

Case Study: ACRE Rwanda

Subsidies Drive Scale, Transition to Sustainability with Technology

Why This Case Matters

Subsidies can drive rapid uptake of index insurance, but without clear exit pathways they risk creating long-term dependency. ACRE Rwanda illustrates how a well-designed, trusted area-yield insurance product can evolve toward sustainability through innovations like satellite-based indices and picture-based verification. These technologies have the potential to lower delivery costs and make premiums more affordable without subsidies. The ongoing challenge will be maintaining farmer trust and addressing basis risk - both critical to ensuring lasting adoption and satisfaction.

Rwanda Context: Agricultural, Climate and Financial Inclusion

More than half of Rwanda's population and land area are employed in agriculture. Climate risks, like severe drought and unseasonal rains significantly threaten Rwandan livelihoods and food security.

Rwanda's hilly terrain, small, fragmented plots, rural poverty, weak market linkages and extreme gaps in financial services for farmers, further exacerbate their vulnerability.

Despite these challenges, Rwanda's high literacy rates, growing digital infrastructure, and strong public-sector engagement make it a prime setting for inclusive and innovative insurance solutions.

Rwanda Insights*

> Agriculture Scope

- 55% employed in agriculture
- 65% are female
- 51% land area is agricultural

> Vulnerability

- 32% rural poverty, 31% agriculture workers

> Financial Services

- 4% farmers covered by crop insurance; 6% agricultural credit

> Climate risks

- Increased frequency of drought and changing rainy seasons, soil erosion and landslides

About ACRE Africa

Agriculture and Climate Risk Enterprise Ltd. (ACRE Africa) is a for-profit social enterprise dedicated to strengthening farmer resilience through innovative insurance and risk management solutions. By leveraging data and technology, ACRE designs localized products that address weather and climate risks, connecting farmers to insurance and complementary services across the agricultural value chain.

Operating in over 17 countries in Africa, ACRE has insured over 4 million farmers to date. In 2024, it reached 1 million farmers and is projecting to double this number in 2025.

*Sources: [World Bank](#) (ILO modeled data, 2023); UN Human Rights Council [Special Rapporteur 2025](#); World Bank [Rwanda Economic Update](#), 2025; World Bank [Climate Risk Country Profile Rwanda](#), 2021



ACRE's integrated approach combines multiple interventions:

- Agricultural profiling, risk surveys, and mapping
- Access to credit and agricultural inputs
- Extension services and tailored agronomic advice
- Insurance coverage for key risks
- Digital platforms that connect stakeholders across the ecosystem
- Market linkages for smallholder produce

ACRE offers a wide range of insurance products, including weather index, soil moisture index, and area yield index. Hybrid products combine index-based and indemnity approaches to cover additional risks like hail, wind, and flooding.

ACRE Rwanda and SCBF's Role

Since 2013, ACRE Rwanda has been providing crop and livestock insurance products. From 2018 to 2022, SCBF supported ACRE Rwanda through [technical assistance](#) and [financial education](#) grants to scale index insurance under the National Agricultural Insurance Scheme (NAIS). The NAIS is a public-private partnership coordinated by the Ministry of Agriculture (MINAGRI), which provides a 40% premium subsidy for insurance bundled with loans. With SCBF's support ACRE Rwanda played a central role in the development of index insurance in Rwanda; the technical assistance grant was used to:

- Assess the value of existing maize and livestock insurance products using the [3-D client value assessment](#)^[1]
- Improve design and distribution of area-yield index and livestock insurance products.
- Test a new soil moisture index-based insurance product bundled with input loans.
- Develop training and marketing materials for financial service providers, input suppliers and government extension officers to improve communication with farmers.
- Extend index insurance expertise and capacity building to five local insurance partners.
- Expand partnerships to digitise the input distribution processes and disseminate relevant information to farmers.

Achievements & Innovations

Product redesign, distribution improvements, capacity building for local actors, subsidy support and farmer training are the critical factors that have enabled ACRE Rwanda to reach 139,000 new farmers, including 59% women^[2].

- **Farmer outreach and education are central to uptake.** Over 30,000 farmers were trained through a training-of-trainers model including loan officers from partner financial institutions, field staff from agri-input suppliers and government extension officers. In the end over 9,000 insurance policies were purchased as a result.

[1] The [3-D Client Value Assessment](#) tool was developed by the ILO's Impact Insurance Facility and the Feed the Future Innovation Lab for Assets and Market Access (AMA Innovation Lab) at UC Davis, with support from the USAID for developing effective and meaningful agriculture insurance programmes.

[2] Data shared with SCBF includes new farmers reached during the project and 3 years post-project up to December 2024.



Financial education and training are resource intensive, however, leveraging partner networks and embedding insurance literacy into their existing outreach channels is a sustainable approach.

- **Bundled credit with index insurance optimizes value for farmers.** Embedding insurance into agricultural loans improved access to finance and provided compelling demonstrations of impact for non-adopters when payouts occurred.
- **Technology enabled index insurance can bring sustainability, but farmer trust is crucial.** Farmers consistently favoured area-yield insurance, where crop-cut assessments offered visible proof of losses. With indications from MINAGRI that subsidies will soon be reduced, ACRE is focusing on reducing the administrative burden of crop-cutting assessments. Digital innovations and pilots testing a combination of multiple indices, may enable ACRE to offer an affordable insurance that also maintains farmer trust. Specifically, ACRE has been testing hybrid indices, including satellite or weather station data for soil moisture and weather index, in combination with historical area yield data to refine the index triggers for insurance payouts. This combination of data provides a low-cost solution to provide best estimates of when climatic conditions are likely to result in crop losses. The unique nature of Rwanda's agricultural land on hillslopes, however, means that satellite data cannot capture all of the land area accurately. Picture-based verification through extension officers is an emerging innovation for basis risk management that offers a corrective solution for farmers who experience losses that are not triggered by the index.
- **Digitalisation offers opportunities to test and scale.** Significant progress in digitalisation was made through a partnership agreement with BK TechHouse (Bank of Kigali Tech House), a platform digitalising the input distribution processes and dissemination of relevant information to farmers. ACRE was able to pilot the newly developed soil moisture index product to farmers registered via the platform.
- **Financial sustainability.** The 40% premium subsidy has been instrumental in driving uptake and demonstrating the value of insurance. At the same time, climate risks are intensifying, increasing both the frequency and severity of shocks. Continuous product finetuning as more data is generated, increased reach to smallholder farmers, refinement of insurance processes and alternative distribution models have enabled ACRE to reduce the loss ratio within a range of 20-60%, providing further evidence of the value of the product for farmers and long-term sustainability.

Together, these innovations illustrate how subsidies, education, and technology can be combined to strengthen farmer trust and lay the foundation for sustainable, market-driven growth in agricultural insurance.



Challenges

Operating within a government scheme enables access to resources and multiple distribution channels to quickly scale, however several systemic challenges require continued attention.

- **Farmer mistrust remains a central issue.** While Rwanda's National Agricultural Insurance Scheme (NAIS) has scaled quickly, it faces several structural hurdles. Soil moisture index products, which rely on satellite data, were met with scepticism because farmers could not "see" the data in the same way they could observe crop-cut assessments. This created a perception that payouts were arbitrary, reinforcing reliance on area-yield products despite their higher operational costs. Using historical yield data from the National Institute of Statistics of Rwanda (NISR), an area yield index product is under pilot in two districts for the 2025-2026 season. The goal is to shift from costly crop cuts as a mean of loss assessment to long term average yield from NISR as a proxy.
- **Insurance literacy is another persistent challenge.** Although training-of-trainers and extension networks reached more than 30,000 farmers, sustaining knowledge and trust requires ongoing investment. The high costs of delivering education - particularly in remote and rural communities - make it difficult to maintain outreach at scale. Rwanda has a network of agricultural extension officers that could become insurance ambassadors, bridging the gap in trust and insurance education.



Pics Courtesy: ACRE Africa in Rwanda

Future Outlook

Rwanda is actively investing in climate-smart agriculture, digital infrastructure, and public-private partnerships that could address some of these hurdles. ACRE is aligning with this vision by piloting new product designs, including hybrid indices that combine soil moisture, weather data, long-term average yields and crop cuts to reduce basis risk. Picture-based insurance, which allows extension agents to document farm-level losses through smartphones, offers another path to improving accuracy and trust while lowering costs.

Digital platforms such as BK TechHouse are also helping to integrate farmer data, opening possibilities for more precise and scalable products. At the same time, bundling insurance with agricultural loans remains a powerful driver of uptake, as it links risk protection to improved credit access. In the longer term, private-sector involvement and research into price elasticity of demand will be critical for moving from subsidy-driven to market-led growth.

Key Takeaway

ACRE Rwanda's Experience: Balancing Subsidy and Sustainability

ACRE Rwanda illustrates the **dual role of subsidies**: they can catalyse adoption and scale quickly, but they also risk creating dependency if not paired with sustainable models. **Building trust, improving data accuracy, and embedding insurance within broader financial and agricultural services are essential to making the transition.** Ultimately, Rwanda shows that the future of index insurance lies in balancing public support with market-driven technological solutions that empower smallholders to manage risk on their own terms.

- **For donors:** Smart subsidies that encourage uptake and a move to sustainable solutions, should enable product evolution over time, investments in data and technology infrastructure, investment in capacity building and farmer education.
- **For practitioners:** ACRE's innovations - hybrid indices, picture-based verification, and digital integration - offer promising pathways to reduce basis risk and increase farmer trust.

Other project related documents:

Product Innovation and Upscale project

- [Project Factsheet](#)
- [Project Final Report](#)
- [3-D client value assessment](#)

Financial Education project

- [Project Factsheet](#)
- [Project Final report](#)

