



**SPC**  
Secretariat  
of the Pacific  
Community

## 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 Lands, Environment, Climate Change and Natural Resources  
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 management plan for Tongatapu Island that will provide an overall, integrated approach to coastal management, replacing the existing piecemeal approach.
- 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.





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



*Tonga is vulnerable to the adverse effects of climate change. Together with eight other countries it is part of the GCCA: PSIS project.*

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 include:

- 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 climate-related disaster activities.