Australian Government
Australian Centre for International Agricultural Research

Livestock Systems

Improving agricultural productivity and resilience with satellite and cellphone imagery to scale climate-smart crop insurance

Key details

Location
Kenya

Duration
Start Apr 2019 **End** Sep 2022

Budget AUD 1,695,600

Commissioned organisation
Agriculture and Climate Risk Enterprise Limited (ACRE Africa)

Partners
ACRE Africa; International Food Policy Research Institute; Kenya Agricultural & Livestock Research Organization, Kenya; Wageningen University, The Netherlands

Project Leader
Amos Tabalia

ACIAR Research Program Manager
Dr Anna Okello

Program Global Livestock Systems

Project code GP/2019/177

Overview

This project aimed to compare picture and satellite-based insurance with area and yield-based insurance, and assess effectiveness in increasing productivity, resilience and food security of smallholder farmers in Kenya

Weather hazards, such as erratic rainfall, cause significant hardship for smallholder farmers in Kenya. Climate change is expected to further exacerbate farmers' vulnerability to extreme weather. The anticipation of possible losses discourages farmers from making productivity-enhancing investments, trapping them in low-risk yet low-return agriculture.

The focus of this project has been on promoting the adoption of productivity-enhancing yet resilient

technologies through bundling with stress-tolerant seeds and remote advisories. Ground pictures taken by farmers are helping reduce monitoring costs, minimize basis risks and create synergies with climate-smart technologies.

Expected research outcomes

- Training 45,000 farmers on the benefits of climate smart risk management strategies, of which a third are expected to adopt the technology.
- Increasing adoption of resilience enhancing technologies (irrigation and use of drought resistant varieties)
- Reducing crop losses from weather risks
- Increasing productivity and production diversity
- Increasing insurance coverage and reduction of insurance premiums in the long run due to the low cost of the product
- Using picture-based insurance to improve trust between farmers and insurers and lead to more farmers adopting insurance products
- Creating longer term impacts on food and nutrition security from reduced crop losses and use of climate-resilient technologies, such as irrigation.