard to achieve. Exports are low, and the non-diversified domestic economy has led to a high dependence on imports. The economy is dominated by the public sector. Petroleum supplies about 90 percent of RMI's energy.

### 1.2.4 Politics

RMI is governed by a presidential republic headed by the president, who is elected by the Nitijela (the Parliament). The Council of Iroij is the upper house of the bicameral parliament and is comprised of 12 tribal chiefs.<sup>5</sup> After being administered by the United States for nearly 40 years, the Marshall Islands gained independence in 1986 after it entered into a Compact of Free Association agreement with the United States – which grants RMI full sovereignty in domestic and foreign affairs, but gives responsibility for defense of the nation to the United States. Due to the geographic spread of the islands and atolls, the capability of providing government services is constrained and costs are high due to logistical challenges.

### 1.2.5 Population

In 2017, RMI's population was estimated to be 55,000. Approximately 28 per cent of RMI's population live on the outer islands and atolls. Over 70 per cent of people live in the two urban centres of Majuro (approximately 27,000) and Ebeye (approximately 11,000). Due to the limited economic opportunity and higher disaster vulnerability of the outlying islands and atolls, these two urban areas have experienced significant migration in recent years. Emigration to the United States is continuing given that the Compact allows Marshallese citizens to work and study in the United States without a visa.

### 1.2.6 Key Institutions

The following table outlines various key stakeholders and their role towards delivering climate change adaptation and mitigation within the RMI.

Stakeholder	Role
Climate Change Directorate of the Ministry of Environment	Implementing agency and overall coordination
Ministry of Natural Resources & Commerce	GHG inventory lead for Agriculture and land use, land-use change and forestry (LULUCF)
Ministry of Foreign Affairs and Trade	Political coordination between international and regional countries
National Energy Office	GHG inventory lead for Energy
Ministry of Transport, Communication & Information Technology	Activity Data (AD) and other information on transport
Ministry of Works, Infrastructure & Utilities	AD and other information on Waste Sector and road infrastructure
Environmental Protection Authority	AD and other information on Waste Sector
Ministry of Health & Human Services	AD and other information on Waste Sector

<sup>5</sup> Embassy of the Republic of the Marshall Islands to the United States of America. (n.d.).

Public School System	Work on dissemination of results (education sector)
College of the Marshall Islands	Provide research assistance
Women United Together Marshall Islands	Work on dissemination of results
Marshall Islands Conservation Society	Work on dissemination of results
University of the South Pacific (USP)	Provide technical inputs as implementing partner of the Low Carbon Sea Transportation Project
Marshall Islands Non-Governmental Organisation Office	Supporting awareness raising/capacity building
National Nuclear Commission Office	AD and other information on Energy Sector
Pacific NDC Hub	Provide technical assistance in relation to NDCs

### 1.2.7 Poverty and Development Outlook

As a SIDS, RMI faces significant barriers to development. RMI is among the 10 smallest states in the world, and it struggles with the challenges of a dispersed population and a remote location far from potential markets for the country's goods and services. Approximately 20 per cent of the population of RMI has been reported to be living on less than USD 1 a day. Based on WHO and UNICEF statistics, as of 2015, 77 per cent of the population has access to improved sanitation facilities, 12 per cent to shared facilities, and 4 per cent to other unimproved facilities. In the remote atolls and islands of RMI, there is a lack of income-generating opportunities that have led to high unemployment, financial hardship, rural to urban migration and international migration to the United States<sup>6</sup>.

A key economic and social challenge in RMI is the limited number and variety of employment opportunities though the public sector provides a very high number of formal jobs. According to 2011 census data, unemployment is not high (4.7 per cent), but there is a very low labor force level – only 41 per cent of people aged 15 or older are actively working.

### 1.2.8 Key Policies

Resilience to disasters and climate change and water security are key priorities for RMI and are critical components of various government policies and strategies for sustainable and equitable development. The RMI government has developed several national and sector policies to help address these priorities.

***Tile Til Eo 2050 Climate Strategy: Lighting the Way (2018)***. The 2050 Climate Strategy, RMI's long-term GHG strategy, sets RMI on a path to achieve net zero GHG emission reductions and 100 per cent renewable energy by 2050. It also aims to accelerate adaptation and resilience measures to achieve sustainable development and a prosperous future for its people. The plan includes numerous initiatives – such as mainstreaming gender and human rights, ensuring due diligence, including health considerations and education outreach – and also establishes a requirement to review and update the plan every five years.<sup>7</sup>

***Water and Sanitation Policy and Proposed Action Plan (2016)***. The Water and Sanitation Policy and proposed Action Plan serves as the framework for climate resilient water sector development at the national and subnational level. It gives the RMI Environmental Protection Authority a legal mandate as the national authority for integrated water resource management<sup>8</sup>.

***The National Strategic Plan 2015 – 2017 (NSP) (2020-2030)***. The NSP is the RMI's near-term development plan. Climate change and water resilience are highlighted as critical priorities in the NSP, especially related to achieving environment and climate change resiliency and infrastructure development. The water sector is an important cross-cutting issue in the NSP for

<sup>6</sup> GCF. (2019a).

<sup>7</sup> The Republic of the Marshall Islands (2018).

<sup>8</sup> GCF. (2019a).

promoting adaptation measures.

**National Climate Change Policy Framework (NCCPF) (2011).** The NCCPF presents five strategic goals that aim to provide a pathway to an integrated, holistic response to climate change and aligns with the Vision 2018 plan. Its vision was to build the resilience of the people of the Marshall Islands to climate change<sup>9</sup>.

**Vision 2018 (2001).** Vision 2018 was the first piece of RMI's long-term Strategic Development Plan Framework (2003 – 2018) and the principal policy instrument guiding RMI's sustainable development. Climate change resilience and water sector improvements represent key aspects of this Framework.

**Nationally Determined Contributions (2018).** In 2018, RMI became the first country to formally submit an updated (second) NDC. The NDC aims to achieve an economy-wide GHG emissions reduction of at least 32 per cent below 2010 levels by 2025, and at least 45 per cent below 2010 levels by 2030, as well as an indicative target to reduce its emissions by at least 58 per cent below 2010 levels by 2035 with the aspiration to achieve net zero emissions by 2050. RMI's emissions peaked in 2009 and have been decreasing since, in alignment with its National Energy Plan and National Climate Change Policy goals. In 2010 (RMI's baseline year), total emissions were approximately 185 Gg CO<sub>2</sub>-e, just 0.00001 per cent of global GHG emissions<sup>10</sup>.

### 1.2.9 Key Laws

The following laws are of key relevance to the regulation of activities pertaining to sustainable development in RMI:

- National Environmental Protection Act (NEPA) 1984, is the legislation granting the formation of the National Environmental Protection Authority which is the governing body for environmental protection in the RMI.
- Environmental Impact Assessment (EIA) Regulation (Section 21, NEPA) – this is the central environmental planning legislation. Its aim is to ensure that environmental concerns are given appropriate consideration in decision making for all new infrastructure projects.
- Land Acquisition Act 1968 – this makes provision for the acquisition of lands and servitudes for public use for payment of just compensation in terms of Article II, Section 5 of the Constitution of the Marshall Islands and to provide for matters connected therewith and incidental thereto.
- Coast Conservation Act 2008 – this Act makes provision for a survey of the coastal zone and the preparation of a coastal zone management plan; to regulate and control development activities within the coastal zone; to make provisions for the formulation and execution of schemes for coast conservation; and to provide for matters connected therewith or incidental thereto. In tandem with the NEPA (1984) it provides the framework for the protection of resources and environmentally sustainable development in RMI. The eight (8) regulations are - i. Earthmoving Regulation 1988 (with amendments in 1994 and 1998); ii. Solid Waste Regulations 1989 iii. Toilet Facilities and Sewage Disposal Regulation 1990 iv. Marine Water Quality Regulation 1992 v. Public Water Supply Regulation 1994 vi. Environmental Impact Assessment Regulation 1994 vii. Ozone Layer Protection Regulation 2004 viii. Pesticides and Persistent Organic Pollutants Regulation 2004. ix. Sustainable Development Regulation - this is currently in draft.
- Earthmoving Regulation 1984 - this regulation stipulates that all earthmoving activities

<sup>9</sup> The Republic of the Marshall Islands (2018).

<sup>10</sup> World Bank. (2020a).

in the RMI require an earthmoving permit.

- Master Lease 2016 - the Master Lease by and between the Landowners and Kwajalein Atoll Development Authority (KADA) is a negotiated agreement between the three Irojjs of Ebeye on one hand, and KADA on the other, as the lessee and occupant, representing the Government.

#### **1.2.10 International conventions and treaties**

RMI is a signatory to the following conventions: (i) United Nations (UN) 64th General Assembly Resolution on the Human Right to Water and Sanitation; (ii) UN Framework Convention on Climate Change; (iii) UN Convention on Biological Diversity; (iv) UN Barbados Program of Action and Mauritius Strategy; (v) UN Convention to Combat Desertification; (vi) The Micronesian Challenge.

## 2 Impacts, Risks and Vulnerabilities

### 2.1 Vulnerabilities

As a low-lying atoll nation, the RMI is highly vulnerable to climate change. RMI is highly exposed to, and threatened by, sea level rise, extreme tidal events (such as king tides), as well as higher rainfall episodes with longer and more intense dry periods. Given that RMI's climate is prone to influence by trade winds, El Niño, monsoons and tropical cyclones, and its communities and infrastructure are concentrated along the coasts of small low-lying islands and atolls, any rise in sea level, changes in weather patterns or extreme events will have significant effects on infrastructure, living conditions and the economy.<sup>11</sup> These climate change impacts are especially likely to exacerbate the risks of fresh water shortages in RMI, challenging the ability of the Marshallese people to access safe fresh water resources year-round.

Good progress is being made in RMI with regard towards capturing detailed climate vulnerability related information on some atolls. For example, Deltares have recently completed a coastal risk assessment carried out for the island of Ebeye (Deltares 2017)<sup>12</sup>. In addition, and currently underway is a new Coastal Vulnerability Assessment (CVA), again being carried out by Deltares, to enhance and increase understanding of current and future coastal risks, strengthen coastal planning, and help prioritize activities and other future investments in Majuro Atoll. When completed (in early 2021), the study will inform the ongoing preparation of the NAP and other coastal protection initiatives. The purpose of this CVA is to present the conceptual design of adaptation options for priority areas in Majuro Atoll.

### 2.2 Future scenarios and risks

In RMI, average air temperature is projected to increase in 2090 between 0.8°C (RCP2.6) and 3.1°C (RCP8.5). Average annual rainfall is projected to increase in 2090 between 3% (RCP2.6) and 8% in Majuro and 14% in Kwajalein (RCP8.5). Current extreme rainfall events (with 5% chance to occur in any one year) will become more frequent in 2090, between 12.5% chance to occur in any one year (RCP2.6) and 16.7% chance to occur in any one year in Majuro and 20% in Kwajalein (RCP8.5). The rainfall during these extreme events in 2090 will increase by 6mm in Kwajalein and 9mm in Majuro (RCP2.6) and by 30mm in Majuro and 32mm in Kwajalein (RCP8.5). Other impacts, including increase in seawater temperature and in ocean acidification, are also expected in RMI.

The main climate change impact for RMI is sea level rise because of the low elevation of its atolls and islands. Extreme sea level events are also projected to become more frequent. Under the low emission scenario (RCP2.6), sea level is expected to increase by 0.41m by 2090 and by 0.65m under the high emission scenario (RCP8.5). However, these projections are conservative and do not include the revised projections from the IPCC Special Report on the Ocean and Cryosphere in a Changing Climate which project a global sea level rise increase of 0.84 (95% chance to be between 0.6 and 1.1m) in 2100. In addition, scenarios that include more rapid and intense melting of ice sheets in Greenland and Antarctica lead to higher sea level rise by 2100. Scenarios developed by NOAA for coastal planning range from 0.3 to 2.m by 2100, the extreme scenario, however, has a very low probability but is potentially possible.

The intermediate-high scenario, which is considered to be a good scenario for planning coastal infrastructure development in RMI, corresponds to a sea level increase of 1.5m by 2100 and has 1.3% chance to be exceeded under the RCP8.5 scenario. Events that currently have a probability

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<sup>11</sup> GCF. (2019a).

<sup>12</sup> A coastal risk assessment developed as part of the 2020 Deltares is updating the 2017 work using new LiDAR data for Ebeye and Majuro when it becomes available

of occurring once a century could in fact become annual events in the second half of this century, based on IPCC RCP scenarios. Under the NOAA scenario, a 1ft inundation event in Kwajalein could occur on average 131 times a year during the 2020s and become daily events by the 2070s under the intermediate scenario which projects a 1.22 m sea level rise. Under the intermediate-high scenario (projecting a 1.95 m sea level rise in Kwajalein) these events are predicted to occur on average 167 days per year in the 2020s and become daily events by the 2060s.<sup>13</sup>

## 2.3 Key climate hazards

'Nuisance' and damaging hazards facing both land and sea in the RMI are most likely to occur episodically due to primarily four types of events:

- 1) Nuisance flooding caused by:
  - a) *High (King) tide levels inundating low-lying land;*
  - b) *Wave overtopping of the immediate shoreline and low-lying land due to moderate or large trade and locally generated waves coinciding with high tide levels.*
- 2) Severe and damaging flood events caused by:
  - a) *Occasional large swell wave conditions caused by distant storms causing elevated water levels (wave set up) over reef flats, wave overwash and widespread inundation over islet land areas.*
  - b) *Typhoon events resulting in raised sea levels (storm surge) and large wave conditions, causing wave-set up over the reef flats, wave overwash and widespread inundation over islet land areas.*

Between 1979 and 2015, eighteen significant inundation events have been recorded and classified into six categories at Majuro (Ford et al, 2018). Three of these categories are associated with wave/swell generation in North Pacific, South Pacific, and tropical storms or typhoons; and three associated with lagoon side inundation that can occur from swell penetration into the lagoon and locally generated waves, both coinciding with high tides. The occurrence and magnitude of high (King) tide events is primarily influenced by the astronomical tide, ENSO effects on mean sea level and underlying mean sea-level rise. The highest astronomical tides in the RMI tend to occur around the equinoxes. Significant inundation events due to long-period swell or typhoons, have tended to cause extensive damage on a particular atoll or group of atolls in the RMI historically, on average around every 10 to 20 years. Significant wave flooding impacts, from long-period swell waves often generated by distant mid-latitude storm events, occurred over 7-8 December 2008 (Hoeke, et. al., 2013) and between 27 November and 4 December 1979 (Spennemann, 2002),

RMI is not in a seismically active area, but extremely active seismic zones in the Pacific can generate earthquakes and tsunamis capable of travelling great distances. The Pacific Catastrophe Risk Assessment and Financing Initiative in 2011 estimated the average annual loss related to cyclones and tsunamis/earthquakes to be around 1.7 per cent of gross domestic product (i.e., USD 3 million) and estimated that in the next 50 years RMI has a 50 per cent chance of experiencing a loss exceeding USD 53 million and a 10 per cent chance of experiencing a loss exceeding USD 160 million.

The latest CVA, being carried out by Deltares (2020) on the Majuro Atoll, provides up to date information on key coastal hazards and exposure risks. The outputs of that report shall be integral to the structure of the NAP later into 2021.

## 2.4 Modeling, Projections, and Scenarios

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<sup>13</sup> NAP Support team / CCD: Climate Science Stock-take and Gaps for the RMI NAP Report



Based on the global climate models used for the fifth IPCC Assessment Report, The Australian Bureau of Meteorology and CSIRO identified models for the Pacific Small Island Developing States (P-SIDS) and produced climate projections for different countries. Although a range of climate scenarios were used, this summary provides the projections for the low emission scenario (RCP2.6) and the high emission scenario (RCP8.5), including in their range the two intermediate scenarios (RCP4.5 and RCP6.0). New information will be available on global climate change impacts in the sixth IPCC Assessment Report to be published in April 2021. These projections are for 2090 or 2100 but the impacts will continue after that, in particular sea level rise.

Figure 2.1 demonstrates a comparison of measured highest annual hourly sea level since 1993, present day king tide levels and potential sea-level rise variability including expert elicitation of ice-sheet melt contribution over the remainder of this century.

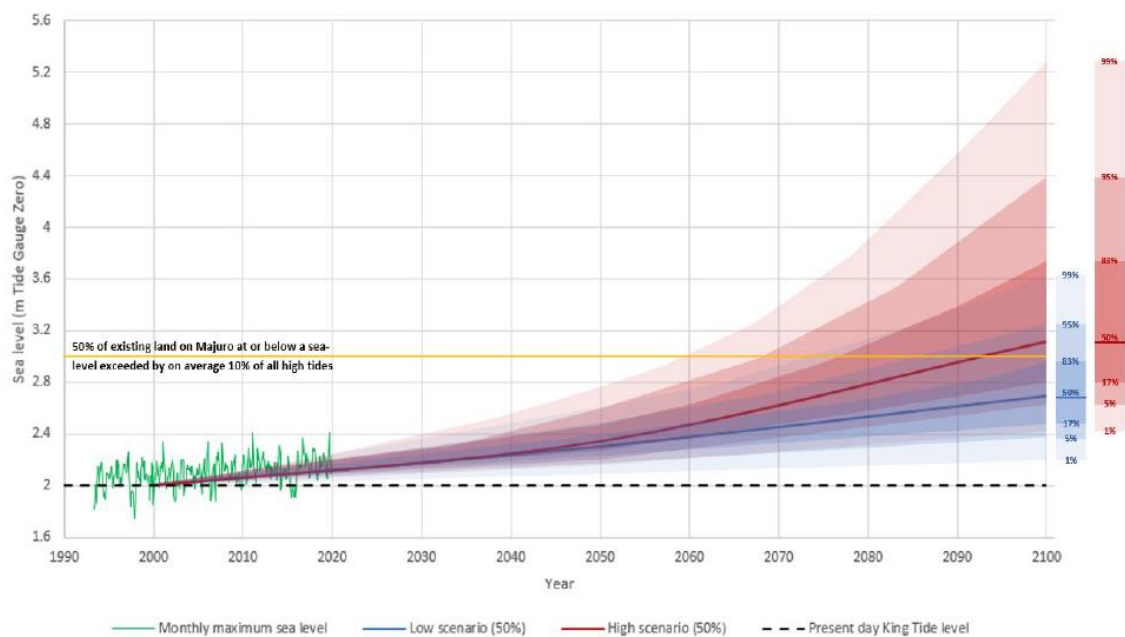


Figure 2.1: Sea level projections for Majuro (from Bamber et. al., (2019)).

The key points of Figure 2.1 for long-term adaptation planning in the RMI and elsewhere is that:

- Up to 2050 the additional amount of sea-level rise that will occur does not depend significantly on the specific climate change emission scenario. Current knowledge of uncertainty bands occur due to ice sheet contribution for each emission scenario also being “relatively modest” and “reasonably certain”.
- Beyond the 2050s, the magnitude of sea-level rise is much more uncertain, dependent on both the specific climate change emission pathway and the potential for significant sea level contribution from abrupt long-term changes in ice-sheet response. How this uncertainty is built into present-day longer term adaptation planning is a critical consideration that the NAP shall embrace and consider.

## 2.5 Assessments of key economic, social and/or environmental vulnerabilities and risks

The projected changes in temperature and rainfall will have impacts on water security, food security and health, for example by increasing the pressure on the already limited water supply, reducing agriculture yields and increasing the risks of water-borne and vector-borne diseases.



Other impacts include higher demand on energy and damages to energy infrastructures causing more power outages. Changes in ocean temperature and acidification will increase the risk of coral bleaching and reduce yellow fin and skipjack tuna catch by up to 31% in 2100 in the RMI EEZ, with consequence on subsistence fishing and food security and decreasing the revenue from the selling of fishing licenses.

With reference to water supply and the impact of drought conditions, a cost-effective and practical investment will be required to promote increased capacity for water harvesting and storage, along with the promotion of efficient use of water in RMI during times of severe drought. Investing in a long-term adaptation drought response measures today will result in significant savings in the future and support climate resilient socioeconomic development of the RMI.

Impacts of sea level rise include changes associated with island coastlines caused by potential increases in coastal erosion rates and coastal inundation. Accretion and island growth are still observed in tandem with current rates of sea level rise, in addition to and contamination of the groundwater reserves by wave overtopping during more frequent storm events. Sea level rise is also projected to push the water table up, leading to more frequent inundation in low lying areas, even away from the coast. This is expected to generate significant impacts on infrastructures, agriculture and water supply, all potentially threatening the habitability of the atolls, in particular under high emission scenarios.

## **2.6 Assessments of adaptive capacity, taking into account vulnerable people, places and ecosystems**

As an atoll nation, RMI does not have the luxury to pick and choose from a wide range of options and adaptation pathways to respond to the impacts of long-term sea-level rise. Nor is there an optimal solution that will create a 'safe haven'; adaptation will be a continuous journey involving a range of inter-relating activities the composition of which will vary from location to location, and over time along each particular pathway. At times, the particular pathway may need to change as the magnitude of sea-level rise results in the particular adaptation pathway no longer providing the level of security required to the community, development or infrastructure.

Adaptive capacities will need to move from consideration of single independent options, e.g. a focus on a seawall only, to a consideration of a progressive mix of "hybrid" options that work together to respond to the longer-term sea-level rise challenges and provide more effective or longer-term pathways (see Figure 2.2).

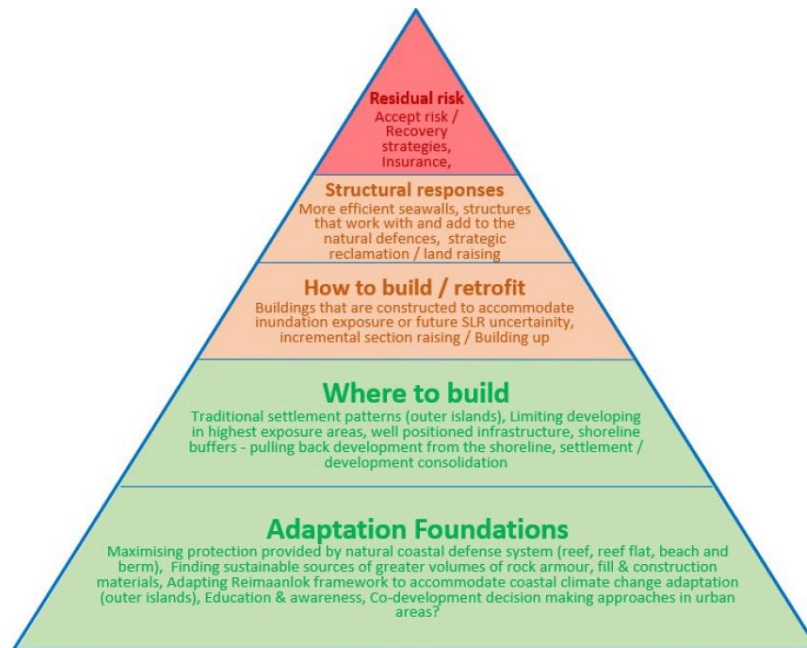


Figure 2.2: General 'mix' of options that need to be considered in developing adaptation pathways for the RMI.

A strong Islands Systems Management (ISM) approach will contribute to the current NAP process. This is important to ensure long term sustainable adaptive options are proposed for RMI. A healthy shoreline and coastal environment is the most effective coastal defense available in the RMI (Figure 2.3). It is, along with a strong awareness in all levels of RMI society of the importance of its role, the foundation upon which all land security in RMI is based on. If not constrained or impacted by human activities (for example, dredged reefs, sand mining, inappropriate reclamation and development or reclamation over the reef, beach or berm), this defense can adapt and respond to protect land and communities from some of the changes that sea-level rise will bring. It is the foundation that all other adaptation activities need to build upon, leverage off and work in cooperation with.

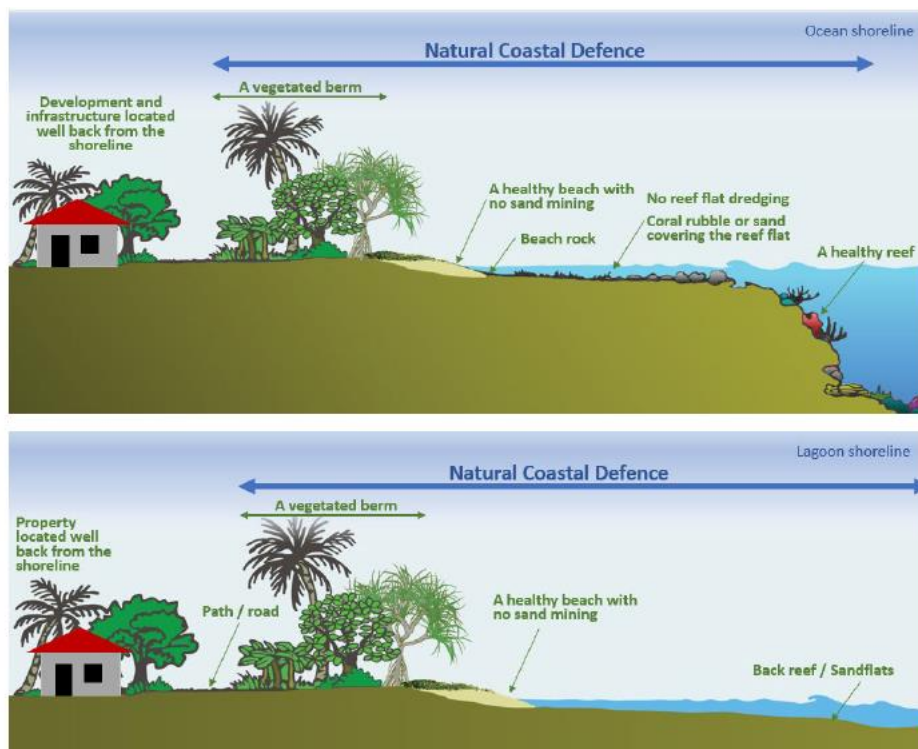


Figure 2.3: Schematic diagram to show effective natural coastal defence systems in the RMI

Progressive Adaptation pathways considered within the NAP will consider the potential for the following:

1. Maintaining or restoring (where human impacts are occurring) the effectiveness of the complete natural coastal defense system (and livelihood ecosystem).
2. Continuation / recourse to traditional settlement patterns within each wato on islets, particularly locating development 30 – 50 m back from the lagoon edge and maintaining a vegetated buffer between the shoreline and any man-made feature.
3. Moving from slab concrete foundations to pile foundations enabling property to be raised up or more easily relocated with the wato or on less exposed locations on the islet (or alternatively raising ground levels of the building footprint landward of the lagoon berm, relative to surrounding ground levels), reducing the potential for episodic inundation overwash impacts on properties, their inhabitants and contents.
4. Where wave over-topping events begin to become too frequent, implementing effective (and low cost) measures, for example constructed “backstop” protection reducing over-topping impacts on properties and development (Figure 2.4).

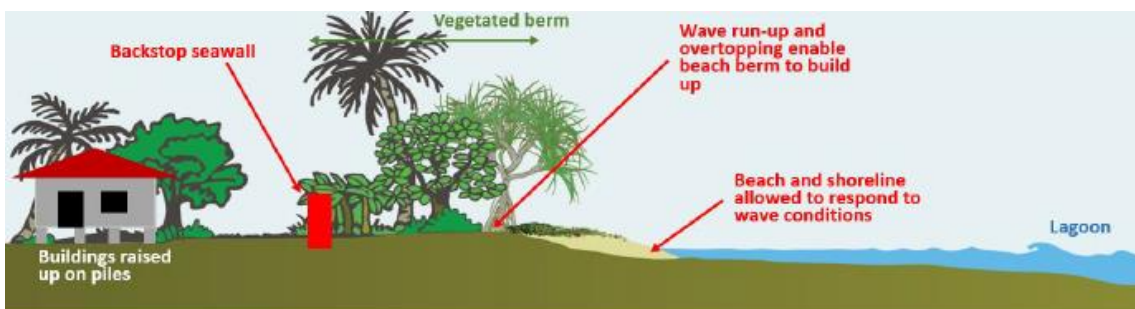


Figure 2.4: Simple, “hybrid” low-cost backstop seawall to further reduce overtopping using EbA techniques

## 2.7 Populations and sectors most at risk

Historically, settlement patterns throughout the RMI were predominantly defined by environmental constraints with most settlements located on the lagoon side of the larger islands on each atoll (Spennemann, 2006). Traditionally, residential and community buildings would be located some 30 – 50 m inland from the lagoon shoreline, landward of the low lagoon-side beach berm and well above the high tide mark (Spennemann, 2006).

Urbanization in the RMI prior to the twenty-first century was largely confined to the German colonial administrative centre on Jaluit. It is only over the last half century or so that significant urban development has occurred on Majuro as the main administrative centre and at Ebeye, initially through relocation associated with both the nuclear and missile testing and subsequently through migration from outer-islands for employment opportunities at the military base.

To this end, current development patterns in the RMI (including demographics and sector demands), excluding the US Military facilities on Kwajalein, are characterized generally as follows:

- Low-density development in the majority of the outer islands;
- Peri-urban areas, from the airport to Laura on Majuro;
- Highly densely populated and developed urban areas of Majuro (Rita, Djarrit, Uliga, Delap and Rairok), Kwajalein (Ebeye and Gugeegue) and the small but densely developed administrative centre at Jabwor on Jaluit.

On most of the outer islands, this pattern of development is still largely apparent enabled in a large part by continued low population densities due to the significant out migration to the main urban centers or overseas. However, where there are higher population pressures or where less adherence to traditional approaches to locating residential and other buildings has occurred over the last half century, exposure of development to coastal inundation and shoreline change has increased.

The low population densities in most of the outer islands of the RMI also appears to have largely minimized the impacts that detrimental human activities, related to development, have on exacerbating shoreline change and exposure to inundation through activities such as sand mining, reef rubble and beach rock removal, inappropriate reclaiming of beach areas and seawall construction, and destruction of the natural vegetated berm. While these activities do occur with localized issues, the resulting impacts on shoreline change and increasing exposure to coastal inundation do not appear to be as widespread or as severe as in many other outer atoll islands in the Pacific.

With a vegetated buffer between the lagoon shoreline and residential or other structures (see Figure 2.4), this tends to be the most 'optimum' position for development in terms of minimizing exposure to all but the most extreme typhoon wave-related inundation events. The traditional division of land has also had an important role in this development pattern, with the wato extending in strips running from the ocean to lagoon side ensuring that that each household had an appropriate location across the island to locate residential structures and also provide access for each household to each environmental zone on the island.

The NAP process will identify the atoll and community view of these issues through the engagement process of the Consultation Framework.

# 3 National Adaptation priorities, strategies, policies, plans, goals and actions

## 3.1 National long-term adaptation objectives

The RMI Second National Communication (SNC) identified 6 priority areas where appropriate interventions, consistent with the Joint National Action Plan (JNAP) for Climate Change Adaptation (CCA) and Disaster Risk Management (DRM) goals which could prove especially effective in removing obstacles and promoting DRR and CCA objectives.

This includes:

- Strengthening the capacity of the National Emergency Management and Coordination Office;
- Developing an information management system;
- Enhancing community-based awareness and education to change attitudes and behavior toward effective risk reduction;
- Climate-proofing new water supply developments;
- Reviewing and revising draft building codes; and
- Testing early warning response.

RMI has established strong internal political support for its climate plans but faces two specific key challenges. First, the GoRMI's human capacity and technical resources are extremely limited. The country, therefore, needs support to procure technical expertise and supplementary capacity, while taking a long-term approach to capacity building within GoRMI sectors that are responsible for leading implementation on areas with more complex technical dimensions. Second, the Government of RMI will need to develop more detailed implementation plans as well as a long-term national strategy that provides for long term climate adaptation (see Section 4).

## 3.2 Adaptation Planning Processes

### 3.2.1 Introduction

While RMI remains committed to championing mitigation efforts on the global stage, government leaders and officials recognized it was imperative to accelerate adaptation efforts at home. Starting in 2018, RMI has prioritized the acceleration of adaptation efforts and building resilience to growing climate and disaster risks. The immediate priority being to develop the NAP which is designed to ensure the very survival of the nation and people and to secure financing to fast-track its adaptation efforts. This focus was needed as within the preceding 8 years, efforts to give effect to these clearly stated concerns were piecemeal and uncoordinated while the vulnerability of the nation to climate change continued to increase. In fact, the most comprehensive attempt to coordinate climate action was through the 2014-2018 Joint National Action Plan on Disaster and Climate Risk (JNAP). A Review of the JNAP (in 2018) clearly noted its inability to deliver decisively against its Goals due to a lack of internal ownership, weak coordination structures and a lack of funding for implementation. It was clear future efforts

needed a broader ownership, to be more strongly coordinated and to be more explicitly expressed.

The current and ongoing NAP process recognizes the critical need to understand the situations at both the sector and the atoll level to support vulnerability assessments and identify measures to ensure the well-being, survival and sovereignty of the RMI. These will require major decisions around the enabling environment (both traditional and government) for these measures to be implemented. The process embraces the 2050 Climate Strategy (produced in September 2018) whose primary purpose is to “*achieve a pathway to net zero emissions by 2050 as well as to facilitate adaptation and climate resilience.*” In the Foreword of this Strategy, the President called for “*transitioning to an economy and society that is resilient and can adapt to the impacts of climate change in a way which promotes the future well-being of the Marshallese people*”.

### 3.2.2

#### Adaptation planning processes: institutional arrangements for an integrated, holistic approach

RMI recognizes and emphasizes the importance of strengthened coordination to ensure a holistic response to climate change impacts by engaging all levels of RMI society. To this end, a Cabinet decision in May 30, 2019 established the Tile Til Eo Committee (TTEC), co-chaired by the Minister of Environment and the Chief Secretary, to:

- provide oversight of the country’s response to climate change and
- reduce climate and disaster risk for the well-being of the people of the RMI.

The cabinet decision also set up three Working Groups, on Adaptation (AWG), Mitigation (MWG) and the NDC Partnership (NDCPWG), which focus on cross-cutting issues under the oversight of the Tile Til Eo Committee.

The work of the AWG is closely coordinated with the work of the NDC Partnership Group, which coordinates inputs to the NAP on cross-cutting issues in four areas: gender and human rights, climate finance management, health and global advocacy. The AWG is chaired by the Director of the Climate Change Directorate (CCD) supported by the NAP Coordinator, a position established early in the NAP planning process to facilitate delivery of the NAP. The CCD is the government agency with management oversight of climate-related planning and projects. The CCD also serves as the UNFCCC focal point for the Government. The CCD and the AWG are supported through the NAP process by a NAP Technical Support Team comprising the NAP Coordinator, CCD staff and four international consultants - two of them part time. Sector inputs are through various Task Forces or Technical Teams with Terms of Reference for specific functions.

With strengthened institutional arrangements and the necessary systems and processes established to support adaptation planning, the AWG has been able to undertake the development and preparation of the RMI’s NAP, which is also locally referred to as a “National Survival Plan.” The RMI NAP process draws on policy and planning objectives outlined in the following national and regional reports:

- RMI Climate Change Policy Framework 2011;
- National Strategic Plan 2020 -2030;
- RMI State of Environment Report 2016
- National Environment Management Strategy 2017-2020;
- Framework for Resilient Development in the Pacific 2017-2030 (FRDP);
- RMI 2050 Climate Strategy 2018.

The NAP is being developed to align with the National Strategic Plan, 2020-2030 (NSP) in which Adaptation to Climate Change and Sea-Level Rise is identified as a critically important issue and

in which resilience to disaster and climate risk is identified as a cross-cutting issue. Sea level rise combined with more frequent and severe periodic wave surges are potentially likely to lead to limitations on habitation particularly under high emissions scenarios. This will be made more pronounced in some atolls by coastal erosion and by more frequent and extended droughts and contamination of fresh water lenses. Understanding these risks atoll by atoll will be necessary to allow adaptation measures for well-being and livelihood ('business as usual') to be established with local atoll and village groups. Both the NSP and the NAP recognize that adaptation will affect all pillars of development for the RMI and that efforts are needed to strengthen resilience, defer any tipping points identified while providing time to prepare for more extreme measures.

### 3.2.3 The Approach towards producing the RMI National Adaptation Plan

The overall vision for the NAP for RMI is to avert, minimize, and address loss and damage from climate change and empower the people of the RMI to plan for a sustainable future beyond 2050 through ambitious adaptation action. To this end, The NAP development process is currently underway and involves a number of tasks as follows:

1. A stocktake of existing development and sectoral plans so adaptation does not duplicate existing commitments and can be integrated with them;
2. Initial consultations with government agencies, NGO's, and mayors to;
  - a. establish a vision for adaptation.
  - b. set principles to guide adaptation actions.
  - c. elicit adaption needs and a suite of potential actions.
3. Review of information from community consultations to identify local circumstances and needs;
4. National level workshops to prioritize potential actions;
5. Summarize knowledge of climate risks and vulnerability in the RMI from existing sources of information;
6. Develop a framework for monitoring and evaluation of the NAP, which would include an extensive process of consultation with communities;
7. Writing the NAP.

Mindful of the UNFCCC LDC Technical Guideline for the national adaptation process, and with a focus on self-determination and on the well-being of the Marshallese people in the face of inevitable and extreme climate impacts, the AWG has adopted a NAP Outline that adopts four key parts:

- In Part 1, the current situation of the RMI shall be presented in the context of resilience and climate change (statements of situation, existing policies, gaps and perceived development needs);
- In Part 2, the climate change scenarios and statement of vulnerabilities shall be presented in detail in addition to an assessment of adaptation options relevant to the RMI's context;
- In Part 3, an implementation plan for the selected adaptation options shall be presented, including the role of the different sectors, the funding strategy and mechanisms, and a capacity building plan;
- In Part 4, a monitoring and evaluation plan for the implementation of the NAP shall be presented in detail.

Since 2020, delays to certain activities have been experienced due to limitations created by the global COVID-19 pandemic. These have been experienced both internally in RMI as a



consequence of having to divert government resources to disaster response plus externally with regards to travel restriction impositions. Nevertheless, the AWG has maintained the overall momentum toward completion of the NAP, with the following areas of development currently underway (adhering to the NAP Logical Framework of Activities):

- **Sectoral Statements of Situation** (see Section 3.2.4);
- **Development of a Consultation Plan at the Atoll and Community Level** (see Section 3.2.5 and 3.2.6);
- **Climate Summary and Development of Scenarios** ;
- **Development of a National Adaptation Policy Position Paper.**

In addition to the work managed directly by the AWG, various partners are also contributing to development of the NAP. The RMI NDC Partnership Plan 2019-2021 facilitates the mobilization of resources to provide both technical and financial support for the integration of cross-cutting issues to both adaptation and mitigation work. The NDCP Working Group thus plays a key role in the development of the NAP. The NDCP-WG progresses the work of the RMI Gender and Human Rights Taskforce, working closely with the NAP Global Network, to ensure that the NAP is both gender responsive and applies a human rights-based approach. The RMI NDC Deep Dive Project, funded by UNDP, aims to strengthen capacities and increase awareness in Marshallese society about NDCs; this includes important consultations with mayors and traditional landowners required in the NAP process. There is also continued work by the NDCP-WG's Climate Finance Taskforce to coordinate partner support towards efforts to strengthen internal financial processes to enable an effective flow of climate funds to implement the NAP, including capacity building on climate finance management. The NDCP-WG also progresses global advocacy efforts, including on youth empowerment. One of the important activities will be advancing commitments to inclusion for youth as per "Kwon Gesh pledge" spearheaded by the RMI and Ireland. It will also include efforts to strengthen coordination with the Ministry of Culture and Internal Affairs for youth organizations in RMI.

RMI-level inputs are also expected from the World Bank Atoll Study (being undertaken by Deltares et al 2020) outlining demographic settlement patterns and trends, land tenure/use, and economic issues with the development of long-term investment pathways for climate change adaptation to address extreme sea level rise impacts. Finally, the Government is partnering with UNDP and the International Organization for Migration (IOM) on a separate climate security project that is focused on atoll nations around the Pacific. Outputs from the project will support, in particular, the development of the NAP Communication Strategy (see Sections 3.2.5 and 3.2.6).

### 3.2.4 Statement of Situation

The RMI NAP process will be on-going and progressive and is to provide to the extent practicable for input from and self-determination by the people affected by the climate change impacts. Individual sectors have been tasked to prepare material on their current situation and assist with identifying vulnerabilities and potential adaptation measures to deal with them. These same agencies will be involved with the NAP implementation stage giving effect to agreed measures, which will represent the core ingredient of successful 'climate mainstreaming' in RMI.

Ministries in six key sectors have been tasked with developing sector statements internally to provide a summary of sector arrangements, inventory, state of delivery, development objectives, issues, and known or observed vulnerabilities to climate impacts and potential adaptation measures to deal with them. The sectors involved are the:



- Ministry of Culture and Internal Affairs
- Ministry of Works, Utilities and Infrastructure
- Ministry of Natural Resources and Commerce
- Ministry of Health and Human Services
- Ministry of Education, Sports and Training
- Ministry of Environment

Section 4 in Part 1 of the NAP outline (see Section 1.5.1 above) provides for a *Statement of Situation* of the current RMI context so that future climate change impacts can be identified and adaptation strategies developed to cope with them. These sector reports will provide the basis for vulnerability assessments and identification of potential adaptation measures under projected climate scenarios within the NAP process.

At present, these reports are being compiled in partnership with the heads of specific sectors and are due to be finalised during Q2 of 2021.

### 3.2.5 Reimaanlok Consultation Planning at Atoll/Community Levels

Inclusive and deliberative processes are already present in RMI as demonstrated by the Reimaanlok Framework, which is the national framework for community-based conservation area planning and management. A key strength of the Reimaanlok Framework is its underpinning objective of merging conservation practices from the biophysical sciences with traditional community-based atoll practices and processes to achieve mutually agreed outcomes. Consequently, the Reimaanlok Framework (circa 5 years in duration) and associated village/community engagement practices contain the necessary process and practices to support the NAP process to determine coastal adaptation to climate change within atoll communities, particularly in the outer-islands.

The Reimaanlok Framework is bespoke to RMI. It is an eight- step process (Figure 3.1) that can be initiated by either a local community, local or national government representative. At present, its scope is primarily focused on marine conservation, rather than coastal adaptation to climate change. Figure 1.1 also outlines the status of planned activities undertaken to date as per the Reimaanlok process (as of December 2020). Those Atolls (at Step 4 and higher) will have a Socio-Economic Plan produced whereas those Atolls at Step 5 will have a separate Management Plan produced (that embraces the findings of a vulnerability assessment and Local Early Action Plan – LEAP). Table 3.1 identifies studies completed to date (per Atoll) including studies associated with marine, terrestrial, socio-economic, marine protected area/flood risk/ LEAP or hydrological studies undertaken.



Figure 3.1: Overall status of Reimaanlok Community based Resource Management Planning

Table 3.1: Atoll specific sectoral studies undertaken to date (as of 15 April 2019).

as of April 15, 2019	Marine	Terrestrial	SE	MPA	ME	FLOOD	LEAP/HVCM	HYDROLOGICAL										
Aur	Y 2017	N	N	N	N	N	N	N										
Utrik	Y 2017	N	Y 2017	N	N	N	N	N										
Enewetak	Y 1970	Y 1970	N	N	N	N	N	N										
Mili	Y 2003; Sep 2019	N	N - Sep 2019	N	N	N	N	N										
Namu	Y 2000; Aug 2019	N	N	N	N	N	N	N										
Kili	N	N	N	N	Y 2012	Y 2016												
Maloelap	Y 2017	N	Y 2017	N	2018 (Kaben)	N												
Jemo	N	N	N	N	N	N	N	N										
Arno	Y 2008; Sep 2019	Y 2018 MIC	Y 2004; Sep 2019	N	N	N	Y 2017	N										
Rongelap	Y 2002; 2003; 2014	N	N	N	N	N	N	N										
Ailinglaplap	N	N	Y 2016 (Bouj)	N	N	N	N	N										
Mejit	Y - 2017	N	Y 2016	N	N	Y 2016	N	N										
Ujae	Y 2016	N	Y 2016	N	N	Y 2018	N	N										
Lae	Y 2016	N	Y 2016	N	N	Y 2018	N	N										
Wotho	Y 2016	N	Y 2016	N	Y 2016	Y 2016	N	N										
Ebon	Y 2016	N	Y 2016	N	N	Y 2018	N	N										
Wotje	Y 2017	N	Y 2017	N	N	Y 2013/2015 WUTMI/IOM	Y 2018	N										
Majuro - Jenrok	Y 2017	Y 2013	Y 2007/2016	N	Y 1983	N	N	Y 2016										
Majuro - Woja	Y 2004, 2016	N	Y 2004	N	N	N	N	N										
Majuro - Bokan Botin	Y 2015	N	N	N	N	N	N	N										
Majuro - Ene Kalamur	Y 2015	N	N	N	N	N	N	N										
Majuro - Denmeo	Y 200?	N	N	N	N	N	N	N										
Majuro - Bikirin	Y 200?	N	N	N	N	N	N	N										
Jaluit	N	N	N	N	N	Y 2016 (Jabwor)	N	N										
Namdrik	Y 2013	N	Y 2013	N	N	N	N	N										
Bikini	Y 1970; 2003	Y 1970	N	N	N	N	N	N										
Likiep	Y 2001; 2007; Sep 2019	N	Y 2007	N	N	N	N	N										
Ailuk	Y 2006; 2007; 2014	N	Y 2007	Y 200?	N	N	N	N										
Kwajalein	N	N	N	N	N	Y 2016 (Ebeye, Sento, Gug)	N	N										
Lib	Y 2017					N	N	Y 2017 EPA										
Likiep																		

The Reimaanlok Framework has accumulated a large amount of information which will be used to support the NAP process. However, what is being determined at present is whether this information contains data on the socio-economic status of different atolls that may be used within different sections of the NAP. An exercise has recently been concluded to synthesis and analyze this information (an “Atoll Gap Analysis” report) to determine gaps that need filling during 2021 as part of the NAP consultation plan delivery (see Section 1.3.3)<sup>14</sup>.

### 3.2.6 NAP Consultation Framework Plan

In parallel with the sector statements of situation (see Section 3.2.4), and as embraced within the Reimaanlok process (Section 3.2.5), a NAP specific atoll and community level engagement programme is planned to better understand atoll community situations, their issues and aspirations, and their vulnerabilities and potential adaptation measures. This is currently being developed as a Consultation Framework for implementation during early 2021. This represents a subset of a broader Communication Strategy that will underpin the NAP’s emphasis on consensus, inclusion, transparency and the consideration of vulnerable groups. It moreover will provide a clear pathway for the integration of traditional and local knowledge into the NAP.

This Framework is being developed by the Consultation Technical Team with the support of the University of Melbourne. The Consultation Technical Team is comprised of focal points representing various ministries and agencies who have experience in coordinating and conducting outreach in outer island and urban atolls This team provided the framework for includes who, how and what to consult on.

The objectives of the pending Atoll consultation programme are to create awareness of climate change potential impacts, to outline the NAP process, to understand the atoll and community situation and to understand their perspectives on vulnerability and possible adaptation measures. It is to be delivered in a two-way pathway to better understand their current issues, hopes and aspirations and their vulnerabilities<sup>15</sup>.

## 3.3 The pathway for long term adaptation planning

### 3.3.1 Shifting mindsets – short-term to long-term planning

<sup>14</sup> NAP Support Team / CCD (2020) “Atoll Profile Gap Analysis – Final Working Report (2020) - December 2020 (v4)

<sup>15</sup> Delivery of the Consultation Engagement will be contracted locally and this is targeted to be completed by mid-2021 subject to coronavirus (COVID-19) issues and internal travel restrictions.

Beyond the 2050s, for all but the very lowest emission scenarios, communities in the RMI will need to adapt to coastal hazard events well beyond the current planning time ranges, particularly in terms of being able to adapt to the increased frequency predictions for nuisance climate hazard events (see Section 2.3). Should current projections be correct, then coastal hazard impacts, particularly for urban atolls, are likely to result in increased flood inundations, rapidly becoming intolerable for a substantial amount of society. Shifting from a focus on short-term protection actions to longer-term anticipatory strategies is therefore needed.

As the range of plausible sea-level rise projections begins to widen during the 2050s and increasingly out to and beyond 2100, this makes it extremely challenging to pre-determine what a coastal future may eventuate over planning timeframes beyond about 50 years. While probabilistic assessments, or consideration of worst-case or “most-likely” estimate of sea-level rise to devise a policy, plan or design are suitable for short to medium term decisions, e.g. out to the 2050s, (Hinkel et al., 2019) the deeper uncertainty beyond this highlights the need for more detailed consideration of these uncertainties, particularly as adaptation too early or too late can be extremely costly, or may lock future generations in to an ultimately inappropriate strategy.

Dynamic adaptive pathways planning or “progressive adaptation pathways” are therefore being proposed for RMI as one way of approaching adaptation that is designed to cope with the uncertainty around the extent of, and rate of climate change. Rather than trying to predict the future (e.g. amount of sea-level rise over a certain timeframe), adaptation pathways present a way of thinking about a range of possible options that could be implemented over time as the changes occur and retains flexibility, rather than prescribing a single solution. This means that adaptation choices are mapped out in advance and implemented when they are needed, not too early and not too late. The simplest way to explain how this works is to work through how pathways are designed (which shall be developed further during the NAP process during 2021).

### 3.3.2 Reducing vulnerabilities using adaptation pathways

The first step in compiling an adaptation pathway is to understand the local situation and vulnerabilities from both the social and environment perspective and at the sector levels. Then consider the adaptation options that apply in that location. The first question to address relates to the scale that these pathways should plan for. For existence, they can work at various scales from island level right through to individual blocks of land (wato) but not both at the same time. The scale being considered therefore effects the level of detail required. It is hence important to note that choices made at large scale (e.g., island) may contain the options at a smaller scale (e.g., parcel of land). For example, a policy choice to defend a road may allow new options for the adjacent land. Typically, it is useful to begin with the big decisions because they affect local level options and lead to a more coordinated approach.

Next, is the consideration around what adaptation options are potentially feasible for that location (atoll, island or community and by sectors). This may include an initial brainstorm of all the ideas, which is then reduced to what is practicable (and affordable). For each option, information on when the options could be implemented how long it would last and under what conditions it might fail, how long it would take to implement, roughly how much it could cost, what the benefits and implications are.

Options can be a single investment or policy or structure or a package of options that need to occur together depending, on the situation. For example, an option could be the construction of a large seawall and long-term commitment to maintain and upgrade the wall to protect a single piece of infrastructure or it could be a suit of measures, e.g. measures to increase the

resilience of the protection provided by the natural coastal defences, repositioning residential property within the wato, raising property floor levels etc.

Once options have been identified for a particular island or location, the options can be linked together to show how the options could be sequenced over time (see Figure 3.2). This concept applies well for RMI and shall be developed further during the NAP process in 2021. It shows all the ways in which the adaptive options could be sequenced as the sea rises in RMI.

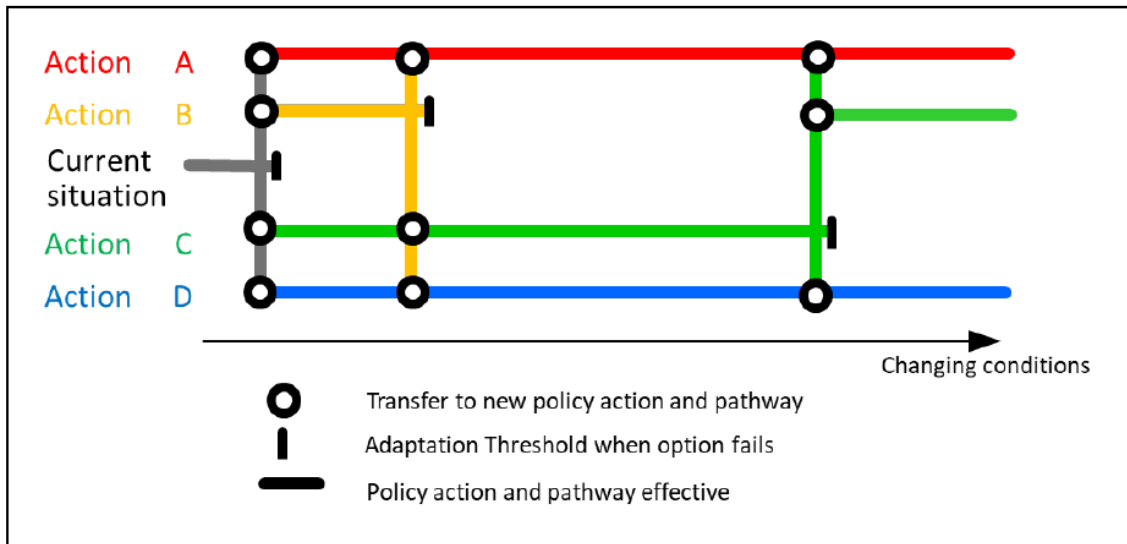


Figure 3.2: Generic adaptation pathway example. Haasnoot et al., (2013)

Using a conceptual example of “Outer-Island or rural/semi-rural areas”, it is clear that rural or semi-rural atolls have more sparsely populated communities and more land available to ensure properties are not located in the most highly exposed locations. The adaptation pathways available reflects this potential ability to relocate though real issues of complexity are imposed by landownership and occupation rights. The set of illustrative pathways are shown in Figure 3.3, which assume that a decision has been made to avoid the use of hard engineering structures in rural or semi-rural islands and protect more densely populated areas.

A range of options shall be considered within the NAP as this is drafted during 2021.

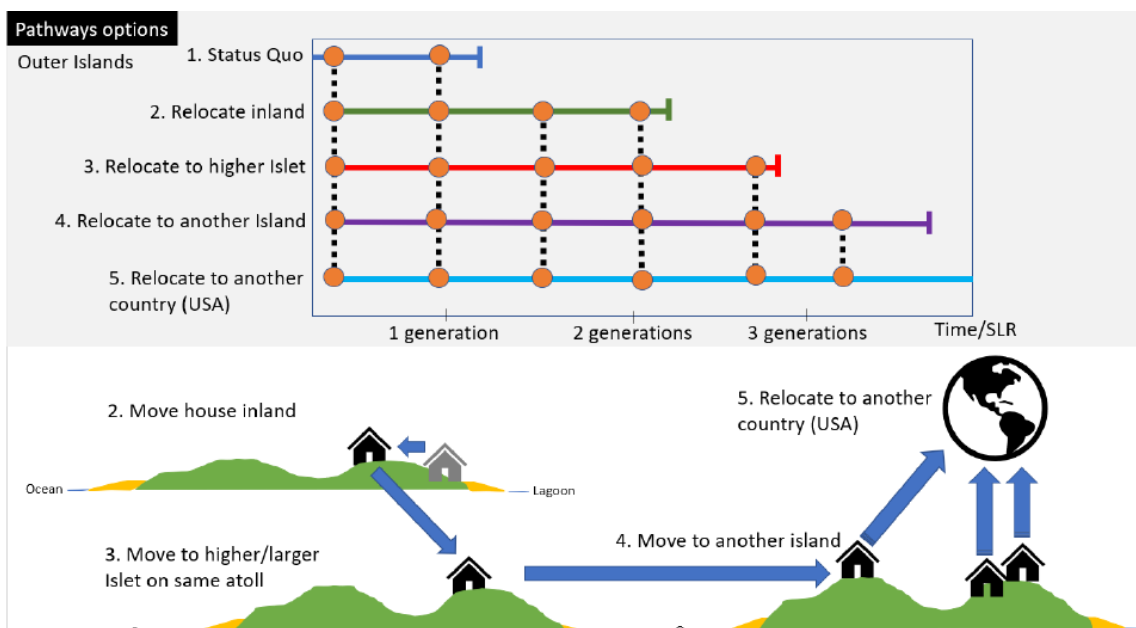


Figure 3.3: Potential Adaptation Pathways for RMI (Outer-Island or rural/semi-rural areas)

### 3.3.3 International support

RMI expresses sincere thanks to all international and regional partners that have and continue to support RMI national climate action. International support remains critical for realizing our adaptation goals.

Most recently, RMI has entered into an agreement with the World Bank to implement the Pacific Resilience Project – Phase II (*PREP II*). The objective of the project is to strengthen early warning systems, increase climate resilient investments in shoreline protection, and provide immediate and effective responses to crises or emergencies. Communities exposed to erosion, storm surges, king tides, and sea level rise will benefit from the project through reduced risk of damage to infrastructure in the coastal zone. The project will help improve the capacity of national and local government agencies adapt to climate change, reduce disaster risk, and set priorities for resilient investments.

In addition, donor-funded projects underway in RMI include the Ridge to Reef (R2R) project<sup>16</sup>, funded by the Global Environment Fund (GEF) through the United Nations Development Programme (UNDP). This is a five-year (2017 - 2022) project aimed at operationalizing Reimaanlok. The overall objective of the project is to strengthen and sustain outer island biodiversity and livelihoods in four priority outer atolls of Aur, Ebon, Likiep, Wotho and one outer island, Mejit, through improved management and conservation of their natural, social and cultural resources.

## 3.4 Delivering Climate Resilience in RMI

Socioeconomic and ecological resilience is required for our community to be able to thrive and adapt to the changing conditions brought on by climate change. Economic development and resilience is an important component of adaptation; a more prosperous society will have more resources, individually and collectively, to adapt to climate change.

To properly plan for and build resilience requires an in-depth understanding of the current realities of both outer and urban atoll communities. The Reimaanlok Process and the surveys conducted by the GEF funded Ridge to Reef program (R2R) are the most comprehensive programmes capturing RMI's socioeconomic status to date at the atoll level. An Atoll Profile Gap Analysis Report (CCD 2020) provides an analysis of the existing data that have been collected. Preliminary findings have determined that, though there are valuable takeaways from the existing information, these reports are scattered across agencies and ministries, and that there remain significant gaps in data.

Socio-economic Monitoring Surveys, completed as part of the Reimaanlok Process, have been completed for the atolls Aur, Likiep, Ebon, Maloelap, Ujae, and Utrok. As noted in the Gap Analysis report (McCue 2020), the SEM Surveys are important for understanding the degree of dependence of the local community on the natural resources for both subsistence and income-generation. These data sets include information on demographics (gender disaggregated), employment statistics, and levels of education. The analysis has confirmed that outer island atolls remain mainly employed through fishing, copra making, and handicraft production; this differs from the urban centers of Majuro and Ebeye, where most citizens are employed through government positions and by businesses. In addition to these Socio-economic Surveys, there exist completed Atoll Resource Management Plans for the atolls Lae, Ebon, Mejit, Wotho, Maloelap, Jabat, and Namu.

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<sup>16</sup> R2R programme is working to a different timeline to the NAP process and little overlap appears to be apparent at this time. The NAP project has no role to support the R2R project and vice versa.

Recommendations to build socioeconomic resilience and ecological resilience importantly have been put forth by community members themselves through their respective Atoll Resource Management Plans (ARMPs). These plans include owning and cultivating taro pits that would result in income generation on Mejit, revival of Reverse Osmosis units to provide additional supplies of water for their community in Likiep, establishing marine protected areas in Lae, and exploring the use of traditional fish traps in Aur. One observation that came through clearly is to undertake a study of ciguatera fish poisoning, a current problem that exists across several atolls and can be linked to the rising temperatures of the ocean.

Embracing the views of community members, a series of recommendations are presented within these ARMPs to strengthen plans and actions to help build resilient systems across atolls. Amongst these include the incorporation of the Local Early Action Plan (LEAP) processes to include "Community Climate Stories" and "Community Maps," in addition to introducing (over time) Climate Vulnerability Risk Assessments into the current Reimaanlok Process.

## 3.5 Key focus areas and priorities

The focus areas and priorities set out below are critical to achieving the overall vision of the NAP to avert, minimize, and address loss and damage from climate change and empower the people of the RMI to plan for a sustainable future beyond 2050 through ambitious adaptation action driven by a commitment to self-determination and survival.

### 3.5.1 Security

Climate change is the pre-eminent security threat facing the Marshall Islands and the Marshallese people. Particularly as the Pacific region is increasingly facing the threat of increasing resource scarcity, RMI recognizes the importance of regional collaboration, the respect for international law, and effective multilateralism to build resilience and protect our people. The people of the Marshall Islands have learned, through a difficult history, the limits of military force as a provider of peace and security. As we develop a plan for our future survival, we will continue to put the security of our people, the respect for their rights, and the protection of the territory we rely on, at the heart of our security policy.

RMI's priority is to mitigate climate change, adapt to its impact, and sustain its livable territory. Preserving our citizens' right to choose whether and when to migrate is paramount. The jurisprudence around how to protect citizens' rights in all scenarios, including those in which the liveable territory of the state is impacted, requires further development. The NSP 2020-2030 acknowledges the need to consider tipping points for habitability and multiple frontiers of adaptation and resilience building, saying:

*Sea level rise combined with more frequent and severe periodic wave surges are likely to create tipping points for tolerability of habitation. This will be made more pronounced in some atolls by coastal erosion and by more frequent and extended droughts and contamination of fresh water lenses.*

*RMI therefore faces the stark choice as a low-lying Pacific island nation: either relocate or find other options. The RMI is considering whether to relocate all 55,000 citizens (making them climate refugees) or to find other feasible options.*

*Understanding these risks atoll by atoll will be necessary to allow adaptation measures for well-being and livelihood ('business as usual') measures to be established with local atoll and village groups. This would be done with a view to strengthen resilience, defer the tipping points and provide time to prepare for more extreme measures...Additionally, RMI continues to call for strong and*



*decisive global action, especially from the larger emitters, to reduce greenhouse gases, the root cause of global warming. Last year, Marshall Islands lawmakers called on the international community to address what they declared to be a "national climate crisis."*

A proactive approach towards improving our understanding and addressing climate risk is now needed. The GoRMI is currently working with the UN Peace-building Fund to better address climate security challenges, and to do so in a way that respects the unique issues facing youth and women. The GoRMI is also strengthening law enforcement bodies to deliver security, prevent crime including drug and human trafficking, and increase maritime patrol, in order to protect our people and environment.

### 3.5.2 Ecosystem Management, Protection and Conservation

Less than half a meter of sea level rise could threaten RMI's suitability for human habitation, and is expected to increase sea inundation, storm surges, and erosion. As the climate warms, RMI expects to see substantial effects on coastal and maritime ecosystems. The combined forces of sea level rise, the loss of freshwater resources, and increased impacts on buildings and infrastructure through extreme climate events such as storm surges and wave over-wash, many islands may become uninhabitable in the near future, before the end of the 21st century.

RMI's National Climate Change Policy Framework (2011) recognizes that the resilience of our natural environment is key to coping with the effects of climate change, and the importance of maintaining and restoring ecological processes to reduce vulnerability as we develop adaptation measures. RMI's National Environment Management Strategy (2017-22) identifies the following key environmental risks to the country:

- Sea level rise as a result of climate change;
- Climate variability and disaster;
- Rising population density in Majuro;
- Decline in traditional resource management;
- Unsustainable use of natural resources; and
- Poor waste management and pollution control.

RMI is taking steps to preserve its ecosystem, particularly vulnerable coastal land and marine areas, including, as part of the Micronesia Challenge, committing to conserve at least 30% of its near shore resources and 20% of terrestrial resources. The Marshallese have a close connection and reliance on the local environment, and will draw on traditional and local knowledge in developing adaptation solutions and ecosystem protection activities. The Reimaanlok Plan, for example, developed localized ecosystem assessments in collaboration with community leaders to devise and implement conservation approaches.

### 3.5.3 Land Tenure Rights

Land is an important facet of Marshallese culture and as such plays an important role in shaping discussions on climate adaptation. The Marshall Islands has been called an "ocean country" because of its limited land, making it a precious commodity. For the Marshallese, the land is more than a way to make a living - it is a birthright.

Traditionally, every person has certain rights and obligations to the land—which he or she acquires at birth by virtue of lineage, and these rights and obligations have been mostly preserved in modern times by the RMI Constitution. As a result, most of the privately-owned

land in the RMI is still held under customary tenure (de Bie G. 2004). Marshallese land tenure – as a system that is fundamentally matrilineal and collective remains very much a relevant part of culture as a lived experience for people. Men and women refer to the phrase “an korā aelon kein” meaning “these islands belong to the women”. In fact, land in the Marshall Islands has been, and continues to be, a source of strength and power for its women (Stege et al. 2008).

Social and economic changes, particularly in the last quarter century, have challenged the resiliency and flexibility of traditional tenets of the land tenure system. Roles and responsibilities in relation to land are changing in a variety of ways. Colonization and foreign occupation, economic and social change, migration, the Compact of Free Association, governance and political representation, and environmental impacts have all contributed to how land is viewed and commoditized.

Given that land tenure is heavily dictated and determined by traditional title holders (*Irooj, alap, and dri jermal*), there is an urgent need to facilitate discussions surrounding the possible impacts of climate adaptation on land with these leaders before determining future outcomes.

The GoRMI will need to continue exploring a continuum of options aimed at building consensus, balancing traditional and desired (future) land tenure, and implementing sound land management practices. These options will interrelate to potential adaptation pathways, including the creation of raised “safe-atolls” or islands plus the societal (land tenure) implications of consolidating population and associated key infrastructure on such “safe atolls”.

#### 3.5.4 Infrastructure

With sea level rise projections and increases in climate-related disasters, impacts will inevitably be felt on RMI’s infrastructure.

Infrastructure that supports the urban areas of Majuro and Ebeye are particularly vulnerable. Damages incurred, given the density of the populations, would therefore affect a higher portion of the population. RMI’s adaptation priorities therefore need to identify sustainable adaptation pathways which progressively address the potential for increasing impacts. This may include continued strengthening and enhancing of coastal protection and other built infrastructure but this should be considered in the context of resilience and sustainability.

Water access remains a critical infrastructural need, especially given the increased risk of contaminated potable water sources within increased salinity levels as sea levels rise. Finally, major transport facilities - docks and airports - will require also particular focus, as outer atoll accessibility may be seriously jeopardized which will in tandem have economic and societal knock-on effects especially with regards to trade and the ability to implement effectively any international assistance that may be sourced to pursue and sustain an Ocean based Economy (ObE) in the future.

#### 3.5.5 Governance and Capacity

The GoRMI is committed to managing the adaptation planning and implementation process in a way that aligns with our principles, uses our resources most effectively and equitably, and protects all members of our society. RMI’s National Environment Management Strategy (2017-22) identifies that the GoRMI will uphold good governance practices of “transparency, accountability, shared responsibility and equity” in its protection of the country’s environment and development, and recognizes all citizens’ right to a clean and healthy environment. Effectively adapting to the threats of climate change will also require a whole-of-government approach. It will require alignment between national legislation, Ministry work-



plans and operations, funding proposals and implementation, and sector-specific development plans.

The Office of Chief Secretary is committed to improving the performance and coordination of the RMI public service. The NAP will identify specific measures to support this and also support policy measures to address the critical enabling environment to support implementation of the NAP.

### 3.5.6 Social well-being

Marshallese society has developed, and continues to exist, with extremely close connections to both the land and the ocean. Community and clan relationships are intertwined with land and land tenure. Moreover, many Marshallese livelihoods are directly connected to farming and fishing, the sectors that are most likely to be impacted by climate change. Those impacts have had, and will continue to have, follow-on effects for the entire Marshallese economy and society. Two areas are particularly salient to the continuity of societal well-being:

- *Migration*: The GoRMI's priority is to ensure that our citizens can fulfil their right to remain in their home islands, and that it is their choice whether and when to migrate. The GoRMI recognizes its duty to prevent any forcible displacement of its population. In fact, the 2018 Adaptation Proclamation set out that *"we must not allow our people to become climate refugees, but will strengthen international and domestic efforts and international cooperation to plan, finance and implement resilience and adaptation measures to protect the rights of our people to remain on these islands."* Internal displacement is also an issue that the GoRMI will need to prepare for. RMI is also committed towards securing a prosperous and resilient society for all Marshallese citizens at home and abroad, as illustrated by the GoRMI's allocation of a specific fund to assist the Marshallese living in the US impacted by Covid-19.
- *Health*: As temperatures rise and droughts increase, the health implications for Marshallese are severe. Risks to the population include increased occurrence of skin infections, cancer, and infectious diseases, water and food borne diseases, and mosquito- and fly-transmitted infections and diseases. With sea-level rise and coastal erosion, king tides spreading waste and sanitary health decreasing as a result, overcrowding of the population will be a key issue that may affect future health and hence influence strategic decision making. Associated with this, mental health repercussions of climate change also cannot be underestimated. The impact of living with an existential threat to one's home, combined with the stress posed by responding to climate change related disasters, remains significant and is likely to increase over time. This is because natural disasters have been shown to lead to a rise in post-traumatic stress disorder, anxiety, depression, substance abuse, and suicide.

### 3.5.7 Economic Development

Climate change is likely to compound an already-challenging economic situation within RMI. As an extremely remote and widely dispersed nation with a small population size, RMI's economies of scale are limited, transport costs are high, and export options are limited. As a result, RMI has a high dependency on imports and foreign assistance, and the public sector dominates formal employment. Private sector activity focuses on fisheries, retail, copra and tourism. At a macro level, a reduction in tuna fisheries income for the GoRMI is expected to pose a significant challenge, as are potential limitations of copra production. On a microeconomic level, potential climate impacts include reduced income for workers and businesses.

For low-lying nations such as RMI, maritime borders and exclusive economic zones (EEZ) enable access to resources that form the backbone of the economy – access to fishing rights and the management of ocean resources are critical. It is also necessary for these nations, who depend on the oceans for their survival, to preserve their health and biodiversity. The RMI EEZ in fact is one of the largest in the world at 2,131,000 km<sup>2</sup> and hence the pursuance of a framework (or Road Map) to help support deliver of the Ocean based Economy (ObE) needs to be high on the agenda for RMI. This is why RMI often refer to themselves as a “large ocean state” as opposed to the internationally embraced term of a “small island developing state”.

To this end, RMI has already taken steps, through the UN Law of the Sea (UNCLOS) and the International Law Commission, to remove any uncertainty regarding the area of ocean space under the jurisdiction of RMI, and has agreed regional maritime boundary agreements to promote stability in the face of sea level rise. Through these state practices, the Marshall Islands together with the Pacific Islands Forum (PIF) are establishing an effective legal regime for ocean governance based on certainty, stability and durability. This should be supplemented with broader jurisprudence to ensure an effective legal regime for ocean governance.

### 3.5.8 Cultural Heritage

As a large ocean state, the people of RMI have been caring for its territory and waters since the Islands became inhabited 3,000 years ago. The ancestors of the Marshall Islands developed extraordinary knowledge that enabled them to navigate and populate these islands.

The ocean, and society’s connection with it, is a critical component of Marshallese culture. Sustaining access to the ocean is a crucial component of cultural preservation and resilience. There is a close intersection between environmental management and cultural heritage, with traditional knowledge and practices on environmental management forming a key component of Marshallese culture. The revitalization of traditional knowledge is an important aspect of Marshallese cultural heritage and ocean protection, combining traditional nautical knowledge, ecological and economic practices, and cultural promotion and identity.

## 4 Adaptation Support Needs for RMI

### 4.1 The costs of meeting adaptation needs

GoRMI will continue to need international support to implement the NAP process and the intended vision set out within the NSP and the NAP itself. The NAP will develop a section on financing which will address the potential for supporting initial resilience measures through the RMI sectors and on-going support for strengthening governance arrangements, the enabling environment and capacity development. Further technical support will be needed to develop individual atoll development plans according to the NAP and to provide for their progressive implementation. Ultimately protection costs are going to be expensive and external climate financing mechanisms will need to be developed to address these.

The indicative costs of meeting this requirement will be presented as the NAP progresses in 2021. However, recent estimates have been made within a World Bank published the report entitled, "Pacific Possible: Climate and Disaster Resilience" (2016), which looked into the climate adaptation costs for Pacific island countries. The report emphasizes specifically the cost of making coastlines more resilient to climate change. The cost is projected to be between 1-13 per cent of the island's GDP; however, atoll island states like Kiribati and the Marshall Islands present a much steeper cost estimate.

Importantly for RMI, although climate adaptation costs are expensive and will increase expenditure between 2-20 per cent across the Pacific Island states by 2040, these mitigation costs will by far reduce economic losses when calamities strike. Table 4.1 shows how RMI compares with other Pacific nations with regards to coastal protection-related adaptation costs and residual damages over time for the medium SLR scenario. It presents the case (based on World Bank estimates) that RMI faces the most costly expense bill (as a % of projected GDP) in order to address climate resilience over the coming few decades.

**Table 4.1: Range of adaptation costs for coastal protection by country (best case-worst case scenario) (million USD per year at 2012 international prices)**

Country	2020s	2040s	2040s as % of projected GDP (includes residual damages)
Fiji	71-230	86-329	1-3%
FSM	6-20	8-28	1-3%
Kiribati	13-42	17-54	4-11%
<b>RMI</b>	<b>13-42</b>	<b>16-58</b>	<b>4-13%</b>
Palau	2-9	3-11	1-2%
Solomon Islands	81-280	97-347	3-11%
Tonga	8-28	9-35	1-4%
Vanuatu	36-130	42-161	2-8%
Samoa	4-15	7-21	0-1%

A long-term support programme will be needed that embeds the need to improve capacity within GoRMI sectors that are responsible for leading implementation on areas with more complex technical dimensions. In addition, the GoRMI will need to develop more detailed "Atoll

Adaptation Implementation Plans” that align with the NAP (or “National Survival Plan Plan) that provides the Road map for long-term climate adaptation.

## 4.2 Financial instruments to enable implementation

Financing is needed throughout the entire RMI NAP process to enable its potential to be reached—from its initiation to the implementation, monitoring and evaluation of prioritized adaptation actions. The amount of financing needed by RMI will vary depending on its agreed “implementation road map”, but is expected to be significant. Identified sources of financing for the RMI NAP process are likely to include the following:

1. Domestic government revenues (various fiscal instruments to raise additional revenue (e.g., through taxes, bond issuance).
2. Bilateral providers (targeted climate funds and government-to-government negotiations that determine agreed-upon bilateral commitments).
3. Multilateral providers (e.g. the GCF).
4. Private sector actors, both domestic and international.

## 5 Next Steps

The following areas will be covered in RMI National Adaptation Plan, and further information may be provided throughout 2021 from the National Adaptation Programme:

- Implementation and provision of adaptation support needs for RMI
- Implementing adaptation actions
- Adaptation actions / economic diversification and mitigation co-benefits
- Links with international frameworks
- Gender-responsive adaptation action

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