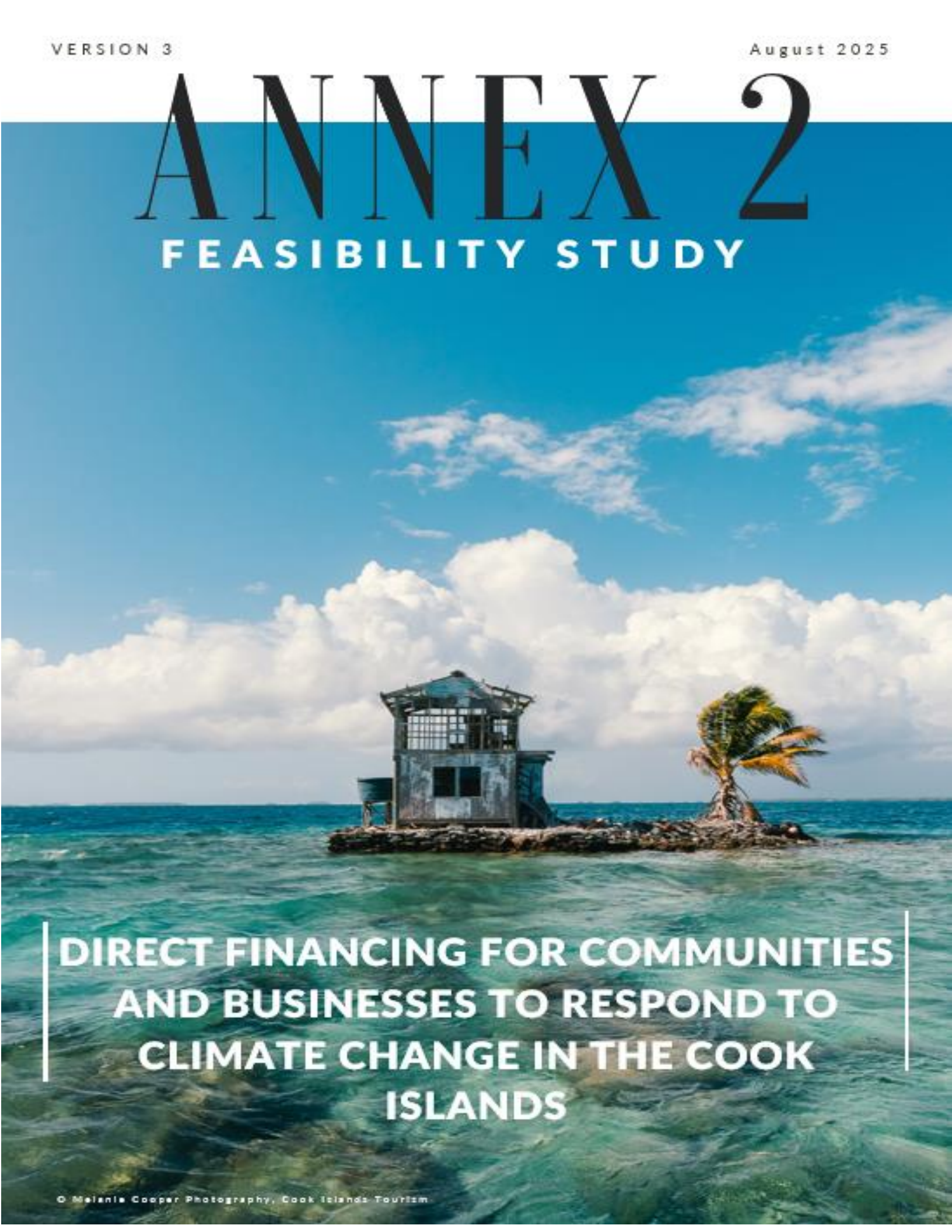


VERSION 3

August 2025

# ANNEX 2

## FEASIBILITY STUDY



**DIRECT FINANCING FOR COMMUNITIES  
AND BUSINESSES TO RESPOND TO  
CLIMATE CHANGE IN THE COOK  
ISLANDS**

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## Acronyms

|              |                                                              |                |                                                         |
|--------------|--------------------------------------------------------------|----------------|---------------------------------------------------------|
| <b>ADB</b>   | Asian Development Bank                                       | <b>FAA</b>     | Funded Activity Agreement                               |
| <b>AE</b>    | Accredited Entity                                            | <b>GAEC</b>    | Grant Award and Evaluation Committee                    |
| <b>AFOLU</b> | Agriculture, Forestry, and Other Land Use                    | <b>GCF</b>     | Green Climate Fund                                      |
| <b>APR</b>   | Annual Performance Reports                                   | <b>GCM</b>     | Global circulation model                                |
| <b>BCI</b>   | Bank of the Cook Islands                                     | <b>GEF</b>     | Global Environment Facility                             |
| <b>BoM</b>   | Australian Government Bureau of Meteorology                  | <b>GDP</b>     | Gross domestic product                                  |
| <b>BSP</b>   | Bank of the South Pacific                                    | <b>GHG</b>     | Greenhouse gas                                          |
| <b>BTIB</b>  | Business Trade and Investment Board                          | <b>ICI</b>     | Infrastructure Cook Islands                             |
| <b>CCCI</b>  | Climate Change Cook Islands                                  | <b>INTAFF</b>  | Ministry of Internal Affairs                            |
| <b>CfP</b>   | Call for Proposals                                           | <b>IPCC</b>    | Intergovernmental Panel on Climate Change               |
| <b>CI</b>    | Cook Islands                                                 | <b>KPI</b>     | Key performance indicators                              |
| <b>CIIC</b>  | Cook Islands Investment Corporation                          | <b>M&amp;E</b> | Monitoring and evaluation                               |
| <b>CIMS</b>  | Cook Islands Meteorological Service                          | <b>MFEM</b>    | Ministry of Finance and Economic Management             |
| <b>CINSF</b> | Cook Islands National Superannuation Fund                    | <b>MSME</b>    | Micro, small and medium enterprise                      |
| <b>CMIP5</b> | Coupled Model Intercomparison Project, phase 5               | <b>NDA</b>     | Nationally Designated Authority                         |
| <b>CSB</b>   | Capital Security Bank                                        | <b>NES</b>     | National Environment Services                           |
| <b>CSIRO</b> | Commonwealth Scientific and Industrial Research Organisation | <b>NGO</b>     | Non-governmental organisation                           |
| <b>CSO</b>   | Civil society organization                                   | <b>NIE</b>     | National Implementing Entity                            |
| <b>DAE</b>   | Direct access entity                                         | <b>NSDC</b>    | National Sustainable Development Commission             |
| <b>DCD</b>   | Development Coordination Division                            | <b>NSDP</b>    | National Sustainable Development Plan                   |
| <b>EbA</b>   | Ecosystem-based adaptation                                   | <b>OPM</b>     | Office of the Prime Minister                            |
| <b>EDA</b>   | Enhancing direct access                                      | <b>PCCIF</b>   | Pacific Climate Change Insurance Facility               |
| <b>EDC</b>   | Economic Development Conference                              | <b>PMU</b>     | Project Management Unit                                 |
| <b>EDS</b>   | Economic Development Strategy                                | <b>RCP</b>     | Representative concentration pathway                    |
| <b>EEZ</b>   | Exclusive economic zone                                      | <b>SGP</b>     | Small Grants Program                                    |
| <b>EMCI</b>  | Emergency Management Cook Islands                            | <b>SOE</b>     | State-owned enterprise                                  |
| <b>ENSO</b>  | El Niño Southern Oscillation                                 | <b>SPCZ</b>    | South Pacific convergence zone                          |
| <b>ESS</b>   | Environmental and Social Safeguards                          | <b>SPREP</b>   | Secretariat of the Pacific Regional Environment Program |
|              |                                                              | <b>SWOT</b>    | Strengths, weaknesses, opportunities, threats           |
|              |                                                              | <b>TAU</b>     | Te Aponga Uira, Cook Islands power utility              |
|              |                                                              | <b>ToR</b>     | Terms of Reference                                      |



---

# 1 Executive Summary

The Cook Islands Prime Minister Mark Brown has been a vocal advocate for stronger international action on climate change, particularly for small island developing states like the Cook Islands. The Prime Minister took center stage at the Twenty-Ninth Conference of the Parties (COP 29) to the UN Framework Convention on Climate Change (UNFCCC) addressing world leaders stressing the role of climate finance as the essential ingredient for climate action. He added “Climate change is not a distant threat; it is a present reality that we face every day in the Pacific. We don’t need to be enemies to each other – climate change is and will continue to be the biggest enemy to all of us. We need to work together.” In closing the Prime Minister stressed that “For the sake of those most vulnerable, we must set a path forward that aligns with the urgent realities we face. My country is ready, again, to play its part. The question remains: are we ready to act decisively and collaboratively for future generations?”

This GCF EDA proposal is in response to a Request for Proposals<sup>1</sup> (RfP) to pilot the GCF Fund’s Enhancing Direct Access (EDA) modality, to strengthen local ownership of climate action by devolving decision-making from the GCF to the country or sub-national level. Devolution seeks to promote greater involvement of impacted communities and locally transformative solutions climate solutions. This EDA project is the Cook Islands’ first step to support the most vulnerable communities and businesses and set the path forward that aligns with the urgent realities we face.

The EDA full proposal has been developed by Government personnel from both the Ministry of Finance and Economic Management (MFEM) and Climate Change Cook Islands (CCCI) – the National Designated Authority (NDA) as well as external consultants. Bi-weekly team calls were held for regular check-in and alignment. Broader consultations on the draft concept note were undertaken with key stakeholders and communities from several islands from September 2020 until May 2023.

The EDA proposal provides *Direct financing for communities and businesses to respond to climate change in the Cook Islands* with 90% of project funds supporting grant awards to communities, private homeowners and businesses; the remaining 10% of the project funds will support capacity building initiatives and project administration costs.

The EDA proposal will prioritise grant awards to the lowest income earners and vulnerable groups, targeting key interventions:

1. Reduced exposure of 2205 dwellings to extreme weather events using the updated 2019 Building Code
  - Reroofing buildings, homes/community centers
  - Installing spouting and water tanks
  - Upgrading sewage systems
  - Upgrading windows
  - Tiedowns for buildings, homes/community centres

---

<sup>1</sup> GCF Enhancing Direct Access (EDA) Request for Proposals (2016): <https://www.greenclimate.fund/sites/default/files/page/2016-eda-rfp.pdf>

- 
2. Enhancing the skill sets and abilities of the local population to manage and implement adaptation activities to strengthen buildings, water and sanitation systems
  3. Skill-building and strengthened capacity to address the impacts of climate change for Island Governments, vulnerable populations and businesses.

This EDA proposal is consistent with GCF guidelines for low risk (Category C) projects,<sup>2</sup> and has been confirmed through:

- Use of secondary data sources, complemented by primary sources as needed
- Reviewing existing evaluation reports for previously implemented and/or ongoing projects, incorporating lessons learned
- Using proven technologies and solutions with a track record to demonstrate the feasibility of proposed technological solutions

The purpose of this FS is to provide an initial assessment for the EDA project, its outcomes and recommendations with regard to the interventions, in terms of the soundness of their technical design, costs and benefits, social and environmental impacts, legal and regulatory environments in which the proposed interventions/activities are expected to be implemented. The pre-feasibility study addresses sustainability with recommendations that explain the underlying logic of the project structure and activities.

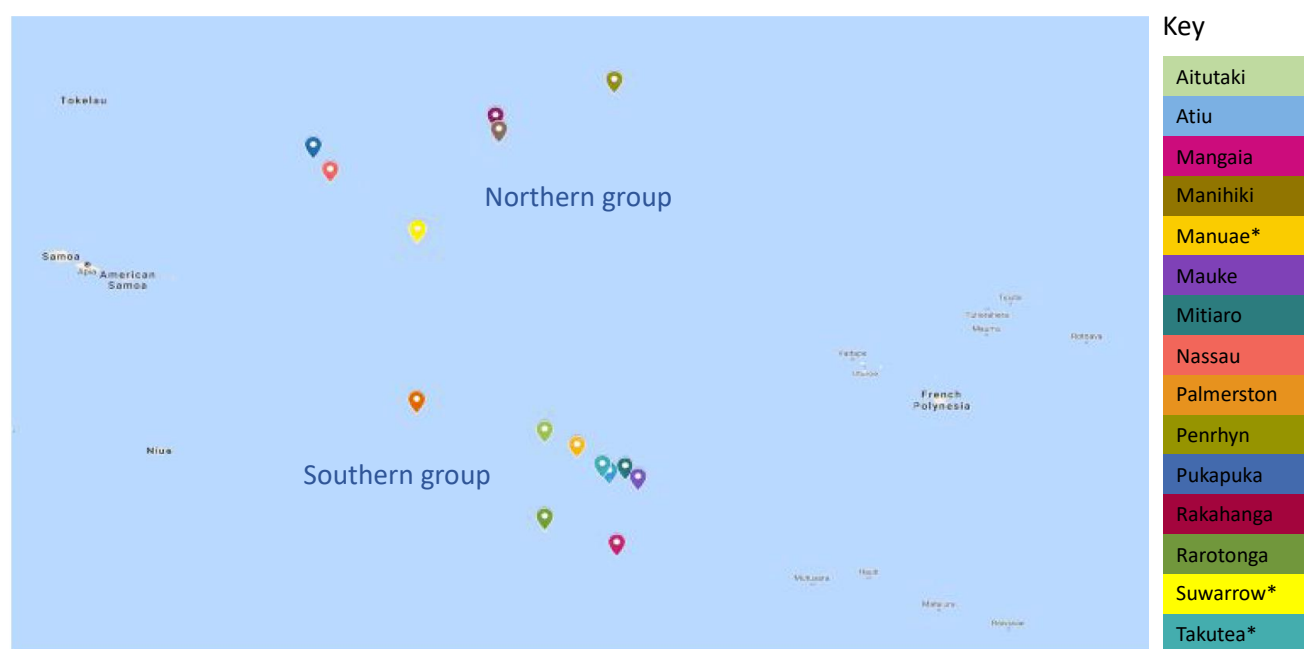
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<sup>2</sup> GCF Guideline: Guidance for preparing a Feasibility study under the Simplified Approval Process.

## 2 Introduction

### 2.1 Geography

The Cook Islands is a large ocean state situated in the central-south Pacific Ocean, with a population of approximately 17,000<sup>3</sup> people spread across 15 islands, 12 of which are inhabited, and divided into a northern and a southern group (Figure 1). The islands are a geological mix of sand clays, low-lying coral atolls, raised coral islands and small volcanic islands. The country's total landmass is 236.7 km<sup>2</sup> with a much larger Exclusive Economic Zone of 1.97 million km<sup>2</sup>.<sup>4</sup>



Source: Beca, 2017. Cook Islands Building Code Review.

\* islands with an asterisk are uninhabited

Figure 1. Map of the inhabited and uninhabited islands of the Cook Islands

*Isolated and limited landmass with significant geomorphological diversity.* Most of the Cook Islands landmass (88%) is concentrated in the Southern Group in contrast to the small, isolated Northern islands. The islands consist of atoll communities, makatea (elevated atoll), coastal ridge, wetlands, fern land as well as the cloud forest of Rarotonga. Seven of the Pa Enua have an atoll geomorphology: Penrhyn, Manihiki, Pukapuka, Rakahanga, Suvarrow, Manuae and Palmerston, with the second most populous island, Aitutaki, a near-atoll island. Atoll soils are typically derived from reef materials with a thin organic topsoil; the agricultural value of atoll soils is limited and primarily restricted to coconut trees, unless inputs are used. Atoll islands are generally in low compliance with wastewater treatment standards, as septic systems are often not sunk due to the hard atoll soils. Rarotonga, the most populous island, is a steep volcanic island peaking at 200 metres above sea level with development concentrated on the coastal skirt, around a mountainous core. Geomorphology is highly varied from

<sup>3</sup> Resident Population 2021 Census 14,987 plus approx. 2,000-3,000 tourists at any one time.

<sup>4</sup> Cook Islands Third National Communication under the UNFCCC, 2019. p. 15.

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island-to-island, making it unsuitable for centralized climate adaptation solutions. Climate projections can also differ across the northern at the southern groups, further emphasizing the need for locally specific solutions.

## 2.2 Transportation

*Transportation of people, goods and services between islands is costly.* Rarotonga and Aitutaki in the southern group are served by a regular and reliable shipping service from New Zealand. Intra-island transport of people, goods and services from Rarotonga and Aitutaki to the Pa Enua, called the “Pa Enua”, is a logistical challenge and often a cost-prohibitive barrier. Travel between the islands is very expensive. For example, a return flight from Rarotonga to Mangaia, two islands within the southern group just 208 km apart, costs NZD500 or USD350.<sup>5</sup> For movement of goods and materials between islands, if a container isn’t already scheduled, people have to cart required materials with small, hired barges; this can be cost-prohibitive, leading people to use what’s on the island even if it will expose their assets to the next cyclone.<sup>6</sup> Reliance on indigenous resources can also have unintended consequences. For example, the lauded transition from fossil fuels to solar PV for electricity generation in the Pa Enua has reduced the need to regularly transport fuel, which has in turn reduced the frequency of intra-island boat trips with the unintended consequence of higher transport overheads for other essential goods.<sup>7</sup>

## 2.3 Population

*The population peaked in the 1970s and has since been steadily declining.* Population growth averages -0.5%, representing a loss of about 322 people each year.<sup>8</sup> Population decline, and the risk of natural disasters, are the two most chronic challenges to the Cook Islands’ short-to-medium-term development objectives of spurring private sector investment, protecting the tourism industry, and achieving developing other industries. The global pandemic is an acute threat that could compound prior challenges.

## 2.4 Economy

The Cook Islands economy is strongly service driven, with the tourism sector contributing approximate 67-75% of GDP and employing 50-60% of the labour force. The agriculture sector accounts for around 5-7% of GDP, while industry (including food processing, handicrafts, and emerging seabed mineral exploration) contributes roughly 5-13%.<sup>9</sup>

Classified as a high-income country, the Cook Islands achieves a GDP per capita (PPP) of about US 15,600 – 17,00. However, economic reliance on tourism makes the country particularly vulnerable to

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<sup>5</sup> Unless otherwise indicated, a currency conversion rate of NZD1 = USD0.70 is used. This is approximately the average conversion rate over the period 2020 – now.

<sup>6</sup> Infrastructure Cook Islands (ICI), 2020. Interview.

<sup>7</sup> Economic Development Strategy (EDS) consultation, 2019.

<sup>8</sup> ADB 2019

<sup>9</sup> Cook Islands Budget Book 2024/25 – Section 4: Economic and Fiscal Update.

[https://www.mfem.gov.ck/files/ugd/dbdf40\\_ba1fb99a5e6c42c7924fe557a8a23f97.pdf](https://www.mfem.gov.ck/files/ugd/dbdf40_ba1fb99a5e6c42c7924fe557a8a23f97.pdf)

global shocks. COVID-19 caused a sharp –24.5% GDP contraction in 2021, followed by a +10.5% rebound in 2022.

Despite strong per capita income, income inequality and vulnerability persist. While official poverty rates are not regularly published a 2016 UN estimate placed poverty at 28% of the Population<sup>10</sup> Furthermore unemployment stood at approximately 8% in 2024<sup>11</sup>, signaling structure vulnerabilities within the labour market. Further details of income and population distribution are provided in Island Profile section.

## – Climate hazards, baseline and future projections

Key climate hazards are already impacting the Cook Islands’ economy and way of life. The country’s topography and remoteness make it highly vulnerable to the impacts of climate change. Extreme weather events (EWEs e.g. cyclones and coastal flooding, excessive rainfall, landslides, and droughts) are exacerbated by climate change and sea level rise. The disproportionate impact of EWEs on gross domestic product (GDP) is illustrated by Tropical Cyclone Pat in 2010 affecting 12% of the total population (78% of the population on Aitutaki island damaging 322 dwellings) and recovery costs equated to 3% of GDP. The Pacific Catastrophe Risk Assessment and Financing Initiative (PCRAFI) indicates that average annual losses from tropical cyclones, earthquakes, and tsunamis are equivalent to 2% of GDP in the Cook Islands while probable maximum losses for a once in 50 years EWE occurring are estimated at USD56.8 million<sup>12</sup>.

Climate change is projected to intensify these hazards based on projections to 2050 (Figure 2).

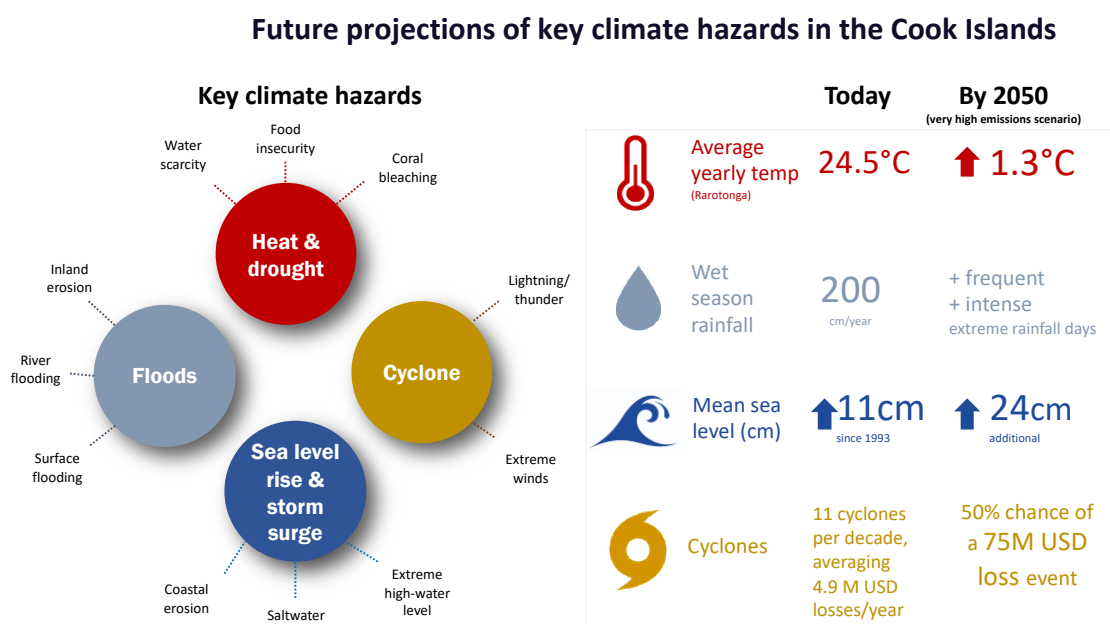


Figure 2. Climate projections for the Cook Islands using a high (RCP8.5) emissions scenario

<sup>10</sup> UN Data (2016). 'National poverty line' indicator. <https://data.un.org/>

<sup>11</sup> MFEM Statistics Office (Labour Force Survey 2024). <https://www.mfem.gov.ck/statistics>

<sup>12</sup> (ADB, 2024)

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Climate projections used in this report were obtained from the Australian Bureau of Meteorology (BoM), the Commonwealth Scientific and Industrial Research Organisation (CSIRO) and Secretariat of the Pacific Regional Environment Program (SPREP) in the 2021 report *'NextGen' Projections for the Western Tropical Pacific: Current and Future Climate for Cook Islands*,<sup>13</sup> as well as their 2014 report, *Climate Variability, Extremes and Change in the Western Tropical Pacific: New Science and Updated Country Reports*<sup>14</sup> and the web-based climate projections tool *Pacific Climate Futures* (<https://www.pacificclimatefutures.net/en/>).

Projections for the Cook Islands were generated by BoM/CSIRO/SPREP using global circulation model (GCM) simulations from the international Coupled Model Intercomparison Project Phase 5 (CMIP5). The performance of 27 CMIP5 models over the Pacific region were evaluated, leading to projections based on a maximum of 24 models for the South Pacific convergence zone (SPCZ) region, and 26 models in other regions. Country-specific projections were analysed for four global greenhouse gases and aerosol emissions scenarios developed by the IPCC (2013), called Representative Concentration Pathways (RCPs), as follows:

- RCP8.5 (very high emissions)
- RCP6 (medium emissions)
- RCP4.5 (low emissions)
- RCP2.6 (very low emissions)

Climate model data for key indicators are summarized in Table 1 using RCP4.5 and RCP8.5 for an intermediate (2030) time horizon and a high RCP8.5 emissions scenario for 2050, relative to a 20-year period centred on 1995. The latest projections and climate science findings for the Cook Islands, discussed in the following sections, are summarized as follows:<sup>15</sup>

- El Niño and La Niña events will continue to occur in the future (*very high confidence*), but there is little consensus on whether these events will change in intensity or frequency
- Annual mean temperatures and extremely high daily temperatures will continue to rise (*very high confidence*)
- Average annual rainfall is projected to remain comparable to the current climate, except for a small decrease in May–October in the Northern Cook Islands under the high emission scenario (*medium confidence*), with more extreme rain events (*high confidence*)
- Ocean acidification and sea level rise are projected to accelerate (*medium confidence*); and
- Reduced formation of tropical cyclones and increasing cyclone severity (*low confidence*)

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<sup>13</sup> <https://publications.csiro.au/rpr/pub?pid=csiro:EP2021-2144>

<sup>14</sup> BoM and CSIRO (2014). *Climate Variability, Extremes and Change in the Western Tropical Pacific*. Chapter 2: Cook Islands

<sup>15</sup> *Ibid*, p. 22



Table 1. Climate change projections to 2030 and 2050 for the Cook Islands, relative to a 20-year period centred on 1995

| Climate Variable                               | Season           | Expected change                               | Change by 2030 (RCP4.5) | Change by 2030 (RCP8.5) | Change by 2050 (RCP8.5) | Confidence level |
|------------------------------------------------|------------------|-----------------------------------------------|-------------------------|-------------------------|-------------------------|------------------|
| Air temperature (air and sea)                  | Annual           | Average air temperature will increase         | +0.7°C (0.4–1.0)        | +0.8°C (0.5–1.0)        | +1.3°C (0.9–1.8)        | High             |
| Max temp                                       | 1-in-20-yr event | More very hot days                            | +0.6°C (0.2–0.8)        | +0.7°C (0.2–1.1)        | +1.4°C (0.5–2.1)        | Medium           |
| Min temp                                       | 1-in-20-yr event | Fewer cool nights                             | +0.6°C (0.2–0.9)        | +0.8°C (0.4–1.1)        | +1.4°C (0.9–2)          | Medium           |
| Annual total rainfall (%)                      | Annual           | Minimal change to avg. annual rainfall        | +1% ± 5%                | +1% ± 5%                | -1% ± 14%               | Low              |
| Wet season rainfall (%)                        | Nov – Apr        | Wet season rainfall will increase             | +3% ± 8%                | +3% ± 9%                | +1% ± 10%               | Low              |
| Dry season rainfall (%)*                       | May – Oct        | Dry season rainfall will decrease             | -1% ± 8%                | -2% ± 9%                | -5% ± 15%               | Low              |
| Ocean acidification (aragonite saturation Ωar) | Annual           | Ocean acidification will continue to increase | -0.3 Ωar ± 0.3 Ωar      | -0.4 Ωar ± 0.3 Ωar      | -0.7 Ωar ± 0.3 Ωar      | Medium           |
| Mean sea level (cm)                            | Annual           | Sea level will continue to rise               | +12 cm (7 – 17)         | +12 cm (8 – 17)         | +24 cm (16 – 33)        | Medium           |

\*Note: Dry season rainfall (%) is positive for the southern group of islands (+2% (-12–15) in 2050)

#### 2.4..1 Temperature observations, projections and impacts

Average annual temperatures range from 21°C to 28°C throughout the year and differ across the Cook Islands; for example, annual temperature in Rarotonga in the southern group is 24.5°C, while Penrhyn in the northern group averages 28°C (Figure 3, right and left graphs respectively).

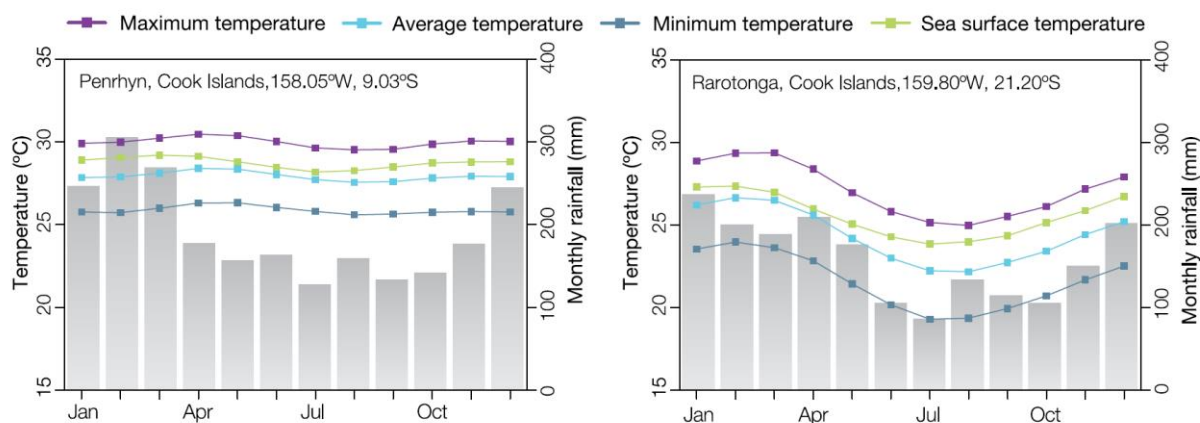
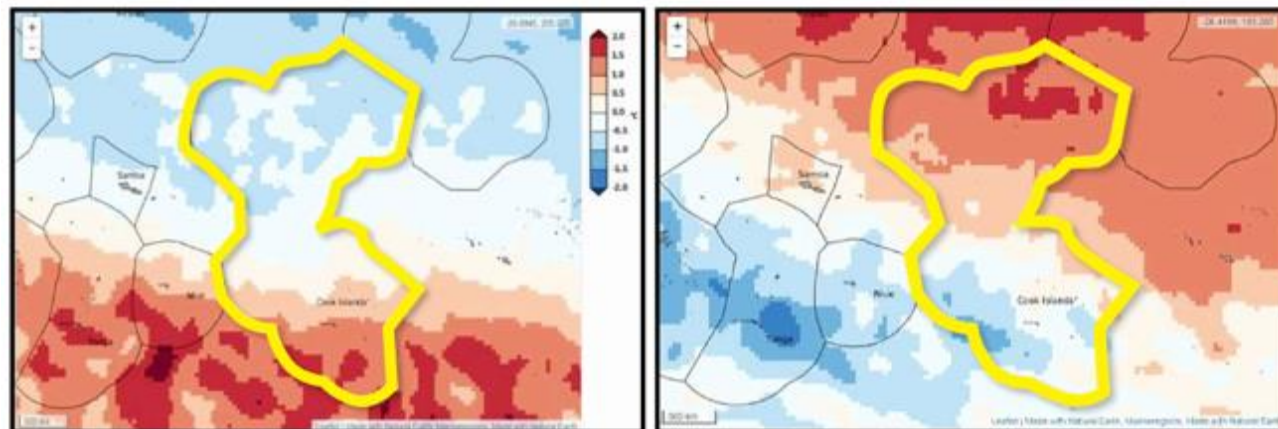


Figure 3. Annual Air and Sea Surface Temperature in Penrhyn (left) and Rarotonga (right), BoM and CSIRO (2014)

The temperature and climate of the Cook Islands is heavily influenced by the SPCZ. The SPCZ's inter-annual variability is strongly affected by El Niño and La Niña cycles and the El Niño Southern Oscillation (ENSO), having effects on both the Northern and Southern Groups. The ENSO has opposite effects on the Northern and Southern Groups. El Niño events tend to bring warmer conditions in the southern group, while in the north El Niño usually brings cooler conditions (Figure 4).



Source: <http://cosppac.bom.gov.au/products-and-services/ocean-portal/>

Figure 4. Inter-annual variability of sea surface temperature across the Cook Islands northern and southern groups<sup>16</sup>

Projections across all emissions scenarios indicate that the annual average air temperature and sea surface temperature will increase for the Cook Islands, across both island groups (Figure 5).

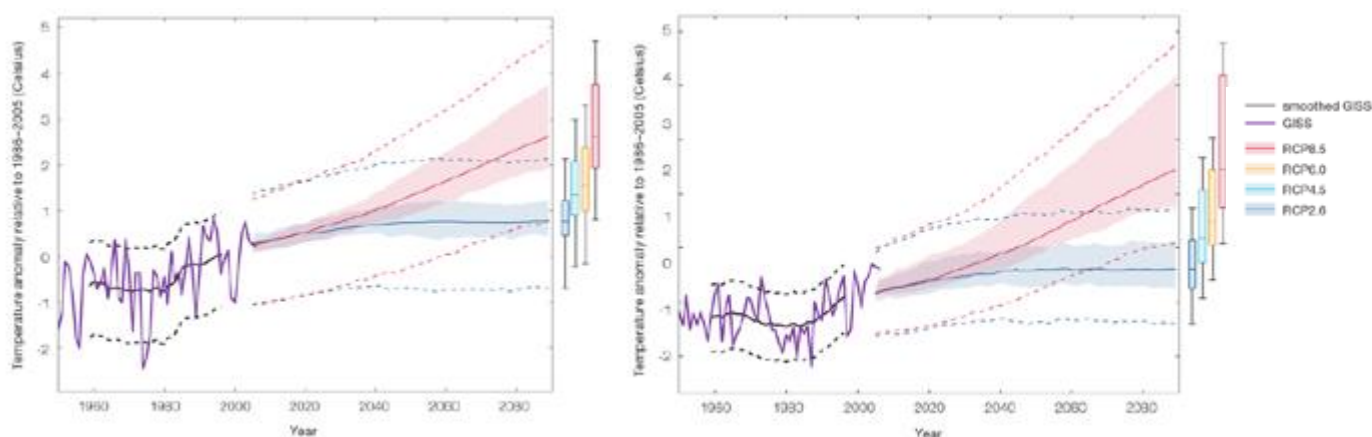


Figure 5. Historical and simulated surface air temperature time series for the Cook Islands; shows the anomaly (from the base period 1986–2005)

Annual surface air temperature is projected to increase between 1.0 – 1.8°C in the Northern islands and 0.9 – 1.7°C in the Southern islands by 2050, under a high emissions scenario.<sup>17</sup> Night-time temperatures will also continue to increase.<sup>18</sup>

<sup>16</sup> Cook Islands Third National Communication, 2019, p. 55

<sup>17</sup> CIMS, BOM and CSIRO, 2015

<sup>18</sup> Cook Islands Third National Communication, 2019, p. 42

## Climate risks due to temperature rise

Known climate risks associated with an increase in air and sea surface temperature include loss of biodiversity, coral bleaching, and risks to human health.

*Small pockets of endemic flora biodiversity and climate-sensitive marine habitats.* The rate of endemism in the Cook Islands is about 10% of land flora species; for example, 18 of the 173 recorded flowering plants are endemic to the country. Four species found in Rarotonga's cloud forest are not found elsewhere in the world – despite that the cloud forest covers less than 3% of Rarotonga's landmass.<sup>19</sup> Prolonged spells of hot, dry weather have also been linked to a higher incidence of uncontrolled bush fires.<sup>20</sup>

*Reduced food security and income due to less productive local ecosystems.* Fringing reefs are common and extensive across the Cook Islands; in addition, one island has a barrier reef (Aitutaki). Elevated sea surface temperatures have been reported to cause coral death through bleaching,<sup>21</sup> and ocean acidification reduces the concentration of carbonate ions that corals need to construct their skeletons. Over the 21<sup>st</sup> century, ocean acidification is projected to have the greatest impact in the Pacific coral reef triangle region, which includes the Cook Islands, reducing coral skeletal density by up to 20%.<sup>22</sup> Reduced skeletal density could make coral reefs more susceptible to bioerosion, dissolution and storm and tropical cyclone damage.<sup>23</sup> Coral reefs are an important food source, natural protection and tourism economic driver.<sup>24</sup> Fish and other food marine invertebrates underpin food security in the Cook Islands; fish consumption is at least two times higher than the global average, especially in the isolated Pa Enua where food import shipments are infrequent.



Figure 6. Coral bleaching in the Aitutaki Lagoon 2016/2017N (N. Prinz, 2017)

<sup>19</sup> SPREP 2020, p. 68

<sup>20</sup> Cook Islands News (2021). Bush fires are an ongoing concern, police say <https://bit.ly/3icHoLr>

<sup>21</sup> Hughes, T.P., Kerry, J.T., Baird, A.H. et al. Global warming transforms coral reef assemblages. *Nature* 556, 492–496 (2018). <https://doi.org/10.1038/s41586-018-0041-2>

<sup>22</sup> Mollica, N., Guo, W., Cohen, A., Huang, K., Foster, G., Donald, H., & Solow, A. (2018). Ocean acidification affects coral growth by reducing skeletal density. *Proceedings of the National Academy of Sciences of the USA*, 115(8), 1754–1759. doi:10.2307/26507553

<sup>23</sup> Madin JS, Hughes TP, Connolly SR (2012) Calcification, Storm Damage and Population Resilience of Tabular Corals under Climate Change. *PLoS ONE* 7(10): e46637. <https://doi.org/10.1371/journal.pone.0046637>

<sup>24</sup> Rongo (1993) cited in SPREP (2020) State of the Environment, p. 68

*A rise in sea surface temperatures causes coral bleaching and reduces reef productivity.* Bleached corals were observed for the first in the Aitutaki Lagoon in November 2016, according to the Aitutaki Marine Research Centre (AMRC), when sea surface temperatures rose to 28°C; by December, temperatures increased to over 30°C throughout the lagoon and peaked in January 2017 at over 31°C (Figure 6). A sudden fish kill was observed on 12 January 2020.<sup>25</sup>

Lower reef productivity can result in overfishing if people don't realize productivity is declining, reducing fish and making reefs susceptible to algae growth in a negative feedback loop. If unchecked, marine food sources may no longer be dependable in isolated islands with few alternatives. Impacts to subsistence income have been documented in the outer island communities, where women have noticed a scarcity of *pupu* shells which are used by them for making local handicrafts, possibly linked to warming of seas.<sup>26</sup>

*Biological hazards associated with temperature rise include tropical diseases, especially those transmitted by mosquitoes.* The distribution and abundance of many vectors may be affected by even small changes in ambient temperature and precipitation, or by changes in vegetation, especially at the margins of vector distribution.<sup>27</sup> High-priority diseases of concern for small island states include malaria, dengue, diarrheal disease/typhoid, heat stress, skin diseases and acute respiratory infections and asthma. Warmer temperatures allow mosquito-borne viruses to replicate more quickly and be transmitted almost immediately after they infect a mosquito. As temperatures rise, mosquitoes mature faster and bite more frequently, thus increasing transmission rates.<sup>28</sup> *Aedes aegypti* mosquito presence has been positively associated with cracking, uncapped openings and septic water pH in household treatment systems.<sup>29</sup> Existing mosquito-breeding habitat, unless controlled, will lead to higher mosquito-borne infection rates due to the hotter climate. Because potential climate impacts in health are far-reaching, the true health burden is rarely appreciated.

*Pest / fruit fly infestation has been linked to temperature rise and can impact crop productivity.* In 2013, Rarotonga and Aitutaki experienced an introduction and outbreak of the Oriental fruit fly *Bactrocera dorsalis hendel*. Intensive trapping was



Figure 7. Contaminated produce in all Biosecurity Zones was buried at least 0.5m deep during the fruit fly outbreak

<sup>25</sup> Prinz, N. (2017). Coral bleaching in the Aitutaki Lagoon 2016/2017. *Resilience of South Pacific coral reef social-ecological systems in times of global change (REPICORE)*. Accessed 5 February 2020: <https://repicore.leibniz-zmt.de/coral-bleaching-in-the-aitutaki-lagoon-20162017/>

<sup>26</sup> Biju, K. A. (2010) Rising Seas & Receding Islands. National Institute of Science Communication and Information Resources, CSIR 47: 8-14, India <http://nopr.niscair.res.in/handle/123456789/10191>

<sup>27</sup> Ebi, K., Nancy D. Lewis, & Corvalan, C. (2006). Climate Variability and Change and Their Potential Health Effects in Small Island States: Information for Adaptation Planning in the Health Sector. *Environmental Health Perspectives*, 114(12), 1957-1963. Retrieved February 3, 2021, from <http://www.jstor.org/stable/4119613>

<sup>28</sup> Cook Islands Third National Communication (2019), p. 65

<sup>29</sup> Burke, Ronald & Barrera, Roberto & Lewis, M & Kluchinsky, T & Claborn, David. (2010). Septic tanks as larval habitats for the mosquitoes *Aedes aegypti* and *Culex quinquefasciatus* in Playa-Playita, Puerto Rico. *Medical and veterinary entomology*. 24. 117-23. 10.1111/j.1365-2915.2010.00864.x.



set up every 500 metres around main and back roads,<sup>30</sup> and contaminated produce was destroyed (Figure 7). Heat treatment units for postharvest disinfestation were also set up to continue exporting certain produce to fruit fly-free countries like New Zealand, from had been banned for quarantine reasons.<sup>31</sup> The introduced fruit flies were eliminated by 2014; however, reintroductions are a risk under climate change. In a lab experiment, the developmental time of fruit fly egg, larva and pupa decreased in warmer temperatures between 28 – 32°C. Shortened reproductive cycles due to warmer temperatures can result in a quicker population build-up and consequent infestation risks.<sup>32</sup>

Table 2. Temperature-related climate hazards ranked by probability and impact

| Theme | Primary climate hazard                      | Secondary climate hazard                                     | Probability*    | Impact**            | Threat |
|-------|---------------------------------------------|--------------------------------------------------------------|-----------------|---------------------|--------|
| Heat  | Increasing air and sea surface temperatures | Increased demand for potable water                           | Somewhat likely | Not disruptive      | Medium |
|       |                                             | Heat stress and reduced productivity                         | Not likely      | Not disruptive      | Low    |
|       |                                             | Algal blooms with anoxic conditions in the lagoons           | Somewhat likely | Somewhat disruptive | High   |
|       |                                             | Coral bleaching and coral disease leading to food insecurity | Not likely      | Somewhat disruptive | Medium |
|       | Ocean acidification                         | Decrease in coral reef skeletal density                      | Not likely      | Somewhat disruptive | Medium |
|       | Increased evapotranspiration                | Soil degradation & biodiversity loss                         | Not likely      | Not disruptive      | Low    |
|       | Biological hazard                           | Vector-borne tropical diseases                               | Somewhat likely | Somewhat disruptive | High   |
|       |                                             | Pest/fruit fly infestation among other invasive species      | Not likely      | Somewhat disruptive | Medium |

\* **High** (within 1 year); **Somewhat likely** (likely within next 3 years); **Not likely** (not likely within 3 years); **Low** (at least 3 years)

\*\* **High** (state of emergency); **Somewhat disruptive** (loss of productivity); **Not disruptive** (some areas are affected); **Low** (minor or no disruption)

### Adapting to temperature rise

Rising air and sea surface temperatures present dynamic climate risks to the people and economy of the Cook Islands. Possible solutions for adapting to future conditions could include:

- Biosecurity programmes on all islands, providing ongoing training to prevent and manage new pests
- Household inspections aimed at reducing mosquito breeding sites

<sup>30</sup> RNZ (2013). Cooks Islands' emergency response to fruit fly a success <https://bit.ly/3aunEPt>

<sup>31</sup> FAO (undated) Management of fruit fly problems in the South Pacific Region. *UN Food and Agricultural Organization*. [http://www.fao.org/docs/eims/upload/207694/7\\_1\\_2\\_cases.PDF](http://www.fao.org/docs/eims/upload/207694/7_1_2_cases.PDF)

<sup>32</sup> MA, Rashmi & Verghese, Abraham & Rami, Poluru & Kandakoor, Subhash & Chakravarthy, Akshay. (2020). Effect of climate change on biology of oriental fruit fly, *Bactrocera dorsalis* hendel (Diptera: Tephritidae). *Journal of Entomology and Zoology Studies*. 8. 935-940.

- Repair cracked or failing septic tanks and capping/covering all septic openings
- Raise awareness about the risks of fires near bush areas during dry and hot weather
- Replanting vegetation and other soil remediation techniques

#### 2.4..2 Rainfall observations, projections and impacts

During years when the SPCZ is more active and located generally north of the Southern Group islands, there is a more pronounced wet season (November to April) and a dry season (May to October). The driest months of the year in the Cook Islands are from June to October.

The southern Cook Islands are more affected by the dry southeast trade winds compared to the northern Cook Islands. The southern Cook Islands can experience a significant reduction of rainfall, sometimes by up to 60% of the annual rainfall.<sup>33</sup>

Under a high (RCP8.5) future climate scenario, average annual rainfall may decrease for the northern group of islands (Figure 8, left) while increasing for the southern group of islands (Figure 8, right). Notably, however, this result is reversed under the low emission scenario (RCP2.6), which predicts that rainfall would increase for the northern and decrease for the southern islands. More variability in rainfall from year to year is projected for both the southern and northern island groups, with more extreme variability under a high RCP8.5 than a low RCP2.6 scenario, as shown by the widening peripheral red and blue dotted lines respectively, in the figure below.

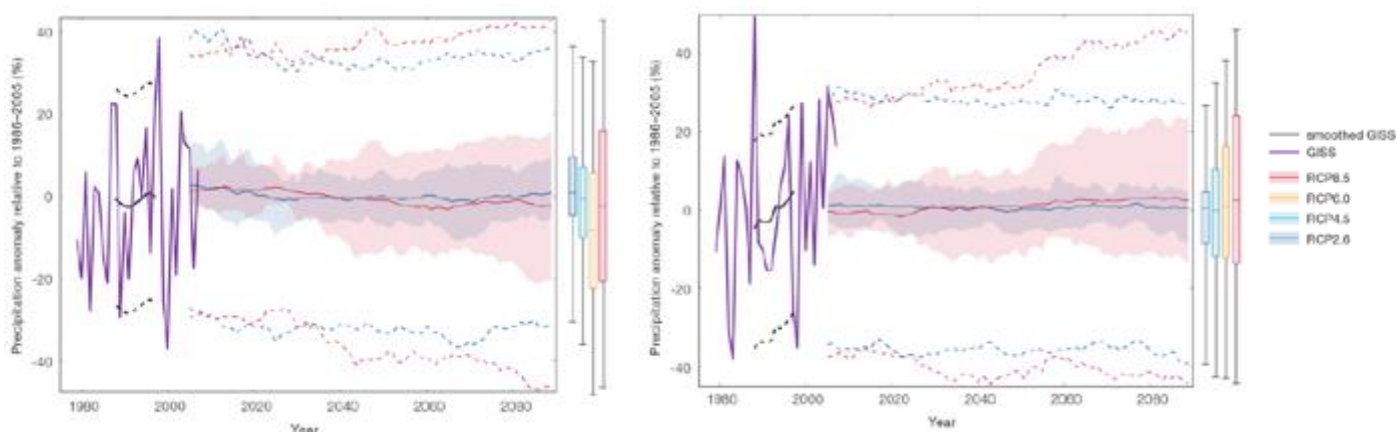


Figure 8. Historical and simulated annual average rainfall time series in the Cook Islands from the base period 1986–2005

More extreme drought years is a concern when considering temperature rise, which is expected to increase demand for potable water, potentially contributing to water shortages across all islands.<sup>34</sup> Uncertainty in the global climate mitigation pathway, combined with low confidence in rainfall modelling, underscore the need for the Cook Islands to prepare for both higher or lower average annual rainfall in the northern and southern islands.

#### **Risks associated with climate-induced rainfall variability**

*Climate change is a risk to the dependability of rainfall supplying potable water.* As coral atolls, islands in the Northern Group are without a centralized water supply, and depend on rooftop rainwater

<sup>33</sup> CSIRO (2011)

<sup>34</sup> Cook Islands Third National Communication (2019), p. 48.

harvesting, other small catchments and a fragile freshwater lens, which is subject to rapid depletion, salt intrusion and pollution. As such, water security is an area of extreme climate vulnerability in the Pa Enua, especially in the northern group where average annual rainfall is projected to decline due to climate change under a high emissions scenario. Groundwater resources on the Pa Enua are very limited and water quality is already declining due to saltwater intrusion during high tides.<sup>35</sup>

*Extreme rainfall erodes waterways, contaminates lagoons.* Heavy downpours often cause flooding in the inland streams, washing debris downstream and causing sedimentation of the lagoons, as well as changes to the salinity levels of lagoons. Climate-induced extreme rainfall will affect the health and productivity of the lagoons and surrounding reefs in ways that are still being studied and understood.<sup>36</sup> Sedimentation occurs when soil is dislodged by rainfall and transported by stormwater flows, eventually settling out of the water column onto the surface as water flow slows. In the context of the Cook Islands, catchment-derived sedimentation is mainly a problem in the steeper terrain of Rarotonga and Aitutaki, where mobilized sediment from the catchment passes through the drainage system and eventually settles within the lagoon and over the surrounding coral reefs (Figure 9).



Figure 9. Sediment washed from the catchment enter Muri Lagoon during a rainfall event in April 2018 (left), passing through Avana Passage (right) and eventually settling on surrounding coral reef (photo credits: Matt Blacka)

*Heavy rainfall exacerbated by climate change can increase mosquito breeding habitat and associated diseases.* New pockets of standing water provide ideal breeding grounds for mosquitoes. Changes to wet season rainfall, projected to increase due to climate change, can increase the risk of mosquito-borne infections, particularly dengue fever, by providing more suitable breeding habitat.<sup>37</sup>

Table 3. Rainfall-related climate hazards ranked by probability and impact

| Theme   | Primary climate hazard           | Secondary climate hazard | Probability*    | Impact** | Threat |
|---------|----------------------------------|--------------------------|-----------------|----------|--------|
| Drought | Reduction in dry-season rainfall | Potable water shortages  | Somewhat likely | High     | High   |

<sup>35</sup> Cook Islands Third National Communication, 2019, p. 58

<sup>36</sup> Power, Hannah & Cossu, Remo & Callaghan, David & Nielsen, Jesper & Hughes, Michael & Nielsen, Peter. (2017). Lagoon stratification in Manihiki Atoll, Cook Islands. *Coasts & Ports 2017 Conference*. Accessed 5 February 2020: <https://bit.ly/3rieBrI>

<sup>37</sup> Cook Islands Third National Communication, 2019, p. 65



| Theme            | Primary climate hazard                 | Secondary climate hazard                     | Probability*    | Impact**            | Threat |
|------------------|----------------------------------------|----------------------------------------------|-----------------|---------------------|--------|
|                  | Shift in wet/dry season predictability | Lower yield of agricultural crops            | Not likely      | Somewhat disruptive | Medium |
| Pluvial flooding | Flash flood / surface flood            | Damage to agricultural crops                 | Not likely      | Somewhat disruptive | Medium |
|                  |                                        | Disruption to transport networks             | Somewhat likely | Somewhat disruptive | High   |
|                  |                                        | Gastrointestinal and mosquito-borne diseases | Somewhat likely | Somewhat disruptive | High   |
|                  | River flood                            | Erosion of waterways                         | Somewhat likely | Not disruptive      | Medium |
|                  |                                        | Lagoon sedimentation                         | Somewhat likely | Not disruptive      | Medium |

\* **High** (within 1 year); **Somewhat likely** (likely within next 3 years); **Not likely** (not likely within 3 years); **Low** (at least 3 years)

\*\* **High** (state of emergency); **Somewhat disruptive** (loss of productivity); **Not disruptive** (some areas are affected); **Low** (minor or no disruption)

### **Adapting to rainfall variability**

Rainfall is projected to stay the same or slightly increase in the southern group of islands under a high (RCP8.5) emissions scenario; however, this trend reverses under a low (RCP2.6) scenario. Increasing water security in the southern group, as well as the northern, is a “no regrets” option until higher confident climate modelling is available. Options for adapting to rainfall variability may include:

- Install water tanks on all community and residential buildings
- Increase water tank storage capacity at each building
- Implement safe and sustainable water filtration systems; minimize chemical use at source
- Regular water quality testing, publication of results and ongoing public awareness programmes for clean water
- Develop groundwater resources, while monitoring saltwater intrusion and pollution levels
- Improve household wastewater treatment, adjacent to lagoons and sensitive ecosystems
- Replant trees for soil stabilisation around water catchments, agricultural plots and steep slopes
- Manage soil cover and building aggregates at construction sites to limit runoff and sedimentation

#### ***2.4..3 Tropical cyclone observations, projections and impacts***

The tropical cyclone season in the Cook Islands is between November and April; cyclone occurrences outside this period have typically been rare. An analysis of 143 tropical cyclones in the Cook Islands revealed a minimum average of 0.8 cyclones per season between 1820 and 2006, with a more precise frequency obtained from the beginning of satellite monitoring from 1970 to 2006, which averaged 1.8 cyclones per year. The number of cyclones can vary greatly from year to year, between zero to as many as six in one season. The Southern Group of islands are more than twice as likely to be affected by

cyclones as the Northern Group, with the island of Palmerston having the greatest number of encounters.<sup>38,39</sup>

In the Cook Islands, the projection is for a decrease in the frequency of tropical cyclones by the late 21st century and an increase in the proportion of the more intense storms. Projections based upon empirical techniques suggest the conditions for cyclone formation will become less favourable in the region, and the magnitude of the decrease varies from 6% to 35% across studies.<sup>40</sup> There is also a general agreement across climate models that there will be an increase in the mean maximum wind speed of cyclones by between 2% and 11% globally, and an increase in rainfall rates of the order of 20% within 100 km of the cyclone centre.<sup>41</sup>

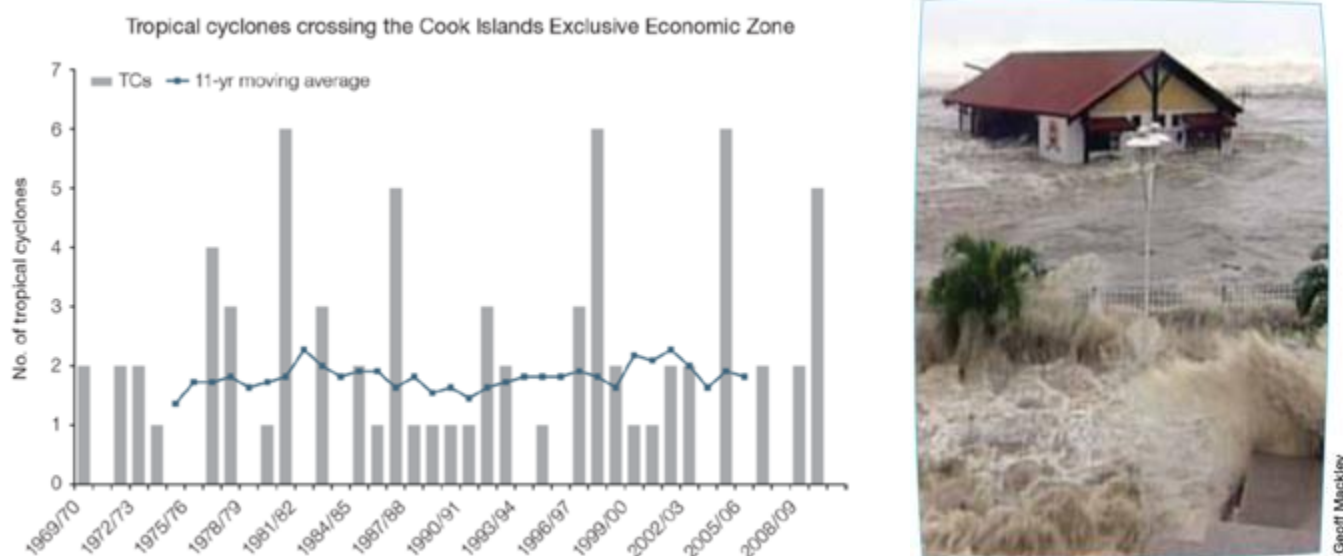


Figure 10. Time series of observed tropical cyclones and 11-year moving average for the Cook Islands (left), and Rarotonga during Cyclone Meena in 2005 (right), BoM and CSIRO (2014)

These projected trends are confirmed by the IPCC Sixth Assessment Report, whose report from Technical Working Group I (2022), section 11.7.1 on tropical cyclones states that “there is mounting evidence that a variety of TC characteristics have changed over various time periods. It is *likely* that the global proportion of Category 3–5 tropical cyclone instances and the frequency of rapid intensification events have increased globally over the past 40 years”, and predicting that “average peak TC wind speeds and the proportion of Category 4–5 TCs will *very likely* increase globally with warming” and that “[i]t is *very likely* that average TC rain rates will increase with warming”.

### **Tropical cyclone risks**

**High exposure to Pacific cyclones.** The Cook Islands sits at the heart of the Pacific cyclone belt. The 2004 – 2005 cyclone season was particularly devastating, with six tropical cyclones crossing through the country, of which three were category 5 – making landfall at wind speeds over 215 km/h, damaging

<sup>38</sup> De Scally, F.A. (2008). Historical Tropical Cyclone Activity and Impacts in the Cook Islands. *Pacific Science*, 62(4): 443-459. [https://doi.org/10.2984/1534-6188\(2008\)62\[443:HTCAA\]2.0.CO;2](https://doi.org/10.2984/1534-6188(2008)62[443:HTCAA]2.0.CO;2)

<sup>39</sup> Cook Islands Third National Communication, 2019, p. 39

<sup>40</sup> BoM and CSIRO (2014). Climate Variability, Extremes and Change in the Western Tropical Pacific. Chapter 2: Cook Islands, p. 38

<sup>41</sup> Knutson et al., 2010 in BoM and CSIRO (2014), p. 38

buildings, infrastructure and crops. For example, Cyclone Pat in 2010 damaged 78% of homes in Aitutaki at an estimated cost of NZD9.5 million.<sup>42</sup> According to the Cook Islands Tourism Corporation, there are large tourism visitor dips post-cyclone, as seen in 2010 in Aitutaki and 2000 in Rarotonga.<sup>43</sup>

Cyclone damages are for the Cook Islands by World Bank (2015).<sup>44</sup> The study constructed a simulation model using historical data to simulate over 400,000 potential tropical cyclones over the Pacific Basin. Cyclone damage was derived for three asset classes (buildings, infrastructure and major crops) using simulation data for direct losses, which include the cost of repairing or replacing the damaged assets, but do not include other losses such as contents, business interruption losses and losses to other

Table 4. Estimated losses and casualties caused by natural perils in the Cook Islands

| Mean Return Period (years)           | AAL  | 50    | 100   | 250   |
|--------------------------------------|------|-------|-------|-------|
| Risk Profile: Tropical Cyclone       |      |       |       |       |
| <b>Direct Losses</b>                 |      |       |       |       |
| (Million USD)                        | 4.9  | 56.8  | 103.0 | 198.1 |
| (% GDP)                              | 2.0% | 23.3% | 42.2% | 81.2% |
| <b>Emergency Losses</b>              |      |       |       |       |
| (Million USD)                        | 1.1  | 13.1  | 23.6  | 45.5  |
| (% of total government expenditures) | 1.4% | 16.8% | 30.3% | 58.4% |
| Casualties                           | 9    | 112   | 145   | 183   |

AAL = Average Annual Loss / Asset value

primary industries. The direct losses for tropical cyclones are attributed to wind and flooding due to rain and storm surge. The results, presented in Table 4, show expected losses on average (AAL), once every 50, 100, and 250 years. For example, a tropical cyclone loss exceeding USD103 million, equivalent to about 42% of the Cook Islands' GDP (2015), is to be expected on average once every 100 years.

#### Simulated direct cyclone losses in the Cook Islands average US\$5M per year (2% GDP, 2015)

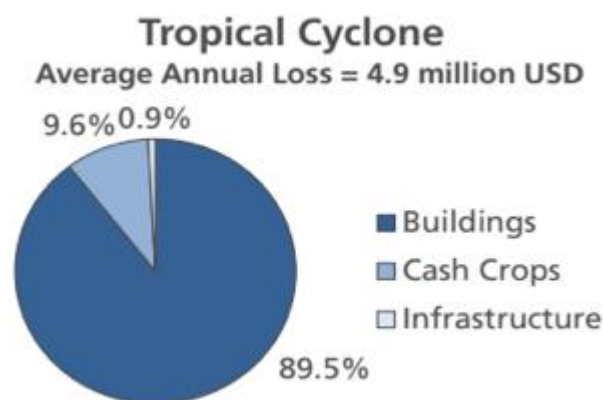


Figure 11. Annual direct losses averaged over simulated realizations of cyclone activity across buildings, cash crops & infrastructure

Direct cyclone damage risks are primarily to the building sector. According to the World Bank simulation,<sup>45</sup> buildings account for nearly 90% of losses when across the three key asset classes (Figure 11). As shown above, the Cook Islands are expected to incur, on average, about USD5 million per year in losses due to tropical cyclones.

<sup>42</sup> Cook Islands Government (2010)

<sup>43</sup> Beca (2017), p. 20

<sup>44</sup> World Bank (2015) Country Note on The Cook Islands: Disaster Risk Financing and Insurance, p. 3

<sup>45</sup> World Bank, 2015. Country Note on The Cook Islands. Disaster Risk Financing and Insurance, February. Accessed 27 Jun 2020: <https://tinyurl.com/yad2dmhj>

In addition to estimating average risk per year, the study examined large and infrequent, but possible, future cyclones (Table 4). Over the next 50 years, the Cook Islands has a 50% chance of experiencing a loss exceeding USD75 million with casualties (fatalities and injuries) of more than 130 people, and a 10% chance of experiencing a loss exceeding USD270 million with casualties of more than 200 people (Table 4).<sup>46</sup> The World Bank study uses historical data and does not consider future climate projections which, as reviewed earlier, predict:<sup>47</sup>

- a decrease in the absolute number of cyclones (of 6% to 35% globally)
- an increase in maximum wind speeds (of 2% to 11% globally), and
- an increase in rainfall rates of the order of 20% within 100 km of the cyclone centre.

Additional analysis is needed to determine how climate change projections for cyclones will impact the country's damage curve.

However, since the relationship between cyclone severity and losses is non-linear (Figure 12 using World Bank, 2015, data), slightly more extreme cyclones will be significantly more costly.

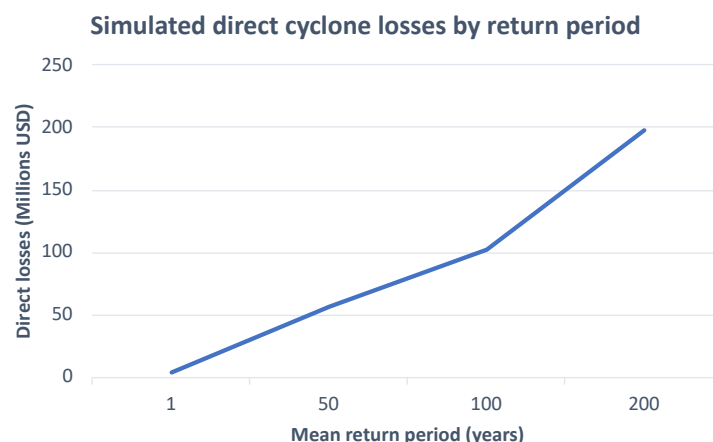


Figure 12. The relationship between cyclone return period and direct losses in the Cook Islands

The Cook Islands population is exposed to cyclone impacts due to its small and dispersed population across isolated islands, several of which are low-lying with an atoll geomorphology. Vulnerability to impacts is heightened by sensitive ecosystems, compounding relationships between stressors – for example, declining coral skeletal density due to ocean acidification that weakens reefs to tropical cyclones, combined with strong cyclones which can harm reefs as far as 1,000km from their paths.<sup>48</sup> The country also has high import dependency, concentrated GDP in the tourism sector, increased development at the coast, with removal of natural protective barriers, and a high cost of living relative to economic opportunities.

<sup>46</sup> World Bank (2015) Country Note on The Cook Islands: Disaster Risk Financing and Insurance

<sup>47</sup> Knutson et al. (2010) in BoM and CSIRO (2014), p. 38

<sup>48</sup> Puotinen, M., Drost, E., Lowe, R., Depczynski, M., Radford, B., Heyward, A., Gilmour, J. (2020) Towards modelling the future risk of cyclone wave damage to the world's coral reefs. *Global Change Biology* 28(8): 4302-4315 doi.org/10.1111/gcb.15136

## Land cover and building sector exposure in the Cook Islands

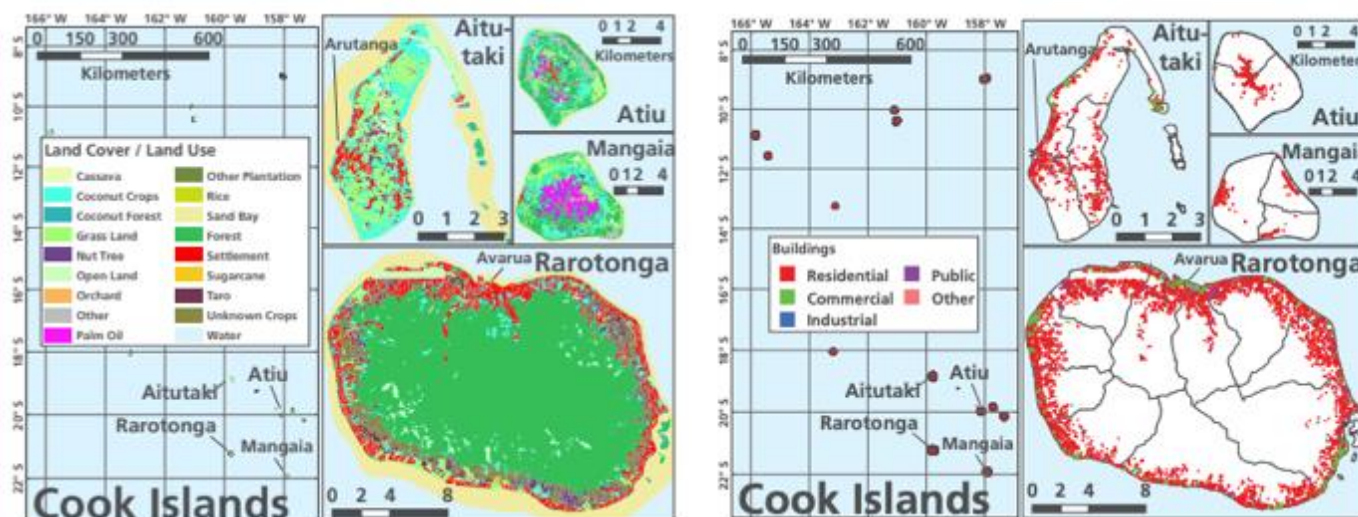


Figure 13. Land cover and land use map (left) and building locations (right) on the most populated islands

*Tourism has driven coastal construction, which has increased building exposure and removed natural protective barriers.* Coastal development has been driven by the tourism industry, where property developers seek to offer tourists direct access to and views of the waterfront. The build-up of assets along the coastline of the capital, Rarotonga, as illustrated in Figure 13, has increased the country's vulnerability and exposure to damage from tropical cyclones and storm surge. In addition, many of the natural barriers that protect the coastline have been removed in the process of locating buildings too close to the shore. The removal of natural barriers accelerates coastal erosion, further exposing buildings to cyclones and storm surge in a negative feedback cycle.

*Poisoning due to consumption of ciguatera-infected fish catch has been linked to cyclone disturbance.* Ciguatera poisoning is a form of ichthyo-serotoxins that occurs when reef fish ingest dinoflagellates that produce ciguatoxins. Ciguatera poisoning symptoms include gastrointestinal, neurological and cardiovascular disorder. From 1990 to 2010, the world's highest incidence of ciguatera poisoning was reported in Rarotonga, linked to the timing of reef disturbance events, mainly tropical cyclones. According to protein consumption surveys, the ciguatera outbreak halved per capita fresh fish consumption from 148 g/person/day in 1989 to 75 g/person/day in 2006; protein that was replaced by particularly imported meats. The economic consequences during the ciguatera outbreak totalled approximately NZD750,000 per year.<sup>49,50</sup>

<sup>49</sup> Rongo, T. and R. van Woesik, 2012. Socioeconomic consequences of ciguatera poisoning in Rarotonga, southern Cook Islands. *Harmful Algae* 20:92-100 10.1016/j.hal.2012.08.003

<sup>50</sup> Cook Islands Third National Communication, 2019, p. 56



Table 5. Tropical cyclone climate hazards ranked by probability and impact

| Theme    | Primary climate hazard  | Secondary climate hazard       | Probability*    | Impact**            | Threat |
|----------|-------------------------|--------------------------------|-----------------|---------------------|--------|
| Cyclones | Extreme wind            | Damage to homes and properties | Somewhat likely | High                | High   |
|          | Lightning/thunderstorms | Loss of telecommunications     | Not likely      | High                | Medium |
|          |                         | Damage to utilities            | High            | Somewhat disruptive | High   |
|          | Reef disturbance        | Ciguatera poisoning            | Not likely      | Somewhat disruptive | Medium |
|          |                         | Structural damage              | Somewhat likely | Somewhat disruptive | High   |

\* **High** (within 1 year); **Somewhat likely** (likely within next 3 years); **Not likely** (not likely within 3 years); **Low** (at least 3 years)

\*\* **High** (state of emergency); **Somewhat disruptive** (loss of productivity); **Not disruptive** (some areas are affected); **Low** (minor or no disruption)

### Adapting to tropical cyclones

Cyclones are projected to become less frequent but more intense due to climate change. Therefore, the Cook Islands should be prepared for stronger winds, more rain and higher storm surge associated with tropical cyclones. Adaptation options may include:

- Strengthen residential, commercial and community buildings to cope with at least category 3, and preferably category 4 or 5 cyclones
- Reduce human-induced reef stressors (such as reducing sedimentation and treating sewage) to support the adaptive capacity of coral reefs

#### 2.4..4 Sea level rise & cyclone-induced high-water

Sea level rise (SLR) near the Cook Islands, measured by satellite altimeters since 1993, is about 4 mm per year; this is consistent with the global average of  $3.2 \pm 0.4$  mm per year. Mean sea level is projected to continue to rise over the course of the 21<sup>st</sup> century; there is very high confidence in the direction of change, and medium confidence in the range (Figure 14).

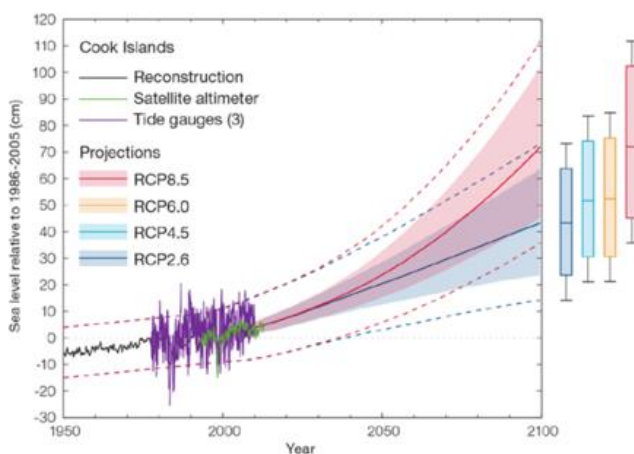


Figure 14. Multi-model mean projections for sea level rise from 1995–2100 in the Cook Islands

The CMIP5 models in BoM and CSIRO (2014) indicate SLR for the Cook Islands of between 7 – 17 cm by 2030 (very similar values across all RCPs), with increases of 39–86 cm by 2090 under RCP8.5 Based on



this average rate of SLR, mean sea level is approximately 11 cm higher now than in 1993, and could be another 24 cm higher by 2050, under a RCP8.5 scenario.<sup>51</sup>

Cyclones that pass by the Cook Islands greatly contribute to short-term extreme high-water levels; these events can be up to 1 m elevated sea level, not including wave height due to storm surge (Figure 15 from CSIRO, 2011).

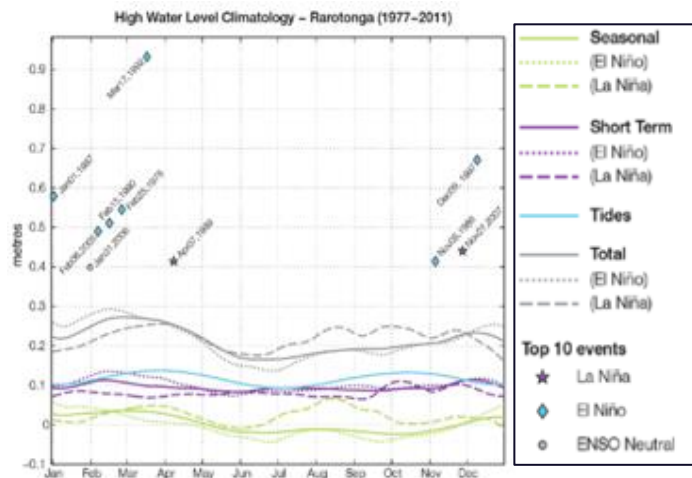


Figure 15. Seasonal and extreme sea-level and storm surge events in the Cook Islands

Seven of the 10 highest water levels recorded occurred during an El Niño, and seasonal high-water events tend to cluster between the months of November to March, especially at Rarotonga. There is low confidence in projected changes in the Cook Islands wind-wave climate because they are dependent on confidence in projected changes in the El Niño–Southern Oscillation, which is low.

## – Risks due to sea level rise

*Loss of beaches and coastal habitat.* Beaches erode due to ocean dynamics; strong wave action wears down or carries away rocks, soil and sand along the coastline. Storm surge and sea level rise increase wave action at the coast and accelerate erosion. More intense storms are predicted to increase in strength and frequency as climate continues to change, increasing coastal wave energy.

*Loss of intertidal communities and coral reef drowning.* If there are not enough corals alive to keep a reef growing, then erosion takes over and the reef loses elevation. Reef-dependent livelihoods, such as pearl oyster farming in Manihiki



Figure 16. Pearl farming livelihoods at risk in Manihiki (Photo credit: Phil and Wendy Evans)

<sup>51</sup> BoM and CSIRO (2014). Climate Variability, Extremes and Change in the Western Tropical Pacific. Chapter 2: Cook Islands, p. 42

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lagoon at risk (Figure 16) are vulnerable to projected climate change impacts including ocean acidity, temperature rise and disease.<sup>52</sup>

*Coral reefs around population centres and in lagoons are declining.* According to the *Status of Coral Reefs of the Pacific and Outlook (2011)*, most coral reefs in the Pacific remained generally healthy, with strong potential for recovery after damaging events. However, the researchers identified signs of decline, especially on reefs adjacent to population centres and in lagoons, where calcifiers and active reef building species were declining and being replaced by fleshy organisms, undermining the reef's adaptive capacity self-regenerate and adapt to climate-induced sea level rise.<sup>53</sup>

Sewage management is a significant challenge for the Cook Islands, especially in the more populated islands of Rarotonga and Aitutaki. All sewage is managed through septic systems, most of which are very old and at, or over, capacity. A 2011 audit on septic systems in Rarotonga estimated that over 80% of the systems installed did not adequately manage sewage waste.<sup>54</sup> Furthermore, atoll islands do not have the required 2 meters depth to bury septic systems, and other islands have shallow hard rock, also making excavation impossible; technologies such as composting toilets have been piloted; however, handling of waste lead to low popularity and low adoption.<sup>55</sup> Nutrient loading from on-site wastewater systems was determined to be the leading cause for water quality issues in Muri Lagoon, Rarotonga, during 2017 investigations<sup>56</sup>.

Wetlands are a critical ecosystem, with four main types across the Cook Islands: freshwater marshes and swamps, freshwater lakes, mountain streams and a tidal salt marsh. While already limited in number and an important component of freshwater habitats, wetlands are under threat from development pressures, invasive species, climate change pressures (saltwater inundation and cyclone-caused flooding) and liquid and solid waste.<sup>57</sup> Leaking sewage and other pollutants have a serious impact on inland water and lagoon quality. Nutrient loading and sedimentation are a key threat to the health of coral reef ecosystems in small island ecosystems, which are in turn the first line of defence against sea level rise and storm surge, providing ecosystem-based critical services to small islands. The report, *Status of Coral Reefs of the Pacific and Outlook: 2011*, found that 49% of the total coral reefs in the Cook Islands were under medium or high stress due to local threats, and concluded that, in the Pacific in general:

*Coral reefs adjacent to larger population centres show clear evidence of over-fishing, pollution from nutrients and sewage, damage from coastal and catchment developments, and increasing damage from land-sourced sediments washing off high volcanic islands.*<sup>58</sup>

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<sup>52</sup> Power, Hannah & Cossu, Remo & Callaghan, David & Nielsen, Jesper & Hughes, Michael & Nielsen, Peter. (2017). Lagoon stratification in Manihiki Atoll, Cook Islands. *Coasts & Ports 2017 Conference*. Accessed 5 February 2020: <https://bit.ly/3rieBrI>

<sup>53</sup> Chin, A., Lison De Loma, T., Reyta, K., Planes, S., Gerhardt, K., Clua, E., and Burke, L., Wilkinson, C. (2011). Status of Coral Reefs of the Pacific and Outlook: 2011. Publishers Global Coral Reef Monitoring Network. [https://researchonline.jcu.edu.au/24292/2/24292\\_Chin\\_et\\_al\\_2011\\_front\\_pgs.pdf](https://researchonline.jcu.edu.au/24292/2/24292_Chin_et_al_2011_front_pgs.pdf)

<sup>54</sup> Cook Islands State of the Environment, 2018, p. 36.

<sup>55</sup> ICI interview, 2020

<sup>56</sup> GHD New Zealand, 2017. Mei Te Vai Ki Te Vai project. Accessed 17 July 2020: <https://www.totatouvai.co/mei-te-vai-ki-te-vai>

<sup>57</sup> SPREP 2020, p. 68

<sup>58</sup> Chin, A., Lison De Loma, T., Reyta, K., Planes, S., Gerhardt, K., Clua, E., and Burke, L., Wilkinson, C. (2011). Status of Coral Reefs of the Pacific and Outlook: 2011. Publishers Global Coral Reef Monitoring Network. [https://researchonline.jcu.edu.au/24292/2/24292\\_Chin\\_et\\_al\\_2011\\_front\\_pgs.pdf](https://researchonline.jcu.edu.au/24292/2/24292_Chin_et_al_2011_front_pgs.pdf)

The lack of sediment control in stormwater runoff also negatively impacts aquatic health, both within the lagoon areas and on the main coral reefs that form the surrounding fore-reef slope of Rarotonga (see Figure 9); a current trend that will be exacerbated by increasing heavy-rainfall events projected due to climate change.<sup>59</sup> Agricultural plots, coastal development construction sites and unpaved roads are main drivers of sedimentation in the Cook Islands.<sup>60</sup>

Recent extensive empirical coral reef data obtained across 56 islands spanning five archipelagos in the central Pacific suggested that cumulative human impacts across the central Pacific are reducing the abundance of calcifiers and active reef builders (stony corals and crustose coralline algae), resulting in island-scale phase shifts to dominance by non-reef builders such as turf algae, fleshy macroalgae and non-calcifying invertebrates.<sup>61</sup>

Coastal ecosystems dominated by fleshy macroalgae and non-calcifying invertebrates are no longer actively growing and accreting a calcium carbonate framework; algae-dominated reefs are less likely to keep pace with the projected sea level rise of 24 cm by 2050 in the Cook Islands (under the RCP8.5 scenario). Degraded coastal reef ecosystems will expose critical assets, increase the risk profile of buildings clustered on the coast in the most populated islands of Rarotonga and Aitutaki (Figure 13), and ultimately undermine the country's main economic driver – tourism.

Table 6. Sea level rise climate hazards ranked by probability and impact

| Theme                        | Primary climate hazard | Secondary climate hazard                    | Probability *   | Impact **           | Threat |
|------------------------------|------------------------|---------------------------------------------|-----------------|---------------------|--------|
| Storm surge & sea level rise | High-water levels      | Coral reef drowning                         | Not likely      | Somewhat disruptive | Medium |
|                              |                        | Beach loss and coastal erosion              | Somewhat likely | Somewhat disruptive | High   |
|                              |                        | Damage to ports and coastal infrastructure  | Not likely      | High                | Medium |
|                              | Saltwater intrusion    | Inundation and salinity of freshwater table | Not likely      | Somewhat disruptive | Medium |
|                              |                        | Loss of intertidal biological communities   | Somewhat likely | Somewhat disruptive | Medium |

\* **High** (within 1 year); **Somewhat likely** (likely within next 3 years); **Not likely** (not likely within 3 years); **Low** (at least 3 years)

\*\* **High** (state of emergency); **Somewhat disruptive** (loss of productivity); **Not disruptive** (some areas are affected); **Low** (minor or no disruption)

<sup>59</sup> Blacka 2020

<sup>60</sup> Blacka 2020; Cook Islands State of the Environment, 2018, p. 36.

<sup>61</sup> Smith, J.E. et al. 2016. Re-evaluating the health of coral reef communities: baselines and evidence for human impacts across the central Pacific. *Proc. R. Soc. B* 281: 20151985. Accessed 1 February 2021: <https://www.jstor.org/stable/24762319>

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## – Adapting to sea level rise and high-water tides

Options for adapting to sea level rise and high-water tides include:

- Plant local tree species such as tamanu, tou, miro, pukatea and coconut for traditional uses and to help combat coastal erosion
- Reduce land-based soil loss and nutrients to support the adaptive capacity of lagoons and coral reefs

## – Adaptive capacity

*Climate risk insurance.* The Government of Cook Islands established a disaster emergency trust fund in 2011 and has also taken out cyclone insurance coverage under the Pacific Catastrophe Risk Assessment and Financing Initiative, but these are unlikely to provide sufficient financing in the event of a significant disaster<sup>62</sup>. ADB has committed a USD10 million policy-based loan to fund the Cook Islands Disaster Resilience Program, which makes financing available in the event of a disaster and helps to build resilient infrastructure. In addition, a regional analysis was recently completed on a Pacific Climate Change Insurance Facility (PCCIF) for slow onset events.

*Legal/policy frameworks mainstream climate change.*

Responding to vulnerability and critical exposure in the building sector, the Government of the Cook Islands in 2019 published a new Building Code, implementing the 1991 Building Code and Standards Act. The following adaptation measures are mainstreamed into requirements for all buildings:

- category 3 cyclone compliance for all buildings – with more stringent requirements (category 4 and 5) for certain public and essential buildings necessary for a resilient community
- guidelines on tying down buildings for cyclones
- internal rooftop drainage for a 100-year return interval rainfall event
- adequate rainwater storage to ensure a continued supply of water during periods of low rainfall
- stainless-steel fixings for buildings close to the foreshore for storm surge and sea level rise
- minimum acceptable floor levels to protect buildings from the risk of flooding and coastal inundation

However, for a population already spending upwards of 50% of income on the household and utilities, and 50% of income when including food,<sup>63</sup> the cost of compliance with the new Code remains a challenge. This is particularly the case in light of the global pandemic, which is expected to severely hit tourism economies and increase the cost of building materials and accessories.

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<sup>62</sup> ADB, 2019. Pacific Finance Sector Briefs: Cook Islands. Accessed 12 June 2020: <https://www.adb.org/sites/default/files/publication/529801/pacific-finance-sector-cook-islands.pdf>

<sup>63</sup> Cook Islands Statistics Office (CISO) (2018) Population Census Report: Census of Population and Dwellings in 2015. Cook Islands Government

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### 3 Policy and planning landscape

The national social and economic priorities of the Government of Cook Islands were laid out in *Te Kaveinga Nui National Sustainable Development Plan (NSDP) 2016-2020*<sup>64</sup>. During the preparation of the FP and the EDA proposal the Cook Islands Government confirmed the overarching national guide for development in the Cook Islands is now the *Te Ara Akapapa'anga Nui NSDA 2020+* (NSDA 2020+) that takes an extended outlook over 100 years and prioritises a generational scale. It was released in September 2021 and marked the next leg of the Cook Islands *Te Kaveinga Nui* journey. The NSDA 2020+ is a result of widespread consultations with the diversity of stakeholders, and the lessons learned from the three prior NSDP's (2007-2010 and 2011-2015 and 2016-2020). This NSDA 2020+ has renewed focus on *Turanga Memeitaki* – Wellbeing and measuring progress in a holistic manner. The Cook Islands NSDA 2020+ will be the guiding document for the nation steering the nation toward a vision of wellbeing. Three documents have been developed that unite all sectors.

The 100 Year vision of wellbeing which the Cook Islands will aspire to across the next 100 years, the *Te Akapapa'anga Uki One Generation* 25-year frameworks that span a generation will be the overarching document to follow to achieve this and the 5-year strategy that highlights what must be achieved every five years with actions being tracked and monitored to highlight progress and areas that need more attention and action.

*Te Akapapa'anga* is a cornerstone of Cook Islands Maori society. It informs the way our society is built and the collective enterprise of our people. It has relevant national targets that will have a direct and positive outcome for the EDA facility when implemented.

In the message from the Prime Minister in launching the NSDA 2020+ this is the next leg of our *Te Kaveinga Nui* journey, and it has evolved and adapted as the Cook Islands has over the last half century. The NSDA 2020+ has a renewed focus on *Turanga Memeitaki* – Wellbeing and measuring our progress in a holistic manner. The 100-year vision of wellbeing which the Cook Islands will aspire to, the 25-year frameworks that span a generation and the 5-year strategy that highlights what must be achieved every five years with actions being tracked and monitored. It is this vision and philosophy and practice of "*Akapapa'anga*: the use and importance of genealogical legacies to and for the Cook Islands and its people which is the cornerstone of Cook Islands Maori society. The NSDA 2020+ is the guiding policy direction for the nation, steering us all towards a vision of *Turanga Memeitaki* – wellbeing for all.

It consists of three documents;

- 1 *Te Ara Akapapa'anga Nui 2020 – 2121*, the 100-year vision;
- 2 *Te Ara Akapapa'anga Uki 2021 – 2046*, the generational plan; and
- 3 *Te Kaveinga Iti 2021 – 2026*, the five-year scorecard.

Each of these documents will be monitored to highlight progress and areas that require attention

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<sup>64</sup> <https://www.pmooffice.gov.ck/nsda/documents/>

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action or amendment. In order to measure progress, there are 5-year scorecards issued to update as appropriate. The next five years will work towards setting the foundation of planning towards our vision and Te Ara Akapapa'anga – Koua which includes indicators to measure progress over that time period.

The NSDA 2020+ guides government in providing policy direction to set the medium-term budget priorities and serves as a national scorecard to assess the Cook Islands' progress to deliver its national vision. Please refer to <https://www.pmooffice.gov.ck/nsda/documents/> for additional detail on NSDA 2020+.

The 15 national development goals under the Te Kaveinga Iti are as follows:

- 1 Wellbeing for all
- 2 Welfare and Equity
- 3 Economy, Employment and Enterprise
- 4 Manage Solid and Hazardous Waste
- 5 Water and Sanitation
- 6 Connecting our Nation through Infrastructure, Transport, and ICT
- 7 Health and Healthy Lifestyles
- 8 Education and Innovation
- 9 Our Inclusiveness (Gender, Equity and Social Inclusion)
- 10 Agriculture and Food Security
- 11 Our Biodiversity and Natural Environment
- 12 Climate Change, Resilience, Renewable Energy and Energy efficiency
- 13 Cultural Heritage, History, Identity and Language
- 14 A Sustainable Population
- 15 Our Security, a Peaceful and Just Society

It is therefore appropriate that Akapapa'anga philosophy also underpins this EDA proposal because it will be the aspiration towards Turanga Memeitaki – wellbeing for all – the vision of a healthy and happy society – resilient and able to function positively and the tools that this EDA proposal identifies to reduce impacts of climate change will ably support the achievement of the development goals identified in the NSDA 2020+.

The NSDA 2020+ recognises 73 key performance indicators to monitor and evaluate the Cook Islands' progress to achieving its 2121 national vision. This progress is summarised in an annual indicator report known as the Te Kaveinga Iti. The report is prepared by the Central Policy and Planning Office (CPPO) within the Kōutu Mana Tūtara o te Ipukarea - Office of the Prime Minister and presented to Parliament



and the public. The indicator report informs the status of the country's progress per development goal as being either 'on track' to achieving the goal, 'of concern' and requires more work or information, or 'off track' and requires further prioritisation.

Table 7 Medium-term NSDA2020+ Goal Priorities

| 2022/23                                                                                                                                  | 2023/24                                                                                                                              | 2024/25                                                                                                                              | 2025/26                                                                                                                 |
|------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|
|  <b>Goal 15:</b> Governance                             |                                                                                                                                      |                                                                                                                                      |                                                                                                                         |
|  <b>Goal 6:</b> Infrastructure, Transport & ICT         |                                                                                                                                      |                                                                                                                                      |                                                                                                                         |
|  <b>Goal 2:</b> Welfare & Equity                        |                                                                                                                                      |                                                                                                                                      |                                                                                                                         |
|  <b>Goal 7:</b> Health & Healthy Lifestyles             |                                                                                                                                      |                                                                                                                                      |                                                                                                                         |
|  <b>Goal 8:</b> Education & Innovation                  |                                                                                                                                      |                                                                                                                                      |                                                                                                                         |
|  <b>Goal 3:</b> Economy, Employment, Trade & Enterprise |                                                                                                                                      |                                                                                                                                      |                                                                                                                         |
|  <b>Goal 5:</b> Water & Sanitation                      |                                                                                                                                      |  <b>Goal 11:</b> Biodiversity & Natural Environment |                                                                                                                         |
|  <b>Goal 11:</b> Biodiversity & Natural Environment     |  <b>Goal 12:</b> Climate Change & Energy Efficiency |  <b>Goal 1:</b> Wellbeing                           |  <b>Goal 13:</b> Culture & Language  |
|  <b>Goal 4:</b> Waste Management                        |  <b>Goal 10:</b> Agriculture & Food Security        |  <b>Goal 9:</b> Inclusiveness                       |  <b>Goal 14:</b> Population & People |

The first NSDA 2020+ annual indicator report offers significant insights into sustainable development. Although the economy shows promising signs of recovery, disparities remain evident in wellbeing and environmental stewardship. Immediate policy intervention is necessary to foster inclusive economic growth, enhance educational quality, and combat environmental challenges. Prioritising investment in education, particularly in early childhood and workforce development, is crucial to prepare the youth for the future economy and workforce. Furthermore, directing attention towards clean energy, achieving net zero emissions, and implementing zero waste initiatives is essential for building resilience in the future. The indicator report serves as a guidepost, highlighting progress and outlining essential steps for a sustainable future. Table 8 provides a snapshot of the indicators and progress made.

Positive indications of economic recovery following the COVID-19 pandemic suggest that the NSDA 2020+ annual indicators report will play a crucial role in shaping government priorities for the medium-term budget from 2025/26 onwards. In 2024/25, investments are directed towards supporting sustainable economic recovery, with a primary emphasis on goals 6 (Infrastructure, Transport & ICT), 3 (Economy, Employment, Trade & Enterprise), and 1 (Wellbeing). Additionally, increased funding is allocated to support goals 5 (Water & Sanitation), 9 (Inclusiveness), 11 (Biodiversity and Natural Environment), and 14 (Population & People). As the economy rebounds, government expenditure over the medium-term will continue to align with the indicators outlined in the NSDA 2020+.

The EDA proposal will address similar NSDA2020+ goals that serves to enhance the overall outcomes of the priorities identified above. They include Goal 1 Well-being, Goal 2 Welfare and Equity Goal 4, Manage Solid and Hazardous Waste, Goal 5 Water and Sanitation, Goal 9 Our Inclusiveness (Gender,

Equity and Social Inclusion), Goal 11 Our Biodiversity and Natural Environment, Goal 12 Climate Change, Resilience, Renewable Energy and Energy efficiency, Goal 14 A Sustainable Population.

| NSDA 2020+ Goals                                                                                                                                                   | Status Trend                                                                      | Summary of results                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  <b>GOAL 1</b><br>Wellbeing for all                                               |  | <b>OF CONCERN DUE TO LIMITED DATA AVAILABILITY</b><br>However, we anticipate that more data will become accessible from Year 2 onwards.                                                                                                                                                                                                                                                                                                                   |
|  <b>GOAL 2</b><br>Welfare and Equity                                              |  | <b>ON TRACK</b><br>However, data limitations exist due to reliance on income tax records that exclude some low-income earners.                                                                                                                                                                                                                                                                                                                            |
|  <b>GOAL 3</b><br>Economy, employment, trade and enterprise                       |  | <b>OF CONCERN, WITH SIGNS OF IMPROVEMENT</b>                                                                                                                                                                                                                                                                                                                                                                                                              |
|  <b>GOAL 4</b><br>Manage solid and hazardous waste                                |  | <b>OF CONCERN</b><br>Despite the challenges in obtaining information, it is evident that hazardous waste management remains an area requiring ongoing attention                                                                                                                                                                                                                                                                                           |
|  <b>GOAL 5</b><br>Water and Sanitation                                            |  | <b>OF CONCERN, WITH SIGNS OF IMPROVEMENT</b>                                                                                                                                                                                                                                                                                                                                                                                                              |
|  <b>GOAL 6</b><br>Connecting our Nation through Infrastructure, Transport and ICT |  | <b>OF CONCERN, WITH SIGNS OF IMPROVEMENT</b><br>Indicator 6.2, 6.4 and 6.5 has not been reported on so no conclusions can be drawn. It is expected that the data will be available in the next iteration.                                                                                                                                                                                                                                                 |
|  <b>GOAL 7</b><br>Health and Healthy Lifestyles                                   |  | <b>OF CONCERN</b><br>The rate of premature deaths from non-communicable diseases (NCDs) is off track and regressing. Health spending is also a concern, showing regression. Limited data makes the prevalence of sexually transmitted diseases (STIs) and youth engagement concerning. The mental health index is of concern, although there are signs of improvement. On a positive note, average life expectancy is on track and continuing to improve. |

| NSDA 2020+ Goals                                                                                                                                                         | Status Trend                                                                        | Summary of results                                                                                                                                                                                                                                                                        |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  <b>GOAL 8</b><br>Education and Innovation                                             |   | <b>ON TRACK, WITH POSITIVE PROGRESS TOWARDS GOAL</b>                                                                                                                                                                                                                                      |
|  <b>GOAL 9</b><br>Our Inclusiveness – Gender, Equity and Social Inclusion             |  | <b>OF CONCERN, AND CONTINUES TO REGRESS</b><br>The accessibility of public facilities for people with disabilities remains a pressing concern that requires attention, as it has been reported as “off track”. On a positive note, the government support provided to NGOs is “on track”. |
|  <b>GOAL 10</b><br>Agriculture and Food Security                                      |  | <b>ON TRACK, WITH SIGNS OF REGRESSION</b>                                                                                                                                                                                                                                                 |
|  <b>GOAL 11</b><br>Our Biodiversity and Natural Environment                           |  | <b>OF CONCERN</b><br>Achieving Goal 11 is a significant challenge, particularly on Rarotonga, where the development pressures are greatest.                                                                                                                                               |
|  <b>GOAL 12</b><br>Climate Change, Resilience, Renewable Energy and Energy Efficiency |  | <b>OF CONCERN, WITH SIGNS OF IMPROVEMENT</b>                                                                                                                                                                                                                                              |
|  <b>GOAL 13</b><br>Cultural Heritage, History, Identity and Language                  |  | <b>OF CONCERN</b><br>There is limited information about progress towards the goal.                                                                                                                                                                                                        |
|  <b>GOAL 14</b><br>A Sustainable Population                                           |  | <b>OF CONCERN, WITH SIGNS OF IMPROVEMENT</b><br>This goal gives limited information about progress towards the goal and a couple of indicators have not been reported on.                                                                                                                 |
|  <b>GOAL 15</b><br>Our Security, a Peaceful and Just Society                          |  | <b>OF CONCERN</b><br>There are limited information about the progress towards the goal.                                                                                                                                                                                                   |

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## – Climate Change Governance

Key climate change functions in the Cook Islands are under the purview of the Office of the Prime Minister (OPM). **Climate Change Cook Islands (CCCI)** was established in 2011 as a division in OPM, transferring operational focal point functions previously held by the National Environment Service (NES). All international, regional and national climate change matters are managed, overseen and coordinated by CCCI. CCCI is the NDA to the GCF.

Disaster risk management matters are coordinated by **Emergency Management Cook Islands (EMCI)** as legislated by the 2007 Disaster Management Act. EMCI, also a division of the OPM, is primarily responsible for coordinating operational responses in the case of a disaster. Though coordinating immediate emergency response to areas affected by cyclones remains the focus activity of EMCI, there are efforts to build capacity in disaster prevention. This includes the planning and construction of cyclone shelters in conjunction with other agencies, as well as reviewing and improving current shelter facilities, including school buildings in Rarotonga.

The **Central Planning and Policy Division (CPPO)** is mandated to oversee the implementation of development priorities and is within the OPM. Advice and information on progress is provided to Cabinet on related outcomes by these divisions through the **National Sustainable Development Commission (NSDC)** and the Minister. As portfolios of the Prime Minister, these divisions along with the Office of the Energy Commissioner and Renewable Energy Development Division form a central policy and planning hub in addressing climate and disaster risks to development.

## – Climate Change Policies and Plans

The national climate change policy framework includes:

- Nationally Determined Contribution (2015)
- Cook Islands Climate Change Policy (2018 – 2028)
- Cook Islands Country Programme (2018 – 2030)
- Second Joint National Action Plan (JNAP) for Disaster Risk Management and Climate Change Adaptation (2016 – 2020)
- Strategic Roadmap for Emergency Management (2018 – 2023)
- Government of the Cook Islands, (2012a). Te Atamoa o te Uira Natura. Cook Islands Renewable Energy Chart and Implementation Plan 2012 - 2016. Rarotonga, Cook Islands: Government of the Cook Islands.
- Cook Islands NAMA: Supporting Implementation of 100% Renewable Electricity by 2020

## – National climate change mitigation goals

- A reduction in GHG emissions of 81% by 2030, primarily from the energy sector
- **Unconditional:** 50% of islands transformed from diesel-based to renewable sourced electricity by 2015, to 100% coverage in 2020, reducing emissions from electricity generation by 38% by 2020 using 2006 as the base year.<sup>65</sup>
- **Conditional:** with external support, the Cook Islands plans to construct additional and new grid storage, integrate improved energy efficiency and new technologies, technology transfer, and strengthen capacities for overall sustainability and co-benefits, for a further 43% reduction in emissions totalling an 81% emissions reduction by 2030 (relative to 2006).

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<sup>65</sup> Note: with the exception of Rarotonga and Aitutaki, all Pa Enua (i.e. 10 out of 12 islands) are now 100% renewable energy as at 2019.

– National climate change adaptation goals

- **Unconditional:** continue to implement the existing frameworks and robust systems guiding ongoing climate change adaptation
- **Conditional:** achieve targets set out for coastal protection, water security, agriculture, forestry, marine conservation, waste, tourism and land management, with support from the international community

Climate change has been incorporated into all the strategic plans of Government agencies/line ministries including those agencies responsible for areas relevant to this EDA proposal, namely MFEM, Infrastructure Cook Islands (ICI), National Environment Service (NES), Ministry of Internal Affairs (INTAFF) welfare and gender:

- Climate change is mentioned in all sectoral plans, to varying degrees of robustness
- Climate change risk and adaptation has been effectively mainstreamed into the infrastructure sector from a policy and planning perspective; however, technical capabilities and high costs remain barriers to implementation
- Other barriers identified include personnel to monitor and ensure compliance.

Sector-specific information relevant to the scope of the EDA project is summarized in Table 8.

*Table 8. Climate change in the strategic plans of Government agencies relevant to the EDA*

| Sector                                                                           | Lead agencies/<br>ministries                                              | Government agency / line<br>ministry strategic plans                                                                                                                                                                            | Climate-relevant priorities relevant<br>to EDA                                                                                                                                                                                                                                                                |
|----------------------------------------------------------------------------------|---------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Cross Cutting                                                                    | Ministry of<br>Finance and<br>Economic<br>Management                      | <ul style="list-style-type: none"> <li>• Economic Development Strategy</li> <li>• </li> </ul>                                                                                                                                   | <p>Objective 3 – Developing our people and culture</p> <ul style="list-style-type: none"> <li>• Increase our skill base</li> <li>• Increase percentage of population with vocational or tertiary qualifications</li> </ul>                                                                                    |
| Gender                                                                           | Ministry of<br>Internal Affairs,<br>Gender and<br>Development<br>Division | <ul style="list-style-type: none"> <li>• National Policy on Gender Equality &amp; Women's Empowerment and Strategic Action Plan (2011 – 2016)</li> </ul>                                                                        | <ul style="list-style-type: none"> <li>• Equitable participation of women and men in decision-making and governance systems</li> <li>• Improved capacity of women to contribute to climate change adaptation and disaster risk reduction strategies</li> </ul>                                                |
| Social Welfare                                                                   | Welfare<br>Services                                                       | <p>Focuses on the distribution of welfare benefits to all eligible individuals living in the Cook Islands</p>                                                                                                                   | <p>Objective is to:</p> <ul style="list-style-type: none"> <li>• reduce inequality</li> <li>• ease economic hardships</li> <li>• help individuals reach and maintain an adequate standard of living.</li> </ul>                                                                                               |
| Infrastructure<br>(buildings,<br>roads, solid<br>waste,<br>wastewater,<br>water) | Infrastructure<br>Cook Islands<br>(ICI);                                  | <ul style="list-style-type: none"> <li>• ICI Strategic Plan (2016 – 2021)</li> <li>• Solid Waste Management Policy (2016 – 2026)</li> <li>• Roads and Roads Drainage Policy</li> <li>• Single Use Plastic Ban Policy</li> </ul> | <p>Zero waste to landfill</p> <ul style="list-style-type: none"> <li>• Increased recycling and improved waste management</li> </ul> <p>Built environment</p> <ul style="list-style-type: none"> <li>• All buildings conform to cyclone and tsunami safety standards</li> </ul> <p>Capacity building needs</p> |

| Sector      | Lead agencies/<br>ministries                        | Government agency / line<br>ministry strategic plans                                                                                                                                                       | Climate-relevant priorities relevant<br>to EDA                                                                                                                                                                                                                                          |
|-------------|-----------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|             | Cook Islands<br>Investment<br>Corporation<br>(CIIC) | <ul style="list-style-type: none"> <li>• 2019 Building Code</li> <li>• National Infrastructure Investment Plan (2015)</li> <li>• Owner of Government Buildings</li> </ul>                                  | <ul style="list-style-type: none"> <li>• Formal training for engineers and technicians</li> <li>• Identification and planned management of climate change impacts</li> </ul>                                                                                                            |
| Tourism     | Ministry of<br>Tourism                              | - Sustainable Tourism Development Policy Framework & Goals (2016)                                                                                                                                          | <ul style="list-style-type: none"> <li>• Minimise exposure to the risks of climate change – not just how buildings are constructed</li> <li>• Encourage investment away from areas that appear to be most vulnerable to sea level rise and cyclone damage.</li> </ul>                   |
| Environment | National<br>Environment<br>Service (NES)            | - Environment Act 2003                                                                                                                                                                                     | <ul style="list-style-type: none"> <li>• Environment Act 2003 (Section 70) to strengthen environmental compliance and monitoring, biodiversity protection, hazardous waste and other areas.</li> </ul>                                                                                  |
| Health      | Te Marae Ora<br>Ministry of<br>Health (TMO)         | <ul style="list-style-type: none"> <li>• Ministry of Health Act 2013</li> <li>• Public Health Act 2004</li> <li>• Public Health (Sewage and Wastewater Treatment and Disposal) Regulations 2014</li> </ul> | <ul style="list-style-type: none"> <li>• The Act empowers delegated health officers to regulate, investigate and monitor compliance to prevent the spread of disease and protect population health.</li> <li>• Enforcement of sewage treatment and waste water on Rarotonga.</li> </ul> |

## 3.2 Legal and Regulatory Landscape

### – Cook Islands Constitution

The Cook Islands are a constitutional monarchy within the Realm of New Zealand. Under the Cook Islands Constitution, the Sovereign in Right of New Zealand (currently Charles III) has been Head of State of the Cook Islands since 4 August 1965. Nationals of the Cook Islands are New Zealand citizens with the ability to work and reside in New Zealand and—owing to reciprocal entry agreements—in New Zealand and Australia.<sup>66</sup>

The Cook Islands are a representative democracy with a parliamentary system in an associated state relationship with New Zealand. Executive power is exercised by the government, with the Prime Minister as head of government.

<sup>66</sup> ADB, 2019. Pacific Finance Sector Briefs: Cook Islands. Accessed 12 June 2020: <https://www.adb.org/sites/default/files/publication/529801/pacific-finance-sector-cook-islands.pdf>

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## – Traditional Leadership and Representation

The Constitution of the Cook Islands took effect on 4 August 1965, when the Cook Islands became a **self-governing state** in free association with New Zealand and Section 8 established the **House of Ariki** (traditional high chiefs the following year by the Cook Islands Legislative Assembly).

In the House of Ariki Act 1966, an 'Ariki' is defined as a person invested with the title, rank or office of Ariki in accordance with ancient custom prevailing in each of the Cook Islands.

An 'Ariki' is an inherited title and the highest rank and seniority". The Ariki is bestowed on "high-ranking first-born children of first-born children", *ariki* inherit their positions from their forebears. In particular, their "supreme rank [comes] from the conjunction of a number of senior descent lines from founding ancestors, and ultimately from the gods". In Māori culture *ariki* were either men or women.

The Koutu Nui traditional organization consisting of sub-chiefs. It was established by an amendment in 1972 of the 1966 House of Ariki Act. The House of Ariki comprises 14 representatives who each hold the customary title of Ariki, from each of the island groups of the Cook Islands, appointed by the Queen's Representative. The House may consider matters of importance to the Cook Islands as submitted to it by the Legislative Assembly for its opinion and may make recommendations to the Legislative Assembly on any matter affecting custom and traditions. The House meets at least once per year (SPREP, 2018). Traditional leaders will play a role in the implementation, monitoring and accountability of this project through their representation on the Island Council on each island, see next section below.

## – Island Governments – Pa Enua

The Island Government Act was passed in February 2013<sup>67</sup> and represents the most comprehensive reform to the system of governance for the Pa Enua. The reform process was guided by two fundamental principles<sup>68</sup>:

1. All Islands should maintain viable populations:
  - No island should be marginalised due to non-availability of services
  - Each island should localise as many services as it can for the purpose of holding people on the islands
  - The best people to determine what is viable are those living there.
  - For people to remain and return they must feel that they have stake in the island governance and direction
2. The concept of partnership between the Central and Local government is essential in the devolution process which is a continuing and maturing process

Under the Act, powers can be devolved from the central government formally (by regulations and contracts) and less formally (by MOUs), within the framework of the legislation. For the purposes of this project, an MOU could be developed between MFEM as Accredited Entity and Island Governments, with provisions for capacity assessments in accordance with the devolved or delegated responsibility, and compliance with national environmental legislation in those islands that are not otherwise required to comply.

Island Government is a Council established under the 2012-2013 Island Government Act. It is composed of elected members consisting of a mayor and councillors, appointed members consisting of traditional leaders or

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<sup>67</sup> Cook Islands, Island Government Act 2012 – 2013: [http://procurement.gov.ck/wp-content/uploads/2016/02/8\\_Island-Government-Act-2012-2013.pdf](http://procurement.gov.ck/wp-content/uploads/2016/02/8_Island-Government-Act-2012-2013.pdf)

<sup>68</sup> Office of the Prime Minister, 2013. The Island Governance Framework. [http://www.mfem.gov.ck/images/Local\\_government.pdf](http://www.mfem.gov.ck/images/Local_government.pdf)



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representative, religious representative and members of parliament. The later 3 are ex-officio members of the Island Government.

The Island Government is the key decision-making authority on the island regarding Central Government functions. Their purpose is to provide good, efficient and effective governance for the island in relation to those responsibilities conferred upon them by the Island Government Act.

The Island Council including traditional leaders (Ui Ariki) meet regularly throughout the year to discuss island matters including island development and this project will be amongst one of the agenda items that will be discussed at each meeting. The purpose of discussing this project will be to provide updates to the members on implementation and progress of the project as well as to provide oversight, accountability and monitoring on island. It will also be an opportunity for members to have input into the project as well as to apply lessons learned throughout implementation of the project.

There is an Island Government for each of the 10 inhabited islands in the Cook Islands including: Mangaia, Atiu, Mauke, Mitiaro, Aitutaki, Palmerston, Pukapuka/Nassau, Manihiki, Rakahanga and

Penrhyn. The Island Government may also be known as Kavamani Enea or any other term prescribed by regulations made under the Island Government Act.

The Executive Officer (EO) is the principal administrative officer of the Island Government. He or she is appointed in accordance with any process prescribed by regulations made under the Island Government Act and any other instructions given from time to time by the Public Service Commissioner. Amongst other duties, the Executive Officer is primarily responsible for implementing the decisions of the Island Government. He or she is to ensure and promote efficient management of the Island Government and the effective performance of its functions and responsibilities. The Island Administration Office is where the EO as well as financial officer is stationed.

#### – Funding Pa Enea Island Governments

The funding appropriated to each Island Government (as per the *Island Government Act 2012-13*) and estimated spend in the Pa Enea through the provision of services or support offered by Government agencies or development partners is provided from the 2024-2028 Budget Book Final.

The Pa Enea funding model ensures fairness and transparency in determining the Government expenditure for each Island Government. It considers the different expenses unique to each island and uses specific parameters to calculate funding needed for each island. Additionally, trading revenue generates surplus income that each Island Government can allocate for local development, supplementing the core funding provided by Government.

Table 14-1 outlines the cost factors used in the funding model. These cost factors were determined based on relevance and reliability. The funding model excludes depreciation, capital spending, and Government agency spending.

A revision to the funding formula is planned, aiming to update calculations and parameters in response to economic shifts post-COVID-19. Implementation will align with new funding available within the fiscal ceiling, specifically directed for the Pa Enea.

Table 9 Cost Factors of the Pa Enua Funding Model

| Factor/Output                                           | Parameter                                                                                                                                                                              | Basis for costing                                                                                                                                                                       |
|---------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Administration</b>                                   | Population as per the Census                                                                                                                                                           | 3 staff per island, plus 1 additional administrative staff per 250 residents, up to an additional 3 staff.                                                                              |
| <b>Island Council</b>                                   | The number and wages of councillors, Ui Ariki and Aronga Mana as per the <i>Island Government Act 2012-13</i>                                                                          | Base salary, plus top-up payment based on island tier as determined by Office of the Prime Minister                                                                                     |
| <b>Infrastructure</b>                                   |                                                                                                                                                                                        |                                                                                                                                                                                         |
| Water                                                   | Population as per the Census                                                                                                                                                           | \$250 per person                                                                                                                                                                        |
| Road maintenance                                        |                                                                                                                                                                                        |                                                                                                                                                                                         |
| Sealed                                                  | Kilometres of road                                                                                                                                                                     | \$4,897.55 per km                                                                                                                                                                       |
| Unsealed                                                | Kilometres of road                                                                                                                                                                     | \$7,372.50 per km                                                                                                                                                                       |
| Maintenance (machinery & vehicles)                      | Schedule of Regular Capital Needs                                                                                                                                                      | 3-7% of asset replacement value, as determined by the Infrastructure Committee                                                                                                          |
| Airstrip                                                | Length of runway                                                                                                                                                                       | \$58,254.17 per km                                                                                                                                                                      |
| Waste Management                                        | Population as per the Census                                                                                                                                                           | \$26,920 fixed cost plus \$56.40 per person;                                                                                                                                            |
| Beautification                                          | Per km of road                                                                                                                                                                         | \$2,300 per km                                                                                                                                                                          |
| <b>Energy (electricity generation) (excl. Aitutaki)</b> | Estimation of generation cost minus estimated trading revenue from appropriate usage charges. Separately averaged per person usage across of the Northern Group and the Southern Group | A cost of 90-95 cents per kWh<br>A charge of 60 cents per kWh to local users<br>Average consumption in the Northern Group<br>Average consumption in the Southern Group (excl. Aitutaki) |
| <b>Other costs<sup>26</sup></b>                         | Varies by island                                                                                                                                                                       | Operational costs for inter-island ferries (\$3,000 for Manihiki, \$6,000 for Penrhyn)                                                                                                  |

#### – Island Government Role in EDA

The Island Government including the traditional leaders (Ui Ariki) is an important and key actor in smooth roll out of EDA activities on the island. This will include:

- Contributing to a fully developed communications and awareness programme for all residents on the island.
- Encouraging residents to participate in the EDA programme and providing support staff to assist in the call for proposals by the Project Management Unit (PMU).
- Providing support staff to assist residents to complete the EDA application forms
- Providing logistics support to visiting PMU and Contract Staff
- Encourage as many as possible, including women, to participate in the training programmes on island monitoring to ensure employment of local residents complies with good employer obligations and Employment Relations Act.

#### – Land Ownership

In the Cook Islands, land ownership is predominantly governed by a system of native freehold titles, meaning land is primarily owned by Cook Islands families and is passed down through generations. While the traditional system emphasizes family connections and communal usage, absentee landowners (those living outside the Cook Islands) have emerged as a significant factor, sometimes hindering development and progress. Native freehold land cannot be bought or sold except to the government for public purposes, and it's generally not subject to mortgages or charges except to the Bank of the Cook Islands.

Key aspects of the Cook Islands land system:

- **Native Freehold:**

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Most valuable land in the Cook Islands, including much of Rarotonga, is registered as native freehold title, meaning it is owned by Cook Islands families.

- **Inheritance:**

Land is inherited according to customary practice, with all children inheriting from both parents (bilineal inheritance). In order to be listed as a landowner on the Registry of Titles (ROT) for any land in the Cook Islands (except for Pukapuka, Mitiaro, and Mangaia) you must “succeed” to the interests of your ancestors with a succession application to the Land Division of the High Court of the Cook Islands. Pukapuka, Mitiaro and Mangaia have traditional rights to land governed by traditional leaders of the island.

- **Occupation Rights:**

Individuals can obtain occupation rights to native freehold land, which allows them to build and live on the land, but these rights are typically limited to 60 years and may require court orders.

- **Alienation Restrictions:**

Native freehold land cannot be transferred except to the government for public purposes.

- **Absentee Landowners:**

A significant number of Cook Islanders live overseas and hold title to land they may not have used for years. This can create challenges in making collective decisions about land use and development. There are an estimated 130 000 Cook Islanders, the vast majority of whom retain traditional rights to their customary lands.

- **Foreign Investment:**

Foreigners cannot own land in the Cook Islands, but they may be able to lease land for up to 60 years

– *Environmental legislation*

The National Environment Policy (NEP) 2022-32 is the overarching guiding policy for environmental management in the Cook Islands. The NEP 2022-32 is issued by the National Environment Service, the mandated agency to protect, manage and conserve our environment and natural resources.

The NEP 2022-32 encompasses key national environmental priorities that will help achieve an integrated approach to addressing environmental concerns across all of the Cook Islands and its marine estates.

The Cook Islands’ environment is fragile and is being severely tested by pressures of development growth and a concentrated population. We are seeing the impacts of climate change further eroding the state of our environment.

The protection, conservation and management of the environment through initiatives, policies and legislation is a matter of public interest. It is a global and national responsibility on humanity to combat issues pertaining to the environment through a robust legal framework. We uphold the intrinsic values the biophysical environment has on our existence and our culture.

The Cook Islands, a Small Island Developing State, recently graduated to a high-income country have relied upon the environment as a path of growth and economic development. Our access to the natural resources will continue to have many environmental consequences, hence we must implement control measures to ensure sustainability. The success of the Cook Islands activities is not possible if environmental sustainability is compromised. Land degradation, biodiversity loss and waste pollution to name a few, require our most urgent and immediate attention.

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Specifically the **Environment Act 2003** provides for the following:

Parts 1-2 Establishment, powers, functions of the National Environment Service (already provided by the repealed *Rarotonga Environment Act*) and the Island Environment Authorities.

Parts 3, 11 Convening of the National Environment Council and the Cook Islands Environment Forum with the purpose of determining policy direction and programs, reviewing compliance and obligations to the Act and international treaties and protocols.

Part 4 Appointment of National Environment Officers and their powers.

Part 5 Environmental impact assessment (EIA) and environmental planning.

Part 8 Recognition of the most vulnerable areas to development such as the foreshore area, the wetlands and the sloping lands and therefore the establishment of protected areas.

Part 9 Establishment of an Environment Protection Fund and its use.

Section 70 Regulations for waste and pollution may be made by the Queen's Representative from time to time by Order in Executive Council.

The Act is administered within the National Environment Service (NES), which is a body corporate headed by a Director of Service, with the obligation to protect, conserve and manage the environment and wildlife, ensure the sustainable use of natural resources, prevent, control and correct the pollution of air, water, and land and carry out other functions listed in Section 9. Private organisations involved in environmental protection may register with the NES under Part 12.

The Island Environment Authorities (which are local environmental authorities established pursuant Section 2) functions include assisting the NES in identifying environment priorities, formulating and publishing guidelines on specific issues of environmental protection, making recommendations to the Minister with regard to regulations to be made, determining applications for permits and undertaking other functions.

The Act also provides for zone planning and resource management, including the need to undertake environmental impact assessment (EIA) for developments that could impact the environment, and the need to adopt draft management plans for the purposes of protection, conservation, and management of wildlife, including protected species and the habitat of such wildlife and species, soil erosion, protection of forests, protection and conservation and management of wetlands.

Protected areas and protected species can be designated pursuant to Sections 41 and 55, while special provisions are made for the protection of foreshore and Cook Islands waters, and the prevention from pollution of Cook Islands waters and inland waters.

Provisions on **Environmental Impact Assessment (EIA)** are made through the **Environment Act of 2003**; however, the Environment Act only applies to 5 out of the 11 inhabited islands, with the other small islands being exempt due to capacity constraints. No regulations on EIA have been adopted under the Act. However, the Act itself identifies the minimum contents of an EIA which must be submitted to the permitting authority and Ministry. EIAs are usually required for (but are not restricted to) developments and activities in “Specific Areas of Concern” including:

- Foreshore (up to 30m above the high-water mark) and Cook Islands Waters
- Inland Waters
- Sloping Land
- Wetlands

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Grant awards for sub-projects in this project in the habitats listed above will require EIAs, and budgetary provisions have been made to cover the costs of small-scale EIAs, ensuring compliance.

The Environment Act also provides that the National Environment Service (**NES**) and **Island Environment Authorities** shall prepare a management plan for any area within the islands in order to manage the territory, its resources and prevent environmental degradation. In addition, the Act provides limitations for specific activities (such as buildings, developments, and sand removals) in particular foreshore and wetland areas (SPREP, 2018). The Act applies to Rarotonga, Atiu, Takutea, Mitiaro and Aitutaki.<sup>69</sup>

The NES is developing a revised National Environment Policy (2020 draft), which could be a precursor to revised environmental legislation.

A Climate Change Response Bill is in the process of development for 2021, and a discussion paper is being prepared for dissemination to stakeholders and Cabinet for the planned October hearing. Several key legislative requirements on climate change are covered in this draft legislation

- Building controls and code

The **Building Controls and Standards Act 1991** provides for a National Building Code, which was revised and updated in 2019 with a core purpose to reduced structural damage in times of disasters, in light of the projected increase in intensity of cyclones in the Cook Islands due to climate change. The Building Code requires all residential/commercial buildings to be able to withstand wind speeds likely to occur during category 3 cyclones, and more stringent requirements for all public/emergency and other critical buildings.

The Building Code applies universally to all islands in the Cook Islands; however, in some cases special provisions are made for lower, more affordable solutions in the Pa Enua. For example, Rarotonga and Aitutaki **wastewater treatment and disposal** are subject to the Public Health Sewage (Wastewater treatment and disposal) Regulations 2014; other islands may use a) packaged treatment plans, b) septic tanks, and c) any other suitable method (Building Code, 2019).

### 3.3 Economic and Commercial landscape

- Banking Services

The Cook Islands does not have a central bank and uses the NZ Dollar as its currency.<sup>70</sup> In the absence of a Central Bank, the Financial Supervisory Commission serves as the primary regulator of the finance sector. Meanwhile, the Financial Services Development Authority, established in 2009, works to promote the industry and progress its long-term development.<sup>71</sup>

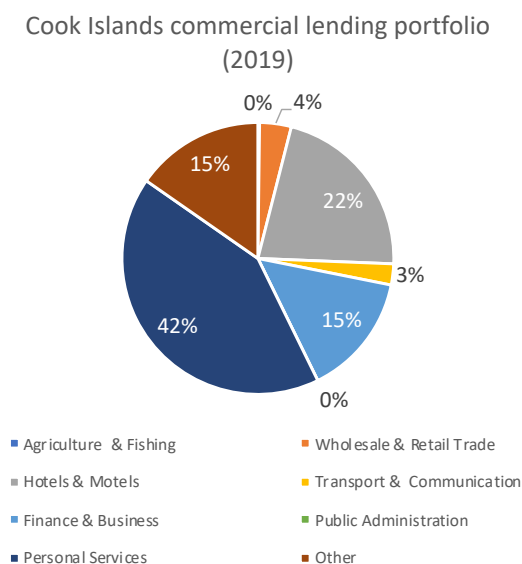
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<sup>69</sup> SPREP, 2018. Accessed 3 October 2020: <https://www.sprep.org/attachments/Publications/EMG/sprep-legislative-review-cookislands.pdf>

<sup>70</sup> MFEM, accessed 12 June 2020: <http://www.mfem.gov.ck/statistics/economic-statistics/banking-stats>

<sup>71</sup> ADB, 2019. Pacific Finance Sector Briefs: Cook Islands. Accessed 12 June 2020: <https://www.adb.org/sites/default/files/publication/529801/pacific-finance-sector-cook-islands.pdf>

Four commercial banks operate in the Cook Islands: ANZ Banking Group, Bank of the South Pacific (BSP) and the Bank of the Cook Islands (BCI) and Capital Security Bank (CSB). Three of which provide debt financing to the local private sector (ANZ, BCI and BSP), BCI is the only domestically owned bank, a state-owned enterprise. In 2019, the commercial loan portfolio totalled over NZD1.1 billion (USD770 million), of which the largest category (42%) is for personal services that include housing (**Error! Reference source not found.**).<sup>72</sup> Housing loans are important income earners for commercial banks, and could provide a valuable source of co-financing for Component 2 of the project, if the right mechanisms are put in place, e.g. structuring the grants to complement and not crowd-out commercial lending, such as adding a grant component to cover incremental adaptation costs of commercial housing loans for building retrofits.



*Figure 17 Total lending for 2019 was recorded at NZD1.1 billion of which 42% went to personal services including housing loans (data from MFEM 2019)*

Typically, homes in the Pa Enua Pa Enua belong to families rather than individual homeowners. Thus, according to the Bank of the Cook Islands, normally an unsecured loan of about NZD10,000 (USD7,000) is taken out by those in the Pa Enua to repair homes as needed. The collective ownership of homes means that there is no guarantee for the occupier that they will be there long term, hence contributing to the small sums borrowed.

Access to finance barriers in the Cook Islands (ADB, 2019; ADB, 2015):

- issues pertaining to property rights such as fragmented land ownership, outdated land registry processes, and complicated leasing procedures make it difficult for lenders to accept land as collateral or repossess it in the event of default
- absence of bankruptcy provisions makes the situation more complicated, preventing, for example, troubled firms from restructuring their companies to quickly return assets to productive use

ADB is supporting the Cook Islands to develop a secured transactions registry, which aims to make it easier for lenders to accept assets other than land or buildings as collateral and, in time, should improve access to finance.

<sup>72</sup> MFEM, 2019. Statistical Bulletin: Banking Statistics, December Quarter 2019.



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– Key indicators for the Cook Islands<sup>73</sup>

|                                                  |                   |
|--------------------------------------------------|-------------------|
| Population of the Cook Islands (2021)            | 14,987            |
| Gross domestic product current (2019)            | USD377.96 million |
| GDP per capita                                   | USD21,538         |
| Percentage of people employed in Services (2019) | 80%               |

Until 2020, the Cook Islands economy was experiencing strong tourism growth since 2014, with real growth reaching a high of 8.9% in 2017/18. There has been a notable reduction in the population living below the minimum liveable income (17% in 2016 to 11% in 2018). The income gap was also slowly closing, with income in outer Pa Enua households growing faster than Rarotonga and slowly closing the gap, showing relatively equitably distribution of development gains (Cook Islands Government, 2019).

The service industry, estimated to account for around 89% of GDP (2017), is vital to the Cook Islands economy.  
<sup>74</sup>

– Property insurance for climate impacts

Cyclone insurance is available in the market and can be included in property insurance products. Insurers have taken proactive steps to ensure compliance with the cyclone building standard by requiring engineering certificates for insured properties, rather than relying on government enforcement of the building code.

Cyclone insurance is not covered under standard property coverage wordings and is available by extension only. In the Cook Islands, property insurance rates for the cyclone peril are 0.45%, considerably higher than the regional range of 0.17% to 0.30%. Insurance intermediaries in the Cook Islands market advised that while 0.12% and 0.45% were the local standard rates for cyclone perils, it was possible to negotiate for larger corporate accounts or to place the business with offshore markets. This type of negotiation would be more difficult for SMEs or domestic homeowners, making insurance products less accessible to them due to price.<sup>75</sup>

There are four licensed insurance agents in the market: Australian and New Zealand Banking Group Limited (Cook Islands), Bank of Cook Islands Limited, Shaun Gallagher Insurance, and Richard ET Fisher Insurance Services.

– Covid-19 economic impacts in 2020 and beyond

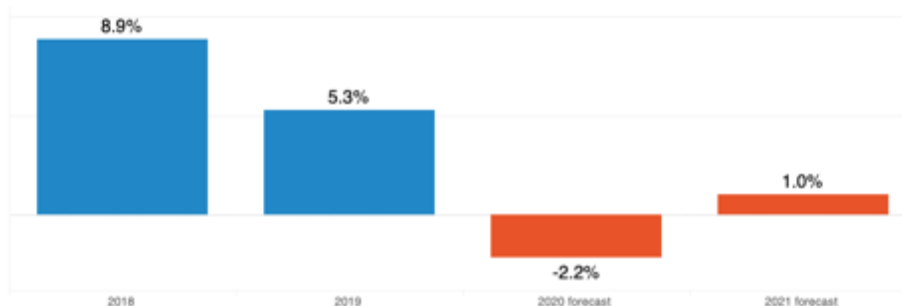
The COVID-19 pandemic has severely hit tourism economies, undermining growth, with significant downside risks. Due to the global pandemic, the ADB forecasted that the Cook Islands' economy would contract by 2.2% in 2020 due to a collapse in tourism arrivals. Growth was forecast to recover in 2021 to 1% (ADB, 2020).

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<sup>73</sup> MFEM, 2019. <http://www.mfem.gov.ck/statistics/economic-statistics/national-accounts>

<sup>74</sup> ADB, 2019. Pacific Finance Sector Briefs: Cook Islands. Accessed 12 June 2020: <https://www.adb.org/sites/default/files/publication/529801/pacific-finance-sector-cook-islands.pdf>

<sup>75</sup> World Bank, 2015. *Country Note on The Cook Islands*. Disaster Risk Financing and Insurance, February. Accessed 27 Jun 2020: <https://tinyurl.com/yad2dmhj>



*Figure 18 Economic impacts of Covid-19 on the Cook Islands economy*

In response, the Government published an COVID-19 Economic Response Plan in March 2020, with NZD76 million in stimulus for immediate short-term needs and a longer-term recovery package (Government of the Cook Islands, 2020). The plans include economic diversification, grants and concessional financing, and a strong focus on re-training and upscaling of businesses as the economy picks up. The global economy is facing uncharted waters, and the next few years will be highly unpredictable. The project is designed to complement the Government's longer-term economy recovery goals.

### 3.4 Baseline projects

This section outlines the government projects and programmes implemented in the Cook Islands that are aligned and have synergies and are complementary with this proposal. The externally supported projects and programmes are summarised in several sections:

- Climate change Projects
- Government Funded Adaptation Investment
- Baseline Projects that provided Small Grants

#### 3.4.1 Externally supported projects and programmes

- **Climate Change**

The Cook Islands is actively seeking support from GCF for its climate resilience projects. To date, nice readiness proposals have been approved, including for NAP development, and several are still under implementation. Additionally, Cook Islands is participating in two regional funded activities.

The Cook Islands has received a total of USD31.9 million through 3 multiple country projects and 1 direct access project through the Simplified Approval Process modality which are all in the implementation phase

The Cook Islands has received Eight GCF readiness projects to date, totalling to approximately USD8.6 million.<sup>76</sup>

*Figure 19 GCF Projects financed by GCF*

| GCF funded activity                                                   | Funding amount (USD) | Approval year and Status |
|-----------------------------------------------------------------------|----------------------|--------------------------|
| NDA Strengthening support for Cook Islands through MFEM (Readiness 1) | \$150,000            | 2016, Completed          |

<sup>76</sup> <https://www.greenclimate.fund/countries/cook-islands>

| GCF funded activity                                                                                                                                                      | Funding amount (USD)              | Approval year and Status   |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|----------------------------|
| Entity Support for Cook Islands through PwC (Readiness 2)                                                                                                                | \$35,519                          | 2017, Completed            |
| NDA Strengthening, Country Programming & Entity Support for Cook Islands through MFEM (Readiness 3)                                                                      | \$685,900                         | 2017, Completed            |
| Strengthening the Implementation of the Cook Islands Country Programme (Readiness 4)                                                                                     | \$999,996                         | 2019, near completion      |
| Green, Resilient Recovery Rapid Readiness Support in the Cook Islands (GRR) (Readiness 5)                                                                                | \$299,135                         | 2021, under implementation |
| Increasing the Resilience of the Cook Islands through Enhancing a National Adaptation Programme (ENAP) (Readiness 6)                                                     | \$2,999,830                       | 2021, under implementation |
| Building Resilient and Healthy Cook Islands Communities (Project Preparation funding)                                                                                    | \$568,733                         | Under implementation       |
| Scaling up green finance practices: A blueprint to breakthrough into a climate resilient Cook Islands as a catalyst to mobilize private sector investment. (Readiness 7) | \$417,232                         | Under Implementation       |
| Readiness Support for the Implementation of the IRMF for The Ministry of Finance and Economic Management (Readiness 8)                                                   | \$199,966                         | Approved                   |
| Pacific Islands Renewable Energy Investment Program (FP036)                                                                                                              | \$12.0m (Cook Islands allocation) | Under Implementation       |
| Enhancing Climate Information and Knowledge Services for resilience in 5 island countries of the Pacific Ocean (FP147)                                                   | \$10.7m (Cook Islands allocation) | Under Implementation       |

### 3.4..2 Internally Cook Islands Government supported projects and programmes

Though the Cook Islands benefit largely from donor funded programmes to build resilience to Climate Change, its important to note that Government also contribute to Climate Change Adaptation through various capital projects, in particular the construction of cyclone shelters and projects of similar nature over the past years as complementary to this project proposal. You will see from the table below that the contributions to date totals to 5.8M in Government funding to strengthen resilience, these budget amounts have been sourced from the budget publications on the MFEM website [here](#).

| Project Description      | Project Value  | Project Completion Date |
|--------------------------|----------------|-------------------------|
| Pukapuka Cyclone Shelter | \$2,900,000.00 | 2011                    |

|                              |                       |      |
|------------------------------|-----------------------|------|
| Manihiki - Cyclone Shelter   | \$859,300.00          | 2019 |
| Penrhyn - Cyclone Shelter    | \$1,000,000.00        | 2019 |
| Palmerston - Cyclone Shelter | \$1,040,398.00        | 2018 |
| Total Investment from CiG    | <b>\$5,799,698.00</b> |      |

*Adaptation: Cyclone Shelters in the Cook Islands Contribution by CiG*

This next section identifies the current adaptation projects in the 2025/26 national budget for the Cook Islands that are ongoing which demonstrates a Cook Islands Contribution of 6.7M.

| Government Agency                   | Project Title                                | Project description                                                                                                                                                                                                                                            | Budget Type    | Budget Frequency                                                                                                 | Budget      |
|-------------------------------------|----------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|------------------------------------------------------------------------------------------------------------------|-------------|
| Cook Islands Investment Corporation | Rarotonga Cyclone Shelters                   | Supports Cyclone shelter renovations in Rarotonga only                                                                                                                                                                                                         | Capital Budget | Ongoing with 250,000 annually with the exception of the current budget year 2025 with an allocation of \$365,000 | \$250,000   |
| Cook Islands Investment Corporation | National Emergency Operations Centre project | National Emergency Operations Centre project                                                                                                                                                                                                                   | Capital Budget | One Off scheduled for 2026/27                                                                                    | \$1,900,000 |
| Cook Islands Investment Corporation | Pa Enua Southern Group Projects              | This programme supports upgrades to government buildings across the Southern Group islands of the Pa Enua                                                                                                                                                      | Capital Budget | One Off scheduled for 2025/26                                                                                    | \$300,000   |
| Cook Islands Investment Corporation | Pa Enua Northern Group Projects              | This programme focuses on improving government buildings and facilities across the Northern Group islands of the Pa Enua to ensure access to public services. Buildings and facilities across the Pa Enua are most vulnerable to the impact of climate change. | Capital Budget | One Off scheduled for 2026/28                                                                                    | \$3,000,000 |

|                                     |                                       |                                                                                                                                                                                                |                       |        |                    |
|-------------------------------------|---------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|--------|--------------------|
|                                     |                                       | Funding has been allocated over 2026/27 and 2027/28 to begin the construction of the Rakahanga Cyclone shelter. Page 123 of budget appropriation book 1, 2025/26.                              |                       |        |                    |
| Cook Islands Investment Corporation | CIG Buildings Repairs and Maintenance | Covers all costs, including personnel and operating expenses, to repair and maintain government buildings on Rarotonga and the Pa Enuu. Page 109 of budget appropriation book 1, 2025/26       | Administered Payments | Yearly | \$1,000,000        |
| Internal Affairs                    | Special Assistance Fund               | SAF supports the purchase of building materials for renovations of homes for the vulnerable by way of small grants with a cap of up to 10,000 per applicant, refer to annex 24 SAF Policy 2024 | Administered Payments | Yearly | \$250,000          |
| <b>TOTAL</b>                        |                                       |                                                                                                                                                                                                |                       |        | <b>\$6,700,000</b> |

### 3.4..3 Baseline projects that provide direct financing to beneficiaries:

Baseline Projects that channel at least part of the funding through on-granting directly to beneficiaries are provided in Table 21.

| Direct Financing to Beneficiaries                                                               | Funding amount (USD) | Approval year and Status |
|-------------------------------------------------------------------------------------------------|----------------------|--------------------------|
| SRIC-CC awarded 50 small grants with outputs in agriculture, marine, tourism, water and coastal | US\$2million         | 2014-2015                |

| Direct Financing to Beneficiaries                                                                                                                                                                                                                                                                                                                                                                                                                                    | Funding amount (USD) | Approval year and Status |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|--------------------------|
| protection. <sup>77</sup> The SRIC-CC project installed 45,000 litre cement water tanks on Pukapuka (6 tanks), Rakahanga (5 tanks), Manihiki (2 tanks) and Tongareva (8 tanks). <sup>78</sup>                                                                                                                                                                                                                                                                        |                      |                          |
| Building on SRIC-CC, the Cook Islands secured a direct access project titled <i>Pa Enua Action for Resilient Livelihoods (PEARL)</i> from the Adaptation Fund with on-granting mechanisms in water and agriculture, with MFEM as the National Implementing Entity (NIE).                                                                                                                                                                                             | US\$3million         | 2018 - 2023              |
| Capitalizing Water Security Fund by the Adaptation Fund with ongoing mechanisms for water and agriculture – MFEM National Implementing Entity (NIE)                                                                                                                                                                                                                                                                                                                  | US\$365,000          | 2018-2023                |
| FAO grant funding maximum grant of NZD\$10,000 per farmer for agriculture development through the Cook Islands Chamber of Commerce – Capitalising the Economic Resilience Fund (ERF)                                                                                                                                                                                                                                                                                 | US\$190,000          | 2016-2018                |
| Promoting Energy Efficiency in the Pacific (PEEP) programme administered by the Asian Development Bank - MFEM administered two subsidies: 1) an Energy Efficient Fridge Freezer replacement programme and 2) an Air conditioner replacement program. <sup>79</sup>                                                                                                                                                                                                   | \$                   | 2015 -2018               |
| <i>Renewable energy.</i> A Solar Farm financing scheme was managed by the Bank of the Cook Islands (BCI) – establishing solar farm initiative as the grid capacity was insufficient – currently being reignited for further private sector interest                                                                                                                                                                                                                  | NZ\$887,000          | 2014 -2016               |
| <i>Water storage.</i> The Government of the Cook Islands, with funding from ADB in 2013, launched a 3-year Water Tank Subsidy of NZD1,500 for a 6,000-litre water tank, prioritised for private occupied dwellings without an existing water tank. The new water tank owner's contribution was set at a minimum NZD500 direct payment to the nominated accredited supplier for standard water tank installation costs. <sup>80</sup> This is was for Rarotonga only. | NZ\$3,000,000        | 2013 - 2017              |

<sup>77</sup> Rijal, A. Ph.D. SRIC-CC Project Terminal Evaluation Report: June 25, 2018.

<sup>78</sup> Cook Islands Third National Communication, 2019, p. 58

<sup>79</sup> MFEM, Promoting Energy Efficiency in the Pacific (PEEP2). <https://tinyurl.com/ydcbgpxp>

<sup>80</sup> MFEM, Rarotonga Water Tank Subsidy. <http://www.mfem.gov.ck/development?id=299>



| Direct Financing to Beneficiaries                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Funding amount (USD)                                                                       | Approval year and Status |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|--------------------------|
| <p><b>Wastewater.</b> A project called WATSAN subsidized sanitation systems in the Muri village area, and systems costed between NZD10,000 – NZD15,000. Each household was required to pay a fixed amount of NZD1,000, irrespective of the cost of the system (a co-finance rate of between 10 – 15% from the beneficiary). pilot project in the Muri-Avana area of Rarotonga, to upgrade all domestic sanitation systems to comply with existing requirements under the Public Health Act and Regulations.</p> | <p>NZ\$4.7million from New Zealand and Australia</p> <p>NZ\$585,000 from CI Government</p> | 2011 -2014               |

Figure 20 Baseline Projects that provide Direct Financing

Other climate change related projects that are being implemented currently in the Cook Islands are included in the table below and will have direct synergies or are complementary with this project proposal. All completed projects provide lessons learnt that have been incorporated or noted in the FS and the design of this project proposal.

Figure 21 Climate Change Projects that are Complementary to EDA

| Initiative                                                                                         | Status, results, limitations                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Complementarities with this proposal                                                  |
|----------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| <p><b>GCCA+ SUPA Project</b></p>                                                                   | <p>The project is implemented by the University of the South Pacific (USP). The project's emphasis is on capacity building for local area stakeholders, especially subnational governments and communities based on a needs analysis. These will be delivered through formal training courses leading to certification for participants on successfully passing. Accredited training in resilience will be delivered in the Cook Islands informed by the local context to support sustainable development planning for USP's established Locally Managed Climate Change Adaptation Network and its national and sub-national stakeholders. The USP-EU GCCA project is a four-year project allocating 8 million Euros to meet the challenges of climate change in the 15 Pacific ACP</p> | <p>Community adaptation training programs and sharing of expertise on CC impacts.</p> |
| <p><b>Akamatutu'anga kia</b></p> <p><b>Tukatau te Ora'anga ite Pa Enea" Pa Enea Action for</b></p> | <p>The objective of the programme is to build and implement an integrated approach to further increase the adaptive capacity of remote island communities and ecosystems to disaster risk and climate change impacts. The sub-objectives for the programme are:</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <p>Adaptation systems implemented and understanding CC risks</p>                      |

| Initiative                                                                                         | Status, results, limitations                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Complementarities with this proposal                                                                                   |
|----------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------|
| <b>Resilient Livelihoods (PEARL) 2018</b>                                                          | <p>Strengthening national and local capacity for monitoring and decision making to respond and to reduce risks associated with climate change;</p> <p>Establishing climate resilient water management instruments using integrated and community-based approach;</p> <p>Raising awareness and establish a knowledge exchange platform to increase adaptive capacity to revitalise agriculture production systems.</p> <p>Three Components:</p> <p>Component 1: Strengthening disaster risk governance to manage disaster risk and enhancing disaster preparedness for effective response to “Build Back Better” in recovery, rehabilitation and reconstruction;</p> <p>Component 2: Integrated Water Security Management Planning and Implementation;</p> <p>Component 3: Revitalised agricultural production systems strengthening island food sources and livelihoods in the Pa Enua.</p>  <p>Photo of community hydroponics.</p> | <p>Disaster Risk and water management strengthened</p> <p>Lessons learnt from Small grants for adaptation projects</p> |
| <b>Akamatutu’anga I te iti Tangata no te tuatau manakokore ia e te tau’anga reva Strengthening</b> | <p>The aim of the SRIC programme was to strengthen the ability of all Cook Island communities, and the public service, to make informed decisions and manage anticipated climate change driven pressures (including extreme events) in a proactive, integrated and strategic manner. It contributed to all outcomes listed</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | <p>Adaptation systems implemented and understanding CC risks</p>                                                       |

| Initiative                                                                                    | Status, results, limitations                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Complementarities with this proposal                     |
|-----------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------|
| <p><b>the Resilience of our Islands and our Communities to Climate Change (SRIC – CC)</b></p> | <p>within the 2 objectives of the Adaptation Fund Strategic Results Framework (AFB/EFC.2/3 from 31 August 2010), and corresponds particularly to the following higher order fund-level outputs:</p> <p><i>Output 1.1.</i> Risk and vulnerability assessments conducted and updated at national level;</p> <p><i>Output 1.2</i> Targeted population groups covered by adequate risk reduction systems;</p> <p><i>Output 1.3</i> Targeted population groups participating in adaptation and risk reduction awareness activities; and</p> <p><i>Output 2.2</i> Vulnerable physical, natural and social assets strengthened in response to climate change impacts, including variability.</p> <p><i>Output 2.4.</i> Targeted individual and community livelihood strategies strengthened in relation to climate change impacts, including variability.</p> <p>The SRICC CC programme has partnered with EMCI in carrying out the mandate of the Disaster Risk Management National Action Plan, in the development of the Disaster Management Plans for each Island in the Pa Enua.</p> <p>SRIC has implemented water security projects in the Pa Enua (except Mauke, Nassau and Penrhyn) including water tank upgrades, household water tanks, purification/filter, and roof repairs.</p> <p>The programme focussed on knowledge management. The programme had a 3-pronged approach, ultimately focusing on the implementation of on-the ground adaptation and disaster risk reduction measures at the community level in the Pa Enua. This was integrated with sustainable island capacity building and wider development processes, and supported through enhanced national policy, institutional and knowledge management capacities. This project was completed in 2017.</p> | <p>Disaster Risk and water management strengthened</p>   |
| <p><b>Building Safety and Resilience in</b></p>                                               | <p>The BSRP project is dedicated to help build resilience to disaster and climate change for communities,</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <p>The GCF proposal will be supported by the efforts</p> |

| Initiative                                                                              | Status, results, limitations                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Complementarities with this proposal                                                                                                                               |
|-----------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>the Pacific (BSRP) EDF 10 Intra-ACP-EU</b>                                           | governments and countries across the Pacific region through practical ways to prepare, respond and recover from disaster. It is a €19.36 million project supported by the European Union and implemented by the Pacific Community (SPC). For Cook Islands, BSRP completed a number of risk reduction projects and will fund DRM Training programme for women, people with disabilities for each island, enhancing capabilities of Geo Portal, strengthening building code for disaster risks, establish or strengthen the Emergency Operating Centre in each Puna and develop/conduct early warning public awareness programmes for the general public, school children and vulnerable groups                                                                                     | and the expertise provided by this project and ensure that the training and strengthened capacity of government institutions will also add value to this proposal. |
| <b>Northern Islands Water Project (Phase 2) - GIZ</b>                                   | <p>The outcomes from this project include community rainwater harvesting structures/infrastructure at targeted locations are repaired and a model of integrated water management established for the northern islands which applies a forward looking whole of community approach to improve the resilience of the communities on Nassau, Palmerston and Penrhyn to natural disasters (including drought). This involved:</p> <p>Increase rainwater harvesting (repair of community buildings) and rainwater storage capacity (repair of community water tanks)</p> <p>Raise community awareness in water safety/management and drought response</p> <p>Establish a water usage monitoring system that can be managed by and incorporated into the local government work plan</p> | Water storage and infrastructure repair efforts dovetail with                                                                                                      |
| <b>Strengthening Water Security of Vulnerable Island States in the Pacific - NZMFAT</b> | The project is being implemented by the Secretariat of the Pacific Community (SPC) across the Pacific Island Countries of the Cook Islands, Kiribati, Republic of the Marshall Islands (RMI), Tokelau and Tuvalu through a suite of practical measures to strengthen drinking water security with the aim of engaging and supporting government, local authorities and vulnerable island communities to build the skills, systems and basic infrastructure to better anticipate,                                                                                                                                                                                                                                                                                                  | Drinking water security efforts align with GCF on increased resilience of water infrastructure to drought and other extreme weather events                         |

| Initiative                                                                                                                             | Status, results, limitations                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Complementarities with this proposal                                                                                                                    |
|----------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                                        | respond to, and withstand drought and other events that threaten water security.                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                         |
| <b>Pacific Adaptation to Climate Change (PACC) – Funded by Aus. Aid, GEF, CIGov</b>                                                    | Mangaia harbour climate proofing project.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Functioning harbours ensure better access for infrastructure upgrades under GCF activities                                                              |
| <b>Strengthening Disaster Management and Mitigation: Component Two- Preventative Infrastructure Master Plan (2007) funded by ADB -</b> | Review, prioritisation and design of existing and future infrastructure projects on Rarotonga and the Pa Enua with a view to economic growth and ‘climate-proofing’. Included a review of the Building Code, and the development of a Climate Risk Profile for the Cook Islands. Developed 111 project briefs, of which 44 were prioritised for the first 5 years. Projects at risk from climate change were identified and adaptation measures identified as well as a process for additional climate change studies to test feasibility. | The GCF project will incorporate data sources from the Disaster Management and Mitigation initiative                                                    |
| <b>Cyclone Pat: Recovery and Reconstruction Project (Aitutaki)</b>                                                                     | 2010 – 2011 NZAID NZ\$5.5m, CI Govt NZ\$4m<br>Cyclone Pat assistance to residents impacted by cyclone- rebuilding of homes and water tanks                                                                                                                                                                                                                                                                                                                                                                                                 | Tank functioning and siting/suitability will be assessed as part of GCF which will provision tanks and water treatment facilities to emergency centres. |
| <b>Cyclone Recovery and Reconstruction (CRR) and Outer Island Development (OID) Programmes- 2007-2012, NZAid CI Govt -</b>             | Building of new building for the Cook Islands Red Cross, which will double up as a cyclone safety shelter.<br><br>Supply of new roofing sheets and rainwater tanks to households in Pukapuka, Nassau, Tongareva, Rakahanga.<br><br>Repair of community water tanks in Manihiki<br><br>Harbour wharf repairs in Mauke and Mitiaro<br><br>Manihiki CMCs refurbishment<br><br>Mauke Water Upgrade.                                                                                                                                            | will build on the cyclone recovery, reconstruction, and outer island development programmes.                                                            |

| Initiative                                                                               | Status, results, limitations                                                                                                                                                                                                                                                                                                                                                                                                              | Complementarities with this proposal                                                                                                                                      |
|------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                          | Pukapuka Cyclone Safety Shelter – 2011 EU, CIGov - Building of a modern, climate-proof emergency safety shelter on Pukapuka                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                           |
| <b>Pacific Islands Climate Change Assistance Project – 1998-2001, GEF, SPREP, UNDP -</b> | Assisted countries in preparation of their initial National Communications.                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                           |
| <b>National Capacity Self-Assessment (NCSA) 2006-2010 GEF, UNDP CI Govt</b>              | CCA/DRM policies will be reviewed as part of GCF Activity 1.1.1                                                                                                                                                                                                                                                                                                                                                                           | The GCF project will build on previous V&A assessments.                                                                                                                   |
| <b>National Adaptation Planning Assistance- 2009-2011 Government of Italy</b>            | CCA/DRM policies will be reviewed as part of GCF Activity 1.1.1                                                                                                                                                                                                                                                                                                                                                                           | CCA/DRM policies will be reviewed                                                                                                                                         |
| <b>The Pacific Adaptation to Climate Change (PACC)- 2009-2013, GEF, UNDP, SPREP-</b>     | <p>To develop an Integrated Coastal Management Framework (ICMF) for the Cook Islands using an extensive process of assessments, training and consultations.</p> <p>To develop guidelines and to demonstrate how to integrate climate change into coastal development planning by conducting detailed studies at one pilot site (Mangaia harbour).</p> <p>To build a comprehensive communications and awareness of PACC at all levels.</p> | CCA/DRM policies will be reviewed as part of GCF<br>The communications strategy provided for in will build on the comprehensive communications work from the PACC project |
| <b>The Pacific Adaptation to Climate Change (PACC)- 2009-</b>                            | To develop an Integrated Coastal Management Framework (ICMF) for the Cook Islands using an extensive process of assessments, training and consultations.                                                                                                                                                                                                                                                                                  | The communications strategy provided will build on the comprehensive                                                                                                      |



| Initiative                                                                                      | Status, results, limitations                                                                                                                                                                                                                                                                                                         | Complementarities with this proposal                                  |
|-------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------|
| <b>2013, GEF, UNDP, SPREP-</b>                                                                  | To develop guidelines and to demonstrate how to integrate climate change into coastal development planning by conducting detailed studies at one pilot site (Mangaia harbour).<br><br>To build a comprehensive communications and awareness of PACC at all levels.                                                                   | communications work from the PACC project                             |
| <b>Preparedness for Climate Change Programme 2009, Cook Islands Red Cross</b>                   | Various activities planned for the <i>Pa Enua</i> e.g., documenting traditional methods of food preparation.<br><br>The CIRC has also programmed to start vulnerability community assessments for each of the Pa Enua where the assessments have not been completed.                                                                 |                                                                       |
| <b>Managing Climate Change Risk in Cook Islands' Vulnerable Communities (ADB-SGA-WWF) 2010,</b> | ADB Small Grants WWF - A pilot in three communities (Arutanga-Ureia in Aitutaki, Matavera and Rua'au districts in Rarotonga), carrying out participatory climate risk assessments using GIS, in order to develop methods and tools (V&A)                                                                                             |                                                                       |
| <b>Community-centred Sustainable Development Programme 2008-2012, UNDP</b>                      | Supported by UNDP, Sustainable Village Development Plans have been developed in Mauke and Mitiaro islands. Similar exercises are being planned for Aitutaki. These plans identified community needs in agriculture, water, and coastal issues, but without integrating climate risks, and providing funds for actual implementation. |                                                                       |
| <b>Pacific Adaptation Strategy Assistance Program (PASAP) -</b>                                 | The goal is to understand the coastal vulnerability of infrastructure and community in the study area in Rarotonga (which includes Avarua and its harbours), to climate change-related sea level, wave and inundation impacts, and to identify needs and options for adaptive response to those changes. A\$400,000 over 37 weeks.   |                                                                       |
| <b>Australian Department of Climate Change and Energy</b>                                       | Piloting the Integration of Community Vulnerability Mapping and Adaptation Planning into the Development of a National DRM and Climate Change Policy, 2011-2012, Community-based vulnerability risk                                                                                                                                  | Risk mapping data can be incorporated into the EMCI Geo Portal, which |

| Initiative                                                                                      | Status, results, limitations                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Complementarities with this proposal                                                                             |
|-------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|
| <b>Efficiency (DCCEE), Pacific Adaptation Strategy Assistance Program (PASAP)</b><br>-          | mapping, adaptive capacity assessment, and adaptation planning in Rarotonga and 8 of the 12 inhabited <i>Pa Enua</i> in order to develop a site, island and community-specific baseline on vulnerability, risks and adaptive capacity.                                                                                                                                                                                                                                                  | will feed into GCF Activities                                                                                    |
| <b>Preparedness for Climate Change Programme 2009, Cook Islands Red Cross</b>                   | Various activities planned for the <i>Pa Enua</i> e.g., documenting traditional methods of food preparation.<br><br>The CIRC has also programmed to start vulnerability community assessments for each of the <i>Pa Enua</i> where the assessments have not been completed.                                                                                                                                                                                                             | Aligns with GCF Activity                                                                                         |
| <b>Managing Climate Change Risk in Cook Islands' Vulnerable Communities (ADB-SGA-WWF) 2010,</b> | ADB Small Grants WWF - A pilot in three communities (Arutanga-Ureia in Aitutaki, Matavera and Rua'au districts in Rarotonga), carrying out participatory climate risk assessments using GIS, to develop methods and tools (V&A)                                                                                                                                                                                                                                                         | GIS-linked risk assessment data can be incorporated into the EMCI GeoPortal, which will feed into GCF Activities |
| <b>Community-centred Sustainable Development Programme 2008-2012, UNDP</b>                      | Supported by UNDP, Sustainable Village Development Plans have been developed in Mauke and Mitiaro islands. Similar exercises are being planned for Aitutaki. These plans identified community needs in agriculture, water, and coastal issues, but without integrating climate risks, and providing funds for actual implementation.                                                                                                                                                    | Identified needs inform the selection of technical solutions for the GCF project.                                |
| <b>Cook Islands Enhanced 2<sup>nd</sup> NDCs, 2021-2022, UNDP Climate Promise</b>               | UNDP and Cook Islands Government elected to take a collaborative approach with five related consultancies undertaken at the same time. Four locally engaged consultants were appointed to undertake the NDC work programme. The work included:<br><br>Update and enhance NDC for the Cook Islands<br><br>Prepare an investment barrier analysis to guide policy and regulatory interventions<br><br>Prepare an investment barrier analysis to guide policy and regulatory interventions | The updated CC&HAP will serve to update and enhance the Cook Islands NDC.                                        |

| Initiative | Status, results, limitations                                                                                                                                                                                                                                 | Complementarities with this proposal |
|------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|
|            | Preparation of guidelines or models for enhanced nature-based adaptation and mitigation actions for NDCs<br><br>Develop a financial strategy with cost estimates of NDC actions aligned to NDC action plan<br><br>Review National Greenhouse Gases Inventory |                                      |

There are several ongoing and recently completed climate-relevant projects in the Cook Islands, as outlined below.

### 3.5 Previous and Existing small financial grants or loan projects

This section reviews the eligibility criteria used by financial mechanisms that provide grants or loans targeting in particular vulnerable groups in the Cook Islands, as a basis for formulating the project's eligibility criteria. **Error! Reference source not found.** summarizes the most common eligibility criteria, with further details provided below.

Table 10. Summary of key eligibility criteria used by existing funds in the Cook Islands

|                                  | Water tanks           | Hardship Fund               | BTIB                       | PEARL               | SIF                         |
|----------------------------------|-----------------------|-----------------------------|----------------------------|---------------------|-----------------------------|
| Must be resident of Cook Islands | Yes                   | Yes (at least 6 months)     | Yes                        | Yes                 | Yes                         |
| Must own the property            | Yes                   | No                          | No                         | No                  | No                          |
| Income thresholds for applicants | No                    | NZD9,000 or below per adult | No                         | No                  | No                          |
| Maximum award                    | Up to NZD1,500        | Up to NZD1,000              | Between NZD2,000 – 10,000  | Up to NZD10,000     | Between NZD50,000 – 150,000 |
| Co-financing or interest rates   | 25% cash co-financing | None                        | 3% per yr interest on loan | 100% matching funds | None                        |
| Overheads/administration         | Not available         | Not available               | 3% (interest earnings)     | Not available       | 11.4%                       |

#### Water tank subsidy<sup>81</sup>

<sup>81</sup> MFEM, Rarotonga Water Tank Subsidy. <http://www.mfem.gov.ck/development?id=299>

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The Government of Cook Islands in partnership with Asian Development Bank launched a 3-year water tank subsidy. The water tank subsidy provided NZD1,500 for a 6,000-litre water tank. The new tank owner was required to pay NZD500 to the supplier of standard water tank installation costs.

Eligibility criteria for the water tank subsidy was as follows:

- “Hardship” eligibility criteria were estimated by dividing average income of able working adults by the number of dependents<sup>82</sup>
- Occupied dwelling without an existing water tank
- Domestic Dwelling/NGO HQ/Community Hall were all eligible, as long as ownership was defined
- The individual must be living within one of the priority zones, determined prior to announcement
- CIIC government employees must show they don’t have a water tank

Determination for water tank allocation was made using a hardship application form.

### **Emergency Hardship Fund<sup>83</sup>**

The Fund was set up to provide a quick award of up to NZD1,000 to alleviate financial hardship and stress related to COVID-19 impacts. Eligibility requirements for the hardship fund:

- No income or annual household income of NZD9,000 or below per adult household member, and NZD4,500 or below for each child<sup>84</sup>
- Must be aged 16 years or older (excluding students) and resident of the Cook Islands for the past 6 months
- Does not qualify for any other Cook Islands or foreign benefits, subsidies or grants (exception made for applicants with dependent children receiving the child benefit)

### **BTIB Business Support Loan Programme**

The Business Trade Investment Board (BTIB) loan support programme supports small and medium businesses to access financing for business expansion. Eligibility criteria include:

- Must be an indigenous Cook islander as defined under the Cook Islands Constitution
- For business purposes only (purchase of airline tickets and vehicles not permitted)
- Applicants must agree that the use of the loans must be for the purpose stated in the application
- BTIB reserves the right to decline any application if information provided is not factual.
- BTIB may approve any amount it considers appropriate
- BTIB owns the asset until it is fully paid; BTIB reserves the right to reposes the asset to resell if the client falls into arrears.
- Any conflicts of interest between the board members and applicants must be declared.

The application required the following:

- Business plan
- Business Bank statement for the last 3 months
- Payslips for the last 4 weeks

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<sup>82</sup> A formula was devised to capture those considered living in hardship. The formula looked at average income for “Able working adults” in a household, divided by number of “dependents” – children, elderly or disabled. Households considered living in hardship offered applicants an extra \$500; as such, the formula was designed for fairness and favoured households with a higher ratio of dependents to “able adults”.

<sup>83</sup> MFEM, COVID-19 Economic Response Plan. [http://www.mfem.gov.ck/images/COVID19\\_ERP/Emergency\\_Hardship\\_Fund\\_-\\_ERP\\_Phase\\_II.pdf](http://www.mfem.gov.ck/images/COVID19_ERP/Emergency_Hardship_Fund_-_ERP_Phase_II.pdf)

<sup>84</sup> For example, an applicant with a family of 4 (two adults and two children) would have an income of NZD 27,000 or below to be eligible

- Cashflow forecast
- Profit and loss statement
- Invoices / quotes
- Guarantor letter
- 2x forms of ID for applicant and guarantor

### **PEARL Economic Resilient Fund**

This fund supports start-ups with a maximum of NZD10,000 per applicant for the agricultural sector, using the following eligibility criteria:

- Maximum of one proposal per applicant
- Projects related to agriculture production systems and value chain from production – processing and marketing
- Project is located in the Pa Enua
- Project proponents include private sector (farmers, business) with existing agriculture based business or new ventures.

### **Social Impact Fund**

The Fund is administered by the Ministry of Internal Affairs and designed to contribute to the achievement of national sustainable development goals by awarding grants between NZD50,000 – 150,000. Applicants must meet the following eligibility criteria:

- Be registered as a Civil Society Organisation (CSO), an Incorporated Society or Trust with the Ministry of Justice
- Have local bank account in the name of registered CSO with two signatories
- Demonstrate a proven track record in delivering services aligned with the priority areas
- Have sound operating policies and procedures in place that may include a volunteer policy, Fundraising policy and /or a strategic plan
- Maintain high standards of governance, conduct, and meet reporting and accountability obligations
- Obtain Island Government endorsement and ensure alignment with the Island Development Plan, if operating in the Pa Enua
- Liaise with the Revenue Management Division, of the Ministry of Finance and Economic Management (MFEM) regarding tax obligations for employees/staff such as Pay as You Earn (PAYE) Tax, including Valued Added Tax (VAT) reimbursement and exemptions as a registered CSO
- Liaise with the Cook Islands National Superannuation Fund (CINSF) Office regarding superannuation obligations for employees

**Other complementary projects:** centralized implementation, but in relevant areas to the proposed project scope.

In 2019, the Cook Islands borrowed NZD15.6 million from ADB to capitalize a facility that the Government can draw-down, through sub-loan agreements, in the event of a disaster event, such as a cyclone.<sup>85</sup>

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<sup>85</sup> <https://www.adb.org/sites/default/files/project-documents/50212/50212-002-lna-en.pdf>

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The *Building Safety and Resilience in the Pacific (BSRP)* project<sup>86</sup> is an ongoing regional EDF 10 Intra-ACP-EU investment, working through the Pacific Community (SPC) as implementing entity and the Emergency Management Cook Islands as executing entity. The project aims to achieve the following:

- Delivered the revised 2019 Building Code, for buildings to cope with a Category 3 hurricane
- Disaster risk management training programme for women and persons with disabilities for each island
- Enhancing data capacity through a Geo Portal and establishing or strengthening the Emergency Operating Centre in each Puna
- Developing/conducting early warning public awareness programmes for the general public, school children and vulnerable groups

The GCF awarded a USD17 million grant to the Asian Development Bank (ADB) in 2016 for the regional project, *Pacific Islands Renewable Energy Investment Program*, covering seven (7) Pacific small island states. The project aims to help free the target SIDS from their diesel dependence, while building infrastructural resilience and improving livelihoods. This project is completing its activities in Cook Islands.

The National Environment Services (NES) is developing a USD4 million project concept for the *Global Environment Facility (GEF)* on land-based pollution with a focus on biodiversity mainstreaming. If successful, the project will be implemented over 5 years, tentatively beginning in 2022. Several complementary areas were identified in the interview with NES (see Annex 2).

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<sup>86</sup> BSRP project: <https://www.spc.int/updates/news/media-release/2018/12/new-cook-islands-building-code-and-strategic-roadmap-for>



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## 4 Island Profiles

The Island Profile section informs the design of the EDA Facility full proposal. It reinforces the Cook Islands request to strengthen local ownership of climate action and promote greater involvement of impacted communities and businesses by supporting adaptive measures at the national level using a multi sectoral approach.

The recently completed **Cook Islands Vulnerability & Adaptation Assessment Report**<sup>87</sup> (**Report**) has provided confirmation on the key vulnerabilities and risks associated with long term habitability of some of the islands in a changing climate including identified signals and triggers of when a decision needs to be made on whether to shift adaptation pathways. The Report through the vulnerability assessments outlines the adaptation priorities identified by the community and reinforces the activity areas identified for the current EDA facility which includes:

- **Water Security** was commonly raised as the greatest concern among communities due to dependence on rainwater harvesting, limited storage capacity, and dated infrastructure. Irregular rainfall and increasing droughts worsen vulnerabilities, particularly in the atoll islands given the limited alternative water sources.
- **Built infrastructure** vulnerabilities primarily relate to regional connectivity, coastal protection, and buildings. Safe loading and unloading facilities and no airport which face constrained regional connectivity, putting evacuations, imports and health services at greater risk. For buildings, improved ventilation/cooling, evacuation routes, and purpose-built cyclone centres on islands without suitable evacuation sites were emphasised as a priority by the communities

### 4.1 Profile Data

The island data collated below comes from a number of sources that includes:

- Cook Islands Government Statistics Office and the 2021 Census
- Ministry of Finance and Economic Management Reports and 2024/25 Budget Book
- Climate Change Office Reports
- Infrastructure Cook Islands
- Cook Islands Investment Corporation
- Ministry of Internal Affairs
- Bank of Cook islands

The demographic, economic and social data has been used to inform, develop and design the EDA full proposal as well as budget assumptions.

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<sup>87</sup> **Cook Islands Vulnerability & Adaptation Assessment Report**

Prepared for Cook Islands Ministry of Finance and Economic Management (MFEM) and Climate Change Cook Islands Office (CCCI),  
Prepared by Beca International Consultants Ltd 12 February 2025



Figure 22 Cooks Islands – Rarotonga and Pa Enua Islands

The 2021 Census count reflects a massive decrease of 2,394 people since the 2016 Census (17,434). The decrease in the Cook Islands population and the unmet population estimate was not surprising as the world experienced the effect of the Coronavirus pandemic (COVID-19). Out migration affected the population of the Cook Islands with local residents seeking employment overseas and a large number of migrant workers who were key to our tourism industry lost their jobs and had to return to their countries of origin.

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However, MFEM has reported in the December 2024 quarterly update a positive trend in population recovery post pandemic. Since 2021 the gap between total and resident population has increased significantly such as tourists and temporary workers.

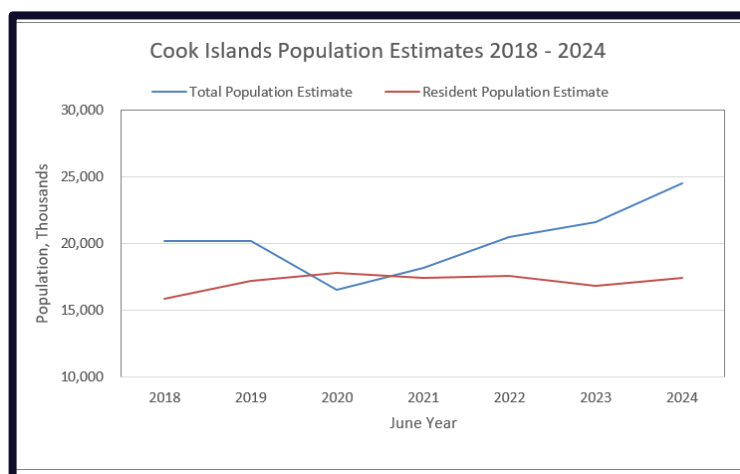


Figure 23 Cook islands Population Estimates 2018-2024

There are now signs of positive changes with economic activity continuing to recover strongly and a return to pre-Covid levels. In April 2025, Cook Islands saw 16,113 total arrivals, with 14,665 visitors and 1,448 returning Cook Islanders and work permit holders. Visitor arrivals increased by 26.2 percent compared to March 2025. Peak months are typically May–October, which aligns with Southern Hemisphere winter and potential holiday travel. In April 2025, a total of 1,414 residents left the country. Of the departing residents 54.6 percent left for vacation/holiday, while the remaining 45.4 percent had other reasons for their departure.

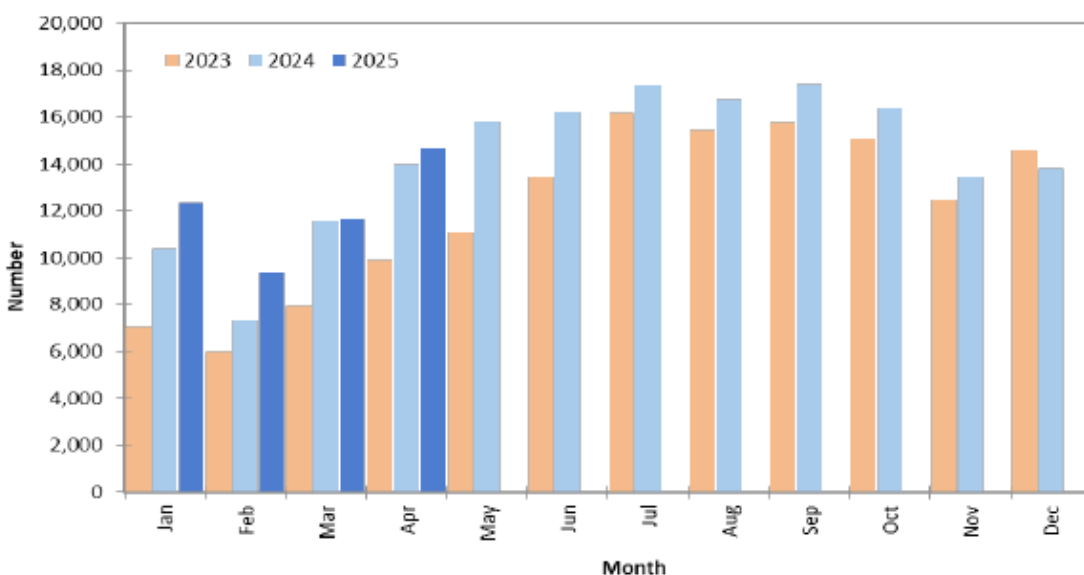


Figure 24 Visitor Arrivals 2023 – 2025 (MFEM Quarterly December Report 2024)

## 4.2 Income

Wages and salaries make up a large proportion of income accounting for 48.3 per cent of all incomes of the Cook Islands followed by old aged pension at 14.8 per cent and child benefit at 8.8 per cent.

Income from self-employment was also significant at 8.1 per cent. Nearly 10 per cent of the population had no income, while 9.4 per cent had an income of more than \$40,000 per annum. The median income in Rarotonga was calculated to be \$18,000 and Te Pa Enua median income was at \$11,000 a notably large increase when compared to the 2016 census

Figure 25 Total Average Per capita household income by region in \$NZ (Census 2021)

| Region              | Total Annual Income | Average Annual Income |               |                   |
|---------------------|---------------------|-----------------------|---------------|-------------------|
|                     |                     | All those 15+ years   | per capita    | Private Household |
| Rarotonga           | 182,072,500         | 21,863                | 16,761        | 52,516            |
| Southern Group      | 26,470,000          | 11,956                | 8,727         | 27,516            |
| Northern Group      | 7,415,000           | 10,953                | 6,797         | 29,425            |
| <b>COOK ISLANDS</b> | <b>215,957,500</b>  | <b>19,249</b>         | <b>14,410</b> | <b>46,135</b>     |

Total income was estimated around NZD 216 million per annum, roughly translating to a per capita income of \$14,400 for every man, woman and child. The average annual income of all those 15 years and older was \$19,249 (males \$20,209 and females \$18,348). Income levels in Rarotonga nearly more than double that in the Pa Enua. Household income was estimated to be \$46,135 on an annual basis.

Figure 26 Income level of those 15 years and older (Census 2021)

| Income Level     | COOK ISLANDS |      |        | Rarotonga |      |        | Southern Group |      |        | Northern Group |      |        |
|------------------|--------------|------|--------|-----------|------|--------|----------------|------|--------|----------------|------|--------|
|                  | Total        | Male | Female | Total     | Male | Female | Total          | Male | Female | Total          | Male | Female |
| No income        | 9.8          | 9.7  | 9.9    | 9.0       | 8.9  | 9.1    | 11.9           | 12.2 | 11.6   | 13.0           | 11.7 | 14.5   |
| \$0-\$4,999      | 8.7          | 6.7  | 10.6   | 6.5       | 5.2  | 7.8    | 16.2           | 11.9 | 20.2   | 11.1           | 7.5  | 15.1   |
| \$5000-\$9,999   | 15.2         | 14.0 | 16.4   | 12.1      | 10.8 | 13.3   | 23.5           | 23.2 | 23.9   | 26.3           | 21.2 | 32.1   |
| \$10000-\$14,999 | 16.9         | 18.0 | 15.8   | 15.3      | 15.7 | 15.0   | 20.6           | 23.3 | 18.0   | 24.2           | 28.1 | 19.8   |
| \$15000-\$19,999 | 17.2         | 18.8 | 15.6   | 18.1      | 19.3 | 16.9   | 13.7           | 15.3 | 12.2   | 17.3           | 23.4 | 10.4   |
| \$20000-\$29,999 | 14.2         | 14.7 | 13.7   | 16.8      | 17.4 | 16.2   | 7.7            | 8.4  | 7.0    | 4.1            | 4.5  | 3.8    |
| \$30000-\$39,999 | 8.6          | 7.8  | 9.4    | 10.3      | 9.6  | 10.9   | 4.1            | 2.6  | 5.4    | 2.7            | 2.5  | 2.8    |
| \$40000-\$49,999 | 3.7          | 4.0  | 3.5    | 4.6       | 4.9  | 4.3    | 1.1            | 1.6  | 0.7    | 0.9            | 0.6  | 1.3    |
| \$50000-\$59,999 | 2.3          | 2.2  | 2.4    | 3.0       | 2.8  | 3.1    | 0.6            | 0.7  | 0.4    | 0.3            | 0.3  | 0.3    |
| \$60000-\$69,999 | 0.9          | 1.2  | 0.7    | 1.2       | 1.5  | 0.9    | 0.3            | 0.4  | 0.2    | 0.0            | 0.0  | 0.0    |
| \$70000-\$79,999 | 0.6          | 0.7  | 0.5    | 0.8       | 1.0  | 0.6    | 0.0            | 0.1  | 0.0    | 0.0            | 0.0  | 0.0    |
| \$80000-\$89,999 | 0.5          | 0.6  | 0.4    | 0.6       | 0.7  | 0.6    | 0.1            | 0.2  | 0.0    | 0.1            | 0.3  | 0.0    |
| \$90000-\$99,999 | 0.3          | 0.4  | 0.2    | 0.4       | 0.5  | 0.2    | 0.1            | 0.0  | 0.2    | 0.0            | 0.0  | 0.0    |
| \$100000 or more | 1.0          | 1.2  | 0.8    | 1.3       | 1.6  | 1.0    | 0.2            | 0.2  | 0.2    | 0.0            | 0.0  | 0.0    |

## 4.3 Private Dwellings

A total of 4,681 private dwellings were occupied on Census night, compared to 4,435 in 2016 showing an increase of 5.5 per cent (244 dwellings). Rarotonga experienced the highest increase in the number of occupied dwellings with 7.2 per cent (232 dwellings). The Southern Group experienced a slight change in the number of occupied dwellings however the Northern Group experienced a decrease of 3.8 per cent, 10 dwellings less during this period.

Of the 4,681 private dwellings in the Cook Islands, 2,371 (50.7 per cent) were owned without a loan or mortgage repayments, 15.8 per cent were on loan and 18.1 per cent were available for rent. As expected, the majority of houses on the Pa Enua are owned outright compared to those on Rarotonga. People on Rarotonga have greater access to financing opportunities thus have a higher proportion (89.3 per cent) of dwellings that have direct loan or mortgage repayment commitments.

Dwellings that were being occupied either free of charge or provided free with employment was 661 compared to 608 dwellings in 2016. Rented dwellings total 849 compared to 788 in 2016. Of the rented dwellings, 820 (96.6 per cent) were located on Rarotonga. The majority of the rental properties were rented at \$200 to \$299 per week and the majority were rented out partly furnished.

| Location                 | Total         | Male         | Female       | Sex Ratio*    |
|--------------------------|---------------|--------------|--------------|---------------|
| <b>RAROTONGA</b>         | <b>10,863</b> | <b>5,269</b> | <b>5,594</b> | <b>106.17</b> |
| Kiikii-Tupapa-Maraerenga | 1,749         | 861          | 888          | 103.14        |
| Takuvaine                | 629           | 291          | 338          | 116.15        |
| Tutakimoa-Teotue         | 274           | 136          | 138          | 101.47        |
| Avatiu-Ruatonga-Atupa    | 974           | 471          | 503          | 106.79        |
| Nikao-Panama             | 1,487         | 703          | 784          | 111.52        |
| Ruaau-Arerenga           | 1,199         | 584          | 615          | 105.31        |
| Akooa-Betela             | 668           | 330          | 338          | 102.42        |
| Murienua                 | 794           | 392          | 402          | 102.55        |
| Titikaveka               | 1,276         | 622          | 654          | 105.14        |
| Ngatangia                | 795           | 383          | 412          | 107.57        |
| Matavera                 | 1,018         | 496          | 522          | 105.24        |
| <b>SOUTHERN ISLANDS</b>  | <b>3,033</b>  | <b>1,513</b> | <b>1,520</b> | <b>100.46</b> |
| Aitutaki                 | 1,776         | 886          | 890          | 100.45        |
| Mangaia                  | 471           | 242          | 229          | 94.63         |
| Atiu                     | 382           | 187          | 195          | 104.28        |
| Mauke                    | 249           | 119          | 130          | 109.24        |
| Mitiaro                  | 155           | 79           | 76           | 96.20         |
| <b>NORTHERN ISLANDS</b>  | <b>1,091</b>  | <b>587</b>   | <b>504</b>   | <b>85.86</b>  |
| Palmerston               | 25            | 19           | 6            | 31.58         |
| Pukapuka                 | 456           | 240          | 216          | 90.00         |
| Nassau                   | 92            | 50           | 42           | 84.00         |
| Manihiki                 | 207           | 118          | 89           | 75.42         |
| Rakahanga                | 81            | 41           | 40           | 97.56         |
| Penrhyn                  | 230           | 119          | 111          | 93.28         |
| <b>COOK ISLANDS</b>      | <b>14,987</b> | <b>7,369</b> | <b>7,618</b> | <b>103.38</b> |

Figure 27 Resident Population by usual residence Male and Female (Females per 100 males) Census 2021

| Location                 | Total Dwellings | Year of Construction |             |             |             |             |             |             |                |
|--------------------------|-----------------|----------------------|-------------|-------------|-------------|-------------|-------------|-------------|----------------|
|                          |                 | Don't know           | before 1970 | 1970 - 1979 | 1980 - 1989 | 1990 - 1999 | 2000 - 2009 | 2010 - 2015 | 2016 and after |
| <b>RAROTONGA</b>         | 3,467           | 765                  | 528         | 252         | 355         | 429         | 558         | 274         | 306            |
| Kiikii-Tupapa-Maraerenga | 522             | 110                  | 88          | 34          | 37          | 82          | 82          | 48          | 41             |
| Takuvaine                | 181             | 41                   | 47          | 11          | 30          | 11          | 21          | 9           | 11             |
| Tutakimoa-Teotue         | 80              | 34                   | 16          | 5           | 6           | 4           | 8           | 1           | 6              |
| Avatiu-Ruatonga-Atupa    | 304             | 55                   | 61          | 21          | 32          | 32          | 43          | 23          | 37             |
| Nikao-Panama             | 458             | 121                  | 46          | 41          | 59          | 53          | 67          | 31          | 40             |
| Ruaau-Arerenga           | 388             | 78                   | 66          | 34          | 37          | 50          | 64          | 27          | 32             |
| Akooa-Betela             | 213             | 27                   | 52          | 21          | 21          | 28          | 35          | 12          | 17             |
| Murienua                 | 275             | 59                   | 28          | 19          | 40          | 36          | 41          | 23          | 29             |
| Titikaveka               | 465             | 97                   | 56          | 35          | 41          | 61          | 73          | 52          | 50             |
| Ngatangia                | 267             | 71                   | 28          | 12          | 25          | 29          | 64          | 20          | 18             |
| Matavera                 | 314             | 72                   | 40          | 19          | 27          | 43          | 60          | 28          | 25             |
| <b>SOUTHERN ISLANDS</b>  | 962             | 135                  | 194         | 110         | 127         | 103         | 118         | 112         | 63             |
| Aitutaki                 | 548             | 88                   | 67          | 49          | 74          | 58          | 83          | 86          | 43             |
| Mangaia                  | 157             | 9                    | 45          | 25          | 24          | 14          | 19          | 12          | 9              |
| Atiu                     | 113             | 24                   | 41          | 15          | 13          | 7           | 6           | 4           | 3              |
| Mauke                    | 89              | 9                    | 31          | 14          | 6           | 11          | 6           | 6           | 6              |
| Mitiaro                  | 55              | 5                    | 10          | 7           | 10          | 13          | 4           | 4           | 2              |
| <b>NORTHERN ISLANDS</b>  | 252             | 36                   | 56          | 24          | 26          | 48          | 42          | 9           | 11             |
| Palmerston               | 7               | 1                    | 2           | 1           | 1           | -           | 2           | -           | -              |
| Pukapuka                 | 85              | 8                    | 38          | 7           | 10          | 8           | 12          | 1           | 1              |
| Nassau                   | 16              | 1                    | -           | -           | -           | 2           | 7           | 4           | 2              |
| Manihiki                 | 66              | 10                   | 3           | 2           | 4           | 30          | 13          | -           | 4              |
| Rakahanga                | 22              | 5                    | 6           | 7           | 1           | 1           | 1           | -           | 1              |
| Penrhyn                  | 56              | 11                   | 7           | 7           | 10          | 7           | 7           | 4           | 3              |
| <b>COOK ISLANDS</b>      | 4,681           | 936                  | 778         | 386         | 508         | 580         | 718         | 395         | 380            |

Figure 28 Private Dwellings and Year of Construction (Census 2021)

| Location                 | Total Dwellings | Floor Materials |                |           |           | Outerwall Materials |              |                |            | Roofing Materials |            | Spouting     |              |              |
|--------------------------|-----------------|-----------------|----------------|-----------|-----------|---------------------|--------------|----------------|------------|-------------------|------------|--------------|--------------|--------------|
|                          |                 | Concrete        | Wood or Timber | Gravel    | Other     | Concrete blocks     | Harboard     | Wood or Timber | Other      | Iron              | Others     | Fully        | Partly       | Not at all   |
| <b>RAROTONGA</b>         | <b>3,467</b>    | <b>2,782</b>    | <b>625</b>     | <b>1</b>  | <b>59</b> | <b>1,841</b>        | <b>727</b>   | <b>729</b>     | <b>170</b> | <b>3,299</b>      | <b>168</b> | <b>1,226</b> | <b>913</b>   | <b>1,328</b> |
| Kiikii-Tupapa-Maraerenga | 522             | 427             | 80             | -         | 15        | 304                 | 78           | 107            | 33         | 489               | 33         | 178          | 134          | 210          |
| Takuvaine                | 181             | 150             | 29             | -         | 2         | 78                  | 57           | 34             | 12         | 170               | 11         | 61           | 53           | 67           |
| Tutakimoo-Teotue         | 80              | 61              | 19             | -         | -         | 33                  | 26           | 17             | 4          | 76                | 4          | 33           | 25           | 22           |
| Avatiu-Ruatonga-Atupa    | 304             | 241             | 63             | -         | -         | 127                 | 61           | 104            | 12         | 299               | 5          | 96           | 85           | 123          |
| Nikao-Panama             | 458             | 326             | 119            | -         | 13        | 232                 | 82           | 117            | 27         | 435               | 23         | 171          | 151          | 136          |
| Ruaau-Arerenga           | 388             | 327             | 59             | -         | 2         | 193                 | 102          | 76             | 17         | 383               | 5          | 117          | 95           | 176          |
| Akaoa-Betela             | 213             | 186             | 20             | -         | 7         | 127                 | 44           | 26             | 16         | 205               | 8          | 49           | 42           | 122          |
| Murienua                 | 275             | 233             | 38             | -         | 4         | 143                 | 78           | 42             | 12         | 263               | 12         | 93           | 56           | 126          |
| Titikaveka               | 465             | 374             | 81             | 1         | 9         | 273                 | 83           | 91             | 18         | 440               | 25         | 187          | 114          | 164          |
| Ngatangia                | 267             | 189             | 76             | -         | 2         | 125                 | 57           | 74             | 11         | 244               | 23         | 110          | 79           | 78           |
| Matavera                 | 314             | 268             | 41             | -         | 5         | 206                 | 59           | 41             | 8          | 295               | 19         | 131          | 79           | 104          |
| <b>SOUTHERN ISLANDS</b>  | <b>962</b>      | <b>817</b>      | <b>123</b>     | <b>7</b>  | <b>15</b> | <b>558</b>          | <b>237</b>   | <b>119</b>     | <b>48</b>  | <b>940</b>        | <b>22</b>  | <b>371</b>   | <b>470</b>   | <b>121</b>   |
| Aitutaki                 | 548             | 435             | 100            | -         | 13        | 298                 | 141          | 80             | 29         | 540               | 8          | 207          | 284          | 57           |
| Mangaia                  | 157             | 146             | 8              | 1         | 2         | 107                 | 27           | 13             | 10         | 156               | 1          | 66           | 83           | 8            |
| Atiu                     | 113             | 105             | 7              | 1         | -         | 77                  | 25           | 10             | 1          | 101               | 12         | 56           | 51           | 6            |
| Mauke                    | 89              | 77              | 8              | 4         | -         | 47                  | 27           | 10             | 5          | 88                | 1          | 15           | 26           | 48           |
| Mitiaro                  | 55              | 54              | -              | 1         | -         | 29                  | 17           | 6              | 3          | 55                | -          | 27           | 26           | 2            |
| <b>NORTHERN ISLANDS</b>  | <b>252</b>      | <b>237</b>      | <b>12</b>      | <b>3</b>  | <b>-</b>  | <b>160</b>          | <b>38</b>    | <b>46</b>      | <b>8</b>   | <b>245</b>        | <b>7</b>   | <b>160</b>   | <b>76</b>    | <b>16</b>    |
| Palmerston               | 7               | 5               | 1              | 1         | -         | 4                   | -            | 3              | -          | 7                 | -          | 7            | -            | -            |
| Pukapuka                 | 85              | 84              | 1              | -         | -         | 82                  | -            | 3              | -          | 85                | -          | 50           | 31           | 4            |
| Nassau                   | 16              | 15              | 1              | -         | -         | 5                   | -            | 11             | -          | 14                | 2          | 13           | 1            | 2            |
| Manihiki                 | 66              | 58              | 6              | 2         | -         | 17                  | 30           | 14             | 5          | 64                | 2          | 36           | 25           | 5            |
| Rakahanga                | 22              | 22              | -              | -         | -         | 13                  | 5            | 1              | 3          | 22                | -          | 13           | 9            | -            |
| Penrhyn                  | 56              | 53              | 3              | -         | -         | 39                  | 3            | 14             | -          | 53                | 3          | 41           | 10           | 5            |
| <b>COOK ISLANDS</b>      | <b>4,681</b>    | <b>3,836</b>    | <b>760</b>     | <b>11</b> | <b>74</b> | <b>2,559</b>        | <b>1,002</b> | <b>894</b>     | <b>226</b> | <b>4,484</b>      | <b>197</b> | <b>1,757</b> | <b>1,459</b> | <b>1,465</b> |

Figure 29 Private Dwellings Construction Materials used for Flooring, Outer Walls and Roof including Spouting (2021 Census)

## 4.4 Water and sanitation

Because of differences in rainfall and topography between the Northern Group and Southern Group, water security requirements will vary. The generally low-lying coral atolls in the Northern Group have different water storage and supply considerations compared to the generally volcanic Southern Group islands. The adaptation activities include upgrading of water tanks, and water capture infrastructure.

Figure 30 Drinking Water Sources by Island

| Location                | Total Dwellings | Private Households by Source of Drinking Water |                                |                              |                                |                |                            |                    |                              |                               |              |              |
|-------------------------|-----------------|------------------------------------------------|--------------------------------|------------------------------|--------------------------------|----------------|----------------------------|--------------------|------------------------------|-------------------------------|--------------|--------------|
|                         |                 | From Public Water Main                         |                                |                              |                                |                |                            | from Other sources |                              |                               |              |              |
|                         |                 | own filtered piped into dwelling               | unfiltered piped into dwelling | filtered piped into compound | unfiltered piped into compound | water stations | filtered piped to neighbor | Communal Tank      | own tank tap inside dwelling | own tank tap outside dwelling | Bought Water | Other source |
| <b>RAROTONGA</b>        | <b>3,467</b>    | <b>899</b>                                     | <b>333</b>                     | <b>76</b>                    | <b>19</b>                      | <b>1,528</b>   | <b>19</b>                  | <b>7</b>           | <b>103</b>                   | <b>27</b>                     | <b>433</b>   | <b>23</b>    |
| Kiikii-Ooa-Pue-Tupapa   | 522             | 138                                            | 75                             | 14                           | 3                              | 188            | 7                          | 1                  | 13                           | 7                             | 75           | 1            |
| Takuvaine               | 181             | 39                                             | 35                             | 5                            | 1                              | 80             | 2                          | -                  | 4                            | -                             | 15           | -            |
| Tutakimoo-Teotue        | 80              | 16                                             | 12                             | 7                            | 1                              | 33             | 1                          | -                  | 1                            | 2                             | 7            | -            |
| Avatiu-Ruatonga-Atupa   | 304             | 33                                             | 12                             | 4                            | 1                              | 177            | -                          | 3                  | 8                            | 1                             | 64           | 1            |
| Nikao-Panama            | 458             | 102                                            | 33                             | 12                           | 2                              | 215            | 1                          | 2                  | 23                           | 6                             | 59           | 3            |
| Ruaau-Arerenga          | 388             | 78                                             | 30                             | 5                            | 2                              | 215            | -                          | -                  | 19                           | 3                             | 24           | 12           |
| Akaoa-Betela            | 213             | 36                                             | 25                             | 3                            | 2                              | 108            | 3                          | -                  | 5                            | 4                             | 24           | 3            |
| Murienua                | 275             | 42                                             | 17                             | 5                            | 2                              | 153            | 2                          | -                  | 14                           | 2                             | 37           | 1            |
| Titikaveka              | 465             | 177                                            | 52                             | 7                            | 2                              | 164            | 2                          | -                  | 7                            | -                             | 54           | -            |
| Ngatangia               | 267             | 107                                            | 26                             | 8                            | -                              | 72             | 1                          | -                  | 7                            | 2                             | 42           | 2            |
| Matavera                | 314             | 131                                            | 16                             | 6                            | 3                              | 123            | -                          | 1                  | 2                            | -                             | 32           | -            |
| <b>SOUTHERN ISLANDS</b> | <b>962</b>      | <b>107</b>                                     | <b>34</b>                      | <b>12</b>                    | <b>2</b>                       | <b>297</b>     | <b>4</b>                   | <b>26</b>          | <b>184</b>                   | <b>279</b>                    | <b>13</b>    | <b>4</b>     |
| Aitutaki                | 548             | 41                                             | 21                             | 1                            | 1                              | 153            | 1                          | 24                 | 82                           | 213                           | 7            | 4            |
| Mangaia                 | 157             | 1                                              | 2                              | -                            | -                              | 50             | 3                          | -                  | 45                           | 56                            | -            | -            |
| Atiu                    | 113             | -                                              | 1                              | -                            | -                              | 57             | -                          | 1                  | 41                           | 8                             | 5            | -            |
| Mauke                   | 89              | 64                                             | 10                             | 11                           | 1                              | -              | -                          | -                  | 1                            | 2                             | -            | -            |
| Mitiaro                 | 55              | 1                                              | -                              | -                            | -                              | 37             | -                          | 1                  | 15                           | -                             | 1            | -            |
| <b>NORTHERN ISLANDS</b> | <b>252</b>      | <b>2</b>                                       | <b>-</b>                       | <b>1</b>                     | <b>-</b>                       | <b>42</b>      | <b>1</b>                   | <b>9</b>           | <b>119</b>                   | <b>78</b>                     | <b>-</b>     | <b>-</b>     |
| Palmerston              | 7               | -                                              | -                              | -                            | -                              | -              | -                          | -                  | 6                            | 1                             | -            | -            |
| Pukapuka                | 85              | -                                              | -                              | -                            | -                              | 1              | -                          | -                  | 16                           | 68                            | -            | -            |
| Nassau                  | 16              | -                                              | -                              | -                            | -                              | -              | -                          | -                  | 15                           | 1                             | -            | -            |
| Manihiki                | 66              | -                                              | -                              | -                            | -                              | 34             | 1                          | 4                  | 25                           | 2                             | -            | -            |
| Rakahanga               | 22              | -                                              | -                              | -                            | -                              | 7              | -                          | -                  | 15                           | -                             | -            | -            |
| Penrhyn                 | 56              | 2                                              | -                              | 1                            | -                              | -              | -                          | 5                  | 42                           | 6                             | -            | -            |
| <b>COOK ISLANDS</b>     | <b>4,681</b>    | <b>1,008</b>                                   | <b>367</b>                     | <b>89</b>                    | <b>21</b>                      | <b>1,867</b>   | <b>24</b>                  | <b>42</b>          | <b>406</b>                   | <b>384</b>                    | <b>446</b>   | <b>27</b>    |



| Location                 | Total        | Supply of Water   |                        |                |                     |               |
|--------------------------|--------------|-------------------|------------------------|----------------|---------------------|---------------|
|                          |              | Public Water Main | Public Water catchment | Own Water Tank | Communal Water Tank | Other Sources |
| <b>RAROTONGA</b>         | <b>3,467</b> | <b>3,236</b>      | <b>86</b>              | <b>1,492</b>   | <b>37</b>           | <b>17</b>     |
| Kiikii-Tupapa-Maraerenga | 522          | 497               | 22                     | 233            | 5                   | 2             |
| Takuvaine                | 181          | 175               | 6                      | 56             | 2                   | 2             |
| Tutakimoa-Teotue         | 80           | 76                | 1                      | 28             | -                   | -             |
| Avatiu-Ruatonga-Atupa    | 304          | 254               | 4                      | 163            | 4                   | 5             |
| Nikao-Panama             | 458          | 410               | 19                     | 305            | 6                   | -             |
| Ruaau-Arerenga           | 388          | 351               | 3                      | 235            | 2                   | 1             |
| Akaao-Betela             | 213          | 198               | 5                      | 59             | 3                   | 6             |
| Murienua                 | 275          | 270               | 2                      | 97             | -                   | -             |
| Titikaveka               | 465          | 440               | 12                     | 115            | 7                   | -             |
| Ngatangila               | 267          | 257               | 8                      | 73             | 4                   | 1             |
| Matavera                 | 314          | 308               | 4                      | 128            | 4                   | -             |
| <b>SOUTHERN ISLANDS</b>  | <b>962</b>   | <b>745</b>        | <b>24</b>              | <b>663</b>     | <b>23</b>           | <b>5</b>      |
| Aitutaki                 | 548          | 486               | 17                     | 344            | 17                  | 3             |
| Mangaia                  | 157          | 140               | 3                      | 141            | 3                   | -             |
| Atiu                     | 113          | 2                 | 3                      | 111            | -                   | 1             |
| Mauke                    | 89           | 87                | -                      | 13             | -                   | 1             |
| Mitiaro                  | 55           | 30                | 1                      | 54             | 3                   | -             |
| <b>NORTHERN ISLANDS</b>  | <b>252</b>   | <b>9</b>          | <b>13</b>              | <b>246</b>     | <b>18</b>           | <b>1</b>      |
| Palmerston               | 7            | -                 | -                      | 7              | -                   | -             |
| Pukapuka                 | 85           | 1                 | -                      | 84             | 1                   | 1             |
| Nassau                   | 16           | 2                 | -                      | 16             | -                   | -             |
| Manihiki                 | 66           | 4                 | 10                     | 62             | 3                   | -             |
| Rakahanga                | 22           | -                 | 2                      | 22             | 4                   | -             |
| Penrhyn                  | 56           | 2                 | 1                      | 55             | 10                  | -             |
| <b>COOK ISLANDS</b>      | <b>4,681</b> | <b>3,990</b>      | <b>123</b>             | <b>2,401</b>   | <b>78</b>           | <b>23</b>     |

Figure 31 Private households by all sources of water supply (2021 Census)

Community Tanks confirmed by Infrastructure Cook islands on each of the Pa Enua Islands

|              |          | Community Tanks |              |               |              | Lost<br>Community<br>Capacity | Community<br>Water Buildings |         |
|--------------|----------|-----------------|--------------|---------------|--------------|-------------------------------|------------------------------|---------|
| Island       | Group    | Available Tanks |              | Tanks Working |              |                               | No.                          | Working |
|              |          | No.             | Capacity (l) | No.           | Capacity (l) |                               |                              |         |
| Pukapuka     | Northern | 9               | 45000        | 9             | 405000       | 0                             | 4                            | 4       |
| (3 villages) | Northern | 10              | 20000        | 6             | 120000       | 0                             | 1                            | 1       |
| Nassau       |          | 2               | 45000        | 2             | 90000        |                               |                              |         |
| (1village)   |          |                 | 2            | 20000         | 2            |                               |                              |         |
|              |          | 10              | 6000         | 10            | 60000        |                               |                              |         |
| Penrhyn      | Northern | 7               | 45000        | 7             | 315000       | 0                             | 2                            | 2       |
| (2 villages) |          | 3               | 65000        | 3             | 195000       |                               |                              |         |
|              |          | 19              | 25000        | 19            | 475000       |                               |                              |         |

|              |          |    |       |    |         |       |   |   |
|--------------|----------|----|-------|----|---------|-------|---|---|
|              |          | 4  | 6000  | 2  | 12000   | 12000 |   |   |
| Manihiki     | Northern | 12 | 45000 | 12 | 540000  | 0     | 6 | 6 |
| (2 villages) |          | 2  | 20000 | 2  | 90000   | 0     |   |   |
|              |          | 20 | 6000  | 16 | 720000  | 24000 |   |   |
| Rakahanga    | Northern | 5  | 45000 | 5  | 225000  | 0     | 1 | 1 |
| (3 villages) |          | 1  | 40000 | 0  |         | 40000 |   |   |
|              |          | 1  | 75000 | 0  |         | 75000 |   |   |
| Palmerston   | Northern | 3  | 45000 | 3  | 135000  | 0     | 1 | 1 |
|              |          | 1  | 20000 | 1  | 20000   | 0     |   |   |
|              |          | 14 | 6000  | 14 | 84000   | 0     |   |   |
| Aitutaki     | Southern | 24 | 45000 | 24 | 1080000 | 0     | 2 | 2 |
| (8 Villages) |          | 12 | 20000 | 10 | 200000  | 40000 |   |   |
|              |          | 4  | 16000 | 4  | 64000   | 0     |   |   |
|              |          | 8  | 25000 | 8  | 200000  | 0     |   |   |
|              |          | 10 | 6000  | 10 | 60000   | 0     |   |   |
| Mitiamo      | Southern | 8  | 45000 | 8  | 360000  | 0     |   |   |
| (3 village)  |          | 4  | 20000 | 4  | 80000   | 0     |   |   |
|              |          |    |       |    |         |       |   |   |
|              |          |    |       |    |         |       |   |   |
| Atiu         | Southern | 20 | 45000 | 15 | 900000  |       | 2 | 1 |
| (5 villages) |          | 5  | 20000 | 5  | 100000  |       |   |   |
|              |          | 13 | 20000 | 13 | 260000  |       |   |   |
| Mauke        | Southern | 5  | 16000 | 3  | 48000   |       |   |   |
| (3 villages) |          | 1  | 45000 | 1  | 45000   |       |   |   |
|              |          | 1  | 6000  | 1  | 6000    |       |   |   |
|              |          | 1  | 45000 | 1  | 45000   |       |   |   |

|                |          |            |                |            |                |               |           |           |
|----------------|----------|------------|----------------|------------|----------------|---------------|-----------|-----------|
|                |          | 1          | 16000          | 1          | 16000          |               |           |           |
| Mangaia        | Southern | 21         | 45000          | 11         | 495000         |               | 2         | 1         |
| 3 villages)    |          | 2          | 16000          | 2          | 32000          |               |           |           |
|                |          | 6          | 20000          | 6          | 120000         |               |           |           |
| Suvarrow       | Southern |            |                |            |                |               |           |           |
| <b>Summary</b> |          | <b>271</b> | <b>1050000</b> | <b>240</b> | <b>7637000</b> | <b>191000</b> | <b>21</b> | <b>19</b> |

Table 11 Pa Enua Community Water Tanks (ICI 2025)

## 4.5 Waste Management and Sanitation

Figure 32 Private Household Toilet Facilities (2021 Census)

| Location                 | Total        | Toilet Facilities  |              |            |               |                         | Location of flush or composting toilet |                  |           |
|--------------------------|--------------|--------------------|--------------|------------|---------------|-------------------------|----------------------------------------|------------------|-----------|
|                          |              | No Toilet Facility | Flush toilet | Composting | Shared toilet | Other toilet facilities | In own dwelling                        | In own yard/plot | Elsewhere |
| <b>RAROTONGA</b>         | <b>3,467</b> | <b>12</b>          | <b>3,426</b> | <b>8</b>   | <b>19</b>     | <b>2</b>                | <b>3,321</b>                           | <b>110</b>       | <b>3</b>  |
| Kiikii-Tupapa-Maraerenga | 522          | 2                  | 516          | 1          | 2             | 1                       | 501                                    | 15               | 1         |
| Takuvaine                | 181          | 4                  | 176          | 1          | -             | -                       | 168                                    | 9                | -         |
| Tutakimoa-Teotue         | 80           | -                  | 79           | 1          | -             | -                       | 78                                     | 2                | -         |
| Avatiu-Ruatonga-Atupa    | 304          | -                  | 300          | 2          | 2             | -                       | 286                                    | 16               | -         |
| Nikao-Panama             | 458          | 1                  | 454          | -          | 3             | -                       | 446                                    | 8                | -         |
| Ruaau-Arerenga           | 388          | 1                  | 386          | -          | -             | 1                       | 368                                    | 18               | -         |
| Akooa-Betela             | 213          | 1                  | 210          | -          | 2             | -                       | 203                                    | 7                | -         |
| Murienua                 | 275          | 2                  | 268          | -          | 5             | -                       | 253                                    | 13               | 2         |
| Titikaveka               | 465          | 1                  | 461          | -          | 3             | -                       | 451                                    | 10               | -         |
| Ngatangia                | 267          | -                  | 264          | 2          | 1             | -                       | 260                                    | 6                | -         |
| Matavera                 | 314          | -                  | 312          | 1          | 1             | -                       | 307                                    | 6                | -         |
| <b>SOUTHERN ISLANDS</b>  | <b>962</b>   | <b>4</b>           | <b>886</b>   | <b>47</b>  | <b>3</b>      | <b>22</b>               | <b>744</b>                             | <b>188</b>       | <b>1</b>  |
| Aitutaki                 | 548          | 2                  | 521          | 20         | 1             | 4                       | 462                                    | 79               | -         |
| Mangaia                  | 157          | -                  | 144          | 9          | 1             | 3                       | 114                                    | 38               | 1         |
| Atiu                     | 113          | 1                  | 87           | 11         | -             | 14                      | 63                                     | 35               | -         |
| Mauke                    | 89           | 1                  | 79           | 7          | 1             | 1                       | 68                                     | 18               | -         |
| Mitiaro                  | 55           | -                  | 55           | -          | -             | -                       | 37                                     | 18               | -         |
| <b>NORTHERN ISLANDS</b>  | <b>252</b>   | <b>20</b>          | <b>208</b>   | <b>6</b>   | <b>11</b>     | <b>7</b>                | <b>158</b>                             | <b>56</b>        | <b>-</b>  |
| Palmerston               | 7            | -                  | 7            | -          | -             | -                       | 6                                      | 1                | -         |
| Pukapuka                 | 85           | 15                 | 52           | 3          | 10            | 5                       | 37                                     | 18               | -         |
| Nassau                   | 16           | 2                  | 13           | -          | -             | 1                       | 11                                     | 2                | -         |
| Manihiki                 | 66           | 1                  | 63           | -          | 1             | 1                       | 53                                     | 10               | -         |
| Rakahanga                | 22           | 1                  | 21           | -          | -             | -                       | 13                                     | 8                | -         |
| Penrhyn                  | 56           | 1                  | 52           | 3          | -             | -                       | 38                                     | 17               | -         |
| <b>COOK ISLANDS</b>      | <b>4,681</b> | <b>36</b>          | <b>4,520</b> | <b>61</b>  | <b>33</b>     | <b>31</b>               | <b>4,223</b>                           | <b>354</b>       | <b>4</b>  |

Figure 33 Private Households and their Current Practice of Rubbish Disposal

| Location                  | Total | Rubbish Collection |                              |      |         |                     |       |
|---------------------------|-------|--------------------|------------------------------|------|---------|---------------------|-------|
|                           |       | Public collection  | Personal bin<br>Take to Dump | Burn | Compost | Bury in the<br>yard | Other |
| <b>RAROTONGA</b>          | 3,467 | 3,138              | 35                           | 210  | 16      | 10                  | 58    |
| Kilikii-Tupapa-Maraerenga | 522   | 500                | 5                            | 13   | 3       | 1                   | -     |
| Takuvaine                 | 181   | 164                | 2                            | 13   | -       | 1                   | 1     |
| Tutakimoo-Teotue          | 80    | 76                 | 1                            | 3    | -       | -                   | -     |
| Avatiu-Ruatonga-Atupa     | 304   | 288                | 8                            | 7    | 1       | -                   | -     |
| Nikao-Panama              | 458   | 442                | 2                            | 12   | 1       | 1                   | -     |
| Ruaau-Arerenga            | 388   | 337                | 4                            | 43   | 2       | 2                   | -     |
| Akooa-Betela              | 213   | 158                | 5                            | 13   | -       | 1                   | 36    |
| Murienua                  | 275   | 170                | 1                            | 75   | 7       | 2                   | 20    |
| Titikaveka                | 465   | 442                | 4                            | 17   | -       | 2                   | -     |
| Ngatangia                 | 267   | 254                | 3                            | 8    | 2       | -                   | -     |
| Matavera                  | 314   | 307                | -                            | 6    | -       | -                   | 1     |
| <b>SOUTHERN ISLANDS</b>   | 962   | 599                | 68                           | 272  | 14      | 6                   | 3     |
| Aitutaki                  | 548   | 306                | 16                           | 218  | 5       | 3                   | -     |
| Mangaia                   | 157   | 111                | 15                           | 22   | 7       | 1                   | 1     |
| Atiu                      | 113   | 91                 | 8                            | 12   | -       | 1                   | 1     |
| Mauke                     | 89    | 66                 | 8                            | 13   | 1       | 1                   | -     |
| Mitiaro                   | 55    | 25                 | 21                           | 7    | 1       | -                   | 1     |
| <b>NORTHERN ISLANDS</b>   | 252   | 77                 | 14                           | 158  | 1       | 2                   | -     |
| Palmerston                | 7     | -                  | -                            | 6    | -       | 1                   | -     |
| Pukapuka                  | 85    | 2                  | -                            | 83   | -       | -                   | -     |
| Nassau                    | 16    | -                  | -                            | 16   | -       | -                   | -     |
| Manihiki                  | 66    | 29                 | 13                           | 23   | 1       | -                   | -     |
| Rakahanga                 | 22    | 21                 | 1                            | -    | -       | -                   | -     |
| Penrhyn                   | 56    | 25                 | -                            | 30   | -       | 1                   | -     |
| <b>COOK ISLANDS</b>       | 4,681 | 3,814              | 117                          | 640  | 31      | 18                  | 61    |

## 4.6 Vulnerable Population

| COOK ISLANDS WELFARE BENEFIT RECIPIENT COUNT February 2024 |                  |           |           |        |                    |                |
|------------------------------------------------------------|------------------|-----------|-----------|--------|--------------------|----------------|
|                                                            | Child<br>Benefit | Caregiver | Destitute | Infirm | Old age<br>Pension | Grand<br>Total |
| <b>Aitutaki</b>                                            | 494              | 66        | 6         | 41     | 255                | 862            |
| F                                                          | 232              | 44        | 6         | 21     | 126                | 429            |
| M                                                          | 262              | 22        |           | 20     | 129                | 433            |
| <b>Atiu</b>                                                | 84               | 13        | 6         | 8      | 63                 | 174            |
| F                                                          | 42               | 8         | 3         | 4      | 35                 | 92             |
| M                                                          | 42               | 5         | 3         | 4      | 28                 | 82             |
| <b>Mangaia</b>                                             | 101              | 25        | 5         | 15     | 105                | 251            |
| F                                                          | 40               | 19        | 4         | 8      | 49                 | 120            |
| M                                                          | 61               | 6         | 1         | 7      | 56                 | 131            |
| <b>Manihiki</b>                                            | 64               | 8         |           |        | 35                 | 107            |
| F                                                          | 22               | 6         |           |        | 13                 | 41             |
| M                                                          | 42               | 2         |           |        | 22                 | 66             |
| <b>Mauke</b>                                               | 44               | 10        |           | 7      | 69                 | 130            |
| F                                                          | 21               | 8         |           | 4      | 40                 | 73             |

|                    |             |            |           |            |             |             |
|--------------------|-------------|------------|-----------|------------|-------------|-------------|
| M                  | 23          | 2          |           | 3          | 29          | 57          |
| <b>Mitiaro</b>     | 29          | 12         |           | 3          | 39          | 83          |
| F                  | 15          | 4          |           | 2          | 19          | 40          |
| M                  | 14          | 8          |           | 1          | 20          | 43          |
| <b>Nassau</b>      | 26          | 2          |           |            | 6           | 34          |
| F                  | 13          | 1          |           |            | 3           | 17          |
| M                  | 13          | 1          |           |            | 3           | 17          |
| <b>Palmerston</b>  | 3           | 1          |           | 1          | 4           | 9           |
| F                  |             |            |           | 1          | 1           | 2           |
| M                  | 3           | 1          |           |            | 3           | 7           |
| <b>Penrhyn</b>     | 61          | 2          |           |            | 17          | 80          |
| F                  | 37          | 2          |           |            | 9           | 48          |
| M                  | 24          |            |           |            | 8           | 32          |
| <b>Pukapuka</b>    | 187         | 8          | 7         | 7          | 56          | 265         |
| F                  | 82          | 7          | 4         | 3          | 31          | 127         |
| M                  | 105         | 1          | 3         | 4          | 25          | 138         |
| <b>Rakahanga</b>   | 19          | 1          |           |            | 13          | 33          |
| F                  | 10          |            |           |            | 4           | 14          |
| M                  | 9           | 1          |           |            | 9           | 19          |
| <b>Rarotonga</b>   | 3038        | 134        | 20        | 161        | 1468        | 4821        |
| F                  | 1491        | 95         | 14        | 75         | 758         | 2433        |
| M                  | 1547        | 33         | 6         | 86         | 710         | 2382        |
| NA                 |             | 6          |           |            |             | 6           |
| <b>Grand Total</b> | <b>4150</b> | <b>282</b> | <b>44</b> | <b>243</b> | <b>2130</b> | <b>6849</b> |

*Table 12 Welfare Benefit Recipients (Internal Affairs 2024)*

In response to a request from the DCD, the Ministry of Internal Affairs (INTAFF), Welfare Services division initiated efforts to collect data on vulnerable families across Rarotonga and the Pa Enua through a simple questionnaire. This initiative focused on identifying households whose living standards are susceptible are susceptible to climate change impacts. Of the number receiving welfare benefits the following Table identified how many would be considered vulnerable.

| No# of Household identified | Female | Male | Total |
|-----------------------------|--------|------|-------|
| Aitutaki                    | 140    | 91   | 49    |
| Atiu                        | 11     | 6    | 5     |
| Mangaia                     | 20     | 14   | 6     |
| Mauke                       | 34     | 16   | 18    |

|                    |            |            |            |
|--------------------|------------|------------|------------|
| Mitiaro            | 41         | 20         | 21         |
| Nassau             | 8          | -          | 8          |
| Palmerston         | 8          | 4          | 4          |
| Penrhyn            | 31         | 9          | 22         |
| Pukapuka           | 21         | 15         | 6          |
| Rakahanga          | 27         | 6          | 21         |
| Rarotonga          | 350        | 158        | 192        |
| Manihiki           | 30         | 15         | 15         |
| <b>Grand Total</b> | <b>721</b> | <b>354</b> | <b>367</b> |

Table 13 Number of vulnerable families in the Cook Islands (Ministry Internal Affairs February 2025)

### Types of Support Identified

1. Improved housing and shelter infrastructure
2. Safe water access and sanitation
3. Water filtration and UV treatment systems

Pa Enua Government Agencies support for EDA.

The EDA Fund will provide the opportunity for building and trade training that will be carried out in the Pa Enua and special training modules that will allow Pa Enua residents to sub-contract their services to Trade Contractors to support during sub project implementation. The number of staff currently employed in the Pa Enua for Central Agencies that will support EDA sub project activity include

|                   | MFAI | Public Utilities | Infrastructure | INTAFF | NES | Te Marae Ora |
|-------------------|------|------------------|----------------|--------|-----|--------------|
| Aitutaki          | 1    | 4                | 33             | 3      | ✓   | ✓            |
| Atiu              | 0.5  | 6                | 22             | 1      | ✓   | ✓            |
| Mangaia           | 1    | 14               | 23             | 3.5    | ✓   | ✓            |
| Mauke             | 1    | 8                | 19             | 1      | ✓   | ✓            |
| Mitiaro           | 1    | 4                | 22             | 1      | ✓   | ✓            |
| Manihiki          | 0.5  | 6                | 24             | 3      | ✓   | ✓            |
| Palmerston        | 1    | 1                | 3              | 3      |     |              |
| Penrhyn           | 1    | 12               | 14             | 2      | ✓   | ✓            |
| Pukapuka / Nassau | 0.5  | 5                | 36             | 5      | ✓   | ✓            |
| Rakahanga         | 0.5  | 5                | 10             | 7      | ✓   | ✓            |

✓ 10 PTE National Environment Service Employees

✓ Ministry of Health have fully operating health centres on each island

Table 14 Pa Enua Resident Personnel



Further detail is provided in Table 17 Supporting Government Agencies for EDA Implementation

| Agency                                 | Agency Type | Location and Personnel                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Core Responsibilities that complement EDA sub project implementation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|----------------------------------------|-------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Te Marae Ora (TMO, Ministry of Health) | Government  | <p>Each Pa Enua Island has an established TMO Island Medical Centre and Aitutaki has a small hospital that caters for patient care and has internet access for assistance to Rarotonga for medical support . GCF Atom project will enable improvements in all health centres as well as capacity building and remote communications access for Pa Enua staff.</p> <p>EDA will build on this support in order to leverage expertise from Island staff in supporting effective management of health services and maintaining healthy environments similar to that which is provided by TMO Rarotonga.</p> <p>On most Islands there are Health Protection Officers, Public Health Nurses and in some cases a doctor.</p> | <p>The Tutaka program is a public health initiative in the Cook Islands focused on preventing the spread of diseases through sanitation and hygiene improvements. It involves regular inspections of properties by health officials to ensure residents are maintaining clean and healthy living environments.</p> <p>The program is particularly aimed at reducing mosquito breeding sites and promoting proper waste disposal to prevent diseases like dengue fever. ATOM project has provided resources to strengthen this project and will further enhance the efforts of EDA sub projects to meet critical alignment with 2016 Building Code</p> <p>The Tutaka program aims to create a healthier environment by addressing key health risks like poor sanitation and mosquito breeding.</p> <ul style="list-style-type: none"> <li>• <b>Key Activities of TMO Staff on each island:</b><br/>Health Protection Officers, Public Health Nurses, and other personnel conduct household inspections to identify and address issues such as water and sanitation problems, mosquito breeding sites, and cleanliness concerns.</li> <li>• <b>Frequency:</b><br/>It has been proposed that the program runs twice a year, with health officers making rounds across the island to assess properties.</li> <li>• <b>Community Engagement:</b><br/>Residents are encouraged to participate by eliminating mosquito breeding sites, keeping pigs away from homes, maintaining clean</li> </ul> |

| Agency                                | Agency Type | Location and Personnel                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Core Responsibilities that complement EDA sub project implementation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|---------------------------------------|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                       |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <p>food preparation areas, clearing overgrown vegetation, and controlling pests.</p> <ul style="list-style-type: none"> <li>• <b>Disease Prevention:</b><br/>The program plays a crucial role in preventing the spread of diseases like dengue fever by addressing the root causes of outbreaks and this is identified as a major outcome of the ATOM project.</li> </ul> <p><b><u>EDA Subproject</u></b></p> <p>*Monitoring environmental health during Tutaka Inspections</p> <p>*Septic Tank Inspections and installations as required under the 2016 Building Code Requirements and all *TMO staff on the Pa Enua will receive training in support of understanding and implementing adaptation activities such as water tank installations and septic tank improvements</p> |
| Ministry of Internal Affairs (INTAFF) | Government  | <p>INTAFF slogan is <b>“We help Cook Islanders build strong families in order to support resilient connected communities</b> and “no one is left behind”.</p> <p>There are ten (10) Welfare Consultants stationed in the Pa Enua to ensure accessibility and support to all individuals.</p> <p>The Welfare Business Unit is part of this network that focuses on the distribution of welfare benefits to all eligible individuals living in the Cook Islands. Its objective is to:</p> <ul style="list-style-type: none"> <li>• reduce inequality</li> <li>• ease economic hardships</li> <li>• help individuals reach and maintain an adequate standard of living.</li> </ul> <p>INTAFF ensure workers are protected and employers comply</p> | <p>They offer some form of security to Cook Islanders by ensuring access to the welfare benefits that the Government provides. The welfare benefits cover nearly 50% of the Cook Islands population.</p> <p><b><u>EDA Subproject</u></b></p> <p>*support and advice to the PMU with regard to additional services required for sub project applications, implementation and monitoring of sub project implementation.</p> <p>*Validation of Vulnerable Applicants</p> <p>*Advice and support on implementation of the GAAP</p> <p>*Workplace obligations and compliance with the Employment Relations Act 2012</p>                                                                                                                                                               |

| Agency                         | Agency Type | Location and Personnel                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Core Responsibilities that complement EDA sub project implementation                                                                                                                                                                                                                             |
|--------------------------------|-------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                |             | <p>with the Employment Relations Act 2012 and other workplace obligations such as workplace health and safety and the worker's compensation as identified in the ESS and ESP</p> <p>Development, monitoring and evaluation of National Social Policy for Gender, Disability, Youth (and Sports) and Children's outcomes.</p> <p>Administration and implementation of the Family Support and Protection Act and the ongoing service delivery of care and protection services for children and families, including youth justice services.</p>                                      |                                                                                                                                                                                                                                                                                                  |
| Bank of the Cook Islands (BCI) | Government  | <p>On the 5<sup>th</sup> November 2024, BCI formalized the legal agreement of BCI's accreditation to the GCF. as a National Direct Access Entity accredited for Project management and on-lending and/or blending (for loans), Size Micro, ESS risk mediation (Category B/intermediation 2).</p> <p>BCI known as the "peoples bank" provides banking services that would not normally be available to small communities allowing welfare payments and employee</p> <p>BCI have established an Office on all the Pa Enua islands and have at least one employee on each island</p> | <p><b>EDA Subproject</b></p> <p>BCI is the Funds Manager for the EDA Facility that provides for subproject loans and counterpart funding.</p> <p>*Assistance with screening and vetting through proposals in each Pa Enua</p> <p>* Financial personal credit assessment for subproject loans</p> |

| Agency                              | Agency Type | Location and Personnel                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Core Responsibilities that complement EDA sub project implementation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|-------------------------------------|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Infrastructure Cook Islands (ICI)   | Government  | <p>ICI is Government's principal agent for infrastructure policy and delivery</p> <p>ICI leads on construction of roads, airports (Pa Enua), ports (Pa Enua), drainage and bridges. Water - provides support to Island Government's and communities in the Pa Enua</p> <p>Responsible for LIDAR dataset in in collaboration with EMCI to update the older PCRAFI layers and assisting survey teams with better mapping information in the field – provided information that includes:</p> <p>High resolution aerial imagery</p> <p>Building outlines</p> <p>Digital Elevation Models</p> <p>Contours</p> <p>Flood and coastal inundation zones (work in progress)</p> <p>ICI do not have staff in the Pa Enua but all of the Islands have infrastructure teams that coordinate various activities with ICI staff</p> | <p>ICI is the agency responsible for compliance with 2019 Building Code</p> <p><b>EDA Subprojects</b></p> <ul style="list-style-type: none"> <li>*Assistance with quality control of sub projects, material procurement through inspections and monitoring during implementation</li> <li>*Monitoring sub projects compliance with 2019 building code</li> <li>*monitoring water tank installation and upgrades</li> <li>*providing data that supports zones where flooding and coastal inundation will be an issue -</li> <li>*Supporting Training programmes for registration of builders and accreditation for EDA contractors</li> </ul> |
| National Environment Services (NES) | Government  | <p>National Environment Service is the central Government Agency charged with protecting, managing and conserving the environment of the Cook Islands</p> <p>Ipukarea Tūmanava – A Clean, Green and Sustainable Cook Islands.</p> <p>Provision of regulatory, technical, advisory and monitoring requirements for environmental management and sustainability in the Pa Enua and Rarotonga</p>                                                                                                                                                                                                                                                                                                                                                                                                                       | <p><b>EDA Subprojects</b></p> <ul style="list-style-type: none"> <li>*Provide support to ensure sub project implementation has no negative environmental impacts</li> <li>*compliant with project ESS standards and septic tank upgrades</li> <li>* compliant with NES Environmental permits</li> <li>*waste management disposal from Pa Enua</li> <li>*monitoring of sub project implementation and changes in surrounding environment</li> </ul>                                                                                                                                                                                           |

| Agency | Agency Type | Location and Personnel                                                                                                                                                                                                                                                                                                                                                                    | Core Responsibilities that complement EDA sub project implementation                                                                    |
|--------|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|
|        |             | <p>1. Compliance with the Environment Act 2003<br/>Enforce the Environment Act 2003 and its Regulations in the Pa Enua in a fair and effective way<br/>Provide sound and effective advisory and secretariat services to Island Environment Authorities</p> <p>There are nine (9) NES representatives on the Pa Enua with a Research and Pa Enua co-ordinator on Rarotonga Head Office</p> | *Communications and environmental education awareness is a key role that will support EDA communication development and implementation. |

Table 15 Government Agencies supporting EDA implementation.

## 4.7 Non-Government Support for EDA

There are a range of non-government organisations that will provide support for EDA. These include:

Religious Groups form part of the community in each of the Pa Enua. It is a Christian country and therefore religions and its followers carry significant weight in the communities of the Cook Islands. They will most likely assist with the community building subprojects and supporting these with labour or meals for the volunteer workers. Weekly contributions by followers is extremely high for most religious groups.

### 4.7..1 Cook Islands Red Cross Society

The Cook Islands Red Cross Society (CIRCS) is a Civil Society Organization that was founded in 1989, was legally constituted in 1995 and is currently being mandated by the Cook Islands Red Cross Society Act 2002 that was adopted by the Government of the Cook Islands on the 11th of February 2002. Mandated by the CIRCS Act 2002, the society operates following the 7 Fundamental Principles of the International Red Cross and Red Crescent Movement. The Fundamental Principles are an expression of the Red Cross Red Crescent movement which guides the work and decisions of the CIRCS in all situations and at all times.

The CIRCS is governed by a Governing Board that constitutes of 10 members (President, Vice President representing branches in the Southern Group, Vice President representing branches in the Northern Group, National Secretary, Honorary Treasurer, Red Cross Youth Representative, 4 executive members) and the governing board is vested with all the powers necessary to carry out the objectives and tasks of the society. There is a current Memorandum of Understanding with TMO.

Cook Islands Red Cross (CIRC) will be a supporting partner and has been involved in vulnerability community assessments for each of the Pa Enua where the assessments. Supporting vulnerable residents will be key for the success of EDA.

National Council of Women (NCW) have representative groups on each of the Pa Enua Islands and where required will be included on the GAEC. They will also form part of the consulting team that will be included as required for any Grievance Redress Process depending on the nature of the complaint. NCW will be called upon if required to support the implementation of the GAP and provide support to the Gender Specialist.

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## 5 Project Design and Structure

### 5.1 Barriers to development

The following government-wide institutional barriers hindering short- and long-term adaptation solutions in the Cook Islands have been identified for this project:

- Limited awareness of the risks of climate change and the ultimate impact on buildings and structures;
- Insufficient integration of climate and disaster risks into building sector policy, planning, and regulatory frameworks;
- Poor coordination across ministries and departments on climate change and environmental risks leading to poor development outcomes;
- Insufficient data and monitoring of climate risks and impacts, with fragmented data systems and limited capacity to link impacts and subsequent need to improve building systems and policy frameworks including management of waste systems;
- Limited technical capacity of infrastructure staff; limited human and financial resources to assess risks and to design, implement, and monitor adaptation and appropriate adaptation options.
- Lack of information and knowledge on applying cost-effective techniques and technologies to avoid climate-induced disruptions in the functions, essential services, (e.g., coastal protection, water, sanitation, building systems and ongoing repairs and maintenance requirements)

The baseline without adaptation would mean that The Cook Islands would incur almost US\$5m in average annual losses due to tropical cyclones, 90% of which is through damage to buildings – this equates to an annual amount of approximately US\$900 per dwelling. Additional damage is caused by smaller events, such as increasing ocean swells originating in the Southern Ocean.

Climate change is further impacting the potable water supply, particularly on atoll islands that are dependent on extracting fresh water from a small aquifer or improvements to water capture infrastructure..

Virtually all infrastructure and the entire stock of buildings is located close to the coast on all of the inhabited islands, due to the small size of most of them and the mountainous topography on Rarotonga. This coastal fringe is also the principal locations for the tourism industry, the principal economic sector in the Cook Islands.

The principal barrier to increase the resilience of the building stock to the impact of climate change is the unavailability of affordable funds to invest in making buildings compliant with the 2019 Building Code, which would see buildings resilient to category 3 tropical cyclones. Interest rates on borrowing from commercial banks are prohibitive, particularly considering that housing costs already consume more than 50% of income. The proposed project will overcome this barrier by making funds available to make buildings compliant with the Building Code and thus resilient to all but the most destructive tropical cyclones. The goal of the project is therefore:

Without adaptation, these impacts would result in an increase in the magnitude and severity of the burden of building and ecosystem loss. The aggravation of the burden of loss on the most vulnerable populations in the Cook Islands would not only affect individuals and families, but also increase the cost of public health and health care services, lower economic productivity, and result in significant further damages from natural hazards.

Financial constraints and the high cost of living, particularly among Pa Enua, further restrict the ability of communities to invest in necessary adaptive measures. Low-income levels can reduce the ability of individuals and households to invest in home improvements, healthcare, or emergency supplies, as well coping with economic shocks induced by climate events, making them more vulnerable to climate change impacts. There are concerns about people's ability to afford sufficient food over long periods, reducing the capacity of communities to support themselves in times of need and their ability to recover from damaging events. Approximately 72% of those over 15 in the Cook Islands are in the workforce (wages, salaries, and self-employment), while a significant portion of the population relies on subsistence, welfare, and informal incomes (Cook Islands Statistics Office, 2022). As of the 2021 Census, 58% of the employed population earn below \$20,000 annually, while nearly 10% of the earning population have no income (see **Table 9**) (Cook Islands Statistics Office, 2022). Women are also face disproportionately greater financial constraints compared to men, indicating gender equity challenges that may impact women's access to necessary resources and care and this is discussed in more detail in Annex 8 Gender Assessment and Gender Action Plan.

*Figure 34 Income Brackets and Average Income for the Cook Islands Resident Population Aged 15 Year and Over (CI Statistics Office 2022)*

| Population Aged 15 and Over |                                 | 11,219   |
|-----------------------------|---------------------------------|----------|
| Average Income              | Northern Group                  | \$10,953 |
|                             | Southern Group (excl Rarotonga) | \$11,956 |
|                             | Rarotonga                       | \$21,863 |
|                             | National                        | \$19,249 |
| Income Brackets             | Income \$0 - \$19,999           | 58.1%    |
|                             | Income \$20,000 and over        | 32.7%    |
|                             | No Source of Income             | 9.8%     |

## 5.2 Project Design

The objective of GCF EDA a is to *enhance country ownership of projects and programmes by devolving decision making at country level, thereby allowing greater involvement and input from impacted stakeholders ... beyond the financing of individual, bankable projects towards a more comprehensive, stakeholder driven programmatic approach* (EDA RfP).

This project, titled *Direct financing for communities to respond to climate change in the Cook Islands*, is aligned with and will contribute to the overarching objective of the GCF's 2016 request for proposals.

### Expected outcomes

- Reduced exposure of 50% of the building stock to climate change impacts
- Strengthened capacity to counter the impacts of climate change in institutions a
- Enable vulnerable populations (lowest 20% of earners) to receive affordable funds



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## 5.3 Goals and Objectives

### – Scope of activities

Project activities under the project will fall under the following scopes: 1) awarding sub-projects with grant finance through an open and transparent calls for applications, 2) certificate trainings and technical assistance for implementation, and 3) impact evaluations and communicating results.

1. The project will make affordable financing available to different target groups, each having terms and conditions appropriate for them:

- **Local communities, NGOs and CSOs** – To upgrade community buildings, particularly those which have a secondary function as a safety shelter, or which otherwise serve the community during or immediately after a tropical cyclone. Financing will be in the form of small, non-reimbursable grants, where subproject grantees may opt to provide in-kind co-finance contributions.
- **Privately owned buildings** – These can be private residences or business properties. Financing will be in the form of partially reimbursable grants, depending on the socio-economic status of the applicant. For the most vulnerable group, who would otherwise not be able to invest in climate resilience, the grant is fully non-reimbursable.
- Homeowners or privately owned buildings can be either private residences or business properties.

Total grant USD15,000 will be in the form of

Tier 1 - 100% grant for the most vulnerable group, who would otherwise not be able to invest in climate resilience, the grant is fully non-reimbursable.

Tier 2 - 40% reimbursable grant – 60% non-reimbursable grant is awarded

Tier 3 - 60% reimbursable grants – 40% non-reimbursable grant is awarded that includes businesses.  
depending on the socio-economic status of the applicant.

Through the financing opportunities, the project will deliver the following outputs

**Component 1 –enhancing capacity/capability to achieve climate resilience of housing/community building stock.** This Component will enhanced capacity of tradespeople, construction companies, building inspectors, and other stakeholders to ensure climate-resilient housing and community buildings enhance compliance with the 2019 Climate Resilience Building Code. Targeted beneficiaries will submit proposals to upgrade their houses and buildings, while stakeholders become more engaged to support better compliance. As a result, the built environment will be more resilient, reducing damages and losses from climate-related disasters.

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**Output 1.1:** Communities, home and business owners and the private sector (including tradespeople, builders and inspectors) are aware of the requirements of the Building Code 2019, as well as the funding opportunity to increase resilience of the building stock

**Activity 1.1.1:** Awareness raising campaign on Rarotonga and in the Pa Enua, the following actions will be undertaken to ensure that communities, homeowners and trades people are informed and prepared to participate in the project

**Activity 1.1.1(a):** Development of promotional, gender sensitive materials for home and business owners, communities, and trades people, in both English and maori to create familiarity with the projects objectives and processes.

**Activity 1.1.1(b):** Community outreach in the Pa Enua, Led by CCCI island Focal points, working directly with communities, home and businesses to raise awareness of the funding opportunity under the EDA Facility. Awareness raising events on Rarotonga, organised by MFEM and EE staff, to ensure broad understanding of the opportunity to upgrade housing and community buildings to meet the 2019

**Activity 1.1.1©:** Development of training materials for tradespeople and inspectors, undertaken by CITTI as the Implementing Partner of MFEM, with technical support from Infrastructure Cook islands, to ensure full familiarity with the requirements of the building code. Delivery of training for trades people and inspectors, conducted by CITTI, focusing on the specific technical climate change requirements of the 2019 building code to enable correct application during housing and building upgrades under Activity 2.2.1: administration of sub projects

**Output 1.2:** Facilitation and support of applications for access to the concessional financing from the EDA Facility for climate-resilient housing and community building

**Activity 1.2.1:** Support and facilitation of applications of quality subproject proposals: Island Councils and Focal Points will actively support the preparation and submission of applications under Windows 1 and 2 of the EDA Facility. This support will include:

2. Training and outreach to potential applicants to ensure they understand the application process, the eligibility requirements and the benefits of upgrading housing and community buildings to meet the 2019 building code.
3. End to end technical and best practice support, including pre-upgrade surveys to capture baseline technical reviews of the buildings, to document structural conditions before application submission and implementation. Ongoing technical input to ensure compliance during works and post upgrade guidance on operations and maintenance to sustain climate resilient features and embed lessons learned for future projects

**Component 2 – Houses and buildings of targeted beneficiaries and communities demonstrate improved** resilience to Category 3 tropical cyclones and other climate impacts, supported by increased access to affordable climate resilience financing to different target groups, each having terms and conditions appropriate for them. Given the high cost of housing in the Cook Islands as well as the high costs of borrowing, having a financing facility to provide concessional financing to homeowners and small businesses will ensure that necessary building improvements are affordable

**Output 2.1:** EDA Facility is established with required tools, processes, and systems for the management of the Facility, origination, appraisal, and portfolio management of the subprojects.

**Activity 2.1.1:** Develop the constitution of the EDA Facility: MFEM will lead the development of the EDA Facility Policy, establishing the legal, governance, and operational framework required for its effective management. The EDA Facility Policy will be drafted and presented to

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the Government for. The EDA Facility policy will be established in accordance with Section 46(1)(d) of the Ministry of Finance and Economic Management Act 1995-96 under Part X of the MFEM Act, and will contain all relevant provisions stipulated in this project, including the sub-project eligibility criteria, appraisal processes, and portfolio management procedures. These provisions will be based on, and implemented through, existing MFEM-approved policies currently in application. The policy will also define the financial creditworthiness requirements and technical review parameters for sub-projects, ensuring that origination, appraisal, and portfolio management processes align with the technical standards of the 2019 Building Code and the climate-resilience objectives of the programme. The only addition to the existing policy framework will be the establishment of a formal agreement between MFEM and BCI, clarifying the respective roles and responsibilities in delivering concessional financing. This activity will lay the foundation for transparent, accountable, and sustainable operations of the Facility, enabling it to deliver affordable financing to targeted beneficiaries and manage a revolving fund that sustains access to concessional finance over the long term

**Output 2.2:** EDA facility management has the technical capacity to effectively manage the EDA Facility and implement the subproject pipeline origination and appraisal and portfolio management.

**Activity 2.2.1:** Administration of subprojects: this activity focuses on the effective administration, implementation and management of subprojects financed through the EDA facility. This activity is implemented through the following sub-activities

- **Activity 2.2.1(a):** Technical and Logistical support: MFEM will lead the technical and logistical arrangements for subprojects under both Windows 1 and 2. This includes the bulk procurement of tradespeople, coordinated with ICI and CIIC, as well as the bulk procurement of building goods and materials from local suppliers. MFEM will also arrange for the transportation/shipping of these materials to the Pa Enua to reduce overhead costs and support timely delivery, enabling efficient implementation of subproject upgrades
- **Activity 2.2.1(b): Window 1 Implementation:** MFEM and CCCI will undertake fiduciary checks on applicants, convene and support the GAEC to evaluate and score grant applications received, and manage all administrative arrangements with grant recipients, suppliers, and trade contractors.
- **Activity 2.2.1(c): Window 2 Implementation:** BCI will convene and/or support the GAEC in evaluating and scoring grant applications, conduct fiduciary checks on applicants, and manage administrative arrangements with grant recipients

**Output 2.3:** construction management and oversight of SPs

**Activity 2.3.1:** construction management and oversight of SPs; focuses on ensuring quality, compliance, and transparency throughout the delivery of climate-resilient building upgrades. MFEM will engage construction management specialists to rigorously monitor and supervise subproject implementation based on the approved scope of works, including verification of building materials procured and transported, and oversight of builders and tradespeople

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contracted. These specialists will also capture baseline surveys conducted under Activity 1.2.1, as well as data collected pre-, during, and post-upgrades. All information will be entered into the government's GEO portal and ArcGIS portal, ensuring up-to-date, live data is available throughout subproject implementation. Additionally, an accredited inspector will be appointed to conduct inspections and certify that all upgrades comply fully with the 2019 Building Code. This comprehensive oversight mechanism will safeguard technical standards, promote accountability, and ensure that all subprojects meet the required climate resilience criteria.

All sub-projects selected through the grant approval process that are required to be ESS Category C (low/no environmental and social impacts). Sub-projects will target the following activities:

- Category 3 cyclone compliance for all buildings – with more stringent requirements (category 4 and 5) for certain public and essential buildings necessary for a resilient community
- Guidelines on tying down buildings for cyclones
- Internal rooftop drainage for a 100-year return interval rainfall event
- Adequate rainwater storage to ensure a continued supply of water during periods of low rainfall and
- Upgrade of sanitation systems

## 5.4 Climate rationale

The project will address the identified barriers and root causes (direct and indirect) that inhibit the strengthening of the adaptive capacity of the building sector to climate variability and change

The project is designed to both prepare for and respond to climate change-induced health risks in the Cook Islands, through the pursuit of two components.

The project is a blueprint to break-through into a climate resilient Cook Islands. This project builds on national policies and frameworks, is strengthened by key agency partnerships in implementation whilst ensuring local island decision making involvement and ownership, advancing each island's progressive cultural values. The strategies and actions to be pursued will move toward climate resilient pathways while at the same time helping to improve the livelihoods, social and economic wellbeing, and responsible environmental management

The principal barrier to increase the resilience of the building stock to the impact of climate change is the unavailability of affordable funds to invest in making buildings compliant with the 2019 Building Code, which would see buildings resilient to category tropical cyclones. Interest rates on borrowing from commercial banks are prohibitive, particularly considering that housing costs already consume more than 50% of income. The proposed project will overcome this barrier by making funds available to make buildings compliant with the Building Code and thus resilient to all but the most destructive tropical cyclones.

The project components have a wider reach and therefore will have wider impact and support outcomes of a number of NSDA 2020+ goals. The wider impact and support outcomes are provided in the Table below.

| NSDA 2020+ Goals                                                | EDA alignment that will contribute to achieving NSDA indicator                                                                                                                                                                                                                                                                                                  | EDA Indicator                                                                                                                                                                  |
|-----------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Goal 1 Well-being,                                              | State of where people are comfortable, healthy and happy -dedicated to welfare benefits, aimed at assisting key populations, alleviating economic hardship and supporting communities – vulnerable will be prioritised for EDA support – looking after families and vulnerable elderly will be a priority                                                       | <ul style="list-style-type: none"> <li>• Family wellbeing – rapid assessment questions</li> <li>• 1.4 Elderly Wellbeing – rapid assessment questions</li> </ul>                |
| Goal 2 Welfare and Equity                                       | Improve economic inequity, poverty, and welfare - regulate pricing and competition to ensure that consumers are provided with a fair, reasonable and affordable goods or services – eligible affordable EDA funding and alleviate economic hardship for those under minimum liveable income and ensuring equal access for both men and women headed households. | <ul style="list-style-type: none"> <li>• 2.1 % of people under “minimum liveable income”</li> </ul>                                                                            |
| Goal 4, Manage Solid and Hazardous Waste,                       | Improving solid waste management and in particular waste generated through EDA implementation activities will be managed and or removed off island to be disposed or managed at the Rarotonga landfill I- identified in the ESS and ESAP                                                                                                                        | <ul style="list-style-type: none"> <li>• 4.1 Increase recycling - % of total waste diverted to recycling</li> <li>• 4.2 Manage hazardous waste</li> </ul>                      |
| Goal 5 Water and Sanitation,                                    | Adequate rainwater storage and access to sufficient and safe water in homes. Improvements in septic tank systems that meet approved standards.                                                                                                                                                                                                                  | <ul style="list-style-type: none"> <li>• 5.1 % Access to sufficient and safe water</li> <li>• % of properties using sanitation systems that meet approved standards</li> </ul> |
| Goal 7 Health and Healthy Lifestyles                            | Potable water and sanitation are necessities for improving the health and wellbeing of all communities                                                                                                                                                                                                                                                          | <ul style="list-style-type: none"> <li>• 7.5 Achieve healthier longer lives Average life expectancy</li> </ul>                                                                 |
| Goal 9 Our Inclusiveness (Gender, Equity and Social Inclusion), | Targets structural and societal obstacles that hinder inclusivity for everyone. It advocates for and safeguards the rights of vulnerable groups, including women, youth, the elderly, and individuals with                                                                                                                                                      | <ul style="list-style-type: none"> <li>• 9.2 Advance gender equality in the workplace</li> </ul>                                                                               |

| NSDA 2020+ Goals                                                            | EDA alignment that will contribute to achieving NSDA indicator                                                                                                                                                                                                                                                                                                   | EDA Indicator                                                                                                                                                                                                                                                                                                                                |
|-----------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                             | disabilities. Increasing the support to non-government organisations who will support communities such as Red Cross and Cook Islands Family Welfare                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                              |
| Goal 11 Our Biodiversity and Natural Environment,                           | Protect the natural environment, including both terrestrial and aquatic ecosystems, to preserve it for future generations. Community awareness and support are vital for promoting sustainable land and marine management practices, conservation efforts – improving environmental health                                                                       | <ul style="list-style-type: none"> <li>• 11.4 Improve lagoon water quality</li> <li>• 11.6 Biodiversity Index</li> </ul>                                                                                                                                                                                                                     |
| Goal 12 Climate Change, Resilience, Renewable Energy and Energy efficiency, | Enhancing climate resilience through EDA interventions and promoting resilient communities                                                                                                                                                                                                                                                                       | <ul style="list-style-type: none"> <li>• 12.1 Promote resilient communities – Resilience index</li> <li>• Enhance protection from cyclones % of population that have access to protection from Category 3 or higher cyclones</li> </ul>                                                                                                      |
| Goal 14 A Sustainable Population                                            | Ensures the ability of a population to support a sustainable economy and that the country's development engages with local communities and is in the best interest of Cook Islanders. EDA will strengthen local ownership and devolve decision-making to communities – support economic empowerment in the Pa Enua and local ownership and business development. | <ul style="list-style-type: none"> <li>• 14.1 Maintain a resident population that is consistent with our economic, social and cultural aspirations – Resident Pop not less than 15,000, Pa Enua not less than 30%</li> <li>• 14.5 Reduced incentives to emigrate or out-migrate from the Pa Enua and Rarotonga – Population Index</li> </ul> |

Table 16 NSDA 2020+ Goals supporting EDA Goals

Furthermore, the table below outlines the eligible subprojects vs the climate rationale.

| Eligible subproject | Climate rationale |
|---------------------|-------------------|
|---------------------|-------------------|

|                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|-----------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Cyclone strengthening of dwellings including roof, roof tie down and cyclone shutters</b>        | <p>Adaptation measures required by the 2019 Building Code include:</p> <ul style="list-style-type: none"> <li>• Category 3 cyclone compliance for all buildings</li> <li>• Guidelines on tying down buildings for cyclones</li> </ul> <p>Addressing the climate change stressors in making the building stock resilient to the impacts of climate change, namely, increasing intensity of tropical cyclones.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Cyclone strengthening of public buildings including roof, roof tie down and cyclone shutters</b> | <p>Adaptation measures required by the 2019 Building Code include:</p> <ul style="list-style-type: none"> <li>• Category 3 cyclone compliance for all buildings – with more stringent requirements (category 4 and 5) for certain public and essential buildings necessary for a resilient community</li> <li>• Guidelines on tying down buildings for cyclones</li> </ul> <p>Addressing the climate change stressors in making the building stock resilient to the impacts of climate change, namely, increasing intensity of tropical cyclones.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Water tank supply or upgrade costs for dwellings and community tanks</b>                         | <p>Adaptation measures required by the 2019 Building Code include:</p> <p>Internal rooftop drainage for a 100-year return interval rainfall event</p> <p>Adequate rainwater storage to ensure a continued supply of water during periods of low rainfall</p> <p>Addressing the climate change stressors in making the building stock resilient to the impacts of climate change, namely, potable water security (seasonal water shortages with heavy dependence on rainfall and sea level rise exacerbating saltwater intrusion of fragile freshwater lenses degrading groundwater quality).</p> <p>An estimated number of 329 house water tanks installed from the 2,151 dwellings, and 31 community water tanks will have increased resilience to climate change. (please see section E.3 ARA2 Core 2, Core 3 and supplementary 2.3 for direct and indirect beneficiaries with sex disaggregation, value of physical assets made more resilient and beneficiaries with more climate-resilient water).</p> |
| <b>Septic tank upgrade for non-compliant dwellings</b>                                              | <p>Adaptation measures required by the 2019 Building Code include:</p> <p>Upgrade of sanitation systems</p> <p>Addressing the climate change stressors in making the building stock resilient to the impacts of climate change, namely, nutrient loading from leaking sewage as a key threat to the health of coral reef ecosystems in small island ecosystems, which are in turn the first line of defence against sea level rise and storm surge, providing ecosystem-based critical services to small islands.</p> <p>Increased resilience of health and well-being, and food and water security. An estimated number of 927 septic tanks upgrade from the 2,151 dwellings, will have increased resilience to climate change. (please see section E.3 ARA2 Core 2, Core 3 and supplementary 2.3 for direct and indirect beneficiaries with sex disaggregation, value of physical assets made more resilient and beneficiaries with more climate-resilient water).</p>                                    |



## – Theory of Change

Therefore

**IF the Cook Islands are empowered to employ affordable and innovative financing to facilitate climate resilience via assisted compliance with its Building Code, AND domestic and sub-national capacity is built through (a) upskilling of tradespersons and inspectors in climate-proofing buildings, (b) broadening the depth and breadth of BCI climate financial products, (c) streamlining Government support for building climate resilience, and (d) enabling collaboration between central government agencies, island councils, NGOs, CBOs and other stakeholders**

**THEN damages from climate-induced disasters will be reduced**

**BECAUSE building owners will be able to upgrade buildings for better climate resilience, supported by increased technical capacity to implement climate change adaptation measures, bolstered by more robust institutional partnerships and coordination mechanisms for effective climate change adaptation.**

This section provides an explanation of the Theory of Change for the overall project, outlining the causal pathways for overcoming key barriers and demonstrating the link between the interventions and building resilience to the impacts of climate change.

In the Theory of Change diagram the intervention logic is described and delineated. This project will aim to remove identified barriers (above) to meet the project objective: To enhance the capacity of national and local level and local communities to understand better the impacts from climate variability and change. Identified barriers will be removed through the implementation of subproject activities.

The capacity-building approach will ensure that catalytic partnerships across sectors, ministries, Pa Enua Island Councils, NGOs and CBOs are developed, and the national-level systematization of best practices and lessons learnt are compiled and analysed. At the national level, with the support of relevant trained experts, best practices on building practices that improve resilience for all construction activities, water and sanitation systems are improved that will enhance climate change resilience. Component 1 will include

- Development of promotional gender-sensitive materials for home and business owners, communities and tradespeople to create familiarity with the project in both English and Maori
- CCCI Island Focal Points will work with communities and home and business owners in the Pa Enua to create awareness of the funding opportunity and to support the development of applications
- On Rarotonga, MFEM project and EE staff will organize awareness raising events.
- CTTI, as the implementing partner of MFEM, with technical support from ICI/TMO, will develop training materials for tradespeople and inspectors to make them fully familiar with the requirements of the 2019 Building Code
- CTTI will conduct training of tradespeople and inspectors in the requirements of the 2019 Building Code.

### At the island and implementation level

| Paradigm Shift goals       | Alignment with EDA Facility Full Proposal                                                                                        |
|----------------------------|----------------------------------------------------------------------------------------------------------------------------------|
| Strengthen local ownership | Cook Islands government will lead in ensuring local ownership at all levels including<br>Sub-project criteria and implementation |

|                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                       | Bulk procurement of materials and transport<br>Contract Project Personnel                                                                                                                                                                                                                                                                                                                                                                                       |
| Devolve decision-making from national to island level | Pa Enua Island Government will support by<br>Island infrastructure teams available to sub-contract their skills<br>PMU and CCCI Island Implementation Plan                                                                                                                                                                                                                                                                                                      |
|                                                       | ICI will provide support to enable<br>Accreditation and registration of Builders and Trade Contractors and Trade inspectors<br>Training programmes with Cook Islands Tertiary Training Institute (CITTI) for upskilling Island Staff and trade persons and inspectors<br>Island Risk Assessment colour coding system for high risk zones with updated flood and coastal hazard areas that are high risk during EWE's.<br>Water catchment upgrades and systems . |
|                                                       | Ministry of Internal Affairs (MIA) island Staff will continue to support vulnerable persons and will identify the most vulnerable to enable EDA grant.                                                                                                                                                                                                                                                                                                          |
|                                                       | Bank of Cook Islands will provide financial banking requirements and new financial products that will enable sub-project implementation.                                                                                                                                                                                                                                                                                                                        |
|                                                       | Te Marae Ora Ministry of Health (TMO) will support actions with regard to Sanitation and septic tanks approvals in collaboration with National Environment Service (NES).                                                                                                                                                                                                                                                                                       |
|                                                       | NES will provide support for responding to all ESS requirements and supporting compliance and reporting on ESAP                                                                                                                                                                                                                                                                                                                                                 |
| Promote greater involvement of impacted communities   | PMU role will be to provide appropriate communications to ensure that enhanced building code requirements will lead to heightened understanding and awareness of climate change impacts and improved building practises will continue and ICI is encouraged to be more proactively supportive in these areas.                                                                                                                                                   |

Table 17 Alignment with EDA Goals

The most effective measures to reduce vulnerability in the near term are programmes that implement and improve and enhance private home and community buildings such as functioning home and community water collection systems, provision of clean water, securing homes with tie downs and improving waste and sanitation management and disposal within the context of a changing climate. The strategies presented here align with these priority areas. The pathways created by the interventions of this project aim to increase the resilience of the Cook Islands population and building structures in the face of climate change.

The overall Theory of Change for the project is that if the Cook Islands can improve its enabling environment for resilient buildings in the climate change context, and operationalise community-based adaptation measures,

then Cook Islands communities will realise increased resilience to the consequences of climate change because the population will be more responsive, robust, informed and stable, particularly for vulnerable communities.

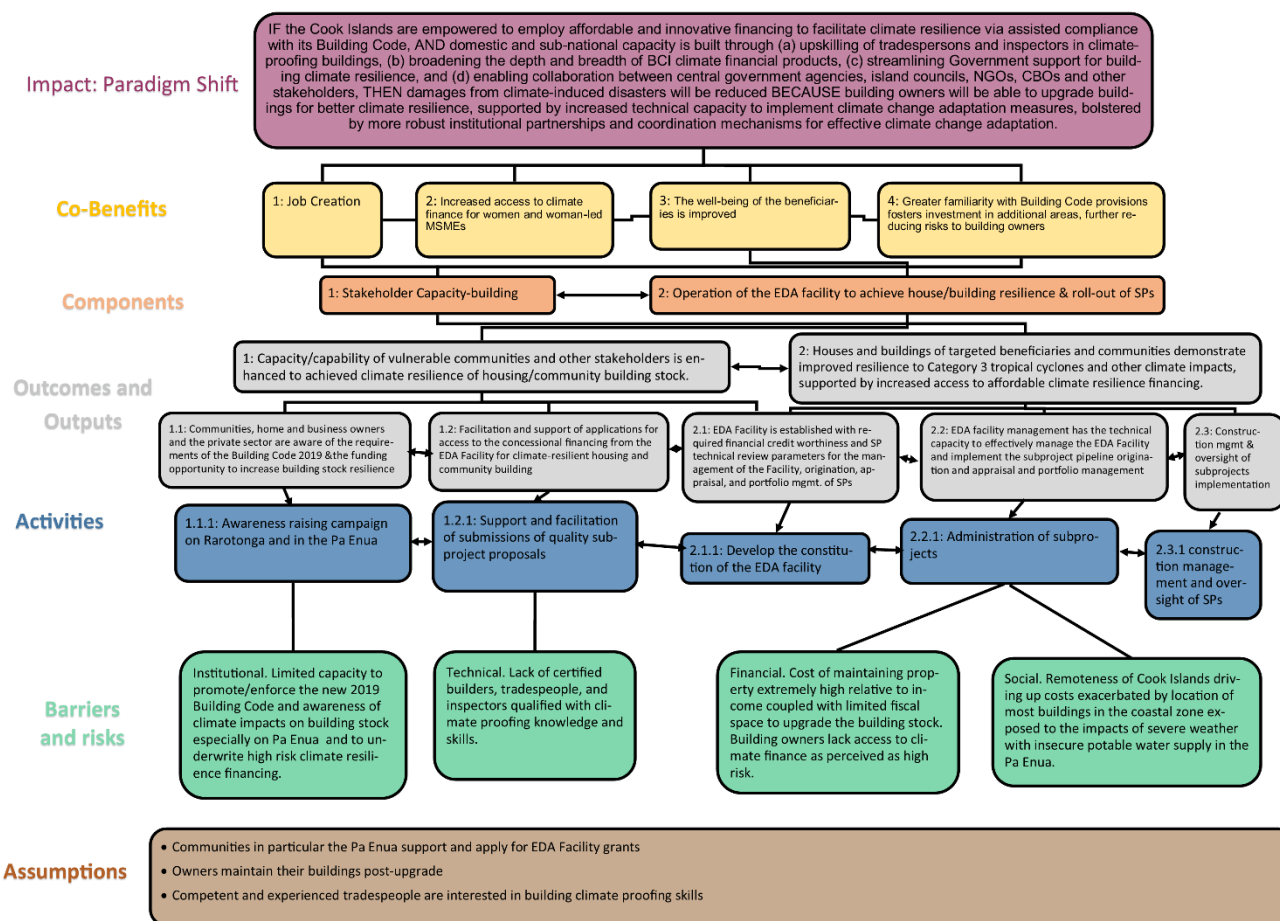


Figure 35 Theory of Change Diagram

## 6 Technical Assessment and Proposed Interventions

A preliminary assessment is presented for the key interventions envisioned under the project, in the building sector (primarily community, residential and MSME/informal commercial sector)

Extensive consultations and technical work were conducted in the building sector over the period 2017 – 2019 as part of the Building Code revision process. The feasibility for this project therefore focuses on two key areas: 1) critical standards in the Building Code relevant to resilience against projected climate impacts, and 2) the aggregate cost of critical adaptation actions to assess demand for financing in the building sector, focusing on residential sector and low-income earners.

To estimate the number of buildings in the Cook Islands, data was obtained from the 2021 Census and supplemented by recent building survey of Emergency Management Cook Islands (EMCI). The eligible residential buildings that are assumed to be non-compliant with the 2019 Building Code are those built 2016 or prior years in the 2021 Census. Commercial buildings and public buildings were sourced from the EMCI building survey.?

GCF will only fund the adaptation measures detailed below, and not additional requirements required to meet 2019 Building Code such as structural strengthening works. The additional costs incurred will need to be borne by the applicant or through loan mechanisms via BCI or other financial institutions. If the applicant is unable to self-fund or obtain a loan from a financial institution, it should be flagged a risk to their ability to obtain EDA Facility funding.

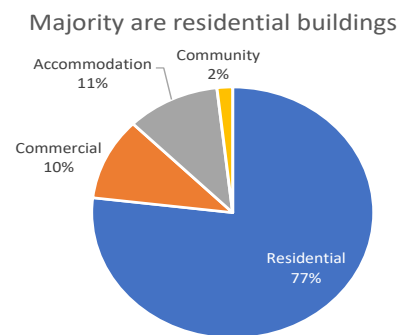
### 6.1 Market Study

#### 6.1.1 Cook Islands Building Sector.

The building sector in the Cook Islands is regulated by the Building Control and Standards Act 1991<sup>88</sup>, the Building Control and Standards regulations 1991<sup>89</sup> and the Cook Islands Building Code 2019

Infrastructure Cook Islands is the government agency responsible for managing and delivering critical infrastructure services across the Cook islands. Its code mandate includes overseeing the planning, development, maintenance, and regulation of public infrastructure, particularly in relating to roads, water, and building control. ICI plays a pivotal role in the implementation of the Cook Islands Building Code 2019 and manages the permitting process for construction projects, including the assessment of plans and inspection of works for compliance.

The agency also supports community infrastructure development in the Pa Enua, addressing logistical and technical challenges unique to remote island settings. As part of its function, ICI maintains a public register of licensed builders <sup>90</sup>, electrical service providers <sup>91</sup> and drafters <sup>92</sup> and works closely with local and international partners to strengthen climate resilient infrastructure and disaster risk reduction. Through its



<sup>88</sup> [https://ici.gov.ck/wp-content/uploads/2024/04/building\\_controls\\_and\\_standards\\_act\\_1991.pdf](https://ici.gov.ck/wp-content/uploads/2024/04/building_controls_and_standards_act_1991.pdf)

<sup>89</sup> <https://ici.gov.ck/wp-content/uploads/2024/04/Building-Regulations-1991.pdf>

<sup>90</sup> <https://ici.gov.ck/registered-builders/>

<sup>91</sup> <https://ici.gov.ck/electrical-permits/>

<sup>92</sup> <https://ici.gov.ck/drafters-and-architects/>

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regulatory and operational roles, ICI is key to enhancing the Cook Islands adaptive capacity in the face of climate change and natural hazards.

### **Market structure**

The Cook Islands building sector is primarily composed of small, locally owned contractors and tradespeople, many of whom operate informally and without formal certification. These businesses dominate both residential and small-scale commercial construction often lacking access to capital, equipment and training in climate resilient construction. Construction activity is primarily concentrated on the main island of Rarotonga and Aitutaki. Larger formal construction companies such as (landholdings ltd, T&M heather and site works) are active in public infrastructure projects but represent a small segment of the overall market. Building materials are largely imported, resulting in high costs and long lead times. Cyclone resilience remains a key focus due to the country's vulnerability to tropical cyclones. Compliance with the 2019 Building Code varies, with limited enforcement capacity. A shift toward climate-resilient construction practices is slowly gaining traction, supported by GCF and previous development partner-funded projects.

### **– Infrastructure Cook Islands regulatory services.**

The regulatory services division comprises of Building Control and Electrical inspection responsible for administering building and electrical regulatory functions. These are guided by legislative mandates regulating industry.

- Electrical inspectorate delivery unit is responsible for ensuring that electricians are registered and electrical wiring work performed comply with safety requirements provided in the Energy Act 93 and other legal mandates regulating the industry. The unit is responsible for promoting and ensuring best practices in the electrical industry and providing support to the achievement the country's Renewable Energy targets.
- Building Inspectorate This unit is responsible for ensuring that building requirements comply with the Building Standards Act 1991 and Building Code 1990. The unit is managed by the Building Controller,

Cook Islands Investment Corporation (CIIC) is a statutory body established in 1988 to manage crown assets including government land, buildings, interests on Rarotonga and the Pa Enua and governance of Crown enterprises (subsidiaries, associates, State owned enterprises, and crown controlled entities) on behalf of the Crown. CIIC has an established track record in managing Crown assets and delivering infrastructure projects across the country, including in some of the most remote islands in the Pa Enua, As the governments principle asset manager, CIIC oversees crown land, buildings including key facilities such as ports and airports, while also acting as secretariate to the national infrastructure Committee. Through this role, CIIC has extensive experience in coordinating capital planning, managing procurement, and engaging the private sector and local builders to deliver complex, large-scale public projects in geographically challenging contexts.

These agencies proven capabilities in asset management, project implementation and effective partnerships with local building companies directly inform the design of this project. The lessons learned and practical experience have been integrated into the projects costs estimates, design assumptions and implementation plan. In-particular, ICI and CIIC will help ensure that procurement for subproject delivery is streamlined and technically sound, drawing on their experience in engaging local contractors and ensuring that remote island projects are delivered to standard.

This collaboration will help address key capacity gaps in the Cook Islands building sector by ensuring that local builders and trades people are upskilled and mobilised for resilient construction work not just for the project but for all future capital projects in which ICI and CIIC implement on behalf of the crown.

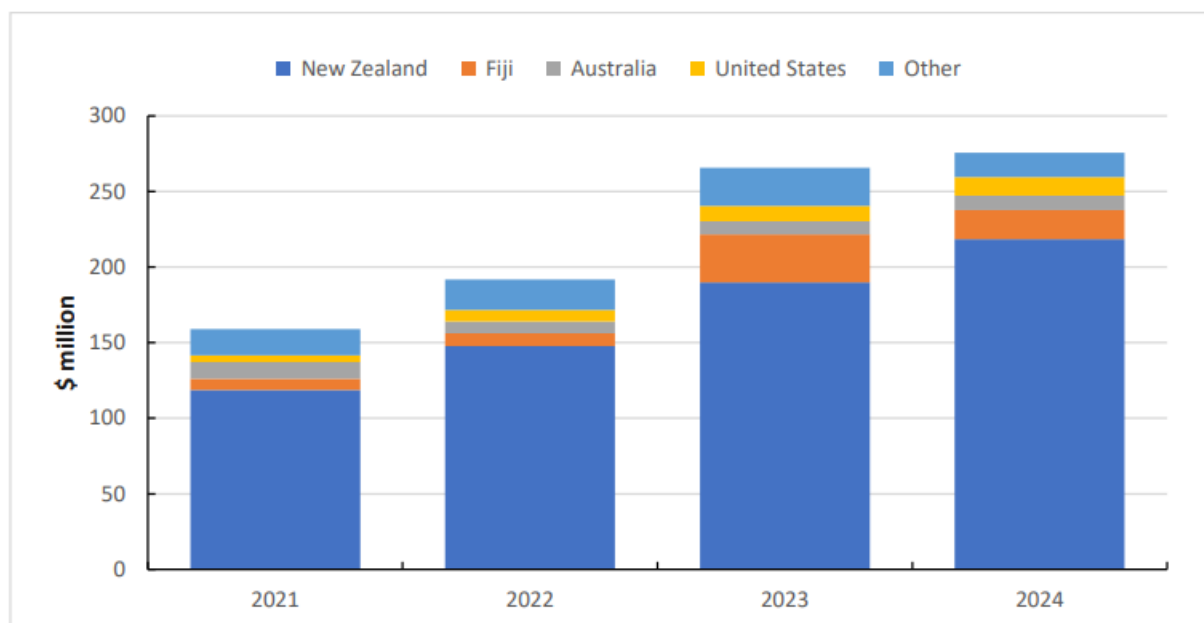
## Market Supply Chain

The Cook Islands' size and geography means the country is highly reliant on imported goods. In the year ending June 2024, the total value of imports reached NZD \$275.7million<sup>93</sup>, representing a 3.8per cent increase form 2023. This growth indicates that import demand has stabilised following the strong post COVID-19 surge, when the economy was recovering and businesses were restocking. Provisional trade data also suggests that imports remained strong in March 2025.

Food remains the largest single category of imports; however a significant driver of the annual increase was growth in the import of miscellaneous manufactured items, including prefabricated buildings, fixtures and furniture. However, this category tends to fluctuate each year and the strong results for 2024 likely reflects a small number of large shipments, such as prefabricated homes and commercial fitouts.

New Zealand remains the primary source of imports to the Cook Islands, accounting for 79.2 per cent (Figure 3)<sup>94</sup> of total imports in 2024. As a result, the domestic economic is highly exposed to trends in New Zealand production and pricing.

Looking ahead, import values are expected to continue to increase in line with general business activity, with projected growth of 5.7per cent in 2024/2025, 1.9 per cent in 2025/26 and around 3.2 per cent a year (or similar) thereafter.



## Labour Force and Technical Capacity.

The Cook Islands labour market remains tight, according to the 2023 labour force survey, the national working age population (aged 15 and over) was estimated at 11,988 people, an increase of 4.7 percent compared to the 2019 survey. Over the same period, total formal employment grew by 6.3 percent, offsetting the growth in the labour force and reducing the unemployment rate to just 1.0 percent.

<sup>93</sup> [https://www.mfem.gov.ck/files/ugd/dbdf40\\_ba1fb99a5e6c42c7924fe557a8a23f97.pdf](https://www.mfem.gov.ck/files/ugd/dbdf40_ba1fb99a5e6c42c7924fe557a8a23f97.pdf) Section 4.4 Trade in Goods

<sup>94</sup> [Islands Statistics Office, International merchandise trade statistics](#)

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These figures align with anecdotal evidence indicating ongoing capacity constraints across the economy. There are shortages of both skilled and unskilled labour, alongside challenges in infrastructure and housing supply, particularly on Rarotonga. Although conditions have improved slightly since the reopening of the Cook Islands borders in 2022, labour shortages continue to affect infrastructure delivery, tourism capacity and other sectors.

The formal labour market is operating at or near full employment for both skilled and unskilled positions. This persistent difficulty in attracting staff places upward pressure on wages and remains a key constraint on economic growth. Without addressing skill gaps and capacity constraints, it will be challenging to achieve the productivity gains and economic diversification needed for sustained growth.<sup>95</sup>

### **Role of the Cook Islands Tertiary Training Institute (CITTI)**

CITTI serves as the country's official vocational education and training centre, recognised as a UNESCO-UNEVOC96 hub since 2015, its mandate is to deliver high-quality, practical vocational training, which includes building construction, plumbing, and related trades, accredited both nationally and through international partners like NZQA. CITTI also operates a system of outer island "brokers" in locations such as Mangaia, Aitutaki, Atiu and Pukapuka, ensuring accessibility to vocational training across the Pa Enua.

Given its mandate and institutional experience, CITTI is a pivotal partner in delivering the projects training and upskilling activity 1.2.1.

- Curriculum & certification Expertise: CITTI offers NZ aligned certificates in Building and Construction & Allied Trades (BCATS) across multiple levels, along with electrical and plumbing qualifications up to NZ certificate levels.
- National and Island level presence: with campuses across Rarotonga and networked delivery through the Pa Enua, CITTI ensures geographical distributed access to training that aligns with the projects ambition to reach trades people across the Cook Islands
- Institution Strengthen: CITTI's experience integrating international quality training standards, training logistics and multiple partner collaborations, means the institute is well prepared to assume delivery of activity 1.2.1

CITTI will be an implementing partner responsible for implementing Activity 1.2.1 that will develop a qualified local workforce in trades. CITTI will deliver the targeted training programmes in carpentry, resilient building standards, electrical and plumbing. This directly addresses skill gaps in the building sector and supports the wider objective of building a climate resilient construction workforce capable of delivering other key infrastructure projects in future

### **Demand for Construction services**

- Over the coming years, the Cook islands expected to experience steady and sustained demand for Construction services as the government advances its national infrastructure development priorities and climate change priorities. investments in critical public infrastructure (airports, ports, hospital upgrades safety shelters) will continue to drive the need for a skilled construction workforce capable of delivering complex projects across multiple islands. This demand is underpinned by the Cook Islands commitment to climate resilience, improved connectivity and sustainable economic growth however to fully realise this pipeline of capital works, there must be a reliable supply of qualified trades people and contractors who can

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<sup>95</sup> [https://www.mfem.gov.ck/files/ugd/dbdf40\\_ba1fb99a5e6c42c7924fe557a8a23f97.pdf](https://www.mfem.gov.ck/files/ugd/dbdf40_ba1fb99a5e6c42c7924fe557a8a23f97.pdf) section 4.6 The Labour Market

<sup>96</sup> <https://unevoc.unesco.org/home/explore%2Bthe%2Bunevoc%2Bnetwork/lang%3Den/centre%3D3058?>



meet modern building standards , comply with updated building codes and deliver projects to the quality expected by both the government and development partners.

| MINISTRY                            | 2024/25<br>Estimated<br>Actual | 2025/26<br>Budget<br>Estimate | 2026/27<br>Projection | 2027/28<br>Projection | 2028/29<br>Projection |
|-------------------------------------|--------------------------------|-------------------------------|-----------------------|-----------------------|-----------------------|
| Cook Islands Investment Corporation | 3,783                          | 4,234                         | 6,003                 | 6,387                 | 3,422                 |
| Police Services                     | 0                              | 54                            | 54                    | 54                    | 54                    |
| Cultural Development                | 160                            | 0                             | 0                     | 0                     | 0                     |
| Education                           | 300                            | 300                           | 300                   | 300                   | 300                   |
| Health                              | 690                            | 366                           | 300                   | 300                   | 300                   |
| Infrastructure Cook Islands         | 4,674                          | 13,449                        | 18,769                | 19,215                | 20,215                |
| Finance and Economic Management     | 497                            | 0                             | 367                   | 0                     | 0                     |
| Prime Minister's Office             | 274                            | 300                           | 300                   | 300                   | 300                   |
| <b>MINISTRY TOTAL</b>               | <b>10,445</b>                  | <b>18,702</b>                 | <b>26,092</b>         | <b>26,556</b>         | <b>24,591</b>         |
| Capital Funds Administered BY MFEM  | 495                            | 410                           | 710                   | 710                   | 710                   |
| <b>GRAND TOTAL</b>                  | <b>10,940</b>                  | <b>19,112</b>                 | <b>26,802</b>         | <b>27,266</b>         | <b>25,301</b>         |

- Table [inset number] outlines the capital projects appropriated for the 2025/26 fiscal year and those planned for 2026/27 to 2028/29. It also includes the estimated actual capital expenditure for 2024/25, which is approximately \$10.9 million. The capital budget outlook suggests that capital expenditure will remain constrained in the short-term due to delays in project implementation. The shortages in labour, appropriate machinery and the complexity of managing projects across several islands further compounds the issue. While funding is not currently a binding constraint on capital investment, an improvement in the fiscal space in the outer years does provide greater opportunity for investment. For 2025/26, the capital expenditure budget is projected at \$19.1 million. This represents a significant decrease compared to the \$34.4 million for the 2024/25 fiscal year. The government anticipates a gradual increase in capital expenditure in the outer years as it moves to implement several large infrastructure projects, including the Manihiki Airport and the Nassau harbour. The capital budget is forecast to rise to \$26.8 million in the 2026/27 fiscal year, followed by projected allocations of \$27.3 million in 2027/28 and \$25.3 million in 2028/29. While these forecasted amounts indicate a larger capital budget, they still remain below pre-pandemic levels. Capital projects are primarily financed by the Cook Islands Government (CIG) and ODA, with details of development partner funding outlined in the ODA schedule<sup>97</sup> to accurately reflect the government's fiscal obligations. The government continues to engage with development partners to explore alternative financing options to address potential gaps in infrastructure investment funding, in the medium-term. The National Infrastructure Investment Plan (NIIP) 2021<sup>98</sup> continues to guide the government's infrastructure strategy, providing a roadmap for the investment projects to be implemented.

## Housing and construction

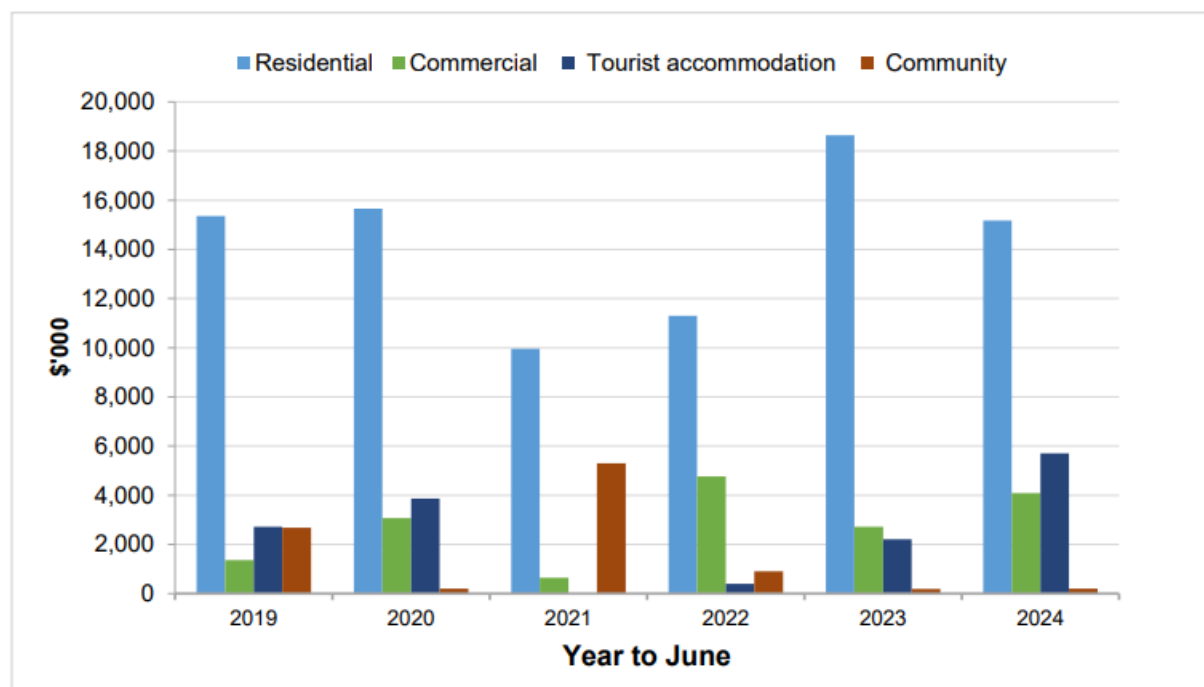
The total value of building approvals in the Cook Islands for the year to June 2024 (the latest available data) grew strongly, moving from \$23.8 million in the year to June 2023 to \$25.2 million in the year to June 2024 (an increase of 5.9 per cent). This shows a growing confidence in the economy as investment pipelines are bouncing back. The primary contributor to this increase is Tourist Accommodation, experiencing a \$3.5 million rise, equivalent to 158 per cent. Combined with an offsetting decrease in Residential construction (down 19 per cent, or \$3.5 million) this tells a story regarding where market forces are incentivising investment, and it has implications for the long-term housing market as well. There is also a substantial increase in the Commercial sector (up by \$1.4 million) suggesting some confidence in the commercial sector. Community building approvals were largely

97 [https://www.mfem.gov.ck/files/ugd/dbdf40\\_ba1fb99a5e6c42c7924fe557a8a23f97.pdf](https://www.mfem.gov.ck/files/ugd/dbdf40_ba1fb99a5e6c42c7924fe557a8a23f97.pdf) (refer to section 16.17)

98 <https://www.ciic.gov.ck/wp-content/uploads/2021/08/CI-Full-NIIP-2021-FINAL.pdf>

unchanged. However, this series is more sporadic compared to other series as it is influenced by small numbers of large projects

(Figure4-17)



Over the past year (to June 2024), the Construction sector has experienced a slight growth from the lower level of the previous year, increasing from \$12.8 million in 2022/23 to \$13.6 million in 2023/24. With building approvals increasing, this suggests an increase in this contribution to GDP in the future.

looking ahead, the economic outlook from 2025/26 is broadly positive. Tourism arrivals, particularly from our key source markets of New Zealand and especially Australia, are projected to continue growing, though at a more moderate pace. Indicators of future economic activity paint a somewhat mixed picture about the outlook for business activity and investment

- Approvals for new building construction have continued to grow since their slump during COVID. In the year ended September 2024, the total value of building approvals increased to \$32.7 million, up from \$20.1 million in the previous year. A major contributor was an \$8.3 million increase in planned tourism accommodation – indicating optimism for ongoing growth in the tourism sector.
- On the other hand, total lending by Cook Islands banks has continued to drop. Commercial lending can be an indicator of business confidence and investment plans. The year ended September 2024 (the latest official statistics) saw a continued decline in total lending. This was driven by lower lending in the accommodation and real estate industries. However, lending to the construction industry increased 10.2 per cent. Together with the boost in building approvals, this suggests forward momentum in the construction industry,
- Taken the above sections together, these trends demonstrate that while there is a clear and growing pipeline of government led capital works, private investments in tourism accommodation and commercial construction. the full realisation of this demand is constrained by the persistent gaps in local workforce capacity, technical skills and compliance with modern building standards. The project directly responds to these gaps by strengthening the capacity of local trades people and contractors through targeted training and certification. by doing so the project will help unlock the full benefits of planned and future investments,

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ensuring that infrastructure and housing developments are delivered to the quality required by government, communities and development partners. In this way the project will not only address immediate capacity needs but also contribute to sustained economic growth, improved livelihoods and broader social and economic benefits across the Cook Islands, who will be both the implementers of the project and the long-term beneficiaries of a stronger more resilient construction sector.

### **Building Code compliance and challenges**

Overview of the 2019 Building Code.

The Cook Islands Building Code 2019 is accompanied by the Cook Islands Building Manual and provides a comprehensive framework to ensure buildings are safe, structurally sound, healthy and fit for purpose across all islands in the Cook Islands. These versions of the Cook Islands Building Code and Cook Islands Building Manual incorporate updates in practice and knowledge since the Building Regulations 1991 version. A majority of the standards referenced are the latest versions of the appropriate New Zealand Standards. This updated version also includes stronger environmental considerations and cyclone and disaster preparedness.

The building control and standards framework is administered through ICI with the building controller's office based in Rarotonga. Due to the country's dispersed geography and the centralisation of the main building control function on Rarotonga, formal compliance and permitting processes are limited to Rarotonga and Aitutaki. Capacity constraints further exacerbate this situation, as the country relies on a single principal building inspector based in Rarotonga to serve all islands. Limited personnel and infrequent flights and/or shipping links to the Pa Enua make it difficult to conduct consistent inspections or provide technical oversight across the Pa Enua.

This situation reflects wider governance and land use challenges. Land in the Cook Islands is held under customary land tenure and managed by local land courts or traditional systems, rather than under a single national zoning system. As a result, building code compliance beyond Rarotonga is inconsistent and some other Pa Enua have experienced uncontrolled development including poorly constructed septic systems and structures that do not meet the building code standards. These gaps in oversight increase risks for communities that are already highly exposed to extreme weather events and climate impacts. Strengthening local capacity for building inspections and ensuring that trades people are trained to meet the national standards is therefore critical. The project directly addresses these challenges by supporting workforce trainings and by building local capacity to apply and enforce resilient building practices uniformly across all islands.

### **Climate Vulnerability and Built Environment**

The Cook Islands remains highly exposed to climate risks that threaten the safety and sustainability of its built environment. Located in the cyclone prone south Pacific. The country faces regular threats from tropical cyclones, severe winds, coastal flooding and sea level rise. Communities across Rarotonga and the Pa Enua are particularly vulnerable due to their low-lying geography and the coastal siting of most settlements<sup>99</sup>, the majority of residential and community buildings are located close to the coastline, with average elevations only a few metres above mean sea level. This physical exposure dramatically increases the risk of damage from storm surges, coastal inundation and salt water intrusion.

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<sup>99</sup> See Annex 16 – Maps

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Structural characteristics of the housing stock further compound this vulnerability. Many homes are built from light weight timber with corrugated iron roofs and often lack adequate tie downs or cyclone bracings. Water catchment systems are frequently absent and poorly designed or non-compliant septic tanks remain common, presenting additional health and environmental hazards during heavy rain and flooding. These weaknesses have historically resulted in widespread damage during sudden onset events and slow onset events.

In 1997, Tropical Cyclone Martin caused catastrophic losses, including the destruction of nearly every building on Manihiki including 19 fatalities. The total losses from cyclone Martin were estimated at USD48 million, a devastating blow for the Cook Islands economy. More recently in 2010 Cyclone Pat struck Aitutaki, causing severe structural damage to more than 300 homes and highlighting the ongoing vulnerability of residential construction to high winds and storm impacts.

The EDA project directly addresses these gaps by investing in the upskilling and certification of local builders, plumbers, and tradespeople, ensuring that housing and community buildings are constructed or upgraded to meet updated cyclone and resilience standards. By improving construction quality, promoting the use of resilient materials and tie-downs, and encouraging compliant septic and water systems, the project will reduce future damage, protect lives and assets, and strengthen community resilience. This work will directly benefit the most exposed communities, especially in the Pa Enua, where low-lying settlements near the coastline remain on the frontline of climate impacts.

#### *6.1..1 Financial Sector*

##### **Overview of the Financial Sector**

The Cook Islands' financial sector is a vital component of its national economy, supporting public and private sector development, financial inclusion, and economic resilience. The sector encompasses commercial banking, offshore financial services, insurance, superannuation, and development finance, each contributing uniquely to the country's fiscal landscape.

Commercial banking in the Cook Islands is relatively limited, with a small number of licensed institutions serving both individual and business clients. These banks provide essential services such as deposits, loans, and payment facilitation, but coverage and service innovation remain constrained by the country's geographic isolation, small market size, and legacy manual systems. There is also no central bank and currency issuance governed by New Zealand.

Offshore banking is a distinctive aspect of the sector. Since the enactment of the Offshore Finance Act in the 1980s, the Cook Islands has developed a niche international financial services industry, offering asset protection, trust management, and offshore company registration. This subsector is strictly regulated by the Financial Supervisory Commission - Cook Islands, with recent reforms ensuring high level of compliance with international anti-money laundering (AML) and tax transparency standards.

The insurance market is small but growing, providing coverage for property, life, and health. Similarly, the superannuation system, anchored by the Cook Islands National Superannuation Fund (CINSF) is mandatory for formal employment and plays an increasingly important role in long-term financial planning for citizens.

Development finance is largely coordinated through government partnerships with international development agencies and donors, focusing on infrastructure, climate resilience, and digital transformation initiatives.

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The Cook Islands domestic banking sector, comprising ANZ, BSP and BCI serves a small population of fewer than 9,000 working age adults and approximately 1,000 businesses<sup>100</sup>. This limited scale leads to higher operational costs and elevated interest rates, making borrowing and banking more expensive than in larger markets. Lending rates in the Cook Islands regularly surpass rates in New Zealand due to structural challenges of remoteness and small population size, which prevent economies of scale and contribute to high per-customer staffing ratios, nearly three times higher than comparable jurisdictions<sup>101</sup>.

**Risk cost of commercial lending:**

Banks in the Cook Islands have tightened lending practices and reduced the level of non-performing loans. The perceived risk of lending in the Cook Islands remains relatively unchanged. The banks remain conservative on the back of previous economic shocks. The impact of COVID-19 has highlighted the risk associated with the Cook Islands reliance on a single industry, tourism. Complexities of land tenure and the risks of default remain the greatest risk concern for lenders.

The laws in the Cook Islands make recovery of forfeiture difficult, slow, and expensive for traditional commercial banks. Most freehold land in the Cook Islands can only be owned by Cook Islands families. A leasehold interest is one of the most common forms of land ownership. Individuals and businesses can own a leasehold interest in someone else's land for a maximum of 60 years, however the leases can be renewed at any time. The risk cost of the land tenure system comprises four components that are incorporated into interest rates: certainty of title, the diminishing value of leases as security, the market for lease resale, and the time and cost of selling a lease.

- There is a lack of certainty due to the deeds system. Banks do not have the same guarantees they have in New Zealand. If an interest in land has not been properly identified and consulted the lease can be challenged and ultimately voided, rendering the banks security worthless.
- The nature of leases is that the value diminishes as time passes, reducing the value of the security held and the possible value that can be recovered.
- Restrictions on residential property buyers limits the market for leases sales and restricts the value recovered from a mortgagee sale. The pool of potential buyers gets small as Cook Islanders can avoid buying a lease and can access their traditional family land at a much lower costs.
- The time to sell a lease and the costs associated with selling a lease are greater than in New Zealand. The average age of defaulted loans when they are cleared is three to five years. Meanwhile in New Zealand they can be cleared almost instantly

Land tenure is contentious and complex issue that is sensitive, therefore innovative lending projects and services are needed to address current limited access to finance.

Despite high bank account ownership, Cook Islands residents and SMEs still facing banking issues in their everyday lives. Cook Islands banks have made progress but limitations persist: inefficient payment gateways, lack of national payment system resulting in a lack of a real-time system for interbank clearing and settlement of electronic payments and interbank interoperability across different banks' payment infrastructures, reliance on offshore banking for e-commerce, limited financial sector innovation and continued use of cash and manual transfers.

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<sup>100</sup> <https://stats.gov.ck/labour-force-survey-fact-sheet-2023-2024/>

<sup>101</sup> <https://www.rbnz.govt.nz/-/media/project/sites/rbnz/files/regulation-and-supervision/berl-cook-island-banking-special-report-december-2022.pdf>

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### **Digital financial literacy and inclusion:**

Recent Digital Financial Literacy study completed by UNCDF in April 2025<sup>102</sup> shows that the Cook Islands economy is no longer primary cash-based, with only approximately half of payments for various things being paid in cash. Women were less likely to use cash than men, with 47% of women using card to pay for groceries, and takeaways respectively. This mirrors the current retail and hospitality practices on Rarotonga where a large number of SMEs have payment card readers readily available.

There is also a significant proportion (27%) of people using online banking to pay for utilities. This reflects an improvement in ease of processing online payments between banks and utility providers, particularly on Rarotonga. Cash is still mostly used in the Pā 'Enua, echoing the incomplete integration of ATMs, EFTPOS machines and the lack of SMEs using online or card payment options in the Pa Enua.

Almost all of those living in the Cook Islands have a bank account (93%) in the Cook Islands, with a further 35% having access to a bank account overseas. Twenty-six per cent have a digital, mobile or e-wallet and 11% have cryptocurrency. Those who are cash-reliant (33%) identify preference (81%) as the predominant reason for their lack of utilisation of financial service products.

There are some differences in payment services between men and women; more women have a bank account overseas and a debit and/or a credit card, while more men have higher ownership of digital wallets and cryptocurrency. However, these differences are not statistically significant. Access to a bank account in the Pā 'Enua is high compared to other Pacific countries, and this reflects the Bank of the Cook Islands presence on all inhabited islands. BCI branches in the Pā 'Enua are manned and provide essential banking support to Pa Enua communities.

### **Financial wellbeing:**

Financial uncertainty pervades for almost half of Cook Islands households, with 46% of DFL study participants worried that their money will not last. However, 82% of study participants had some money for themselves and 79% of Cook Islands residents said that they actively manage their finances. Financial security and its inverse, economic precarity are experienced unevenly across Cook Islands society. Women experience the greatest concern about their personal financial situations, along with those that live on Rarotonga and those with a disability.

### **Financial Sector Gaps in Climate Finance**

A significant constraint to advancing climate-resilient development in the Cook Islands is the limited role of the domestic financial sector in actively supporting green or climate-linked investment. Currently, there are no formal green finance frameworks, incentive mechanisms, or preferential loan products offered by any of the main banks to specifically promote investment in climate-resilient buildings or renewable energy upgrades. Homeowners, businesses, and developers rely primarily on standard commercial loan products, which do not provide concessional rates or tailored terms for resilient construction or upgrades that exceed minimum building code requirements.

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<sup>102</sup> [https://www.mfem.gov.ck/files/ugd/dbdf40\\_6a3497c8f2f84c41abbdabd1d6e6d0a9.pdf](https://www.mfem.gov.ck/files/ugd/dbdf40_6a3497c8f2f84c41abbdabd1d6e6d0a9.pdf)

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There is also no mandatory regulatory push to encourage local banks to align their portfolios with climate risk or sustainability objectives. Unlike some other jurisdictions, the Cook Islands does not have a national green taxonomy or compulsory ESG (environmental, social, and governance) disclosure requirements for its banks. As a result, there are limited price signals or market incentives for the private sector to build above the minimum required standards or to prioritise resilient design

De-risking tools that could help overcome barriers to lending, such as state-backed loan guarantees for resilient housing, catastrophe-linked mortgage insurance, or interest rate subsidies for certified climate-resilient upgrades are not yet in place in the Cook Islands. While catastrophe risk pools exist at the sovereign level through regional initiatives like the Pacific Catastrophe Risk Assessment and Financing Initiative (PCRAFI), these instruments do not currently extend to individual households or small businesses for property-level protection.

### **Role of BCI as an EE**

BCI known proudly as "the peoples bank" is the only locally owned bank in the Cook Islands and plays a vital role in supporting the Cook Islands economic and social development. BCI was established through the merger and vesting of assets from the Cook Islands Savings Bank and the Cook Islands Development Bank, legislated on the 30<sup>th</sup> June 2001. This history reflects BCI's strong foundation and longstanding commitment to serving the people of the Cook Islands in both good times and challenging times. With almost 100 employees and the largest branch banking network in the country, BCI continues to deliver accessible, community focused banking services across all islands, respecting and strengthening the relationships it builds with its customers.

As a state-owned enterprise (SOE) under the CIIC group, BCI operates with a clear public mandate and reports regularly to MFEM. BCI's history of working in partnership with government is well demonstrated through initiatives that directly benefit Cook islanders, such as sustained reductions in home loan and business loan rates since 2013 and additional interest rate relief as part of its COVID-19 response package. These actions underscore BCI's ongoing commitment to making the cost of living and the cost of doing business more affordable, while ensuring the local banking sector remains resilient and responsive.

Building on this strong domestic role, BCI has also stepped forward as a trusted partner for national climate action. Its recent accreditation as a DAE to the GCF marks an important milestone for the Cook Islands, strengthening national ownership and delivery of climate finance. To accreditation, BCI developed robust fiduciary and strengthened its governance systems including environmental and social safeguards which align closely with MFEM's policies and GCF requirements. As BCI grows into this role, it has also begun examining how it can develop new ESG-aligned products and services that help de-risk investments in climate-linked initiatives, such as climate-resilient housing and sustainable energy solutions.

BCI's role in the EDA project represents the first practical step in this journey as an Accredited Entity. By partnering with MFEM as a sister accredited entity and as an institution that bridges both the public and private sectors. BCI will be responsible for the executing of Component 2 - Window 2 investments



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and ensure individuals, businesses and those most vulnerable benefit directly from climate finance. Through this collaboration, BCI is not only helping to implement the project but is also building its capacity to manage larger climate finance flows in the future, creating a pathway for more resilient, inclusive banking services that directly support the Cook Islands' long-term climate and development goals.

### **Inclusion of Other Banks**

While BCI will lead as the Executing Entity for window 2, other commercial banks operating in the Cook Islands, such as ANZ and BSP, can also play an important role in supporting sub-project delivery through co-financing arrangements. Under the EDA facility, the grant portion available for subproject is capped at USD 12,523.42. In some cases, the total cost of in-situ upgrades may exceed this amount. Where this occurs, households, businesses, or community groups can work directly with their preferred commercial bank to finance any shortfall above the EDA cap using standard loan products.

This flexible approach enables ANZ, BSP, to remain actively involved in meeting local demand for climate-resilient housing. By combining EDA-supported grants with commercial lending, the programme leverages additional private capital and broadens the scale and impact of resilience investments across the Cook Islands. It also helps build confidence and practical experience within the local banking sector to support climate-smart lending in the future. In this way, the participation of other banks complements BCI's role as Executing Entity, extends the reach of the project's resources, and ensures that households and businesses can pursue larger, more comprehensive upgrades that fully meet modern climate resilience standards.

### **Opportunities for Transformational Change**

The Cook Islands faces a pivotal moment to transform how its building and financial sectors support climate resilience and sustainable growth. Despite steady economic development, both sectors remain constrained by deep-rooted structural barriers that limit their capacity to deliver buildings and infrastructure that can withstand the increasing impacts of climate change.

In the building sector, a large share of the existing housing stock remains structurally vulnerable. . Past disasters such as Cyclone Martin in 1997 and Cyclone Pat in 2010 clearly demonstrated how destructive this vulnerability can be. Yet despite these lessons, capacity gaps in the local construction workforce and the absence of consistent code enforcement have left many of the same risks in place today.

At the same time, the financial sector has yet to realise its potential as an enabler of climate-smart investment. While BCI is the only locally owned bank with deep community ties, the country still lacks formal green finance frameworks, climate-linked lending products, or incentives for households and businesses to build stronger and smarter.

The project is designed to unlock a step-change in this status quo. It tackles the root causes of vulnerability by strengthening the supply of skilled local tradespeople who can deliver resilient housing and infrastructure to modern standards, supported by the Cook Islands Tertiary Training Institute's accredited training pathways. By building a qualified local workforce, the EDA reduces dependency on expensive external contractors, keeps

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investment in-country, and lifts the quality of the built environment in line with national codes and climate resilience targets.

At the same time, the EDA catalyses new momentum in the financial sector. As a State-Owned Enterprise under the CIIC Group, BCI's accreditation as a Direct Access Entity to the Green Climate Fund is a clear signal that local institutions can lead on climate finance. The EDA provides BCI with practical experience delivering climate funds on the ground, alongside MFEM as a sister accredited entity. This milestone lays a strong foundation for BCI to develop new climate-finance lending products in future. Importantly, the EDA does not lock out other banks. Commercial lenders like ANZ and BSP will remain critical partners in providing additional co-financing where subproject costs exceed the EDA Facility's USD 12,523.42 cap, ensuring households can access the larger-scale upgrades they need to truly safeguard their homes and livelihoods.

Together, these shifts represent far more than just a series of subprojects, they signal a paradigm shift in how climate resilience is built, funded, and sustained in the Cook Islands. By bridging critical gaps in skills, standards, and finance, the EDA paves the way for a stronger local construction industry, a more climate-ready housing stock, and a banking sector ready to deliver climate finance solutions that work for Cook Islanders today and for future generations

## 6.2 Cyclone strengthening improvements

Tropical cyclones and storm surge are the most extreme natural hazards affecting the Cook Islands, and the building sector in particular. Cyclone structural improvements outlined in the 2019 Building Code include strengthening of the roof, roof tie downs, and protective cyclone shutters.

Adaptation costs for cyclone structural improvements are estimated by costing average 10m x 20m residential building and 20m x 40m public building for eligible resilience strengthening activities. Estimated costs per building type is outlined in Table 18 Cyclone strengthening costs for residential buildings and Table 19 Cyclone strengthening costs for public building Roof.

As shown in Table 18 Cyclone strengthening costs for residential buildings **Error! Reference source not found.**, an estimated USD53.9 million is needed to bring all residential buildings in the Cook Islands up to code for cyclone resilience.

### *Implementation plan*

Source and procure materials including roofing materials, reinforcement materials, and additional components (ridge caps, gutters and downspouts, flashing etc).

Transport materials to the site.

- Assess and reinforce the existing roof structure (trusses, rafters, anchor bolts).
- Secure the roof deck with plywood or other approved material and add any additional bracing.
- Install cyclone-resistant roofing (metal sheets, tiles, or synthetic materials), underlayment, and flashing.
- Add wind-resistant features, including ridge caps, gutters, and downspouts.
- Ensure proper inspection of all fasteners, structures, and seals.
- Perform regular maintenance and inspections to ensure continued resistance to cyclones.
- Note that implementation should be in accordance with 2019 Building Code and Building Manual

Table 18 Cyclone strengthening costs for residential buildings

| <b>Roof (USD)</b>                                                   | <b>USD</b>    |
|---------------------------------------------------------------------|---------------|
| Material – timber supports and roof sheeting                        | 10,473        |
| Installation – labor costs                                          | 1,353         |
| Total                                                               | 11,826        |
| <b>Roof tie downs (USD)</b>                                         |               |
| Material - roof strap bracing & purlin ties                         | 1,654         |
| Installation – labor costs                                          | 214           |
| Total                                                               | 1,867         |
| <b>Cyclone shutters (USD)</b>                                       |               |
| Material - timber shutters/framed 8 windows exposed sides 1.8m x 1m | 397           |
| Installation – labor costs                                          | 51            |
| Total                                                               | 448           |
| <b>Total cyclone resilience per typical house (materials only)</b>  | <b>12,523</b> |
| Non-compliant houses (#)                                            | 4,301         |
| <b>Total cyclone resilience (USD'm)</b>                             | <b>53.9</b>   |

Table 19 Cyclone strengthening costs for public building Roof

| <b>Roof (USD)</b>                                                  | <b>USD</b>    |
|--------------------------------------------------------------------|---------------|
| Material – light steel supports and roof sheeting 50% replacement  | 22,048        |
| Installation – labor costs                                         | 2,849         |
| Total                                                              | 24,897        |
| <b>Roof tie downs (USD)</b>                                        |               |
| Material - roof strap bracing & purlin ties                        | 6,614         |
| Installation – labor costs                                         | 855           |
| Total                                                              | 7,469         |
| <b>Cyclone shutters (USD)</b>                                      |               |
| Material - timber shutters/framed 20 windows exposed sides 2m x 1m | 1,984         |
| Installation – labor costs                                         | 256           |
| Total                                                              | 2,241         |
| <b>Total cyclone resilience per public building</b>                | <b>30,647</b> |

## 6.3 Sewage systems

Climate change is adding additional stress to reef and lagoon ecosystems (heat stress, additional runoff, storm surge, sea level rise). This project seeks to counter these stressors by improving wastewater treatment in coastal zones to reduce nutrient loading and increase the regenerative capacity of ecosystems.

It is estimated that 82% of houses do not currently meet sewage treatment requirements<sup>103</sup> on the Cook Islands. According to the 2019 Building Code, septic tanks may be of reinforced concrete or of reinforced block masonry walls over a reinforced concrete base. There are also prefabricated septic tanks made of fibre glass. To further build resilience to climate change and natural hazards, long-term programmes should aim at rehabilitating contaminated groundwater resources. This could be achieved by improving septic treatment systems and promote grey water recycling. The emphasis needs to be on appropriate technologies that can be managed by communities based on available resources on the islands. The selection of septic tank type should be based on locally specific factors including household size, soil type, site slope, lot size and proximity to sensitive water bodies.

The Public Health Sewage Regulations & Code 2008 is specific to Rarotonga. Expansion of standards to the Pa Enua is very challenging due to each island's unique geology and terrain. It has proven infeasible to install septic systems below-ground on raised limestone 'makatea' islands.

As shown in Table 19**Error! Reference source not found.**, wastewater (sewage) treatment is estimated to cost approximately USD33.4 million for all residential buildings.

Wastewater treatment types and disposal methods according to the 2019 Building Code (p. 110) can include:

1. Wet on-site treatment: wet pit latrines, aqua privies, septic tanks, and biogas plants.
2. Dry on-site treatment: composting latrines.

### *Implementation plan*

- Source and procure materials including septic tank, piping system, drain field materials (perforated pipes), and additional equipment (pumps, backflow prevention valve, access risers).
- Plan and prepare the site, ensuring compliance with local regulations and appropriate soil conditions.
- Transport the septic tank and materials to the site.
- Excavate the pit for the tank, trenches for piping, and the drain field area.
- Install the septic tank, connecting it to the house plumbing and drain field.
- Backfill and restore the landscape after installation.
- Test the system to ensure proper functioning and check for leaks.
- Maintain the system regularly to ensure long-term operation. Note that implementation should be in accordance with 2019 Building Code and Building Manual

*Table 20 Septic tank upgrade costs for residential building*

| Septic tank upgrade                                                                                                                                             | USD   |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|
| Material – weighted average biolytix wastewater treatment with soak system (foreshore 50% of houses) and simple sanitation (non-foreshore 50% of houses) system | 7,992 |
| Installation – 12% labor costs including de-commission and de-sludge existing tank                                                                              | 1,033 |

<sup>103</sup> GHD Climate Resilience and Environmental Improvement for Communities - Septic Tanks Inspection Report (Feb 2025)

|                                          |             |
|------------------------------------------|-------------|
| Total                                    | 9,025       |
| Non-compliant houses (#)                 | 3,706       |
| <b>Total septic tank upgrade (USD'm)</b> | <b>33.4</b> |

## 6.4 Rainwater storage

In the general, currently the reticulated water supply (applicable to Rarotonga, Aitutaki, Mangaia, Mauke, Mitiaro and Atiu) is not treated and therefore considered non-potable. Homeowners are responsible for obtaining potable water either by boiling the water, or capturing, storing and treating rainwater in tanks. Alternately, potable water can be obtained via community water treatment stations, typically located within each village, nearest a school, clinic or community hall (ICI 2020, interview). Water security and safety should be prioritized. Household water tanks should be made of robust materials and should be well maintained.

As shown in Table 21 **Error! Reference source not found.**, potable water storage is estimated to cost approximately USD2 million for all residential buildings in the Pa Enua.

### *Water tank material*

Tanks are generally made of polyethylene plastic (majority), as well as reinforced concrete, galvanized or zinc-aluminium coated steel plates, or sometimes of fibre glass. If the roofing sheets are of galvanized steel, the stored water would already contain some of the zinc from the roofing material and hence the tank would last longer. Galvanized steel tanks can impart a metallic taste. Fibre glass tanks on occasions have cracking or leaking problems. This is not the case where the roofing is of zinc-aluminium coated or painted steel or of some other man-made material. To prevent the corrosive effects of pure rainwater on the tank coating, suitably formulated metaphosphates are commercially available. Due to heat in certain islands, consideration of the most appropriate material for the tank should be given. In some instances, plastic or fibreglass tanks may not be appropriate without sufficient insulation to protect them from high temperatures.

Establish equitable and economically sustainable systems for managing demand, appropriate usage of water, conserving water and minimizing waste and leakages. It is estimated that 80 – 90% of buildings in Rarotonga have storage tanks currently. The design of water supply systems should be reflective of changes in climatic conditions and established engineering standards. The plastic tank could be efficient for the environment of Cook Islands. It's a lightweight material and durable, no heavy equipment is required for transportation. Additionally, unlike other tank types, it tends not to leave an aftertaste.



Figure 36 Water Tank installation



### Implementation plan

- Source and procure materials including water tank, piping system, fitting and accessories.
- Plan and prepare the site (space, base, accessibility).
- Transport the tank and all materials to the site.
- Install the tank on a stable base or platform.
- Connect piping (inlet, outlet, overflow) and ensure seals are tight.
- Test the system for leaks and functionality.
- Secure and protect the tank for safe and efficient use.
- Note that implementation should be in accordance with 2019 Building Code and Building Manual

Estimated costs for water tank and community tanks upgrades are outlined in Table 21 and **Error! Reference source not found.**

*Table 21 Water tank supply or upgrade costs for residential building*

| <b>Water tank</b>                                                                                        | <b>USD</b> |
|----------------------------------------------------------------------------------------------------------|------------|
| Material – poly tank (5,000L), including roof plumbing connections, gutters (20m x 2 sides) and spouting | 2,646      |
| Installation – labor costs including excavation for foundation                                           | 342        |
| Total                                                                                                    | 2,988      |
| Number of houses with nil or non-working tanks                                                           | <b>657</b> |
| <b>Total water tank upgrade (USD'm)</b>                                                                  | <b>2.0</b> |

*Table 22 Water tank supply or upgrade costs for community tank*

| <b>Community water tank</b>                                                                              | <b>USD</b> |
|----------------------------------------------------------------------------------------------------------|------------|
| Material – poly tank (5,000L), including roof plumbing connections, gutters (20m x 2 sides) and spouting | 6,339      |
| Installation – labor costs including excavation for foundation                                           | 819        |
| Total                                                                                                    | 7,158      |

## 6.5 Financial Intervention

The detailed costs per building intervention itemized in sections 6.2 - 6.4 above are based on accurate and current cost estimates provided by Cook Islands Investment Corporation.

One of the core functions of Cook Islands Investment Corporation is Asset Management for Cook Islands Government, this heavily involves ongoing renovations and work on government owned assets across the Cook islands including the Pa Enua. Given the fact that CIIC are the lead agency for renovations on buildings within government, particularly in the Pa Enua, the team have been in close contact with the agency regarding the best cost estimates based on their experience and current renovations of similar work to this project carried out to date.



The summary table below brings together a grand total cost to carry out the upgrades itemized within this project per residential home scenario and per community building (larger building).

### Residential Building Costs

| Residential Buildings - Renovation Type                        | Cost Materials and Labour (USD) |
|----------------------------------------------------------------|---------------------------------|
| Roof                                                           | \$ 11,826                       |
| Roof Tie Dows                                                  | \$ 1,867                        |
| Cyclone Shutters                                               | \$ 448                          |
| Septic System                                                  | \$ 9,025                        |
| Water Tank                                                     | \$ 2,988                        |
| Total cost of upgrades for per Residential home                | \$ 26,154                       |
| Total cost for entire eligible residential building stock 4301 | \$ 112,488,354                  |

*Table 23 Estimated Residential Building Costs*

The Estimated total cost per residential household including materials, labour and installation and under the assumption that an applicant will apply for all eligible items above is a total of USD26,154 per household. In this respect, we note that not every applicant will apply for all items, therefore given that assumption, we have applied a cap per applicant of USD15,000 instead of the full USD26,154 required to complete renovations under the predetermined scope of works that this project will support.

The Detailed cost estimated from CIIC can be found in Annex 23 – Baseline and Targets document.

### Community Building Costs

| Community Builders - Renovation Type                       | Cost Materials and Labour (USD) |
|------------------------------------------------------------|---------------------------------|
| Roof                                                       | \$ 24,897                       |
| Roof Tie Dows                                              | \$ 7,469                        |
| Cyclone Shutters                                           | \$ 2,241                        |
| Septic System - N/A                                        |                                 |
| Water Tank                                                 | \$ 7,158                        |
| Total cost of upgrades for per Community building          | \$ 41,765                       |
| Total cost of entire eligible community building stock 657 | \$ 27,439,605                   |

*Table 24 Estimated Community Building Costs*

The estimated total cost per community building including material, labour and installation is higher since community buildings are larger in size compared to residential homes. Therefore, the total cost per Community Building based on the assumption that an applicant will apply for all eligible activities under this project is a total us USD41,765. Similar to the approach above for the residential homes, we have capped the total that each applicant can apply for under this project for Community buildings to USD24,900, per building (double the amount of a residential home of USD15,000)

This however does not limit an applicant to carry out work that is restricted within the USD15,000 Capped budget amount for residential homes or USD24,900 cap for the community buildings. The applicant can very well complete all scope of works and more however it's important to note that this project will only fund up to the capped amounts and anything above these caps will be co-financed by the applicant through their own cash in

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kind, capital or through additional personal borrowing through a loan with BCI, ANZ, BSP banks here on Rarotonga.

The incentive for beneficiaries to opt in to provide co-financing is to be able to complete all renovations and scope of works in line with the 2019 building code. Some residential households may want to complete all renovations under this project to the total costed amount above of USD26,154 which will enable the beneficiary to have a new roof, new roof tie downs, new septic, new water tank and new cyclone shutters, noting that only USD15,000 in support is provided leaving a shortfall of USD11,154 to fund (co-finance). Furthermore, beneficiaries may want to further enhance compliance to the building code by carrying out renovations outside the activities that this project will be supporting such as structural wall renovations, replacing windows with stronger structures to withstand cyclones, raising the floors of dwellings to avoid flooding from climate change impacts to name a few examples. Though these renovations are not supported financially under this project, this will incentivise beneficiaries to co-finance the other activities should they wish to.

It is important to note that for the first submission of this project proposal to GCF in November 2021, the cap per residential household was budgeted at USD10,000 and this was limited to only Materials and excluded Labour, Installation and Transport. This updated cost estimate per residential household has increased slightly by USD5,000 noting that the increase in the amount now includes installation costs as well as labour costs. It also takes into consideration inflation since 2021, almost 4 years since the first submission.

Furthermore, the cap for community buildings in the initial submission was USD40,000 however this has now been reduced to USD24,9000 per buildings based on the detailed cost estimates from CIIC.

The Detailed cost estimated from CIIC can be found in Annex 23 – Baseline and Targets document

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## 7 EDA Fund Administration

The Ministry of Finance and Economic Management, as the legislated entity mandated to establish and manage national funds will formally establish the EDA Fund. The establishment aligns with MFEMS role as the Accredited Entity and its broader mandate to ensure climate finance is accessible, transparent and responsive to national and local priorities. The Fund is structured around two distinct funding windows to ensure inclusive and targeted access to the funds resources.

### Window 1: Building climate change resilience in public buildings

### Window 2: Building climate change resilience in privately owned buildings

As an executing entity The **Ministry of Finance and Economic Management** (MFEM) will establish a project management unit which will be responsible for the overall implementation of the project including the day to day management of the Facility and its associated EDA Fund. Window 1: Building climate change resilience in public buildings

The **Climate Change Cook Islands** office (CCCI) was established in 2011 as part of the Office of the Prime Minister (OPM). The main role of the CCCI is to coordinate and implement climate change related activities in an integrated manner. The CCCI office has an oversight role of all climate change activities to ensure coordination of the multi-sectoral approach to climate change

CCCI will establish a project coordination unit which will be responsible for the implementation of component 1 and the administration of component 2 Window 1 in close collaboration with MFEM, to achieve success of the project objectives and goal.

### Window 2: Building climate change resilience in privately owned buildings

The Bank of the Cook Islands (BCI) was established on 1 December 2003 under the Bank of the Cook Islands Act 2003 and Amendment December 2019. BCI is fully licensed as required by The Banking Act 2011 and operates in compliance with the requirements of the Financial Supervisory Commission Act 2003 (and its subsequent amendments) and the Financial Transaction Reporting Act 2011.

The BCI will be set up a dedicated project office under the (to be established) Sustainable Finance Division within BCI for the duration of the project (7 years). This division will report directly to the CEO and is responsible to the BCI Project Steering Committee, which monitors results against the Subsidiary Agreement as entered into by the BCI Board of Directors (as EE) and the MFEM (as AE). The BCI EDA Fund Management Project Office will have a dedicated team dedicated to the success and sustainability of the project

The EDA Fund plays a central role in the project and there are therefore close linkages between the EDA Fund and the project management. To ensure project success, as an extension of the overall **Project Management Unit (PMU)** for the EDA Facility, a dedicated Project Office will be established within each Executing Entity (EE) so as to ensure the ongoing fiduciary requirements of MFEM are continuously maintained and the ongoing reporting and evaluation requirements of GCF Sub-Project activities are performed to a high standard. The appointment of personnel into project roles within each of the EEs will be completed in a collaborative approach between MFEM and the EE, ensuring Project Management Coordinators, Fund Managers and associated project support personnel have adequate expertise and experience.

The project offices established within the AE and the EE's will accordingly be resourced so as, to the best extent possible, lessons learned will be continuously collated and efficiently addressed.

## 7.1 EDA Facility Fiduciary arrangements

The financial resources for on-granting to sub-projects will be placed in the EDA Fund, a fund established specifically for this project. The BCI EDA Fund will be hosted and managed on a day-to-day basis by MFEM, and BCI managing as the executing entities of Component 2 – Window 2 and with a branch presence throughout the country. The precise legal and managerial arrangements are set out below and formalised via a Subsidiary Agreement.

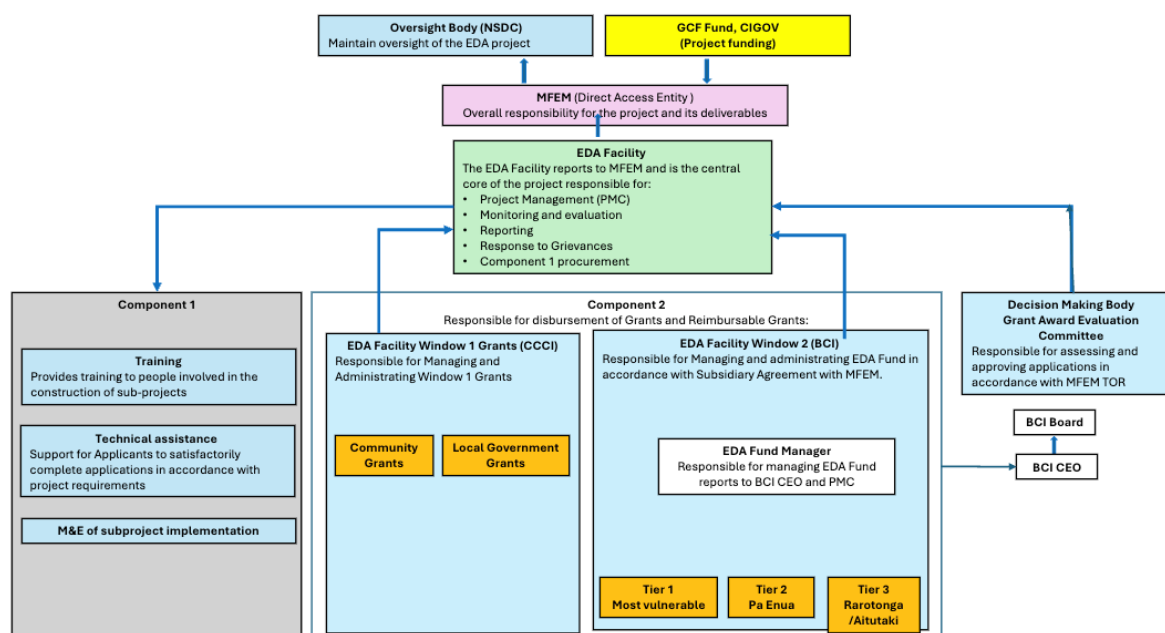


Figure 37 Facility Fiduciary Arrangements

The financial management of the EDA Fund will be formalised via Constitution of the EDA Facility. This Agreement shall be governed and construed in accordance with the Laws of the Cook Islands and the parties submit to the non-exclusive jurisdiction of the High Court of the Cook Islands in all matters touching on the construction and performance of the Agreement.

Where Law includes any rules or common law, statute, regulation, order in council, by-law, ordinance or other subordinate or secondary legislation in force from time to time.

In addition to the EDA Facility Constitution a Subsidiary Agreement will be developed and form the legal administration agreement between MFEM and BCI as EDA Fund-Window 2 Administrator, summarised below and expanded in full detail in the Subsidiary Agreement.

The Subsidiary Agreements will stipulate the agreed process to manage and administer funds over bank accounts for:

1. EDA grant disbursements, and
2. EDA reimbursable grant (BCI EDA Loans) disbursements and repayments (subsidised subordinated debt agreements)

The Subsidiary Agreements will set out the Implementation Arrangements including but not limited to and outlined in Table 23

|                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                     |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Grants</b><br>Obligations of both MFEM and BCI in the effective implementation of funds management<br>Service standards<br>Communications with account holders<br>Bank account details & currency<br>Authorised account signatories & method of signing<br>Administration Charges<br>Disbursement Schedule<br>End Beneficiary GFA Terms and Conditions.<br>Taxes<br>Reporting Obligations<br>Audit Rights and Costs | <b>Reimbursable Grants (subsidised subordinated debts)</b><br><b>Per list for grants, plus:</b><br>Interest Rates & Fees<br>Amortization schedule<br>End Beneficiary Loan Terms and Conditions<br>Events of Default [repayment contingency terms]<br>Remedies/Consequences of Default<br>Security/collateral - Mortgage, LAT & PPSA (registry)<br>Enforcement Costs |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

*Table 25 CI Subsidiary Agreement Arrangements*

For Reimbursable Grants (subsidised subordinated debts), standardised ‘Subsidised subordinated debt Terms and Conditions’ (Loan T&C’s) will be agreed to between BCI and MFEM as part of the Subsidiary Agreement. The Loan T&C’s will be published by MFEM and BCI as part of the Call for Proposals. The Loan T&C’s will set out the key terms and conditions for Approved Borrowers, including but not limited to:

- Use of the Loan Amount (including restrictions)
- Loan use evidence/records
- interest and fees
- repayment period
- when interest/principal repayable
- Events of default and acceleration
- Default interest

The Loan Terms and Conditions form the basis of Approved Borrowers Loan Agreements. Loan Agreements are legally binding documents. The Subsidiary Agreement will reference relevant ‘Term Sheets’ such as the Grant Funding Agreement (GFA) including the grant terms and conditions (grant T&C’s) and reimbursable grants terms and conditions which are treated as subsidised subordinated debt / loan Terms and Conditions (loan T&C’s), respectively, being the terms for the final beneficiary agreements, that each sub-beneficiary will enter into upon successful award of EDA Fund resources.

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## 7.2 Structuring of the EDA Fund

The EDA Fund has two funding windows for (1) Community buildings and (2) Private residential buildings. The process for both windows of the EDA Fund is the same but the criteria for eligibility and assessment of the proposal are different and these are established in the Operations Manual Annex 23.

Tiered structuring is designed as part of the project to overcome barriers confronting the Cook Islands and to achieve the project objectives. It recognises the varying degrees of the Cook Islands demographics, vulnerability, private sector maturity and capacity for investment.

Window 1 Community buildings are non-reimbursable grants and Window 2 Private buildings are partially-reimbursable grants.

This is designed to maximise the impact of the grant financing and ongoing sustainability through a form of revolving fund mechanism. Reimbursed proceeds will be reinvested in the EDA Fund – Window 2 to support further projects. The project provides blended finance in a tiered approach that recognises the varying degrees of the Cook Islands demographics and private sector capacity for investment that is needed to make the proposal viable. The Tier 2 and Tier 3 reimbursable grants levels of 20% and 40%, respectively, will raise USD9.4 million based on ability to pay. Financial models will be developed to guide grant and subsidised loans alongside other forms of finance plus scheduling of grant funding and repayments.

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## 8 Sustainable Green Financial Instruments

The blended structure investment plan entails a mechanism to establish a revolving fund enabling private sector investment and re-investment for high performing sub-projects ensuring sustainability after the GCFs initial investment. The revolving fund being a concessionary fund targeting climate vulnerable private sector groups intends to create greater coverage of limited resources, aims to strengthen sustainability beyond the project and to sustain itself and self-replenish over time. The EDA Fund blends grants and concessionary finance, through the development of sustainable green financial instruments to mobilise climate finance at scale, in a staged roll-out approach.

GCF grant financing of USD24m will be used for the initial capitalization of the EDA Fund being a revolving fund, with an additional USD9.4 million capital in co-financing, for private sector concessional financing. The EDA Fund is replenished through the recycling of reimbursable grants repayments through amortization and accordingly forming a revolving source of ongoing continuous financing. The Tier 2 and Tier 3 20% and 40% reimbursable grants, respectively, will be amortized fortnightly in equal instalments over two years. The reimbursable grants amortization will be repaid into the EDA Fund. These are essentially contingent grants (since grant will only be provided on condition of 20% or 40% reimbursement) de-risking the co-financing of investment in climate adaptation by the private sector thereby making financing of 2019 Building Code compliance affordable .

To reach less accessible informal operators, the project will work closely with Island Governments across the Cook Islands and will collaborate with the retail commercial banks in the Cook Islands.

Under the EDA Fund, reimbursable grants are treated as **subsidised subordinated debts** which provide capped concessionary financing in conjunction with grants. These small low-cost (green) subsidised subordinated debts creates greater coverage of limited resources. With reflows from repayments to sustain itself and self-replenish over time; this mechanism strengthens sustainability beyond the life of the project.

Additional financing required (i.e. where the sub-project cost exceeds the combined grant and reimbursable-grant capped amounts) will be sourced as additional equity from the grant recipient by way of cash-contribution or the grant recipient may raise that required contribution through obtaining a loan from one of the three domestic commercial banks (ANZ, BCI and BSP) at commercial lending rates for unsecured and secured property finance.

The EDA Fund – Window 2 accordingly blends grants, concessionary finance (subsidised subordinated debts) and leverages private equity

### — Previous Project Experience

BCI has now been accredited to the Green Climate Fund (GCF) and has a track record in on-lending and blending of multi-lateral project funds with sub-project oversight, such as:

Successive ADB-funded on-lending projects targeted as a stimulus for Cook Islands private sector-led economic growth, resulting in new industry and enterprise in Rarotonga and the Pa Enua; which included monitoring and reporting by gender disaggregated project results (completed 2002).

Further BCI has reputable track record in administering external funds and channelling them to the private sector, through special purpose vehicles such as revolving lines of credit as administrator on behalf of the Business Trade and Investment Board (BTIB), such as previously established funds:

- Business Support Fund (2009)
- Agriculture Development Fund (2012)
- Sustainable Export Fund (2013)



- Vanilla Industry Business Support Fund (2016)

BCI's total funds under management includes a diversified investment portfolio which also comprises of the:

- Business Continuity Credit Facility<sup>104</sup> which is a collaboration between the Government of the Cook Islands and BCI as administrator of the fund created with government financing and guarantees in response to the economic pandemic (commenced July 2020).

In addition to BCI's targeted debt repayment holidays, further financial mechanisms established (July 2020) in a collaboration between the Government and Cook Islands commercial banks including BCI include the:

- Business Growth Loan Program<sup>105</sup>, and the
- Interest Relief Program<sup>106</sup>

Through the accreditation readiness process, BCI has established policies specifically aligned to the Green Climate Fund criterion including BCI's Environmental and Social Risk Policy Framework (E&S Policy). The E&S Policy sets out BCI's Environmental and Social Management System (ESMS) and BCI's approach to effecting sound social and environmental risk management in the Projects it finances. Additionally, BCI's Sustainable Finance Framework (SF Framework) outlines BCI's green banking facilities and the principles including environmental and social standards and safeguards the Bank is to apply to the Projects it finances.

BCI is the only bank with a branch network established in the Pa Enua of the Cook Islands reaching those most vulnerable to the impacts of climate change (see BCI representation below).

Accordingly, BCI is well placed to support resilience through climate finance enabling a post pandemic green Cook Islands recovery.

#### – Sustainability

The EDA Fund is aligned with MFEM regulations on fund management. The Fund will fully comply with national legislation. It is expected that the EDA Fund may in the future be merged with funding facilities considered under the Climate Change Response Bill, or the Sovereign Wealth Fund

Reimbursed proceeds from window 2 of the Fund will be re-invested in new projects. As it replenishes, the revolving fund will enable future private sector investment and re-investment for high performing sub-projects ensuring sustainability after the GCFs initial investment. The Fund will also be open to contributions from third parties; in the case of the project, co-financing of the Fund by donor parties

Given the largely private ownership of the housing stock in the Cook Islands, the EDA modality of project financing is very appropriate as requirements for each dwelling can only be properly established during project implementation, with a minimal time lag between assessment of individual grant applications and the start of construction. The reimbursable grants in Tiers 2 and 3 in shares of 20% and 40%, respectively, enables sustainability of the EDA Facility to finance more houses and buildings beyond the 50% of housing stock target. The EDA modality strengthens the credit worthiness of building owners and enables BCI to provide innovative blended finance (e.g. concessional credits, microfinance, new loan instruments) enlarging the climate resilience financing available to the building owner.

The Cook Islands does not have the fiscal space to undertake the upgrade of the building stock without external support. The economy has contracted substantially as a result of the COVID-19 pandemic and the public debt

<sup>104</sup> Business Continuity Credit Facility [http://www.mfem.gov.ck/images/ECON/2-ERP/II\\_FactSheet\\_Business\\_Continuity\\_Public\\_9Jul20.pdf](http://www.mfem.gov.ck/images/ECON/2-ERP/II_FactSheet_Business_Continuity_Public_9Jul20.pdf)

<sup>105</sup> Business Loan Growth Program [http://www.mfem.gov.ck/images/ECON/ERP\\_PhaseII\\_BGLP\\_FS\\_31Jul20.pdf](http://www.mfem.gov.ck/images/ECON/ERP_PhaseII_BGLP_FS_31Jul20.pdf)

<sup>106</sup> Interest Relief Program [http://www.mfem.gov.ck/images/ECON/ERP\\_PhaseII\\_Interest\\_Relief\\_Program.pdf](http://www.mfem.gov.ck/images/ECON/ERP_PhaseII_Interest_Relief_Program.pdf)

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has risen as the CIG put in place an economic support package to sustain the local population while the country was locked down and tourists – driving the principal economic activity – were absent for two years. Climate finance challenges include limited capital markets for climate investment, lower or middle income groups have limited collateral and limited credit histories to access loan finance from commercial banks as commercial banks in Cook Islands typically provide collateralised loans such as mortgages, Alternative sources of climate finance include bilateral donors but these have been directed to infrastructure climate resilience such as the climate finance window of the Cook Islands Infrastructure Trust Fund funded by Government of New Zealand. Despite the fiscal constraints, the CIG is providing USD2,214,000 to the project in co-financing as a demonstration of the importance of this project to the Cook Islands community and economy.

– Up-scaling

In year 3 of the project, MFEM as PMU and BCI will devise a more complete replenishment strategy for the Fund. BCI as an aspiring DAE will look to up-scale this project and will consider areas that it could expand to (for example, financing for coastal/marine EbA); with consideration of an instrument with adequate concessionality tailored to the tourist industry or large businesses with higher financial capability. A number of options have been discussed in the Exit Strategy Section 7.10 below.

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## 9 EDA Fund Monitoring

The post award phase comprises of a significant amount of work over the grant duration. This includes, implementing the grant, reporting on progress, and completing the close out. MFEM together with CCCI and BCI will be there to assist and ensure that your organisation complies with the grant terms and conditions. Your job is to faithfully and diligently carry out the grant program.

In order to ensure maximum impact of the project, identifying potential barriers, risks and challenges, from the outset will support planning for resourcing through the project to mitigate and minimise project failure. Some potential barriers, risks and challenges with regards to the financing of existing building retrofits for individuals and small businesses are:

- Availability of Trade Inspectors to assess the building
- Roof refits will require climbing into the roof to do a structural assessment. Comparative to a new build which builders can quote, draw up plans and determine how much materials are required from a desktop.
- Availability of materials and alternative materials
- Flexibility for customer preference
- Flexibility of timeframes
- Freight limitations and cost

### 9.1 Monitoring

The MFEM oversees the monitoring of your progress and expenditures through the required activity monitoring and reporting procedures, including those related to environmental and social safeguard standards. This will be spelt out in the GFA.

While the majority of grant award recipients carry out grants ethically and efficiently, these monitoring procedures are necessary to maintain transparency and to prevent fraud and abuse.

The specific reporting requirements and schedules can vary for each grant. These requirements will be outlined in your GFA.

For window 2 (Private Buildings, administered by BCI) grant recipients of Subsidy Agreements will undergo a review cycle (at least annually) being an analysis of each account approved and the subsequent use of funds.

### 9.2 Reporting

**Quarterly Progress Reports** will be prepared by the Project Management Unit and reviewed by the AE, beginning the first quarter after the Inception Report is prepared.

**Annual Performance Reports (APR)** will be prepared to monitor progress made since project start and in particular for the previous reporting period. These annual reports include, but are not limited to, reporting on the following:

- Progress made toward project objective and project outcomes - each with indicators, baseline data and end-of-project targets (cumulative)
- Project outputs delivered per project outcome (annual)
- Lessons learned/good practices

- 
- Annual expenditure reports; and
  - Reporting on project risk management and risk register updates.

## **9.3 Auditing**

Both MFEM and BCI will be audited and are expected to present audited accounts as required in the FFA and subsidiary agreements

Follow up on audit findings will be conducted to ensure that the appropriate and timely corrective action has been undertaken.

## **9.4 Safeguarding integrity**

The EDA Fund and all its operations will be held to the highest standards of conduct, to ensure that the available resources are applied efficiently, equitably and transparently.

This chapter deals with safeguarding the integrity of awarded grants. If any member of the population wishes to file a report against the EDA Fund or the project, the procedures of the GRM apply (section 2.5).

## **9.5 Investigation of suspected malfeasance**

When MFEM receives any information from any source concerning a cause for suspension or termination of a grant award, the MFEM (or its representative) will investigate. The investigation will follow applicable Government regulations.

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## 10 Exit Strategy

The operation of the EDA Fund will be assessed in year 4 of the project to learn from its early years and with the objective of establishing a permanent fund for resilience building in the Cook Islands as part of the Climate Change Response Bill, or the sovereign wealth fund Lessons learned including response rate to CfP, reimbursable grant repayment rate and impacts will be sourced from the mid-term evaluation in year 3 which in turn will analyse evidence-based impact evaluations of the awarded grants for every CfP using randomly selected representative sampling. The mid-term evaluation will compare impact outcomes across beneficiaries with a control group (those who did not receive a grant award) to evaluate the impact of different investments, and inform a robust upscaling strategy. There are a number of options that MFEM is considering and these include:

### – Infrastructure Trust Fund

The Infrastructure Trust Fund (ITF)<sup>107</sup> is a mechanism whereby the New Zealand Government can provide support to the Cook Islands Government (CIG) in implementing infrastructure investment.

The trust fund, at any time and from time to time, consist of initial and subsequent amounts settled upon the Cook Islands Infrastructure Trust Fund by New Zealand, Cook Islands and other donors and investment returns, less distributions from the trust fund made or authorised by the Trustee under the Policy Arrangement.

In December 2019, New Zealand, acting by and through the Ministry of Foreign Affairs and Trade (MFAT) provided a gift to the Cook Islands, acting by and through the Ministry of Finance and Economic and Management of NZD12,000,000 to establish the Cook Islands Infrastructure Trust Fund. In March 2022, the New Zealand Government made a further grant contribution of \$40 million to the Infrastructure Trust Fund to help stimulate the Cook Islands' economy and strengthen its overall resilience via capital works.

This money, and all other money settled upon the Cook Islands Infrastructure Trust Fund for the trust purposes is to be held in trust as trust money of the kind specified in section 46 (1) (d) of the [Ministry of Finance and Economic Management Act 1995-96](#) under Part X of the MFEM Act. The purposes of the trust is to:

- Investing in physical infrastructure to deliver essential services to Cook Islanders;
- Facilitating implementation of the National Infrastructure Investment Pipeline or Medium-Term Fiscal Strategy; and

Supporting capability development of Cook Islands infrastructure sector across government and the private sector. The governance documents for the ITF are: [The Cook Islands Infrastructure Trust Fund Policy](#)<sup>108</sup>

[Approved projects that have been funded by the ITF include:](#)

- Rarotonga International Airport - was constructed in the early seventies and was officially opened in January 1974. Since then, this airport has become the most primary gateway for the Cook Islands to the rest of the world, and is integral to the tourism industry of the country, servicing flights from Auckland, Sydney and Hawaii. Avarua Town Plan and Punanganui Market Project - Te Tau Papa o Avarua: Avarua Town Plan sets out a program of infrastructure and landscaping activities to be carried out in Rarotonga's main central business district (CBD); Avarua. The project area lies between Avarua Wharf and the Rarotonga Airport.

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<sup>107</sup> <https://www.mfem.gov.ck/cook-islands-infrastructure-trust-fund>

<sup>108</sup> <https://www.mfem.gov.ck/cook-islands-infrastructure-trust-fund>

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Project initiatives encompass Avarua Town, the Punanga Nui Market (PNM) and Panama Reserve and propose to:

- Greatly improve walkways, lighting, pedestrian accessibility and safety
  - Enrich the landscape with a variety of local flora to create a colour-filled aesthetic charm
  - Entice and promote greater use of public spaces and facilities
  - Redevelop existing public toilet facilities for a more comfortable end-user experience
  - Restructure and future-proof the PNM to open up greater potential for maintainable economic growth; and
- Ultimately, support and help facilitate “Improved health and wellbeing” for all.

## – Sovereign Wealth Fund

- Build national wealth for future generations
- Disaster preparedness and Economic Resilience
- Safeguard the assets of the Cook Islands’ people

A SWF needs a clear overarching governance structure that includes its management and administration. This ensures it is run effectively and in the best interests of the country, with regular reporting and transparency. As the funds are held on behalf of the Cook Islands’ people. The main components of this organizational structure (and their roles) are:

1. Governing Board - Oversees the overall direction and management of the SWF, ensuring that policies and strategies align with the fund’s goals
4. Trustee and/or Custodian Bank - Responsible for holding and safeguarding the SWF’s assets, ensuring their security and proper management
5. Investment Advisor and Fund Manager - Provide expert guidance and manage the SWFs investment portfolio to achieve the desired the financial outcome.
6. SWF Administrator - Handle the day-to-day operations and administration of the SWF, implement board decisions and policies
7. Independent Auditor - The independent auditor conducts regular audits to ensure the SWF’s financial integrity, transparency and accountability

Around the world, SWFs have different structures but broadly similar roles and responsibilities. The crucial factors are the SWF’s relationship to governments, its respective independence, and the resources available to either manage investments in-house or with external advisors. There is significant diversity in how SWFs around the world choose to operate within these roles and responsibilities. This draft policy, and the public consultation process will determine the most appropriate structure for the Cook Islands.

The objective is to find the right mix that provides an efficient management and administration structure and functions to suit the respective country’s needs and interests. These include providing accountability, efficient investment management, effective investment performance, and transparency at a reasonable cost.

The Figure 36 below illustrates the operational structure for the Cook Islands Sovereign Wealth Fund.

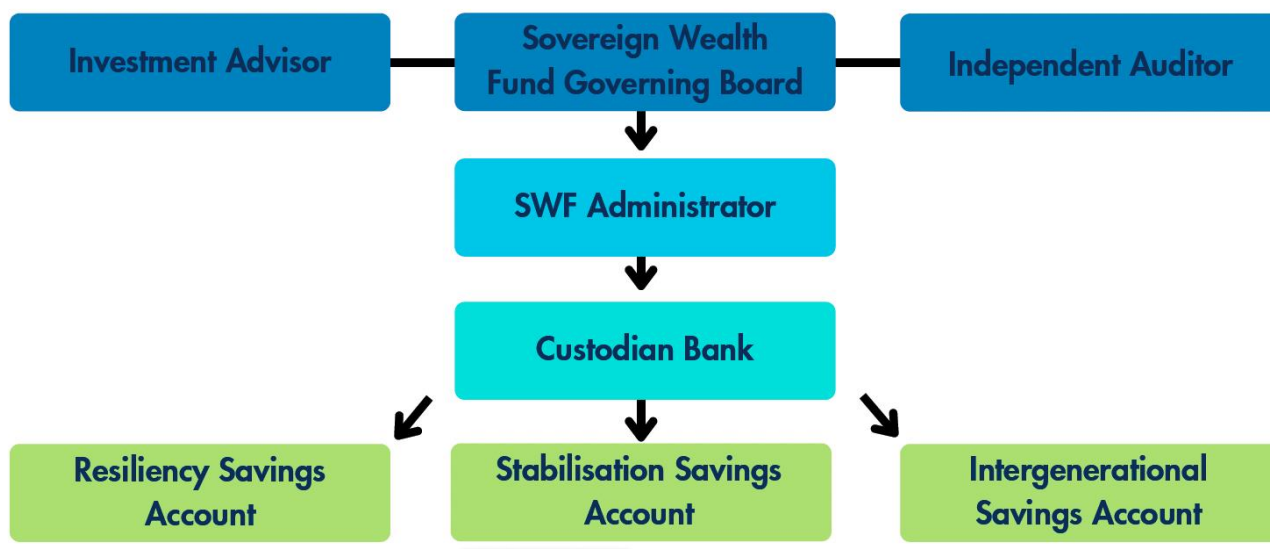


Figure 38 Cook Islands Sovereign Wealth Fund Operational Structure

Since a SWF represents a portion of the country's wealth set aside to generate revenue for a financial safety net and wealth for future generations, accountability and transparency is crucial. Although the funds are held in trust by an entity, the true owners are the people of the Cook Islands.

The funding of the Cook Islands Sovereign Wealth Fund (SWF) will primarily come from seabed mineral harvesting revenue, if realized. Additional funding sources may include development partner contributions, transfers from the annual government budget for disaster preparedness and fiscal stabilization, environmental fines, and other government revenues, particularly one-off revenues.

## – Existing Disaster Response Trust Fund and Stabilisation Account

### Disaster Response Trust Fund

The Disaster Response Fund was established for quick disaster response. Currently the fund sits at NZ\$2.1 million, with expected annual contributions of NZD \$50,000 from the general budget. The establishment of this fund was detailed in the Cook Islands Disaster Response Trust Fund Policy, approved in cabinet in May 2011. The purpose is to enable a swift and coordinated response by the Disaster Response Executive once a state of emergency is activated or disaster declared. A share of eligible revenues is planned to go to a successor version of this Fund (the Resiliency Savings Account) under the SWF, until a sufficient cap of 8% of GDP is reached.

### Stabilisation Account

The account, initially part of the general reserve, was set up independently in the 2019-20 Budget with NZ\$56.7 million allocated for economic downturns. The account was designed to hold cash in excess to general operation needs and working capital. Its intent was to provide resources for economic support and stimulus during periods of economic contraction, defined as growth of less than 1% per year. The account was drawn down in 2020-21 because of the COVID-19 pandemic's negative economic impact. Currently, NZ\$3.5 million remains in the account and is not expected to increase over the medium term unless there is a significant upturn in tourism. Similarly, to the Disaster Response Trust Fund, a successor version of this Fund is planned to exist under the SWF, accumulating reserves to a specified cap.



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The Cook Islands SWF will invest the funds received. The idea behind funds' investments is that over the long term, investment returns are likely to be larger than the rate of inflation. The higher the return above inflation is what allows the fund to grow over time, and for the fund to be able to pay out as well. If the funds are not invested, then the value of the funds will be eaten away by inflation and would reduce in real value.

Determining how the funds are invested needs an investment policy. This policy sets out rules about how a fund can invest its money. These rules give the SWF Board and the SWF Investment Advisor a clear focus on how the funds can be invested as well as direction on what returns the fund might expect to make over a medium- and long-term investment horizon. The investment rules will also give guidance about what risk might be acceptable.

A key part of how a SWFs operates is how the fund distributes its returns for the benefit of Cook Islanders. The distribution policy explains the approach and method for how funds can be spent. Having set rules for distributions will guide the Board of the SWF on what the goal is/what to do, but also promotes accountability and transparency of the SWF to the public.

Figure 36 above illustrates there are three sub funds that make up the Cook Islands SWF:

The Resiliency Savings Fund and the stabilisation savings account will be distributed on a 'needs' requirement following the meeting of specific triggers – such as the declaration of a natural disaster or similar. Disaster Response. The Resiliency Distribution would be available for disbursement in the case of a disaster, and would occur within three days of a request from the Financial Secretary of the Ministry of Finance and Economic Management

The Stabilisation Savings Account distribution would be in the case of a significant economic contraction, with increasing portions of the fund released (within 14 days). In order to access it, MFEM would need to define how the amounts would be used, over what time period, and how the proposed spending would be monitored.

All funds made available under these terms would need to be accounted for and reported on transparently – including being subject to standard Government audit practices.

Intergenerational Savings Account, for medium- and long-term intergenerational Distributions from the Intergenerational Savings Account will be used only to support the following areas:

- Healthcare;
- Infrastructure;
- Education (including culture); and
- Environmental concerns.

Distribution Holding Account, to hold funds allocated to the four different expenditure areas

For the Cook Islands, establishing a sovereign wealth fund can provide long-term economic benefits, but if not managed properly, it poses significant risks to macroeconomic stability, the balance of payments, and inflation. By implementing strategic mitigations such as diversification, phased investments, support for non-resource sectors, and prudent fiscal and monetary policies, the Cook Islands can effectively manage these risks and harness the potential of its SWF to foster sustainable economic growth.

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It also demonstrates the combination of reactive disaster risk financing and proactive climate mainstreaming in law (drafting of the Climate Change Response Bill), policy and planning represent a strengthening of the Cook Islands' resilience to disasters. However, more efforts are needed to reduce exposure and build adaptive capacity among the most vulnerable populations in the Cook Islands, to improve quality of life, secure livelihoods and maintain viable populations on the Pa Enua.

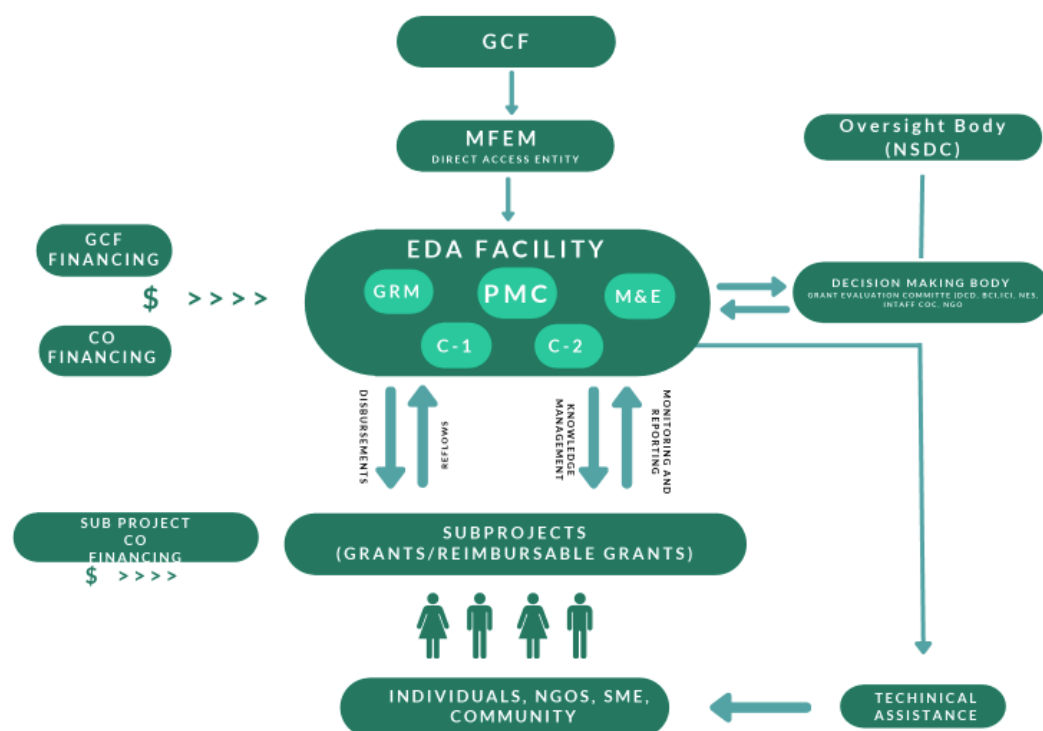
# 11 EDA Facility Implementation arrangements

## 11.1 Roles and responsibilities

A key objective guiding the project delivery design was empowering and involving local governments and impacted stakeholders from the Pa Enua, recognizing that several of the Pa Enua are very remote and have very limited capacity and experience with devolved implementation. This is consistent with ongoing devolution processes (e.g. Island Government Act 2012 – 2013<sup>109</sup>).

The project's implementation arrangements are shown in Figure 25. Annex 23 EDA Procedures Manual provides full details the full details from Grant Applications, award, implementation and final close out. The Island Governments will provide confirmation of residency for all applications. The PMU will have an oversight role to conduct completeness checks and due diligence checks before submitting to the Grant Award Evaluation Committee (GAEC) with a recommendation for approval or rejection. BCI the fund's manager for Component 2 will complete financial due diligence for all applications. In the case of Rarotonga, which does not have an Island Council, the PMU will support the decision-making body to review and make recommendations on applications.

*Implementation Arrangements: Governance Structure*



*Figure 39 Implementation Arrangements for EDA*

<sup>109</sup> Cook Islands, Island Government Act 2012 – 2013: [http://procurement.gov.ck/wp-content/uploads/2016/02/8\\_Island-Government-Act-2012-2013.pdf](http://procurement.gov.ck/wp-content/uploads/2016/02/8_Island-Government-Act-2012-2013.pdf)

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## – Accredited entity

The Ministry of Finance and Economic Management (MFEM) was accredited to the GCF in 2018 as a national direct access entity (DAE) for small projects with low environmental and social risk projects. MFEM is accredited for project management and grant award.

## – Executing Entities

MFEM will also act as executing entity of the project. A Project Management Unit (PMU), hosted by MFEM, will manage the day-to-day delivery, staffed by a project manager, assistant, procurement and other support personnel (**Error! Reference source not found.**).

### **Climate Change Cook Islands**

The Climate Change Cook Islands office (CCCI) was established in 2011 as part of the Office of the Prime Minister (OPM). The main role of the CCCI is to coordinate and implement climate change related activities in an integrated manner. The CCCI office has an oversight role of all climate change activities to ensure coordination of the multi-sectoral approach to climate change.

The coordination role ensures alignment of the various climate change activities with the Cook Islands national climate change goals. The CCCI Office can also make sure that there is no duplication and also facilitate activities for issues that may not have been addressed.

CCCI will be responsible for the implementation of Component 1 and the administration of fund window 1 in close collaboration with MFEM to achieve the project objectives and goals.

### **Bank of the Cook Islands**

Bank of the Cook Islands (BCI) is now accredited to the Green Climate Fund for on lending and blending.

BCI will be the executing agency for the implementation of fund window 2, which involves a mechanism designed to blend grants with revolving reimbursable grants to the private sector for climate change adaptation. BCI operates right throughout the Cook Islands and provides finance in the areas of (but not limited to): agriculture, fishing, pearls, tourism, transport, investment property, housing, consumer, micro and business finance.

### **Implementing Partner Organisations:**

Cook Islands Tertiary Training Institute - Delivery of informal and formal climate change courses to the communities and public. They will also sit on the Technical Advisory Body (see below implementation arrangements)

The PMU will manage the daily operations of the project, staffed by a Facility Manager, Fund Managers and assistants. The PMU will be supported by the GAEC, which is comprised of representatives from the Climate Focal points, Island Councils and Private Sector Task Force<sup>110</sup>, Cook Islands Chamber of

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<sup>110</sup> The Private Sector Task Force is the collective voice for the Cook Islands business community. For more information refer to [Meet+the+Private+Sector+Taskforce+.pdf \(cit-covid19.s3-ap-southeast-2.amazonaws.com\)](#)

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Commerce, Cook Islands Tertiary Training Institute. The Technical Advisory body will be responsible for the implementation of Component 1 and providing technical support to the two funds.

- Window 1 is mandated to provide grant awards for Community and Local Governments response to climate change.
- Window 2 is mandated to provide blended finance for climate outcomes in private buildings through a 3-tiered approach. It is structured with an investment plan with a mechanism to establish a revolving fund ensuring sustainability after the GCF's investment

A key feature of the project is decentralized and tailored technical assistance (TA). Approximately 10% of the GCF contribution will be provided as TA under Component 1, which will include contracting 6 Climate Focal Points to be located across the Pa Enea islands. The Climate Focal Points will be responsible for liaising with stakeholders and communities, helping to originate projects, supporting the Island Councils with screening.

#### – Decision-making body

A **Grant Award Evaluation Committee** will make funding recommendations to MFEM for their final decision and approval. The GAEC will be responsible for 1) fiduciary and administrative due diligence, 2) technical evaluations, and 3) environmental and social safeguard compliance. The Committee is chaired by the Director of the Development Coordination Division in MFEM and is composed of staff from the Ministry of Finance and Economic Management, Office of the Prime Minister (OPM), National Environment Service, Ministry of Internal Affairs, Ministry of Health and Ministry of Culture. For the project, the Committee will include external experts and stakeholders, such as:

- Infrastructure Cook Islands (building permitting)
- Gender interest groups (e.g. CI Business & Professional Women)
- Civil society/NGOs (for grants awarded under Component 1)
- Bank of the Cook Islands (as the Fund Managers for Fund 2)

The Terms of Reference for the decision-making body and the oversight function are in Annex 3.

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## 12 Stakeholder engagement

Stakeholder engagement is a critical pillar. The GCF's 2016 request for EDA proposals states that the objective of EDA is to enhance country ownership and devolve decision-making in order allow *greater involvement and input from stakeholders* that are negatively impacted by climate change. The EDA RfP emphasizes the following features:

- stronger local multi-stakeholder engagement actors, especially those addressing the needs of vulnerable communities and gender aspects
- a specific role for the NDA selecting the Accredited Entity, communicating the country's strategic climate and development goals, appraising the pilot proposals and subsequently in the monitoring and evaluation.

This section outlines the participatory project development process, stakeholder analysis, and a stakeholder engagement plan for the next steps in project development. The approach utilizes the GCF's guidance note on stakeholder engagement<sup>111</sup>.

### 12.1 Consultation and project development process

The project has been designed and developed by staff from both MFEM (DAE) CCCI (NDA) and BCI(EE/AE), supported by consultants. Bi-weekly team calls were held for regular check-in and alignment. The project team drew on their experiences consulting climate-impact stakeholders through the multi-year Readiness programme, including the following workshops:

- MFEM ESS and Gender Workshop on 7 – 9 Nov 2018
- Green Climate Fund Fostering Resilience Workshop on 27 October 2017

The project proposal development came on the heels of the *Economic Development Conference 2019: Working together to build quality growth* on 15 November 2019, with community-based consultations in the Pa Enua and Rarotonga that included a broad cross-section of business, industry and community stakeholders. This participatory process will culminate in an Economic Development Strategy (EDS) 2030 for the Cook Islands, along three themes:

Theme 1: Equity and access

Theme 2: Efficiency, productivity & transformation

Theme 3: Investing in quality growth

Climate change featured as a pillar of EDS Theme 3 under the section, *Environmental capital*.

As a small island community, consultation fatigue presents a significant reputational risk to the Government of the Cook Islands. If not properly targeted and scoped, consultation fatigue can 1) shift critical Government capacity from implementation to meetings, 2) re-negotiate the scope of established and previously agreed priorities, and 3) repeated consultations on the same or perceived similar topics can earn the Government a reputation of talk without action.

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<sup>111</sup> GCF Sustainability Guidance Note: Designing and ensuring meaningful stakeholder engagement on GCF-financed projects: <https://tinyurl.com/vket9qt>

With these risks in mind, the project team's strategy and approach followed a three-pronged stakeholder consultation process outlined in Figure 40 The project team's three-pronged consultation strategy on the Concept Note.



Figure 40 The project team's three-pronged consultation strategy on the Concept Note

In the Cook Islands, the NDA has been promoting EDA since 2018 and was actively engaged in designing the concept note, contributing through bi-weekly calls with the Development Coordination Division (DCD), as the EDA project's development team within MFEM.

The consultation process to design the project and develop the Concept Note included one-on-one interviews with key actors that work with vulnerable communities in the Cook Islands. Under *II. Targeted one-on-one consultations*, the project team conducted interviews with the following institutions (discussion notes are included in *Annex 1. Stakeholder consultation record*):

- Business Trade and Investment Board (BTIB) presenting the view of sole traders and informal workers in the Cook Islands; BTIB has several funds that provide concessional loans and approximately 50% of their portfolio are too small/informal workers in the Pa Enua Pa Enua
- Chamber of Commerce representing the formal and organized business sector
- Infrastructure Cook Islands (ICI) whose inspectors assess private buildings for Building Code compliance, with first-hand knowledge of capacity and financial gaps impeding building code compliance
- National Environmental Service (NES) to understand potential environmental risks as part of the ESS screening process
- Chief of Staff to understand the local outer island government perspective and priorities



Subsequently, in August 2020, MFEM published the draft Concept Note for the project online for public access and comment.<sup>112</sup> Under *III. Integrated EDA into key public consultations*, public consultations covering the project were held in four Pa Enua: Aitutaki, Mangaia, Manihiki and Pukapuka. Community consultations were held on Aitutaki from 21 – 25 September 2020 with the Island Council and Island Government, the business sector, and an evening meeting with the Manuae Management Committee. Five young people were hired to administer a survey for 171 businesses, of which 136 were “mom and pop” businesses, providing a grassroots perspective.

Findings and key recommendations across all three strategic consultation pillars are summarized in Table 24 including how the insights have been addressed in the Concept Note, or plan to be addressed in the Funding Proposal.

*Table 26 Summary of stakeholder inputs informing project design and the scope of activities*

| Consultation                                                        | Key request or recommendation                                                                                                                                                                                         | Project response or planned follow-up during Funding Proposal preparation                                                                                                                                                                                                                                                                                                                           |
|---------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Aitutaki survey on the project, 21 – 25 September 2020              | Nearly half of the population would not be able to meet the 40% cash co-finance required under Component 2                                                                                                            | Window 2 has been separated in two tiers, where tier 1 is for people in vulnerable situations that fall under a specific income threshold and thus will be exempt from cash co-financing                                                                                                                                                                                                            |
| Economic Development Conference (EDC) Pa Enua – Aitutaki Island     | Water shortage issue on Aitutaki, recommend a water tank subsidy                                                                                                                                                      | Water tanks are eligible under windows 1 and 2. Rainfall is projected to decrease in the norther group of islands under a high (RCP8.5) emissions scenario; however, this trend reverses under a low (RCP2.6) scenario, with the southern group of islands expected to receive less average annual rainfall. Rainfall variability is project to increase, highlighting the need for water security. |
|                                                                     | Better waste management system needs to be put in place to protect the lagoon                                                                                                                                         | Eligible activity under Component 2 and 3. Sewage treatment would reduce nutrient loading and promote the adaptive capacity of these ecosystems to cope with sea level rise, storm surge, and extreme temperatures                                                                                                                                                                                  |
|                                                                     | Aitutaki has an Economic Committee made up of members of its business community                                                                                                                                       | Economic Committee added to stakeholder register for follow-up during FP preparation                                                                                                                                                                                                                                                                                                                |
| EDC Rarotonga – Takitumu Community Meeting on 31 October 2019       | Housing on Rarotonga is very expensive, especially for people from the Pa Enua with no land and who have to rent; this is increasing outward migration to New Zealand where rent is lower, and wages are higher       | Identify as potential social risk (cost to renters or non-building owners)<br>Prioritize activities that lower the cost-of-living post-implementation                                                                                                                                                                                                                                               |
|                                                                     | Tourist operators need to be more conscious of environmental impacts; consider partnering with <i>Mana Tiaki programme</i> , which is expanding to including initiatives energy efficiency, waste, coastal protection | Potential partnership with Tourism’s <i>Mana Tiaki</i> programme for commercial/tourism sector                                                                                                                                                                                                                                                                                                      |
| EDC Rarotonga – Puaikura Community Meeting on 30 November 2019      | Introduction of invasive pine tree species to some of the Pa Enua has been a problem for agriculture                                                                                                                  | Add introduction of invasive species as to the project’s ESS Action Plan                                                                                                                                                                                                                                                                                                                            |
|                                                                     | Communities want more attention to cyclone shelters and natural disaster preparedness                                                                                                                                 | Community building upgrades eligible under Component 1; natural disaster preparedness eligible under Component 3 using nature-based solutions                                                                                                                                                                                                                                                       |
| MFEM ESS and Gender Workshop on 7 – 9 Nov 2018                      | Ensure that women and men equally benefit from activities which are funded through MFEM                                                                                                                               | Add equal benefit for men and women to the Gender Action Plan; disaggregate indicators by gender where appropriate                                                                                                                                                                                                                                                                                  |
| Green Climate Fund Fostering Resilience Workshop on 27 October 2017 | Request for training sessions with the community in how to develop and put together project proposals and concept notes                                                                                               | Award a small project preparation grant for successful concepts and couple with technical guidance notes for applicants                                                                                                                                                                                                                                                                             |
|                                                                     | Continue to inform and engage with stakeholders on the Government’s progress with the GCF                                                                                                                             | Consider reviving the Government’s quarterly or twice-yearly e-newsletter on portfolio updates                                                                                                                                                                                                                                                                                                      |

<sup>112</sup> MFEM, Green Climate Fund Program. Accessed 2 Sept 2020: <http://www.mfem.gov.ck/development/about-the-green-climate-fund#concept-notes>

| Consultation                                                                  | Key request or recommendation                                                                                                                                                                        | Project response or planned follow-up during Funding Proposal preparation                                            |
|-------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|
| Consultations by Beca International Ltd. (2017) on the Building Code revision | Building resilience means not too much should be exempt from the Code, but affordability is a key consideration and trade-off; special guidelines for use of locally available and cheaper materials | Summarize and include references to key Building Code requirements for use of local material in EDA project material |
|                                                                               | Lack of oversight from different parts of Government; building regulations and Act needs a Building Board, but this doesn't exist (lack of funding)                                                  | Consider feasibility of appointing the Building Board as part of EDA project governance/oversight                    |

## 12.2 Stakeholder analysis

A stakeholder register was created for the project (available here: <https://tinyurl.com/y69njpjb>), by group: national government, local government, private sector (finance, MSME, other), NGOs/CSOs, education and training institutions, and other funding partners. The stakeholder register is a living resource and will be periodically updated.

When considering how to engage stakeholders, given time and resource constraints, a power-interest matrix (Figure 39) was compiled using the following definitions:

- **Power:** control over resources (finances and assets) and decision-making authority directly relevant to the project
- **Interest:** degree to which the project will solve problems that the stakeholder cares about or is affected by, and therefore the stakeholder's natural interest in the project

|       |  |                                                                                                                                                                        |                                                                                                                                                                                                                                                                               |
|-------|--|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Power |  | <b>Keep satisfied</b><br>Infrastructure Cook Islands (ICI)<br>CI Met Office<br>National Environmental Service (NES)                                                    | <b>Manage closely</b><br>Pa Enua island administrators<br>BTIB<br>CI Red Cross                                                                                                                                                                                                |
|       |  | <b>Monitor</b><br>BSP ANZ CSB BCI<br>CI Business & Professional Women<br>Chamber of Commerce<br>Cook Islands Tertiary Training Institute (CITI)<br>Ministry of Tourism | <b>Keep informed</b><br>Ministry of Internal Affairs – Gender Division<br>Kōrero o te 'Ōrau (KO)<br>Muri Environment Care Group<br>Te Ipukarea Society (TIS)<br>Cook Islands Civil Society Organisations (CICSO)<br>Island Sustainability Alliance Cook Islands. Inc. (ISACI) |
|       |  | Low                                                                                                                                                                    | High                                                                                                                                                                                                                                                                          |
|       |  | Interest                                                                                                                                                               |                                                                                                                                                                                                                                                                               |

Figure 41 stakeholder analysis matrix

The above matrix is used for guiding how project proponents can engage with different stakeholders. More resource-intensive approaches (such as individual meetings or board/committee appointments)

are suited for the top row, and less intensive but active communication channels can be sustained for the bottom row.

Table 27 *Frame for an engagement plan. Frame for an engagement plan*

|                | Stakeholder Group/Institution                                                                                             | Primary role(s) in the project |                        |         |             |
|----------------|---------------------------------------------------------------------------------------------------------------------------|--------------------------------|------------------------|---------|-------------|
|                |                                                                                                                           | Oversight (NSDC)               | Decision-making (GAEC) | Partner | Beneficiary |
| Public sector  | Ministry of Finance and Economic Management                                                                               | X                              | X                      |         |             |
|                | CI Investment Corporation                                                                                                 |                                |                        |         |             |
|                | Infrastructure Cook Islands (ICI)                                                                                         |                                | X                      | X       |             |
|                | National Environment Service (NES)                                                                                        | X                              | X                      |         |             |
|                | Ministry of Internal Affairs (INTAFF)                                                                                     | X                              | X                      |         |             |
|                | Ministry of Tourism                                                                                                       |                                |                        |         |             |
|                | Business Trade & Investment Board (BTIB)                                                                                  |                                |                        |         |             |
|                | Office of the Prime Minister (OPM)<br>-Chief of Staff<br>- Climate Change Division<br>- Emergency Management Cook Islands | X                              |                        | X       |             |
|                | Ministry of Marine Resources                                                                                              |                                |                        |         |             |
|                | Pa Enua Island Administrators                                                                                             |                                |                        | X       |             |
| Private sector | Bank of Cook Islands (BCI)                                                                                                |                                | X                      | X       |             |
|                | Cook Islands Chamber of Commerce                                                                                          |                                |                        |         |             |
|                | University of the South Pacific – Cook Islands Campus                                                                     |                                |                        |         |             |
|                | Cook Islands Tertiary Training Institute (CITTI)                                                                          |                                |                        | X       |             |
| NGOs / CSOs    | CI Red Cross                                                                                                              |                                |                        |         | X           |
|                | CIFWA Youth                                                                                                               |                                |                        |         | X           |
|                | Cook Islands Civil Society Organisations (CICSO)                                                                          |                                |                        |         | X           |
|                | Cook Islands Family Welfare Association (CIFWA)                                                                           |                                |                        |         | X           |

|           |                                                            |  |  |   |   |
|-----------|------------------------------------------------------------|--|--|---|---|
|           | Cook Islands National Disability Council                   |  |  |   | X |
|           | Island Sustainability Alliance Cook Islands. Inc. (ISACI)  |  |  |   | X |
|           | Kōrero o te `Ōrau (KO)                                     |  |  |   | X |
|           | Muri Environment Care Group                                |  |  |   | X |
|           | Punanga Turuturu Itivaine (PTI) women's counselling centre |  |  | X |   |
|           | Te Ipukarea Society (TIS)                                  |  |  |   | X |
|           | Te Vaerua Community Rehabilitation Inc                     |  |  |   | X |
|           | Cook Islands National Youth Council                        |  |  |   | X |
|           | Cook Islands Business & Professional Women (CIBPW)         |  |  |   | X |
| Community | House of Ariki                                             |  |  |   |   |
|           | Vaka Te Au Tonga                                           |  |  |   | X |
|           | Vaka Takitumu                                              |  |  |   | X |
|           | Vaka Puaikura                                              |  |  |   | X |
|           | Aitutaki                                                   |  |  |   | X |
|           | Atiu                                                       |  |  |   | X |
|           | Mangaia                                                    |  |  |   | X |
|           | Mauke                                                      |  |  |   | X |
|           | Mitiaro                                                    |  |  |   | X |
|           | Pukapuka / Nassau                                          |  |  |   | X |
|           | Suvarrow                                                   |  |  |   |   |
|           | Rakahanga                                                  |  |  |   | X |
|           | Manihiki                                                   |  |  |   | X |
|           | Penrhyn                                                    |  |  |   | X |
| Regional  | SPREP                                                      |  |  |   |   |
|           | Asian Development Bank (ADB)                               |  |  |   |   |
|           | Secretariat of the Pacific Community (SPC)                 |  |  |   |   |
|           | NZaid                                                      |  |  |   |   |
|           | AUSaid                                                     |  |  |   |   |
|           |                                                            |  |  |   |   |

## 12.3 Stakeholder engagement plan

### – Engagement plan for Project Implementation

Stakeholder engagement activities will be owned by MFEM in alignment with its ESS 9 as the Accredited Entity, in collaboration and with the support of CCCI as the Cook Islands NDA. MFEM's ESS 9 covers Stakeholders Engagement and Information Disclosure and requires engagement with project stakeholders throughout the project life cycle.

Stakeholder engagement is systematically embedded throughout all phases of the EDA project to ensure relevance, responsiveness, and sustainability.

Lifecycle Alignment:

- **Feasibility Phase:** Identify stakeholder needs, validate assumptions, and assess institutional readiness.
- **Design Phase:** Co-develop fund structure, eligibility criteria, and implementation pathways.
- **Implementation Phase:** Maintain feedback loops and adaptive engagement.
- **Monitoring & Closure:** Share results, lessons learned, and ensure accountability.
- **Subproject-Level Customization:**
- Each subproject has tailored engagement strategy based on its geographic scope, thematic focus, and stakeholder composition and previous project successes.

### Inclusive Engagement Strategies

To ensure equitable participation, the project will employ targeted approaches to reach diverse stakeholders:

- **Pa Enua Communities:** Engagement through local radio broadcasts, translated newsletters, and in-person consultations with island councils and traditional leaders.
- **Youth & Disability Groups:** Co-designed outreach with CIFWA Youth and the National Disability Council, including accessible formats and youth-led facilitation.
- **Gender Inclusion:** Dedicated consultations with women's NGOs with Punanga Turuturu Itivaine to integrate women's perspectives into fund design.
- **Language & Accessibility:** All materials will be translated into Cook Islands Māori and adapted for visual, hearing, and cognitive accessibility.

### Roles and Responsibilities

| Stakeholder                               | Role in Engagement                                                      |
|-------------------------------------------|-------------------------------------------------------------------------|
| <b>Ministry of Finance (MFEM)</b>         | Lead agency for stakeholder coordination, documentation, and reporting. |
| <b>Climate Change Cook Islands (CCCI)</b> | Technical lead for climate-related engagement and Pa Enua outreach.     |
| <b>Bank of the Cook Islands (BCI)</b>     | Engagement with financial stakeholders and MSMEs.                       |
| <b>Chamber of Commerce</b>                | Liaison with private sector and business associations.                  |

| Stakeholder                   | Role in Engagement                                              |
|-------------------------------|-----------------------------------------------------------------|
| <b>Civil Society Partners</b> | Facilitate inclusive engagement and represent community voices. |

Table 28 Engagement activities for EDA Project

## Engagement plan

| Type & purpose                    | Description                                                                                                                                                                                                                                                                                                           |
|-----------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Collaborate</b>                |                                                                                                                                                                                                                                                                                                                       |
| Face to Face Individual Briefings | Targeted briefings with key stakeholders to prepare for project implementation, to address concerns, align on strategy, and ensure buy-in.                                                                                                                                                                            |
| <b>GCF Working Group</b>          | Chaired by the Ministry of Finance, the WG will be used to share updates and solve problems; the working group is comprised of the Ministry of Finance, Climate Change Cook Islands, Bank of the Cook Islands and Chamber of Commerce It meets regularly to share updates, resolve issues, and guide fund operations. |
| Focus group                       | Used to co-design the operational manual, validate project documents, and confirm key risks with representatives from MFEM and BCI                                                                                                                                                                                    |
| Face to Face Group Meetings       | Community-level meetings in Pa Enua and Rarotonga to gather input, share updates, and build trust.                                                                                                                                                                                                                    |
| Workshops                         | Thematic workshops (e.g., gender inclusion, EDA Facility support) to sensitive project staff / stakeholders and build capacity.                                                                                                                                                                                       |
| <b>Feedback Mechanisms</b>        |                                                                                                                                                                                                                                                                                                                       |
| Platform: Quarterly presentations | AE/EE/PMU will deliver quarterly updates on project progress at the Platform Meetings; minutes will be recorded and shared with stakeholders.                                                                                                                                                                         |
| Focus group                       | Used to gather feedback on grant processes, CfP design, and inclusion strategies.                                                                                                                                                                                                                                     |
| One-on-one interviews             | Conducted with key stakeholders to gather qualitative insights and address specific concerns                                                                                                                                                                                                                          |
| <b>Inform</b>                     |                                                                                                                                                                                                                                                                                                                       |

|                       |                                                                                                                                                                |
|-----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Webpage               | MFEM will host a dedicated project page with updates, disclosures, GRM procedures, and evaluation results.                                                     |
| Quarterly newsletters | especially targeting Pa Enuā communities, summarizing progress and upcoming activities.                                                                        |
| Social media          | Regular posts on MFEM's platforms to share updates, CfP announcements, and engagement opportunities.                                                           |
| Campaigns             | Targeted outreach campaigns to raise awareness of the EDA Fund. Activity 1.1.1                                                                                 |
| Seminars / workshops  | Public seminars to explain fund objectives, eligibility, and evaluation processes; also used to share lessons learned and promote transparency. Activity 1.1.1 |

## Information Disclosure

Transparent communication is essential for building trust, information relating to the project activities will be published and shared amongst stakeholders.

### Content to be Shared:

- Project scope and feasibility findings
- Risks and decisions
- GRM, Gender and SEAH procedures
- Monitoring results

### Channels Used:

- MFEM website updates
- Quarterly newsletters
- Social media posts (Facebook, Instagram)
- Public meetings and radio announcements

All consultation minutes, survey summaries, stakeholder register, and SEP will be published online in English and Cook Islands Māori, with accessible versions (audio/easy-read). Records will remain available for at least five years after closure.

## Grievance Redress Mechanism (GRM) and Stakeholder Engagement

The EDA Facility includes a Grievance Redress Mechanism (GRM) to ensure stakeholders have accessible channels to raise concerns, provide feedback, or report grievances throughout the project lifecycle. The GRM is fully aligned with GCF requirements, including special provisions for vulnerable



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groups and survivors of sexual exploitation, abuse, and harassment (SEAH), and is an integral part of the project's stakeholder engagement strategy.

#### Actions During Project Implementation:

##### Consultation and Information Sharing:

The PMU will conduct ongoing consultations with stakeholders across Rarotonga and the Pa Enua.

Project information, including rights and responsibilities, the GRM process, and SEAH protections, will be communicated in English and Cook Islands Māori, using culturally appropriate formats.

During consultations, participants will be informed about how to submit grievances or feedback.

##### Feedback and Grievance Intake:

Stakeholders can submit grievances or concerns through multiple channels: in-person, via island focal points, email, SMS, or online forms.

A partnership with Punanga Turuturu Itivaine (PTI) ensures that SEAH-related concerns are handled safely, confidentially, and in a survivor-centered manner.

##### Assessment and Resolution:

The PMU will log, categorize, and assess all grievances received.

Relevant stakeholders, including traditional leaders where appropriate, will be consulted in the resolution process.

Resolutions and follow-up actions will be communicated back to stakeholders, ensuring transparency and accountability.

##### Integration into Project Decisions:

Feedback and grievances received during consultations will inform adaptive management, allowing the project to adjust implementation strategies, address emerging risks, and strengthen local ownership.

##### SEAH Risk Mitigation:

All stakeholder engagements will include screening for SEAH risks.

Identified risks will trigger immediate mitigation actions, including referral to PTI, development of a mitigation plan, and integration into ongoing project activities.

The GRM ensures safe and accessible reporting channels for SEAH concerns at all stages of the project.

This approach ensures that stakeholder engagement is continuous, participatory, and responsive, while embedding GRM and SEAH considerations directly into project implementation and consultations. It promotes meaningful participation, safeguards human rights, and supports the overall sustainability of the project.

## Budget for Engagement

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**Estimated Allocation:** for engagement activities is 1% of total project budget. A further breakdown is provided below

**Breakdown:**

- Community meetings and travel: 0.39%
- Communication materials and translation: 0.3%
- Staff and facilitation, Monitoring and reporting tools: 0.97%

## Documentation and Reporting

All engagement activities will be systematically recorded to support transparency and learning:

**Documentation:**

- Meeting minutes
- Attendance logs
- Pre and post surveys
- Feedback summaries

**Reporting:**

- Quarterly reports to the AE
- Annual public engagement summary published online

## Timeline and Frequency

| Engagement Activity      | Frequency | Phase                              |
|--------------------------|-----------|------------------------------------|
| Focus Group Meetings     | As needed | Inception, Implementation, Closure |
| Inception Workshop       | One off   | Inception Phase                    |
| Community Consultations  | As needed | Implementation and closure         |
| Campaigns                | Per CfPs  | Inception, Implementation          |
| News Letters and Updates | Quarterly | All phases                         |
| GRM review and reported  | Quarterly | All phases                         |

## Monitoring Tools & Indicators

**Tools:**

- Stakeholder engagement tracker
- Feedback analysis dashboard

**Key Indicators:**

- Number of stakeholders engaged
- Diversity of participants (gender, age, location)
- Satisfaction and feedback scores
- Number and resolution rate of grievances

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## Expected Outcomes

- Strengthened stakeholder trust and transparency
- Inclusive participation across all islands and demographic groups
- Timely identification and resolution of concerns
- Enhanced local ownership and long-term sustainability of the EDA Fund

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## Annex 1. Stakeholder consultation record

### Stakeholder 1 – Office of the Prime Minister

Tuesday 21 July 2020

- Building code consultations discussed the possibility of requiring homes to have water storage; however, cost was a problem
- Holiday homes/Airbnb are old with renovated patchworks; some tourists are elderly; about 600 holiday homes need to be assessed
- Community halls are generally older buildings and not Category 2 or 3 compliant; these assets can be left out as they don't belong to Government, but to the community
- Atiu has taken the initiative to prepare an island development plan, outside of central government processes; should support such local aspirations to develop
- Decentralization process is underway in the Cook Islands, and the project should align with the approach
- Lowest 20% of earners use ad hoc e.g. rope to tie down roofs versus replace roof or proper upgrade
- Not keen on an NGO managing the grants; other than Red Cross, very few have a reach to the Pa Enua
- Every island government has Puna (e.g. Rarotonga has 10)
  - Maps home, rating, employed, etc.
  - Found out that Cook Islands has vulnerable migrant workers

### Stakeholder 2 – National Environment Service

Tuesday 21 July 2020

- Under the 2003 Environmental Act, NES has 5 Pa Enua islands in its jurisdiction
- NES is amending the act, including reviewing the EIA process; environmental officers and environmental authorities on each island
- Developing a GEF7 project on land-based pollution with a focus on biodiversity mainstreaming for USD4 million over 5 years, tentatively beginning implementation in 2022
  - NES can provide trees and plants for ecosystem rehabilitation activities under the EDA
- On the building permitting process, NES looks at 3 significant areas, when buildings are in or affecting: 1) steep slopes requiring an EIA; 2) within 30m of the ocean; and 3) wetlands.
  - On Aitutaki, many buildings are within the 30m setback because of the severe coastal erosion; similar on northern Atoll islands where 20 – 30 m of coastal area has been lost
  - Enforcement issues where land is reported as “low-lying” terrain and not wetlands
- Streams up to 5m of embankment are under NES
- Sand mining for construction is an ESS risk

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## Stakeholder 3 – Infrastructure Cook Islands

Wednesday 15 July 2020

- The 2019 new Building Code Standard has been well received; extensive stakeholder consultations paid off
- Cost – insuring buildings along coast and in vulnerable areas is difficult
- Logistics – shipping freight, especially to the Pa Enua, is a big challenge; limited imports, warehouses and store options, sometimes builders / homeowners just have to use what's readily available, e.g. if it's not possible to get a container, have to cart with small barges, which is cost prohibitive
- Variation or changes to plans - ICI approves, inspects building, and then changes to plans
- Delays with arrivals, or no local skills available or contractor // have to make changes to suit
- Limited on number building inspectors (3 on Rarotonga and 2 on Aitutaki); governed by demand for housing construction
  - No dedicated building inspectors on the Pa Enua, as there are typically just 4 new houses per year
  - If the project requires 5 – 10 houses in 3 months, provisions for a relocation of inspectors (electrical, plumbing) needs to be made; e.g. following a cyclone event or for Government projects in an area
- Construction aggregates – limitations in supply, especially sand with sand mining along the coastline; some discussion of quarry producing construction-suitable sand
  - Importing sand could be an alternative, but not needed yet
  - Harbour dredging is a good source of construction sand, but it's only 5-10-year program
  - There's a push towards timber, due to concrete limitations
- Capacity needs – Civil engineering, with a specialization in structural design along the foreshore, flood areas, and slopes (few or none have this background)
  - Civil engineering, structural engineering, geotechnical engineering
  - NZ has 3-waters engineers: stormwater, sewage, water supply
- Replacement values are available for timber (1,270 /sq. m – imported) and concrete (1,150 /sq. m)
  - Cyclone retrofits cost between 6 – 30% of replacement value, depending on the age and type of building
  - 80 – 90% water connection rates in Rarotonga
  - Only 25% of buildings in Rarotonga meet sewage treatment standards; less in Pa Enua, especially atoll islands where septic systems can't be dug to 2m
  - Compost toilets were piloted, some liked it, but people generally were not keen on handling the waste
  - Flood zones are changing; some zones that didn't used to flood now are
  - ICI is developing a stormwater plan to identify all streams, floodplains and drains to protect drainage systems and enforce floor elevation

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## Stakeholder 4 – Chamber of Commerce

Friday 17 July 2020

- Chamber has 100 direct members and another 100 association members from tourism council, bank and businesswomen's association; 530 businesses on database
- There is an appetite for green businesses
- Interest rates are high, ranging from 9% upwards; businesses most probably won't be able to meet the 40% cash co-financing proposed under the EDA project at this stage; however, this could change in 6 months if borders re-open
  - For example, incentives have been offered as Covid 19 stimulus, however there is reluctance to commit to borrowing
- People are concerned around reliance of tourism and agree that there needs to be diversification; however, it will take time to develop new ideas and the returns will also take time – tourism returns are the quickest financial returns in the Cook Islands.
- The Chamber of Commerce is developing a GCF project that aims to strengthen the main commercial businesses in the Cook Islands, and reduce insurance costs – insurance as increased 25% in the last few years
- Solar farm incentives were successful, many businesses were responding
- Water storage tank was a success
- Energy efficient appliance buy-back programme was a success, people were buying more efficient fridges etc.
- Prescriptive project structure is preferred, as it's easier to roll out; if it's open ended, it might be more complicated. However, islands within the CI have different needs, so there needs to be some flexibility; capacity-wise, not sure how feasible it is
- The Chamber of Commerce is transitioning into direct business support. In past, the focus has been on larger businesses; going forward, the Chamber would like to offer more support to businesses with assist with financial affairs, access grants and loan, etc.

## Stakeholder 5 – Business Trade & Investment Board

Friday 19 June 2020

- BTIB traditionally deals with sole traders (95%) – micro (individuals and small) and also a few partnerships. Focus is on small and micro-size businesses, as they often need more assistance getting started or expanding. BTIB is however mandated to cover the entire business sector, and there is scope to work with the more medium or larger businesses going forward
- BTIB offers support for traders to register with the Ministry of Justice (MOJ); however, do not impose this on clients, advice is offered but it's up to the client
- Works predominately with BCI, with the soft loan scheme – BCI handle the lending component, and decision-making criteria are managed by BTIB
- BTIB has 74 clients (40% in Pa Enua) – they are considered clients once they have borrowed via soft loans etc. through BTIB. Once they pay their loan, they are released as a client; however, BTIB is developing a new product, a "business care package" as a longer-term support package

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- BTIB has financed some businesses that compost wet waste (food scraps) for fertilizer, rather than chemicals
  - 2019 loan portfolio:
    - 33 loans approved (14 females and 19 males; 14 on Rarotonga and 19 on Pa Enea)
    - Average of NZD8,231 per client
    - Average of NZD22,637 per month
    - Lowest lent out NZD2,000; highest lent out NZD20,000

## **Stakeholder 6 –the Ministry of Finance & Economic Management**

Wednesday 29 July 2020

- The proposed project activities seem appropriate and beneficial to the target communities
- Devolving part of the functions to the Pa Enea is likely to increase project risks
  - An operational risk assessment should be developed and used to inform the delivery arrangements for the project
  - The increased staff costs could be significant to the project if not carefully managed





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