



Social Sciences

Climate-smart agriculture opportunities for enhanced food production in Papua New Guinea

Overview

Communities in Papua New Guinea (PNG) reliant on agriculture-based livelihood systems are at risk from climate variability and change.

Making strategic food production plans ahead of evolving seasonal climate conditions is seen as an important way to improve the resilience of food production systems. Seasonal climate forecast (SCF) information is one tool that has been identified as aiding adaption responses to seasonal climate variability, however its use in rural community food production is challenging due to the complex nature of the information.

This project will examine ways in which seasonal climate information, with a three to six-month lead-time, can be communicated and integrated with existing farm practices to increase the adaptive capacity of farmers in five sites in PNG across three regions: Eastern Highlands centred on Aiyura and the Asaro Valley; The Morobe Province centred on the Markham Valley; and Kerevat in East New Britain.



KEY FACTS

ACIAR Project No. ASEM/2017/026

Duration: May 2019 to December 2023 (4 years)

Target areas: Papua New Guinea

Budget: A\$2,615,109

Project Leader

Steven Crimp, Australian National University

Key partners

- Australian National University
- CSIRO
- Sustineo
- Phloem 3
- National Agricultural Research Institute
- PNG National Weather Service
- Anglo Pacific Research and Strategy Ltd
- Department of Agriculture and Livestock
- Fresh Produce Development Agency
- Climate Change & Development Authority
- University of Goroka

ACIAR Research Program Manager

Dr Jayne Curnow

Objective

The aim of this project is to facilitate the use of scientific and indigenous seasonal climate information in PNG farming communities to underpin important food production decisions and by doing so improve food security outcomes for rural communities.

The project's three main objectives are to:

- Incorporate scientific and indigenous seasonal climate information into farming practices (both subsistence and commercial) to improve the climate resilience of PNG food production.
- Demonstrate the value of integrating scientific and indigenous knowledge to improve food production outcomes for rural communities via field trial activities.
- For Government, Industry and non-government organisations to provide access to, and disseminate SCF knowledge products to farming communities across a broader area of PNG.

Expected scientific results

- Development of a seasonal climate advisory that couple climate science with local knowledge.
- An understanding of the knowledge landscape (i.e. preferred modes of knowledge sharing, trust/confidence in knowledge products; key extension nodes) via use of surveys to develop social network analyses.
- Developing and testing a rapid appraisal tool (i.e. using both WEAI and IDM survey questions) to identify the value of the SCF information to male and female farmers.
- Field trials that demonstrate the value of using the seasonal climate information to modify farm management decisions.

Expected outcomes

The project will produce a series of outputs. These include:

- Social network maps of knowledge dissemination pathways, as well as community information requirements for both men and women.
- Seasonal climate information tailored to community requirements and operationalised via the PNG NWS.
- A climate-smart agriculture program tailored for use by NARI, the DAL and FPDA to disseminate to other communities to foster adoption of climate resilience farming practices.
- Field trial sites managed using the SCF information with comparison of farmer "best practise" to demonstrate production benefits.
- The establishment of the forecast forum with NARI, DAL, FPDA and a host of Government agencies, facilitated by the CCDA, to examine options to scale the SCF extension activities.

