

**UNDP-Implemented GEF Small Grants Programme  
Community-Based Adaptation in Small Island Developing States - SIDS CBA**

**Adapting to climate change impacts in water resources and services in Matafa'a Village, Samoa**

**Project No:** WSM/MAP-CBA/2010/003  
**Grantee:** Savaia – Alii ma Faipule Matafa'a  
**Location:** Matafa'a Village, Upolu Island  
**AusAID supported SGP Contribution:** 50,000 USD  
**Co-Financing:** provided by the community in-cash and in-kind  
**Project Duration:** - 6/2011 - 9/2012  
**Number of people served:** 226  
**Focal area:** Community-Based Adaptation

**Background**

The Matafa'a village is located at the "Le-faga-o-alii" peninsula on the island of Upolu in Samoa. It is home to 226 people, all of whom are of Samoan decent. There is one pre-school and older students have to travel by canoe to go to school in other areas. There is no health clinic nor are there any telephone lines. Recently, the Government of Samoa built a tar-sealed road to the village --- a milestone for this isolated village.

The only water source in the village was from a spring located on the coast, and whilst it was in a hazard zone prone to flooding, majority of the villagers resided in this area. The water source was contaminated by runoff from a nearby cattle pasture. Population

growth and unsustainable land management practices (for example, use of toxic chemicals in farming and fishing activities) contributed to the degradation of the ecosystems the village relied on. Furthermore, climate change impacts and its variability exacerbated these conditions. Increasingly variable rainfall, floods and extreme droughts have resulted in water scarcity and poor water quality. With no regular water supply of clean water, the village was faced with health problems, widespread of diseases (such as typhoid fever), dwindling river fauna, diminished productivity of agriculture and livestock, and degradation of land and soil. The elderly, women and children were most affected as they are responsible for gathering water for their families.

Given this situation, the Matafa'a village requested the support of the UNDP-Implemented GEF Small Grants Programme (SGP) to support the implementation of a project aimed at water security while simultaneously conserving the ecosystems that the communities relied on.

**Project Objectives and Results**

The goal of the project was to strengthen the Matafa'a village's resilience to climate change impacts and its variability through awareness-raising and capacity-building activities on water resource management. Using a participatory approach and building on local knowledge, the project results include the access to freshwater resources (through the installation of a gravity-fed water system in the mountain zone) and the conservation and protection of the watershed surrounding the new water source. The Matafa'a village worked in partnership with the Independent Water Scheme Association (IWSA), an NGO representing villages with independent water schemes.

**Environmental Impact**

The gravity-fed water system installed is cost-efficient and environmentally sound, with pollution danger from pit latrines, groundwater and waste water being virtually absent. The project is located inside a steep mountain ravine and being high in altitude, it is not compromised by clear cutting for cattle farms and other farming activities, and by people frequenting the stream and small waterfalls. Tree-planting using native species is preventing soil erosion in the coast as



After the project, children have more time for school --- searching for water and carrying it back to their homes over long distances is now seen as a hardship of the past.

well as in the watershed. Most importantly, the springs emanating from the mountains feed into a small stream that has not been affected by prolonged drought periods. In September 2011, while the whole country experienced droughts and severe water shortage for three months due to El Niño, the Matafa'a village had water, attributed to the efforts of the project activities to ameliorate the environment and improve its conditions. Thus, the water system coming out of the watershed is deemed climate resilient since the river is flowing throughout the year.

### **Socio-Economic Impact**

Today, all the houses from the village have access to clean water. Since this is a community managed water scheme, the Matafaa community members do not pay water bills to the government unlike their neighbouring villages. However, the village set up a monthly 'user fee' of WS\$10 per household to cover maintenance costs. A penalty of \$100 will be paid to the village council for any unreported leaking pipe/s in any community member's house.

With the recognition that on-going monitoring is crucial in this project, the village appointed different committees with various monitoring and other action-oriented tasks. Since pollution of the water source will be detrimental to the humans and ecosystem stability, various village committees have been appointed to regularly monitor and clean out of debris to prevent pollution at the intake. The Samoa water department also regularly monitors for fecal pollution from animals. Youth Water Committees were formed to capacitate youth in the installation, maintenance and trouble-shooting needs of the new water system. One youth member was recruited by the Government of Samoa to study plumbing in Fiji and to use and share the skills back in the community, particularly in this project.

### **Enduring Partnerships for Sustainability**

The project has provided linkages and synergies for the Matafa'a village to various local and national organizations. The Independent Water Scheme Association (IWSA) has been a project partner from the onset including the water scheme design and its best location. They also provided thorough technical and practical training on the installation, repairs, leakage monitoring and proper water consumption. Sustainable water resource management strategies and regulatory needs were added in the village code of laws being informed by the best practices of this project.

Today, two years after the project ended, IWSA continues to work with the village. After the recent assessment by the Ministry of

Health Water Quality Division, the water quality was found not to be up to required standards with regard to bacterial indicators (*coliform* and *e.coli*). While this condition is prevalent throughout the country including the water from the national water supply sources, IWSA has decided to install water filters in 2015 to address the bacterial issues and to improve the water quality in the village homes. SGP monitoring visits held in July/August of 2014 determined that some homes located in the hills did not have enough water pressure and IWSA will provide water tanks to them. Additionally, to prepare for the El Niño event predicted to start in September 2014, IWSA has installed more water tanks in the village.

Other project partners include the Ministry of Natural Resources and Environment (MNRE) who provides technical advice on watershed management, the Ministry of Health (MoH), helping with advice on water-related health issues, while the Ministry of Women Community and Social Development (MWCSD) Division of Internal Affairs and the Red Cross provides emergency relief.



Two years after the project ended, project partners continue to monitor water supply and quality and provides capacity development.