



# Action ready climate knowledge to improve disaster risk management for smallholder farmers in the Philippines

## Overview

**Smallholder farmers in the Philippines have always been vulnerable to extreme weather events and year-to-year climate variability.**

This is mostly due to the country's geographical position, the impact of the El Nino Southern Oscillation ENSO cycle, and the fact that agriculture is practiced on coastal flood plains and adjacent erodible hillsides.

The Philippine Government is partnering with non-governmental organisations and donor countries to strengthen climate change adaptation (CCA) and disaster risk reduction (DRR). The country's national framework strategy for CCA and DRR envisions a climate risk-resilient Philippines with healthy, safe, prosperous and self-reliant communities, and thriving and productive ecosystems.

Although DRR in the Philippines has focused more on urban rather than rural communities, there is growing interest in understanding how agricultural development can draw on lessons from DRR to minimise climate-related damage and build more climate-resilient farming systems.

Having timely, accurate information is key. The country's meteorological agency, PAGASA, has the international support and internal skills and resources to provide an expanding set of weather and climate information. The challenge is to improve the use and usefulness of this information by smallholder farmers.



## KEY FACTS

**ACIAR Project No.** ASEM/2014/051

**Duration:** August 2015 to June 2020 (5 years)

**Target areas:** Philippines

**Budget:** A\$1,854,214

### Project Leader

Dr. Peter Hayman, South Australian Research and Development Institute

### Key partners

- Charles Sturt University
- Philippine Atmospheric, Geophysical & Astronomical Services Administration
- University of Philippines Los Baños
- Philippines Department of Agriculture: Agricultural Training Institute
- Philippine Institute of Development Studies

### ACIAR Research Program Manager

Dr Jayne Curnow

## Objective

**Overall, the project aims to improve the value of information flows between PAGASA and key decision-makers involved in managing climate and weather risk of smallholder farmers. The project is using applied socio-economics to understand the decision-making context; establish the potential value of information; observe the barriers to use of information; and research ways to improve communication and use.**

### **The project's specific objectives are to:**

- Understand the status of DRR and CCA for smallholder farming in case study regions by reviewing literature, programmes and projects.
- Analyse the potential and realised value of weather and climate forecasts for at least nine decision contexts.
- Develop pilot communication material and scale-up project findings to other Local Government Units (LGUs) and community-based organisations (CBOs).

## Expected scientific results

- Greater understanding of the psychology of decision-making related to climate information, contributing to the already substantial body of work in economics, mathematics and social science analyses of climate risk and climate risk management.
- Evidence-based studies on the value of climate information in decision-making generating interest from researchers in both developed and developing countries.
- The development and testing of decision frameworks contributing to operations research and climate adaptation, and linking climate parameters to impact models to further refine the climate science and clarify the value of lead times.
- Frameworks developed to combine the new climate information with historical data to assess risk with crop models and simple decision support systems.

## Expected outcomes

- Greater capacity of smallholder farmers to use climate information to manage weather and climate risks to improve their livelihoods.
- Potential economic returns given the:
  - considerable climate risks in Philippine agriculture
  - useful and under-utilised information from climate science
  - resources with valuable local knowledge of farming systems in LGUs and CBOs that can use climate information
  - frameworks to link climate science to decision-making developed that could improve the management of climate risks, reduce poverty for smallholder farmers and increase returns to LGU investments.
- Agricultural development assisted by more stable decision-making, helping to reduce poverty and stimulate economic growth.
- Viable rural livelihoods reducing some of the pressure and problems of rapid urbanisation.

