

## Scaling Up Pacific Adaptation (GCCA+ SUPA)

Scaling up coastal protection in northern Tongatapu in response to climate change



Mangrove planting by MEIDECC staff in Tonga.



**Project focus:** Coastal protection



**Project timeframe:** 1 January 2019- 30 June 2023



**Project site:** North coast of Tongatapu



**National implementing agencies:**  
Ministry of Meteorology, Energy, Information, Disaster Management, Environment, Climate Change and Communication, Ministry of Infrastructure, Ministry of Internal Affairs and Ministry of Finance



**Beneficiaries**  
Direct benefit: **12,268 persons**  
Indirect benefit: **62,343 persons**

### Project synopsis

The 'Scaling up coastal protection in northern Tongatapu in response to climate change' project focused on the preparation of a coastal protection plan, including engineered structures and ecosystem-based measures, with cost estimates, for the north coast of Tongatapu; and implementing selected small scale coastal protection measures for the most vulnerable communities and strengthening local governance.

### How did this project address climate change adaptation in Tonga?

- Tonga consists of four main island groups of which Tongatapu is the biggest. Tongatapu is flat and low-lying and the highest elevation is 70m meters above sea level. Most of the urban area of Nuku'alofa, the capital city, is only 1–2m meters above sea level and is subject to periodic flooding during heavy rain. Accelerated sea level rise, a result of climate change, is contributing to beach erosion. This is, in turn, resulting in wave overtopping being experienced on coastal roads and by coastal communities in Tongatapu.
- Focusing on selected vulnerable communities in Tongatapu, the project adopted a participatory and inclusive people-centred approach that addressed the vulnerabilities and the rights of these residents men, women, elders, youth groups and people living with disabilities. Skills in climate resilience were enhanced, particularly for town officers, youths and community representatives.

### How did this project scale up climate change adaptation in Tonga?

- **Scaling up previous measures that had elements of sustainability:** The project analysed the results of an impact assessment of previous measures for the protection of short sections of the north coast of Tongatapu, implemented over the period 2012 – 2020. Scaling up was achieved by developing an overall coastal protection plan, including engineered structures and ecosystem-based approaches, and with priorities, conceptual designs and costs identified, for the entire north coast of Tongatapu.
- **Link to national priorities:** The project was linked to the 2016 Climate Change Policy and the Joint National Action Plan on Climate Change and Disaster Management.
- **Socio-economic benefits for communities and the most vulnerable groups:** The project included the safeguarding of infrastructure, livelihoods and personal safety, and prioritised the needs of the most vulnerable groups using a people-centred approach.
- **Maintenance of the newly scaled up infrastructure:** Maintenance of the engineered measures is the responsibility of the Government of Tonga, while maintenance of some of the ecosystem-based measures is the responsibility of community groups in cooperation with government agencies.





Damages to the coastal track and rock revetment in Kanokupolu post Tsunami



Completed coastal track and rock revetment in Kanokupolu, northwest Tongatapu

## Key Project Highlights

### Strategic planning

- Assessing the impacts of past coastal protection measures in 'Ahau (western Tongatapu) and along the coastline of Makaunga and Talafo'ou (eastern Tongatapu) using a newly designed impacts analysis methodology and sharing the results with national agencies, communities and partner countries.
- Conducting a coastal assessment and preparing an overall coastal protection plan, including engineered structures and ecosystem-based approaches, and with priorities, conceptual designs and costs identified, for the entire north coast of Tongatapu. The coastal protection plan was revised after the January 15th 2022 tsunami and has become an important foundation for use by potential donors wishing to assist Tonga's post tsunami and coastal protection efforts.
- Scaling up existing IT infrastructure in the government ministry responsible for climate change, to archive, share and apply national climate change knowledge and information.

### Implementing community-based coastal protection measures

- Facilitating a process whereby coastal communities and government agencies worked together to prioritise the small-scale coastal engineering and ecosystem-based measures included in the coastal protection plan.
- Protecting coastal communities by repairing the 1.3 km long coastal rock revetment in front of Kanokupolu in northwest Tongatapu, which was one of the communities most severely impacted by the January 2022 tsunami.
- Provision of training for youth groups on proposal writing and the development of a mangrove nursery that included site selection, site preparation and clearance, harvesting of seedlings, propagating, and transplanting planting of mangroves as an ecosystem-based approach to coastal

- Establishment of the Hihifo mangrove nursery at Nukunuku with arrangements in place with the Nukunuku youth group to continually restock and maintain the nursery.
- Supporting communities and youth groups to replant mangroves in areas where they have been depleted along the northwest coast of Tongatapu.
- Providing for public safety by placing warning signs in areas prone to flooding in northwest Tongatapu.

### Building community and youth capacity

- Strengthening community governance by providing training for town and district officers and representatives of women and youth groups in leadership, coastal protection issues and climate change, and communication channels.
- Sharing traditional knowledge, especially relating to coastal issues, between elders and youths, and identifying the traditional knowledge that has relevance for coastal protection.
- Providing training to youth representatives on project proposal writing.
- Involving youth and communities in awareness activities such as coastal clean-ups, coastal tree planting and preparation of climate change videos on the impacts of climate change and natural disasters.
- Expanding the scope and supporting Tonga's National Climate Change Awareness Week held in September 2020, 2021 and 2022.

### Activities meet the following SDGs:



### About the GCCA+ SUPA project

The Global Climate Change Alliance Plus Scaling up Pacific Adaptation (GCCA+ SUPA) project is about scaling up climate change adaptation measures in specific sectors supported by knowledge management and capacity building. The 4.5 -year project (2019- June 2023) is funded with €14.89 million from the European Union (EU) and implemented by the Pacific Community (SPC) in partnership with the Secretariat of the Pacific Regional Environment Programme (SPREP) and The University of the South Pacific (USP), in collaboration with the governments and peoples of Cook Islands, Federated States of Micronesia (FSM), Fiji, Kiribati, Marshall Islands, Nauru, Niue, Palau, Tonga and Tuvalu.

The **Overall Objective** of the GCCA+ SUPA project is to enhance climate change adaptation and resilience within ten Pacific island countries.

The **Specific Objective** is to strengthen the implementation of sector-based, but integrated, climate change and disaster risk management strategies and plans.