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Vanuatu Financial Projections Mechanism Technical Report

For Vanuatu Rapid Climate Risk Assessment Framework and Methodology

Prepared for Secretariat of the Pacific Regional Environment Programme (SPREP)
Prepared by Beca International Consultants Ltd

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Contents

Revision History

Revision Nº	Prepared By	Description	Date
1	Danielle Goodall	Draft for Client Review	13/2/2024
2	Danielle Goodall	Final Report	29/2/2024

Document Acceptance

Action	Name	Signed	Date
Prepared by	Danielle Goodall		2/2/2024
Reviewed by	Jerry Khoo, David Silvester		13/2/2024
Approved by			
on behalf of	Beca Limited		

1   Background

The Financial Projection Mechanism builds upon the Rapid Climate Risk Assessment Framework (RCRAF) developed earlier in this assessment. The mechanism uses the elements at risk identified in the tourism case study, to provide an indication of how investment into climate change adaption and resilience should be prioritised over time. This has been built in close alignment with the Republic of Vanuatu's National Adaptation Programme for Action (NAPA)[1].

To address the elements at risk for the tourism sector, adaptation responses from Vanuatu's NAPA have been identified. These responses cover the adaption approaches: Accommodate, Protect, Avoid, and Retreat.

Based on the scenario outputs from the RCRAF, the mechanism evaluates the trade-off between time, cost, and impact of the adaption responses to provide an indicative adaption investment strategy which addresses the risks mostly likely to affect the tourism industry. It is important to note that a combination of these approaches, tailored to local conditions, is often the most effective strategy.

Vanuatu's economy relies heavily on tourism, tourism receipts account for 23% of GDP and estimates suggest its contribution to GDP could be as high as 36%[2]. Vanuatu faces notable challenges due to the large number of tourists compared to its population, and its vulnerability to natural disasters. It is essential to monetise tourism to fund adaptation efforts. In addition, community engagement and international collaboration will be crucial in addressing the climate challenges for Vanuatu.

2   Method

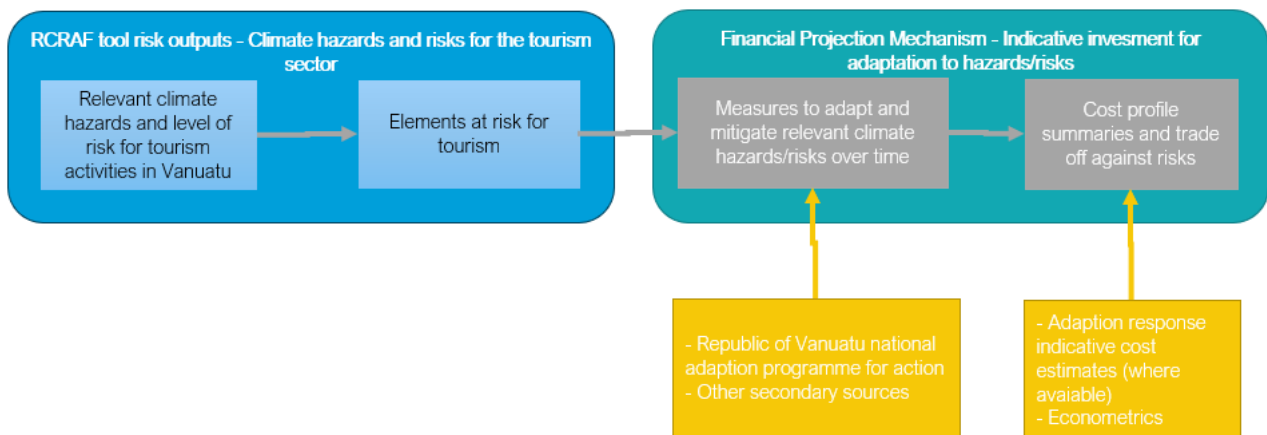The overall structure of the Financial Projection Mechanism is summarised in the flow chart below.

Figure 2-1 Overall structure of the Financial Projection Mechanism

The financial projection mechanism uses the 'elements at risk' table identified in the RCRAF as a key input. This table ranks the risk rating for each element that is relevant to the industry. As the focus for this

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[1] 2 National Advisory Committee on Climate Change (NACCC) (2006). National Adaptation Programme for Action (NAPA). https://unfccc.int/resource/docs/napa/vut01.pdf

[2] The Pacific Private Sector Development Initiative (PSDI) (2021). Vanuatu Pacific Tourism Sector Snapshot. https://www.pacificpsdi.org/publications/read/vanuatu-pacific-tourism-sector-snapshot

mechanism is for the tourism sector, this has been pre-populated with the 'elements at risk' for the tourism sector case study.

For each of the 'elements at risk' high-level adaption responses from Vanuatu's NAPA have been identified. These cover the key adaptation approaches of Accommodate, Protect, Avoid and Retreat. For each adaption approach, between 4 and 6 adaptation responses have been identified from which the final strategy elects from. The key adaption responses and assumed costs have been estimated by the limited available resources[3], and previous research[45]. These should be used as indicative costs only. The purpose of this mechanism is not to provide accurate costings, as these will vary significantly depending on location and scale. This level of detail is often not available during early high-level decision making. The mechanism instead is intended to provide indication into determining the priority of investments over time. The assumed costs are inputs into the mechanism, which can be changed where appropriate and when more accurate estimates are available.

The adaption responses are assigned to each of the elements where applicable. The mechanism prioritises the list of adaption responses using a multi-criteria analysis based on the risk (the urgency of response required to mitigate high risk elements), cost, and impact (to select for small incremental investments that will better enable future work and achieve "small wins"). The financial mechanism creates an investment profile, to determine where investment should be prioritised over time.

The final output is a ranked list of the adaption responses. Each response is given a priority rating: 'Extreme', 'High', 'Medium', 'Low'. Extreme responses should be prioritised over the immediate short-term, high in the short-term, medium where possible in the short-term, and low in the long-term. While the user of the mechanism can define the time-slices for each of the ratings, these are recommended to be populated as shown in Table 1. For each of responses, the mechanism also identifies whether the response is an adaption response for one of the top 5 'elements at risk' to the tourism industry, to show that particular focus should be on these elements when executing the response.

Table 1 Timeline of Investment Priorities

	Year Begin	Year End
Extreme = Priortise initial investment over immediate short-term	0	5
High = Priortise initial investment over short-term	5	10
Medium = Where possible short-term	10	20
Low = Where possible long-term	20	50

[3] World Bank, The Government of the Republic of Fiji, Global Facility for Disaster Reduction and Recovery, the (GFDRR) (2017). Climate Vulnerability Assessment: Making Fiji Climate Resilient. https://www.gfdrr.org/sites/default/files/publication/Making%20Fiji%20Climate%20Resilient%20-%20Full%20Report_0.pdf

[4] U.A. Rojas-Nazar, R. Cullen, J.P.A. Gardner, J.J. Bell (2015). Marine reserve establishment and on-going management costs: A case study from New Zealand. https://www.sciencedirect.com/science/article/abs/pii/S0308597X15001943

[5] Environment Agency UK (2015). Cost estimation for flood warning and forecasting. https://assets.publishing.service.gov.uk/media/6034ef2bd3bf7f26576beefd/Cost_estimation_for_flood_warning_and_forecasting.pdf

In addition to the ranked list of adaption responses, the mechanism creates several graphs showing the initial capital investment cost, recurring and operating costs, total cumulative cost, and cost per tourist of adaption over time.
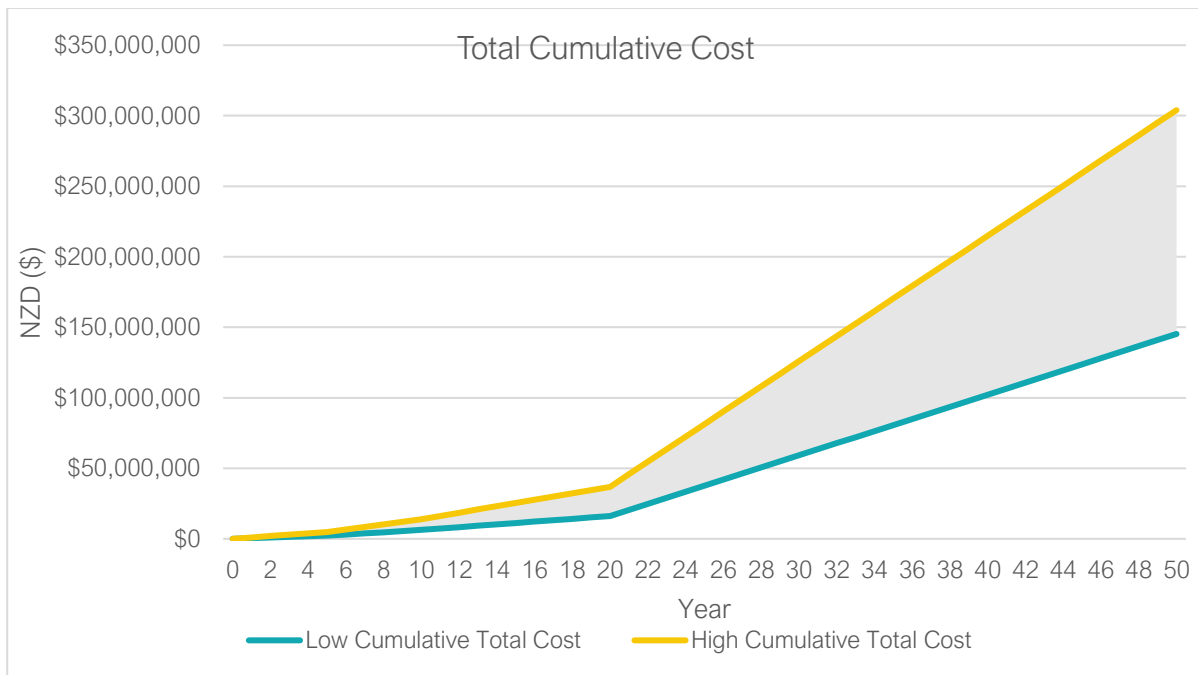

Figure 2-2 Total Cumulative Cost of Investment into Adaptation over the next 50 years.

3   Caveats

- This mechanism is not to be used to provide accurate costings of adaption responses. These are indicative investment cost only; costs will vary significantly depending on location and scale.
- The mechanism does not consider all adaption responses within Vanuatu's NAPA.
- The impacts of climate change are largely outside of the direct control of Vanuatu, as the most significant impact is caused from larger countries' emissions and environmental policies beyond their jurisdiction. Apart from lobbying other countries to encourage mitigation of climate change, avoidance methods are likely less effective.
- Adaption responses are only as effective as their execution and implementation.