



# VANUATU *briefing* note

June 2013

## SPC/GIZ Coping with Climate Change in the Pacific Island Region

### *Climate resilient agricultural crops and farming systems Teouma, Efate Island, Vanuatu*

Teouma is now leading the way in the use of innovative agricultural practices. One adaptive farming method is alley cropping.



The community of Teouma on Efate Island (SPC/GIZ pilot site) was experiencing crop failure due to increasing temperatures and changes in precipitation. Teouma farmers requested assistance from the SPC/GIZ Coping with Climate Change in the Pacific Islands Region programme to better understand the effects of climate on their lives and find innovative strategies to secure the future development of their community.

### Agriculture in Vanuatu

76% of Vanuatu's population (176,816 people) are based in rural areas and practice traditional agriculture to provide for their dietary needs and income. Root crops (yam, taro, manioc, sweet potato and plantains) are a fundamental part of Ni-Vanuatu diets and have been for the past 2,000 years. These staples are cultivated because of their ability to withstand weather extremes, pests and other problems, but there are new challenges being faced today.

Increased consumption of imported foods and population growth have resulted in less cultivation of these crops, and some production methods that were used in the past to deal with climate extremes have been lost. Now, due to climate and weather patterns changing, Vanuatu's food security is increasingly vulnerable.

#### *Project facts CCCPIR*

**Funding sources:** Federal Republic of Germany through the Federal Ministry for Economic Cooperation and Development (BMZ)

**Regional partners:** SPC, SPREP and USP

**Countries:** Federated States of Micronesia, Fiji, Kiribati, Marshall Islands, Nauru, Palau, Papua New Guinea, Samoa, Solomon Islands, Tonga, Tuvalu and Vanuatu

**Duration:** January 2009–December 2015





Changing precipitation patterns are influencing agricultural planting, maintenance and harvesting methods, as well as the production capability of agricultural systems. Intense rainfall events during planting seasons damage seedlings, water-log soils, reduce growth and provide conditions that promote the development of plant pathogens, pests and diseases.

The SPC/GIZ programme is working with Vanuatu's Department of Agriculture and Rural Development to test and trial specific adaptation methodologies in the Teouma community. Farmers in Teouma now have an increased understanding of:

- climate change predictions, forecasts and impacts on agriculture;
- weather patterns and their impact on agriculture (agrometeorology training);
- techniques to improve soil fertility as well as agricultural production in times of heavy rain and drought;
- methods to identify resilient crop varieties for continuous planting;
- techniques to minimise wind damage to crops and to rapidly propagate and multiply resistant varieties;
- agriculture business management (farming as a business training module).

The programme is currently focusing on the identification of varieties of kumala, cabbage and yam that respond well to local climate change impacts, as well as alley cropping farming practices for climate resilience.

## Hands-on, sustainable projects

Teouma is now leading the way in the use of innovative agricultural practices. One adaptive farming method is alley cropping. Gliricidia trees are intercropped with dwarf beans followed by root crops in the second rotation. Trial plots are cultivated with different techniques for comparison – e.g. with/without weeding, with/without mulching or soil nutrient improvement – to establish best practice conditions for growth, quantity, quality, and climate tolerance. The trees provide protection from extreme wind events, reduce soil temperature and sun exposure, and also help to keep the roots moist.

Second, the community in Teouma is working to establish the hardiest and most productive local varieties of island cabbage to withstand extreme rainfall, drought and heat by on-farm testing 30+ different types of island cabbage and monitoring their growth and productivity. Island cabbage is one of the staple foods of Ni-Vanuatu people but this crop often fails with heavy rain and drought events.

And third, research by VARTC (Vanuatu Agricultural Research and Training Centre) on Santo has led to new varieties of yam and kumala that are now being trialled in Teouma to identify climate change-resilient varieties suitable for the local area. More than twenty kumala species from different areas of Vanuatu have been planted in Teouma to establish the most suitable one for local climatic conditions and extreme events.



## CONTACT

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*GIZ is a federally-owned enterprise that supports the German government in the field of international development cooperation. For more than 30 years, GIZ has been cooperating with Pacific Island partners in strengthening the capacity of people and institutions to improve the lives of communities for this generation and generations to come. GIZ is an implementing agency providing support through technical cooperation to balance economic, social and ecological interests through multi-stakeholder dialogue, participation and collaboration.*

