

# Soil management in Pacific Islands: investigating nutrient cycling and development of the soils portal



## Key details

### Location

Fiji, Kiribati, Samoa, Tonga, Tuvalu

### Duration

**Start** Oct 2017

**End** Mar 2022

### Budget

AUD 2,020,000

### Commissioned organisation

CSIRO

### Partners

CSIRO; Department of Agriculture; Landcare Research; Ministry of Agriculture; Ministry of Agriculture and Food; Forests and Fisheries; Ministry of Environment; Lands & Agriculture Development; Scientific Research Organisation of Samoa; Secretariat of the Pacific Community

### Project Leader

Ben Macdonald

### ACIAR Research Program Manager

Dr James Quilty

### Program

Soil and Land Management

### Project code

SMCN/2016/111

## Overview

**This project aimed to ensure that soil knowledge was enhanced in the Pacific Island Countries Territories and provided a reliable foundation for sustainable intensification of agricultural systems.**

Sustainable agriculture is fundamental to the future prosperity of the Pacific Island Countries Territories (PICTs). Commercial farming is an important source of employment and export revenue, while subsistence farming underpins food security for most rural areas.

Diverse farming systems operate across the region, from traditional gardening systems to commercial mechanised farming.

The intensification of traditional gardening systems in the PICTs has depleted the soil nutrient capital.

Comprehensive nutrient budgeting is essential for improving farm productivity and agricultural resilience on volcanic islands and sand atolls.

Extension officers have been unable to reliably determine which nutrients (or other factors such as diseases) are limiting production let alone recommend optimal nutrient inputs. The lack of access to information on soil types and their distribution further limits the ability to extend the results from previous research studies or well-understood farming systems to other locations across the PICTs. This project sought to address these gaps.

## Project outcomes

- Enhanced soil knowledge and a reliable foundation for sustainable intensification of agricultural systems by growers, extension officers and policy-makers.
- The Pacific Soil Portal forming an integral part of the emerging global soil information system and becoming an internationally recognised showcase for regional cooperation and excellence in sustainable soil management.
- Increased profitability resulting from improved farming practices.
- Increased capacity of all stakeholders participating in associated value chains.
- Introduction of advanced rapid methods for determining nutrient budgets.
- Next-users and end-users involved in developing the Pacific Soil Portal acquiring skills and capacity that will support innovation in agriculture and related fields.
- Policy-makers empowered to design responsive regional, national and local policy.
- Governments able to meet existing policy and reporting commitments to sustainable agriculture, sustainable development goals and voluntary international agreements.

