



Trialling coastal protection measures in eastern Tongatapu



Trialling different coastal protection measures that will benefit communities – climate change adaptation in Tonga.

Project amount

€ 0.5 million (approx. Tongan Pa'anga 1.26 million) funded by the European Union

Project period

13 August 2013 to 30 June 2015

Implementing agencies

Ministry of Meteorology, Energy, Information, Disaster Management, Environment, Climate Change and Communication
Secretariat of the Pacific Community (SPC)

Partners

Asian Development Bank (Strategic Program for Climate Resilience)

Project synopsis

The 'Trialling coastal protection measures in eastern Tongatapu' project focuses on designing, building and monitoring the success of 'hard' and 'soft' engineering measures working in combination along two coastal stretches. One measure consists of the construction of permeable groynes coupled with beach replenishment and coastal planting. The second measure involves

constructing short offshore breakwaters combined with beach replenishment and coastal planting.

How does this project assist climate change adaptation?

Several villages, stretching from Nukuleka to Kolonga, in eastern Tongatapu, the main island of Tonga, were identified as needing priority action in Tonga's *Joint National Action Plan for Climate Change Adaptation and Disaster Risk Management* (2010–2015). The project is responding to the identified need by trialling different engineering methods to prograde the coastline seaward by accumulating sediment. This will 'buy time' for the affected villages as planning for the projected impacts of climate change progresses.

The coastal environment is vulnerable to the effects of climate change as:

- average and extreme sea temperatures are projected to rise, affecting the growth of coral reefs and marine organisms and their ecosystem functions;
- changes in annual and extreme rainfall events will impact sediment loads and the frequency of flooding for coastal communities; and
- the sea level is expected to continue to rise, exacerbating coastal erosion, storm surges

and coastal inundation; and further stressing coral reef ecosystems.

Key highlights of the project

- Design and construction of coastal protection measures that will benefit the nearly 4,000 people living in this coastal area.
- Community consultations have been an important part in each phase of development including in the assessment and identification of sites; a feasibility study; an environmental impact assessment; determination of the final design; construction; and monitoring.
- The entire process is providing a model for addressing similar problems in other vulnerable coastal areas in Tonga.
- Preparation of a coastal diagnostic study to inform the Integrated Coastal and Marine Spatial Planning process.
- Collaboration with the Strategic Program for Climate Resilience provides an opportunity to expand trialling of coastal protection systems to more sites in eastern Tongatapu.

The project's focus was determined by the Government of Tonga and included widespread consultation. Tonga is responsible for the project's implementation.



European Union

SPC
Secretariat
of the Pacific
Community

The Global Climate Change Alliance: Pacific Small Island States project in Tonga



Regular meetings and workshops help build local capacity in addressing the adverse effects of climate change

The Global Climate Change Alliance: Pacific Small Island States (GCCA: PSIS) project is a four-year € 11.4 million initiative funded by the European Union. It is implemented regionally by the Secretariat of the Pacific Community and involves national climate change adaptation projects in nine Pacific Island countries – Cook Islands, Federated States of Micronesia, Kiribati, Marshall Islands, Nauru, Niue, Palau, Tonga and Tuvalu.

The overall objective of the GCCA: PSIS project is to support the governments of the nine Pacific small island states in their efforts to tackle the adverse effects of climate change.

The Government of Tonga is implementing a national climate change adaptation project (see reverse side for more information) with € 0.5 million provided by the European Union.

In addition to this project funding, Tonga can access specialised technical assistance and training provided through a pooled resource

allocation in the regional GCCA: PSIS umbrella project. This mechanism is providing the following in Tonga.

Training

In-country training in:

- proposal preparation, project design and budgeting, monitoring and evaluation; and
- utilising the Pacific Climate Change Portal, a regional gateway to information about climate change and related activities in the Pacific region.

National climate change mainstreaming

Mainstreaming refers to the process of embedding climate change planning in the spectrum of government ministries, sectoral plans and activities. Relevant GCCA: PSIS activities are given below.

- A review of the extent of climate change mainstreaming in national strategic plans, policies and budgets in Tonga. This was

conducted to inform an assessment of the country's readiness to receive international climate finance through budget support mechanisms.

- Providing technical assistance for the design and implementation of the Tonga Climate Change Fund. It is planned that the fund, once implemented, will ensure a sustainable generation of revenue from both internal and external sources to enhance the Government of Tonga's capacity to effectively implement current and future climate change and disaster management activities.
- Revision of the Tonga Climate Change Policy and alignment with the revised 2015-2020 JNAP.

Documentary

A short video on lessons learnt about climate change adaptation in Tonga will be available in 2015.