

SAMOA

PACC Country Brief

Pacific Adaptation to Climate Change



Integrating coastal community defense and erosion control under climate risk considerations

The Pacific Adaptation to Climate Change (PACC) project is supporting the integration of climate change risks into policy frameworks and the implementation of community-based adaptation measures in 14 countries throughout the Pacific. These actions are intended to increase resilience in three key development sectors: water resource management, coastal zone management, and food production and food security.

In Samoa, the PACC project aims to enhance the adaptive capacity of coastal communities, their socio-economic activities and the infrastructure they rely on. By integrating climate risks considerations into coastal community defense and erosion control, PACC Samoa will increase the resilience of its coastal communities and infrastructure to the impacts of climate change.

Issues

Samoa is an island nation in the tropical cyclone region of the South Pacific. Its climate is typical of small tropical islands, with high rainfall and humidity and distinctive wet and dry seasons. However severe tropical cyclones occur during the summer months of December to February. Samoa is also vulnerable to anomalously long dry spells that coincide with the El Niño South Oscillation (ENSO) phenomena.



The majority of Samoa's population and infrastructure are located in the coastal area. Photo: Gabor Vereczi

The economy of Samoa has traditionally been dependent on agriculture, fishing, development aid, and family remittances from overseas. Agriculture employs two-thirds of the labour force and accounts for 90% of exports. Highly susceptible to climate change, however, the agricultural sector is now threatened.

About 70% of Samoa's population and infrastructure are located in the coastal area. This is a serious concern: nearly all the coastal settlements in Samoa are located in low-lying areas and are very vulnerable to sea level rise and extreme events such as cyclones,

prolonged droughts and coral bleaching stimulated by extremely low tides.

Actions

PACC Samoa aims to improve the adaptive capacity of its coastal communities by incorporating climate risks into key development sectors. By reinforcing existing coastal infrastructure, planting coastal vegetation and promoting coastal resource use changes (e.g. reducing sand-mining by local communities, promoting conservation), climate-induced degradation and erosion of coastal areas and infrastructure is being reduced.

As of April 2012, actions taken at the ground level include:

- Coordinating community consultation and engagements – to inform the communities of the roles and expectations of the project, encourage their support as well as facilitate ownership of the initiatives;
- Undertaking site specific vulnerability and adaptation assessment, Socio-economic assessment – to assess the level of vulnerability and existing coping methods. The results of these assessments inform the screening and selection of appropriate adaptation options to implement;
- Constructing coastal protection mechanism;
- Re-vegetation of selected coastal areas;
- Developing a bylaw for Taftoala to manage its water resource.
- Holding capacity building workshops and seminars for the community on the importance of selected adaptation options.
- Awareness programmes during the Annual National Environment Week.

Policy mainstreaming:

The first of the PACC outcomes is devoted to mainstreaming. The PACC approach to mainstreaming has a dual purpose: 1) to strengthen the ability of institutional frameworks, policies and plans to take climate change risks into consideration and 2) to improve the capacity of key national government and community decision-makers to integrate adaptation measures in key decisions.

Country Summary

Country: Samoa

Thematic Sector:
Coastal zone management

Project Funding Source:
GEF-Special Climate Change Fund

National budget allocation:
GEF-SCCF: \$750,000

Co-financing:
\$2,500,000

Programme Period:
2009-2014

Target area:
Taftoala Safata, Lalomalava
Faasaleleaga 1, Lefagaoalii
Gagaifomauga II, Vaimauga
East, Sagaga le Usoga

National Implementing Agent:
Ministry of Natural Resources
and Environment, Government
of Samoa

**Regional Implementing
Partner:** SPREP

Implementing Agency:
UNDP





The construction of a seawall in Tafitoala is an example of coastal protection.
Photo: Gabor Vereczi

Mainstreaming efforts for PACC Samoa include supporting the government to develop a community-based integrated coastal protection model for adaptation to climate change. To date, coastal infrastructure management (CIM) plans are available for 15 districts of Samoa. These CIM plans were developed with support from the World Bank and include a vulnerability assessment and identification of measures necessary to increase the resilience of the socio-economic infrastructure to the impacts of climate change and sea level rise in the long term. Additionally, a bylaw for Tafitoala, one of the PACC Samoa target areas, has been developed to improve the management of water and coastal resources.

Community-based adaptation:

The second PACC outcome is to design and demonstrate innovative decision systems, approaches, technologies and practical measures to improve climate-resilience. As part of these innovative approaches, PACC Samoa coastal revegetation efforts include planting local trees to address coastal erosion and land loss. The specific species of trees have been chosen based on high salt tolerance and wind resistance, and the target areas have been chosen due to high vulnerability.

In addition to coastal vegetation activities, PACC Samoa is working to minimize land loss due to coastal erosion through the use of hard structures or armour rocks. As a protective coastal structure, armour rocks serve as barriers to stop high energy waves during storms and extreme events.

On a fundamental level, PACC Samoa is also promoting coastal resource use changes in the community. By raising awareness the project is working to reduce sand-mining by local communities, and promote the conservation of reefs, coastal wetlands and forests as natural protection barriers.

For successful implementation, innovative community engagement processes will ensure that the people and communities directly affected by coastal erosion and land loss are directly involved with decision making on key planned adaptation interventions. Local stakeholders will be trained in designing and regenerating mangrove areas with consideration of tidal flows and storm return periods. In addition, construction and maintenance of drainage and outflows for a 25-year storm event will be managed at local levels. Demonstrations in key vulnerable regions will set the standards for community-based coastal defence systems and erosion control measures and buffer zone protection.

At the national level, PACC Samoa will be implemented by various stakeholders within their respective mandates. Scientific, technical and policy oversight will be provided by the national Climate Change Country Team (NCCCT), comprised of representatives from government ministries, agencies and institutions, and the private sector. To increase its effectiveness the project will include actions to enhance networking and information exchange among diverse stakeholders (e.g. NGO's, private sector, government, communities and the general public) to develop appropriate measures to address climate change, climate variability and sea-level rise.

Impacts

These and future measures will strengthen the adaptability of Samoa's coastal zones to climate change. The PACC Samoa project expects to increase universal access to information and enhance stakeholder and community participation through a decentralised and accessible platform. By addressing the risks of climate change systematically and consistently, the project seeks to integrate long-term planning into national and regional development strategies at all levels. It will also facilitate coordination in key areas such as disaster risk management and environmental and development planning. Through the implementation of a community based integrated coastal protection model, Samoa's coastal communities and infrastructure will be more resilient against the impacts of climate change.

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