 **Brussels Policy Briefing no. 29**

*Climate change, agriculture and food security: proven approaches and new investments*

*27 September 2012*

*European Commission, Charlemagne Building*

<http://brusselsbriefings.net>

**Successes in Climate Adaptation and Mitigation: the Pacific Experience**

Taito Nakalevu, Regional Project Manager, Pacific Adaptation to Climate Change (PACC), Secretariat of the Pacific Regional Environment Programme (SPREP)

*Executive Summary*

The Pacific region has received climate change adaptation assistance from multilateral and bilateral donors such as the Global Environment Facility[[1]](#footnote-1), European Union and the Australian Government[[2]](#footnote-2) in the past few years. This assistance has increasingly and specifically targeted on-the-ground implementation and capacity building. Briefly discussed below is work in progress in the region related to climate change and food security.

Strengthening institutions and improving coordination and cooperation on climate change and food security

At national and regional levels, capacity of various government institutions which includes agriculture and fisheries had been developed to better coordinate climate change adaptation and mitigation. In the Pacific region, the development of Joint National Action Plans – or JNAPs - for climate change adaptation and disaster risk reduction has been hailed a success by many countries. This is a joint initiative by SPREP and the Secretariat of the Pacific Community (South Pacific Applied Geosciences Division) that provides a framework for better cross sectoral planning on issues such as climate change, disasters, impacts on food security and adaptation and mitigation actions needed. Further work is being carried out by the PACC project in various countries like the Solomon Islands, Fiji, Palau and Papua New Guinea to develop their policy and plans to guide food security work in the face of a changing climate.

'Climate Smart Agriculture' programmes tailored to country needs on food security

Impacts on food security is not uniform throughout the Pacific due to differences in climate change impacts between islands, differences in island topography, soils, rainfall patterns and production systems. In Palau, salt water is intruding into low lying areas that have commonly been used for taro production. With assistance from the Secretariat of the Pacific Community, through their 'Climate Ready' collections, and the Palau Community College, salt tolerant varieties of taro (*Colocasia esculanta*) are being tested at the PACC site for ability to withstand saline conditions and also water logging. Further measures currently being experimented upon include raising of soil-beds, bunding and building of dykes to stop sea water intruding into taro plots. Palaun's prefer taro that are planted on low-lying wet lands for consumption. With sea level rise, a change in the farming system to an agroforestry-based taro production system is inevitable. The communities will need to be prepared for that new reality going forward.

In the Solomon Islands, SPREP is promoting the use of environmentally friendly practices and approaches in agricultural production, including reduced use of pesticides and chemicals and adopting practices which protect and restore important ecosystems in the Pacific. Ecosystem based Adaptation (EbA) should be a key element of future approaches to adapt to climate change in the Pacific.

Water and food security

Water is a key limiting factor for agriculture. The recent state of emergencies declared on Tuvalu and Tokelau and the drought conditions in the northern Cook Islands, indicate that drastic adaptive measures for water will be required. The PACC project is examining practical measures to communities in these islands to reduce their exposure to such climate extremes. In Papua New Guinea, the project is designing underground irrigation systems to adapt to current and future drought situations that may be worsened by climate change. In the Solomon Islands, mixed farming that involves salt tolerant crops, legume trees and tree crops, a form of atoll permaculture are being promoted. The system allows for various levels of shading generated by the canopy and the production of biomass (important in atoll soils).

Linking rural agricultural population to mainstream commercial or semi-commercial economic development to increase coping capacity.

The majority of our rural population subsist in the margins of development. They need to be linked in with the formal economy and the support mechanisms provided. The PACC project is working to climate “proof”[[3]](#footnote-3) infrastructures so that they can be utilized during extreme weather events providing that vital link between the rural communities and the formal economic sector. An example of this is supporting climate proofed infrastructures in the Federated States of Micronesia and Epi Island in Vanuatu. In both cases road infrastructures are being improved to withstand greater climate extremes, while also utilizing natural protective systems such as mangroves to further enhance the climate change resilience of the infrastructure. If successful these projects will provide for better access to services and utilities which can have positive rippling effects to the rural poor. The food security support programme for PNG will help drought prone communities that had abandoned farming to return to commercial farming and partake in the cash economy.

Climate ready collections

In the Pacific, [the Centre for Pacific Crops and Trees (CePaCT)](http://www.spc.int/lrd/index.php?option=com_content&view=article&id=649:cepact&Itemid=107) is based in Fiji at the Secretariat of the Pacific Community (SPC). The aim of CePaCT is to assist Pacific Island countries and territories (PICTs) to conserve the region’s genetic resources, and to provide access to the diversity they need, when they need it. Conservation is the core business of the centre, with priority given to the region’s staple crops: taro, yam, sweet potato, banana, cassava and breadfruit. The centre houses over 2,000 accessions in all. The taro collection is particularly unique, being the largest collection of taro diversity globally – over 1,000 accessions. According to SPC, strengthening local food production and consumption can enhance climate change resilience, through both increasing the diversity in farmers’ fields and improving the nutritional status of Pacific communities.

Mitigating climate change in agriculture

There is a need to better track the reduction or removal of Greenhouse Gases in the Pacific region’s agricultural systems to mitigate against climate change. Most of the work currently being carried out is already contributing to this goal, but it is not viewed from the perspective of climate change mitigation. In the current PACC pilot site in Fiji, the PACC project is working on improving the current drainage infrastructure to get the water flowing and reduce stagnation that has built up of gases such as methane that contributes to global warming. Similarly, the food security work in Palau, if combined with reforestation and improved forest management could also contribute to mitigation. A major issue though will be the degree to which such contributions can be measured accurately and be cost effective, in cases where the countries would seek to pursue carbon credits for their efforts.

1. Pacific Adaptation to Climate Change (PACC) Project and the Small Grants Programme. [↑](#footnote-ref-1)
2. Pacific Climate Change Science Programme (PCCSP) and the Pacific Adaptation Strategic Action Programme (PASAP). [↑](#footnote-ref-2)
3. Climate “proofing” is not an adequately refined term, but for the purposes of this paper it is being used as a short form descriptor of improving resilience to the adverse impacts of climate change. [↑](#footnote-ref-3)