



Mary Nasimiyu is a champion farmer and intercroops maize and beans. Photo Credit: ACRE AFRICA.

# Farmers embrace smart insurance to guard against climate shocks

By Murimi Gitari

**D**ESPITE the critical role smallholder farmers in Kenya play in providing food for the nation, they face numerous challenges. Their crop yields are quite low and climate change is not only increasing the incidence of pests and diseases, but heightening the risk of more frequent extreme weather events, including drought and flooding.

Reports show that farmers lose up to 90 percent of their expected yield due to climate risks.

Faced with such losses, many smallholder farmers are reluctant to invest in their farms and instead engage in unsustainable practices to try to save money, “such as keeping their children out of school, selling off productive assets, and reducing the quality of their diets,” says Lilian Waithaka of ACRE Africa, a social enterprise that provides farmers in a number of African countries with integrated risk management solutions to increase their productivity and enhance livelihoods.

## Hurdles to overcome

Insurance can help cushion smallholder farmers from crop and financial losses that occur as a result of climate change, yet many are reluctant to invest in such schemes. Waithaka attributes the reluctance to three main factors, including affordability, with traditional insurance schemes too costly for smallholder farmers.

A lack of trust in insurance products among farmers prevents them from



securing insurance premiums while farmers often do not engage with other technologies and practices that can support resilience, such as the planting of stress-tolerant crop varieties, adherence to advisories, and implementing good agronomic practices.

ACRE Africa is linking smallholder farmers to risk mitigation and climate adaptation solutions so they can comfortably invest in their farms through its picture-based insurance (PBI) project – an innovative insurance scheme supported by the International Development Centre (IDRC) in partnership with the Australian Centre for International Agricultural Research (ACIAR).

### Counting the payoffs

“The PBI project offers farmers an affordable, innovative, inclusive, climate-smart agriculture solution,” says Waithaka. “It’s also easy to join – farmers simply dial a USSD code and choose the type of crop they want to cover, after which they are automatically enrolled on the scheme.”

To support PBI uptake and enhance trust levels around insurance, ACRE Africa has also established a network of ‘champion farmers’ in Kenya.

These individuals are key opinion shapers in the villages in which they reside. Two-thirds of champions are women – and it has been observed that female champions are more likely to successfully recruit new women farmers to the PBI scheme.

At the heart of the PBI approach lies imagery, with photographs taken of farmers’ crops collected using satellites and smartphones.

The champion farmers use an app called SeeItGrow to take images of registered farmers’ crops throughout the season, which are then used in the evaluation process at the end of the season.

The project has developed three different machine learning models to help process the images collected, classifying crops according to their growth stage, type of damage, and extent of damage. At the end of the season, a panel of experts – comprising insurance companies and agronomists – evaluate the images to give them a ‘score’, which forms the basis on which farmers can make claims.

### Building resilience

Farmers who take out PBI are also supported in other climate-related

aspects. For instance, ACRE Africa continually provides farmers with training on how to protect their crops against climate shocks, connects them to companies that sell stress-tolerant seed varieties, and use information services to encourage them to adhere to good agronomic practices and advisories.

“By helping build the resilience of smallholder farmers,” says Waithaka, “we’re supporting individuals but also trying to foster economic growth and food security.”

So far, the champion farmers have collected over 60,000 field images from over 7,300 farmers signed up to the PBI scheme. Of women farmers offered PBI, over half take it up. They include Elizabeth, a 42-year-old mother of three living in Machakos County, who in 2021, took out insurance cover by paying a premium of US\$2. Following a drought later that year, which saw many farmers lose their crops, Elizabeth was able to get US\$15 in compensation through her insurance – which she used to buy three bags of seeds to plant the following season.

Less than 20 percent of smallholder farmers globally have crop insurance, with sub-Saharan Africa’s general insurance penetration and uptake being at three percent while the uptake of agricultural insurance is less than one percent.



*John Poi applies fertilizer to his insured crops. Photo Credit: Georgina Smith*