Australian Government

**Australian Centre for
International Agricultural Research**

Agricultural innovations for communities for intensified and sustainable farming systems in Timor-Leste (AI-Com)

Overview

Timor-Leste is largely an agrarian society, with more than three-quarters of the nation's labour force engaged in agricultural activities. Most are subsistence farmers. Nearly half of all households live below the poverty line, and malnutrition is high, especially among children under the age of five.

The Government of Timor-Leste has prioritised moving from food security to improved nutrition and rural incomes. In recent years, thanks to oil revenue, Timor-Leste has urbanised; about 300,000 people now live in or around the capital Dili.

The expansion of the government and construction sector has created new markets for agricultural products, thereby opening an opportunity for local farmers to fill that demand. At the same time, slow but steady improvement in infrastructure (electrification and roads) makes it realistic to consider diversifying production. The recent electrification of most of the country is opening new opportunities for accessing water. This proposal will undertake research required to underpin opportunities for farmers to shift form subsistence to income-generating farming.

Timor-Leste

KEY FACTS

ACIAR Project No. CIM/2014/082
Duration: October 2016 to September 2021 (5 years)
Target areas: Timor-Leste
Budget: A$4,191,119

Project Leader
William Erskine, The University of Western Australia

Key partners
- University of the Sunshine Coast
- Ministry of Agriculture and Fisheries (MAF), Timor-Leste
- National University of Timor Lorosae (UNTL)
- World Vision

ACIAR Research Program Manager
Dr Eric Huttner (Crops) and Dr James Quilty (Soil and Land Management)

Objective

The project's aim is to improve agricultural productivity and profitability in pilot communities by addressing technical and social impediments to annual crop intensification, and by establishing forage tree legumes and sandalwood as a sustainable income source and land management practice.

The project's specific objectives are to:

- Understand community decision-making for natural resources management (NRM) and compare modalities of land use practice change.
- Design, develop and test intensified irrigated cropping systems using sustainably limited irrigation water from springs (in mid-altitude areas) and from groundwater (on the South coast).
- Design, develop and test crop management packages to intensify annual rainfed cropping and increase the financial viability of maize, peanut, vegetable, specialty rice, and food legume producers.
- Design and evaluate methods and practices for communities to increase forage tree legumes supporting as hosts the production of sandalwood, thereby balancing short- and long-term economic opportunities.

Expected scientific results

- Improved understanding of how communities judge NRM practices, and an assessment of how farming communities adapt to new economic opportunities.
- Methods for increasing rice yields through improved agronomy and water management
- Assessment and demonstration of alternative crops to rice.
- Guidelines to incorporate legumes into dryland cropping systems profitably.
- Approaches to improve maize yield sustainably in soils with low nutrients or low pH.
- A robust system of composite sampling for testing aflatoxin in maize and peanut, thereby increasing producers' access to markets.
- Analysis of short- and long-term costs and benefits from production of forage tree legumes and sandalwood.

- Guidelines on the community planning, planting and management of forage tree legumes with sandalwood.
- A village-based nursery system for tree seedlings.

Expected outcomes

- Improved farm profitability and productivity for approximately 5,000 farming families.
- Development activities funded by other donors to scale out results of this project so that over time, as markets develop, most farmers in the target regions and beyond adopt some of the proposed innovations, produce new crops, sell surplus crops to food and feed processors and generate new income.
- Technologies designed to have both an economic impact and introduce resilience into the local farming economy.
- Enhanced capacity of local partners, the MAF and UNTL and its students.