



Use of satellite and cellphone imagery to increase climate-smart crop insurance in Kenya



Overview

Erratic rainfall and other weather hazards cause significant hardships for smallholder farmers in Kenya, and this vulnerability is expected to increase with the effects of climate change.

The potential for losses due to weather events discourages farmers from investments that could increase their productivity, trapping them in low-risk, low-return agricultural practices.

Agricultural insurance can protect farmers against financial risks posed by unpredictable weather and can encourage smallholders to invest in climate-smart, high-productivity agriculture.

However, high monitoring and verification costs of traditional insurance has inhibited the number of successful insurance schemes available to smallholders in Kenya. Other limitations include low demand for index-based insurance and the fact that insurance products often neglect to reward complementary risk-management options, such as irrigation and drought-tolerant cultivars.

KEY FACTS

ACIAR Project No. GP-2019-177

Duration: April 2019 to September 2022 (3.5 years)

Target areas: Kenya

Budget: A\$1,792,260

Project Leader

Amos Tabalia, Agriculture and Climate Risk Enterprise

Key partners

- Kenya Agricultural and Livestock Research Organisation
- Wageningen University, International Food Policy Research Institute

ACIAR Research Program Manager

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Objective

The project aims to increase the use of crop insurance as a tool to unlock smallholder investments in climate-smart, high-productivity agriculture.

The specific objectives are to:

- Improve the resilience of Kenya's smallholder farmers to extreme weather events and increase their productivity.
- Determine the capacity of satellite and cellphone technology to increase availability and accessibility of agricultural insurance products.
- Increase adoption of sustainable, productivity-enhancing and resilient technologies through bundling with stress-tolerant seeds and remote advisories.
- Engagement of farmers in the insurance process by having them take pictures of insured crops, which reduces monitoring costs, minimises basis risks and creates synergies with climate-smart technologies.

Expected scientific results

- Comparison of picture and satellite-based insurance with area and yield-based insurance.
- Assessment of the impact of insurance on productivity, resilience and food security of smallholder farmers.
- Use of satellite and cellphone imagery to verify losses, observe management practices and engage with farmers.
- Evaluation of the demand for, and impacts of, insurance packages.

Expected impact/outcomes

- 45,000 farmers trained on the benefits of climate-smart risk management strategies, with one-third expected to adopt the technology.
- Increased adoption of technologies that increase resilience, including irrigation and use of drought resistant varieties.
- Reduced crop losses from weather risks.
- Increased productivity and production diversity.
- Increased insurance coverage and long-term reduction of insurance premiums due to the low cost of the product.
- Improved trust between farmers and insurers due to the use of picture-based insurance packages, resulting in more farmers investing in insurance packages.
- Increased nutrition and food security due to increased productivity of crops.

