



SAMOA

Integrating Climate Change Risks into the Agriculture and Health Sectors

LEAST DEVELOPED COUNTRIES FUND	
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Cofinancing	\$2,150,000
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GEF Agency	United Nations Development Programme (UNDP)
Other executing partners	Ministry of Natural Resources and Environment; Ministry of Health, National Health Services; Ministry of Agriculture and Fisheries

As a Least Developed Country (LDC) and a Small Island Developing State (SIDS), Samoa is particularly vulnerable to the adverse effects of climate change. A recent climate risk profile identified plenty of possible impacts of changing climate in Samoa.

Flooding will result in large bodies of stagnant water, leading to increases in mosquito populations that transmit diseases, including filariasis, dengue fever, typhoid, diarrhea, as well as a number of gastrointestinal infections. Extreme rainfall events will lead to overflow of sewerage systems and the spread of pathogens, and flash flooding associated with extreme rainfall events to serious injuries and loss of life. Coastal and surface flooding will cause widespread damage to infrastructure, such as buildings, roads, and utilities, and general inundation of coastal areas. Heavy rainfall is likely to cause major damage to crops, as in February 2005, when

the supply of fresh food products decreased and contributed to higher market prices. Crops like pawpaw were almost completely wiped out. Heavy rainfall can further cause serious erosion in certain parts of the country, and loss of soil undermines the viability of plantations and other forms of subsistence agriculture and causes sedimentation in coastal waters threatening fish stocks.

Drought, on the other hand, is likely to affect access to safe drinking water and cause loss of agricultural and livestock productivity, compounded by the fact that Samoa does not have extensive irrigation networks or water storage facilities to buffer the effects of drought. Dehydration and respiratory problems can result from increased levels of particulates in the air, and heat stress associated with the rise in average daily temperatures will become more common.



Drought will also undermine the incentive for farmers to continue working their land, and thus national food security. Marine ecosystem studies have shown a correlation between increased sea surface temperatures and incidents of fish poisoning. With reef fish being a major part of the Samoan diet, there is a real threat of more cases of fish poisoning. Damaged marine ecosystems, such as coral bleaching, add pressure to the already depleted fish stocks. This will lower the availability of fish for consumption, which will cause dietary problems for those who depend on reef fish for nutrients. Offshore fish catch is also highly dependent on sea surface temperatures.

The incidence of agricultural pests and diseases will increase as a result of drought causing stress in crops and livestock, lowering their resilience to disease and pests. Strong winds associated with cyclones are predicted to result in widespread damage to crops, ruining household plantations and increasing market prices and dependence on imports. Loss of land due to sea-level rise will further reduce farming land in the coastal zone.

Project Activities and Expected Impacts

Given all potential impacts described above, the government of Samoa has recognized the need to incorporate climate risks and adaptation into the agricultural and health sectors. The objective of this project is to increase the resilience and adaptive capacity of coastal communities in Samoa to the adverse impacts of climate change on agricultural production and public health. In order to achieve adaptation benefits the project aims to:

Introduce a systematic process for capturing, analyzing, processing, and disseminating climate risk information for vulnerable sectors demonstrated in the priority development segments of food production and public health

Inform sectoral policy processes and investment decisions through tangible climate risk data, provided in an accessible way and backed up by a strong underlying climate data information system

Introduce targeted education/health promotion activities for public service providers and sectoral planners about climate change projections, their

impact on human health and livelihood security, and available short-term risk reduction and long-term climate change adaptation options

Demonstrate and analyze the benefits of crop diversification and drought- and saline-resilient crops at the community farming level, strengthening the options available to local farmers to deal with climatic uncertainties and unpredictable dynamics in local food markets

Analyze the relationship between climate trends and vector-borne, water-borne, food-borne and heat-related illnesses and thus provide a critical mass of data and knowledge for the design of more effective disease prevention programs

Enable exchange of experiences between Pacific Small Island Developing States on matters of climate change monitoring and agriculture/health sector adaptation.

The project also enhances the technical and organizational capabilities of the Samoa Meteorological Division to monitor climate trends and provide climate risk and early-warning communications to the agricultural and health sectors to help augment existing disaster risk management processes. It also improves the capacity of Samoa's public health planners and public health workers to reduce the impact of climate change on public health.

Synergies and Coordination

The project proponent is the Ministry of Natural Resources and Environment (MNRE), which has overall responsibility for climate change activities in Samoa. Collaboration potential is taken into account with UNEP and other UN agencies during the project implementation in the spirit of the ongoing UN Reform process.

Extensive stakeholder consultations have been undertaken through the NAPA Expert Working Group representing the related key sectors. The National Climate Change Country Team has also been closely involved in the development of the NAPA and subsequent activities to prepare for implementation. The team represents a strong partnership between government agencies and nongovernmental organizations and other stakeholders.

For More Information

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