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Australian Centre for
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Social Sciences

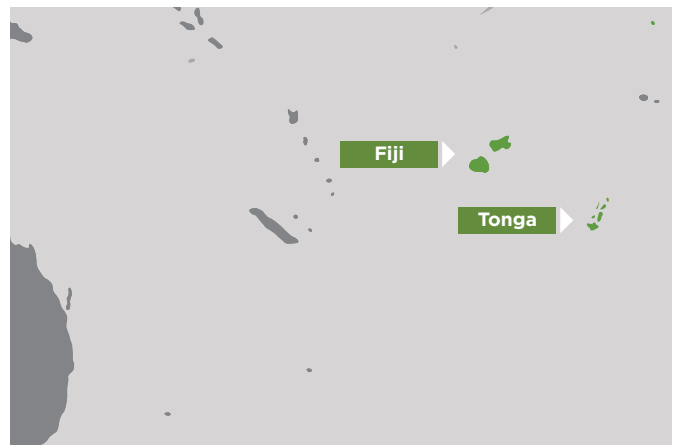
Climate-smart landscapes for promoting sustainability of Pacific Island agricultural systems

Overview

Many people in Fiji and Tonga rely on services derived from landscape resources, including agriculture, forestry, livestock, and fishing, for their livelihoods. This makes them acutely vulnerable to the impacts of climate change and variability.

The agriculture sector has been identified as a sector for growth to support economic development and poverty alleviation in both countries. Policy and development project interventions are being implemented to follow this growth-orientated vision for agriculture. Yet it is important that these interventions do not undermine rural livelihoods or sustainability, threaten climate resilience or exacerbate existing climate vulnerabilities or landscape degradation.

Collaborative mapping approaches, which draw upon principles of participatory mapping, geospatial science and participatory action research, have been used to capture the complexities of livelihood-landscape interactions. These approaches also empower community members with respect to environmental decision-making. However, several limitations have been identified with contemporary mapping approaches, including its time intensive nature, the static representation of landscape-livelihood systems that fail to capture the dynamic nature of vulnerabilities, and the difficulties in sharing information collected by various mapping activities.



KEY FACTS

ACIAR Project No. ASEM/2016/101

Duration: January 2018 to December 2021 (4 years)

Target areas: Fiji and Tonga

Budget: A\$1,614,080

Project Leader

Dr Eloise Biggs and Dr Bryan Boruff, University of Western Australia and A/Prof Eleanor Bruce, University of Sydney

Key partners

- University of Sydney
- Secretariat of the Pacific Community
- University of the South Pacific
- Ministry of Agriculture, Food, Forest and Fisheries
- Stockholm Environment Institute Asia
- University of Auckland

ACIAR Research Program Manager

Dr Jayne Curnow

Objective

This project aims to develop a collaborative geospatial platform that will facilitate identification of climate-smart landscape adaptation responses.

The project's specific objectives are to:

- Critically review and evaluate existing collaborative geospatial tools, platforms and methodologies.
- Develop a collaborative geospatial platform with an interface that is accessible and appropriate for a range of landscape stakeholders.
- Identify community level landscape-livelihood-climate stressor interactions.
- Identify capacity for multi-stakeholder knowledge sharing into the collaborative geospatial platform.
- Evaluate the effectiveness of the collaborative geospatial platform for promoting community and multi-stakeholder exchange and engagement with landscape knowledge.
- Identify co-adaptation pathways for communities within the landscape to build climate resilience and enhance environmental livelihood security.

Expected scientific results

- Scientific results gained through the application of a landscape approach to research, determining gaps in climate adaptation for communities in Fiji and Tonga.
- The ability to use geospatial information for development, and rigorous contributions to the fields of science research being addressed.
- Research to build adaptive capacity in communities, enhance knowledge capacity, increase capacity to access information and support educational capacity.
- Policy impact achieved through involvement of higher-level stakeholders in the co-development of research and training to use geospatial data/technologies.
- Through the co-design of climate adaptation pathways, policy/project designers expected to improve their understanding of how landscape interventions can have differential impacts on community groups when responding to livelihood-landscape-climate stressor interactions.

Expected outcomes

- Community capacity enhanced to: gather and use geospatial information; visualise and assess coping capacity to climate stressors; and capture and archive their climate-livelihoods-landscape knowledge.
- Higher-level stakeholder capacity enhanced to: use geospatial data for understanding community livelihoods and landscapes; and recognise where landscape interventions could address climate impacts with respect to differing community groups (e.g. men/women).
- Communication capacity enhanced to increase communication between communities and higher-level stakeholders, and ensure better targeting of climate adaptation policy/projects within the landscape.

