

Upscaling agriculture insurance for smallholder farmers in Rwanda by ACRE Africa

1. DEVELOPMENT RELEVANCE

Economic and poverty context

Rwanda was ranked the second poorest country in the world with widespread hunger and food insecurity as a result of the rapid decline at more than 40% of GDP following the five-year long civil war that culminated in the 1994 genocide against the Tutsis.¹ Rwanda has since set ambitious recovery plans and signaled a quick renaissance of economic activity. Over the last decade, the country enjoyed favorable performance in economic growth and poverty reduction accompanied by narrowing inequalities which have put the country back on track to achieve the Millennium Development Goals (MDGs). Poverty has reduced considerably from 60.4% in 2000 to 38.2% in 2016/2017, extreme poverty reduced from 40% to 16% and the overall life expectancy increased from 49 to 66.6 years over the same period.¹

However, growth in all sectors while positive and resilient, agriculture has only been growing at 4% compared to other sectors which grew at an average of 7%.¹ The incidence of poverty in rural areas remains much higher than that in urban zones. Growth rate in the agriculture sector, which employs more than three quarters of the workforce, contributes to nearly a third of the GDP and generates more than half of the country’s export revenues, was mainly affected by crop diseases and climate change. Sustained investments in climate resilient techniques for farming coupled with improvements in value chains can unlock the potential for agricultural growth while boosting poverty reduction efforts.

Table 1 ⁱ : Population and economic indicators	
Population in million (2021)	13.28
GDP growth (2021)	10.90%
Inflation (2021)	-0.39%
Trade balance (% of GDP) (2021)	53.85%
Foreign direct investment (net) (% of GDP) (2020)	1.001%
Net ODA received (% of GNI) (2020)	16.33%
Remittances received (% of GDP) (2020)	2.70%
Economic Freedom Index ⁱ (Rank among 186 countries) (2022)	105
Poverty indicators	
GDP per capita (USD) (2022)	833.33
Gini Index (0= equality 100= inequality) (2022)	43.70
International poverty rate (2019 at 1.90 USD/day)	48.97%
National poverty rate (2016)	91.90%
National rural poverty headcount rate (2016)	38.20%

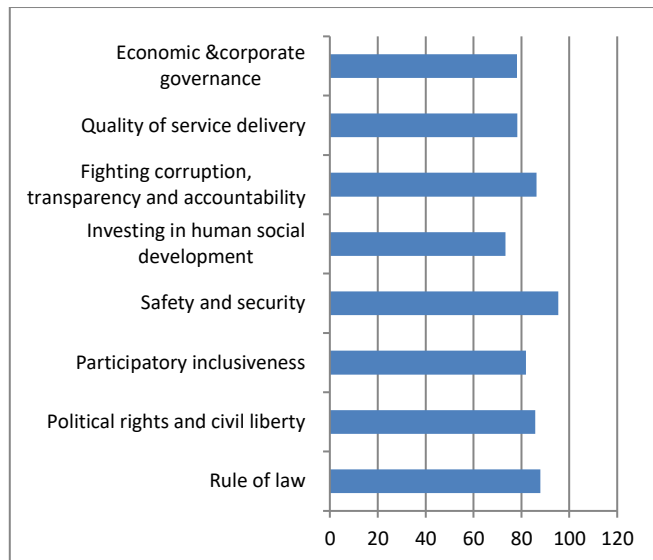
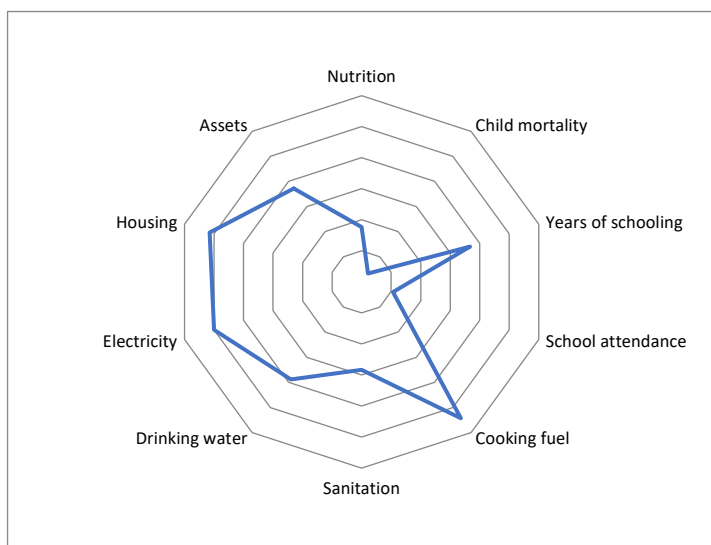


Figure 1: Multidimensional poverty index chart^{iv}, (Rwanda, 2021)

Figure 2: Governance indicators chartⁱⁱ, (Rwanda, 2020)

ⁱ The World Bank Group (2022). World Development Indicators database. Washington, DC <http://data.worldbank.org>. (Accessed 10/08/2022)

ⁱⁱ Heritage Foundation, (2022) Index of Economic Freedom, <http://www.heritage.org/index/ranking> (Accessed 10/09/2022)

ⁱⁱⁱ The World Bank Group (2022). Worldwide Governance Indicators database. Washington, DC. <http://databank.worldbank.org>. (Accessed 10/09/2022)

^{iv} Oxford Poverty and Human Development Initiative (2021). Global Multidimensional Poverty Index Databank. OPHI, University of Oxford. http://www.dataforall.org/dashboard/ophi/index.php/mpii/country_briefings (Accessed 10/09/2022)

Financial sector context

Financial inclusion is crucial in promoting faster, broad-based economic growth and poverty reduction. Currently, 93% of Rwandans are financially included, and the country aims to reach 100% by 2024. Levels of financial inclusion vary, with 99% in urban areas and around 83% in rural districts. The gender gap in financial inclusion is closing, with only 8% of excluded women compared to 7% of excluded men.

Several banks provide credit to various agriculture value chains, though the amount is still very limited compared to other sectors. Rwanda has invested in infrastructure that supports the access and availability of financial services. However, access to formal financial services and products remains suboptimal and is mainly provided by non-banks, such as savings and credit cooperatives (SACCOs) and mobile money providers.

Market and production risks, such as price volatility, climate variability, pests, and diseases, can impact the sector's ability to access credit, affecting productivity and growth. Agricultural insurance has been available in the market since 2012, but less than 2% of Rwandan farmers have access to it. This low uptake is due to insufficient resources and low purchasing power, a lack of suitable smallholder-centric insurance products, and low levels of trust in insurance companies.

Savings are a key driver of financial inclusion, and it is encouraging that 88% of subsistence farmers save, mainly for agricultural activities. Around 37% of subsistence farmers also send and/or receive money, mainly through formal channels. Mobile phone ownership in Rwanda has expanded significantly, from 45.2% of the population in 2011 to over 90% by December 2021.

Financial Sector Partners

The partner financial institution, **ACRE Rwanda**, is a company registered in Rwanda in 2013 as an insurance agent. ACRE Rwanda has been designing and distributing agricultural insurance products for the Rwandan market since 2014. To reposition itself to the changing business environment and meet the needs of the stakeholders, in 2019, ACRE Africa launched campaigns linked to upscaling their products. The aim was to facilitate agricultural market development by improving existing products based on assessment of current insurance schemes from the perspective of clients. The initiative started with an in-depth application of the [3-D client value assessment](#) tool designed by the ILO Impact Insurance Facility. Further, ACRE Rwanda partnered with the Busara Center for Behavioral Science, a research and advisory organisation dedicated to advancing and applying behavioural science in the pursuit of poverty alleviation. Their mission is to advance the scale, quality, impact, and sustainability of communication and media for development, social change, and behavioural change strategies in partnership with insurance companies such as UAP, Soras, Sonarwa, Prime Insurance and most underwriters interested in developing their agriculture portfolios.

ACRE Rwanda has also partnered with MINAGRI and stakeholders in a public-private partnership (PPP) working model. The Ministry of Agriculture and Animal Resources (MINAGRI) has established the National Agriculture Insurance Scheme (NAIS) policy framework as part of the overall development plan for agriculture transformation, Vision 2020. The NAIS represents a PPP under which MINAGRI provides financial support primarily in the form of 40% premium subsidies for crop and livestock insurance and ensures coordination of the engaged stakeholders and the overall administration of the scheme. The private sector is responsible for underwriting, risk management and claims payment of the insurance policies sold under NAIS.

Through the **Farm to Market Alliance (FtMA)** initiative, a network of 348 cooperatives has been established with more than 112,000 members in 28 districts in Rwanda, to connect them to formal markets aiming at supporting farming systems by bridging the last-mile gap between value chain players and smallholder farmers in a cost-effective and efficient manner. Despite the positive results from FTMA's work, lack of credible historical yield data has been found to be a major challenge in developing reasonable predictive cropping models for purposes of agricultural risk rating, credit scoring and farm planning. As such, FtMA contracted ACRE Africa to facilitate development of a sustainable yield collection model for selected crops (maize, beans, soya bean and Irish potatoes) within their operational areas for a period of three seasons.



Figure 2: Farmers supported by ACRE Africa in partnership with FtMA/World Food Programme efforts to link farmers to markets.

2. INTERVENTION APPROACH

Capacity building needs

ACRE Rwanda has been offering insurance products since 2013 and has reached 188,675 farmers through index-based crop insurance and indemnity-based livestock insurance. ACRE Africa has received support from the Swiss Capacity Building Facility ([SCBF](#)) since 2018 to support for product development/upscaling and financial education campaigns linked to the agricultural insurance efforts. This product upscaling project aimed to facilitate agricultural market development by improving existing products based on the assessment of current insurance schemes from the perspective of clients using the 3-D client value assessment tool designed by the [ILO Impact Insurance Facility](#) and the Feed the Future Innovation Lab for Assets and Market Access (AMA Innovation Lab) at UC Davis, with support from USAID for developing effective and meaningful agriculture insurance programmes. The assessment was used to analyse the value that insurance products for maize and livestock agriculture could provide to clients and make recommendations to enhance their value. This funding has supported to bridge the gap in the market specifically around capacity building, product improvement and scale up for the existing insurance products by facilitating agricultural insurance market development.

Main activity areas (goals, targets, resources & time frame) and outputs

Through the support of the SCBF, ACRE Africa set out to undertake the following activities:

1. Use the 3-D client value evaluation tool to assess the value of existing products from ACRE Rwanda to their clients in terms of product features, accessibility, affordability, and experience. This activity provided a product value baseline that has since been used to support product improvement initiatives listed under the results section.
2. Adapting the ACRE Africa business model by setting up a low-cost distribution channel and engaging with partners to have it as a white-label for use by multiple partners. ACRE Africa aimed to capture any demonstrated market-level effects through the testing of these models, including an analysis of key questions designed to capture both quantitative and qualitative impacts.
3. Setting up a low-touch commoditised product distribution model. The commoditised product model elevated the awareness of the insurance products on offer and harnessed farmers' appetite to purchase insurance policies.

With the activities proposed in the project application, ACRE Rwanda targeted reaching over 1,000 farmers in 2019 and over 2,500 farmers in 2020 with insurance products, supporting a total of 3,960 farmers with insurance by project end in August 2021. Due to the impact of the COVID-19 pandemic on the project implementation, ACRE Africa requested a no-cost extension to enable continuing the product upscaling activities up until 2022.

3. RESULTS ACHIEVED

Client-level

Rwanda is divided into five provinces, of which is further divided into 30 districts. The ACRE Africa initiative started by focusing on the maize and livestock value chains in a few districts in the Eastern Province, and eventually expanded to cover farmers in the Eastern and Southern Provinces as well. Through a training-of-trainers (ToT) approach, ACRE was able to increase its market coverage to 12 districts, representing a 75% increase in the number of districts where ACRE products were available. The livestock support provided by

ACRE was gradually phased out in 2021 and 2022, with the accidental death product remaining as a standard indemnity product. ACRE's support is now limited to specialised areas such as post-mortem practices and the preparation of claim dossiers at the field staff level. It is worth noting that of the more than 30,000 smallholder farmers were trained through a related financial education project, and about a third (9,285 smallholder farmers) of these signed up for insurance. This highlights the need for more insurance literacy programmes to encourage behavioural change and increase insurance uptake.

Thanks to funding from the SCBF, ACRE was also able to facilitate stakeholder engagement over the past four years, leading to significant outcomes such as the expansion of coverage to include new crop commodities like Irish potatoes, rice, chili, and French beans, as well as new livestock species like poultry and piggery. The NAIS has reported a seasonal increase of more than 15% in enrolment since Covid-related sanitary measures were relaxed, and the overall number of insured farmers now stands at more than 350,000. Insurance products that are bundled with loans have made it easier for farmers to access credit, and early adopters who received insurance compensation have provided a positive proof of concept for late adopters, demonstrating the benefits of insurance for farming investments.

Outreach

Milestones	Targets	Total Achieved	Males	Females	Urban/Rural	Level achievement
Milestone 1	1020	573	482	91	Up to 95% rural	56,2%
Milestone 2	1,640	1,386	596	790	All rural	84,5%
Milestone 3	2,780	16,221	9402	6819	All rural	583,5%
Milestone 4	3,960	9,285	3,807	5478	All rural	234,5%

Note: Outreach during each milestone was to new farmers (targeted via new cooperatives/farmers' organisations). Gender disaggregated data are always estimates since they were obtained from partners and ToT sources who do not always record farmers by gender.

Over the course of the project, ACRE reached over 27,400 smallholder farmers (52% women) with agricultural insurance.

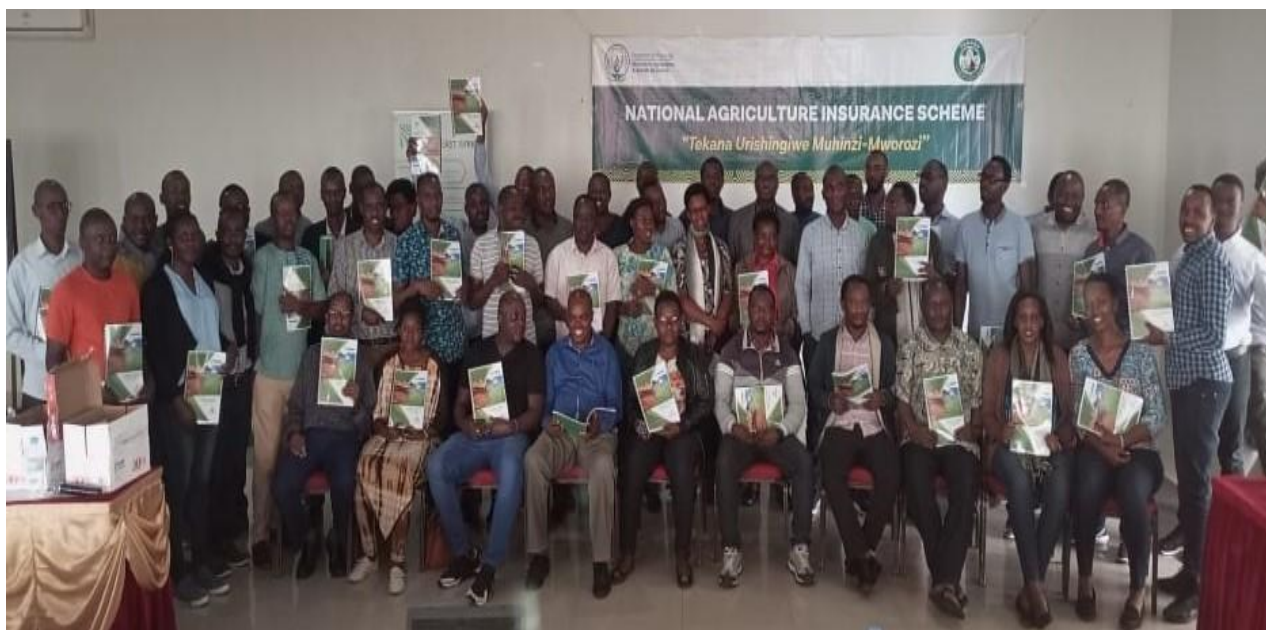


Figure 3: Training of extension officers through the National Agriculture Insurance Scheme (NAIS) collaboration

Financial sector partners-level

Significant progress in digitalisation was made through a partnership agreement with BK TechHouse (Bank of Kigali Tech House). This partnership was made possible through the support of the SCBF funding which enabled consistent stakeholder meeting facilitation leading to onboarding of the partner. This technology wing of the Bank of Kigali (BK) entered a partnership agreement with the Government of Rwanda to digitalise the input distribution processes and disseminate relevant information to farmers. The digital input distribution platform served as a template for ACRE Africa to pilot the newly developed Soil Moisture index product to farmers registered via the banks' platform. This partnership was essential for ACRE Africa to enable pivoting the original plan to distribute insurance via mobile for tech by cards to the centralized platform offered by BK TechHouse.

BKGI (Bank of Kigali General Insurances) is a second wing of the Bank of Kigali and has also joined the consortium of insurers involved in the National Agriculture Insurance Scheme (NAIS) although the agriculture lending portfolio from the bank is still negligible. Through this initiative, ACRE Africa has worked with multiple underwriters and provided technical assistance services to support the capacity development of the agriculture department officials.



Figure 4: Meeting with cooperatives and WFP for crop cuts training by ACRE Africa

Financial sector-level

The National Agriculture Insurance Scheme (NAIS) was launched in 2019, at around the same time as this project. The goal of the NAIS was to bring together various agriculture insurance initiatives and create a national strategy for agriculture insurance. The NAIS was built on the successes of a pilot project funded by Access to Finance Rwanda (AFR) and implemented by ACRE Africa and aimed to expand and solidify the potential of agriculture risk transfer solutions like insurance. The AFR-funded feasibility study and pilot formed the basis of ACRE's business in Rwanda, and subsequent funding has been used to strengthen and realize the benefits of risk transfer solutions like insurance in helping to boost the resilience of smallholder farmers.

Since this project was conceived before the launch of the NAIS, the scope had to be adjusted to align with the NAIS business model. As a result, the technical support provided through this project focused on improving the scale-up of agricultural insurance by fostering private sector innovation and investment in agriculture, as well as capacity building for value chain actors in a more robust governance environment. ACRE Africa was able to provide valuable expertise in developing market strategies for smallholder farmers, including the development of training and marketing materials that were better able to reach farmers through cooperatives as distribution channels.

The activities were implemented in collaboration with the NAIS Scheme implementation unit, a consortium of five underwriters/insurance companies, six agriculture-focused financial institutions, and development actors and farmer communities. The approach included an ecosystem analysis to align the expectations of key stakeholders and an extensive farmer education program to drive demand. ACRE Africa was well-suited to provide the necessary capacity building, thanks to its previous experience training partners who were already part of ACRE's distribution ecosystem. By using insurance as an integral part of a comprehensive risk management portfolio, the initiative has scaled and has seen impressive results, as evidenced by the growing number of policies sold each season to previously "uninsurable" poor smallholder farmers.

4. LESSONS LEARNT

The SCBF-funded initiative aimed to bring together different sectors and actors and guide the process of integrating climate resilience and risk transfer solutions into key sectors of the Rwandan economy. However, in order to ensure the successful rollout and sustainable functioning of agri-insurance systems, a gap analysis identified the following challenges and success factors that needed to be addressed:

- i. **Pivoting for success:** The ACRE Africa team had to adapt their approach and use agile methodologies in order to navigate the challenges posed by the COVID-19 pandemic. By working closely with a coalition of partners and channeling their efforts through the National Agriculture Insurance Scheme (NAIS), ACRE was able to better position itself as the main technical assistance

partner and leverage the capacities and resources developed through SCBF funding, particularly the extension services and training-of-trainer programmes and materials.

- ii. **Partnerships:** ACRE Africa was able to set up a modified version of the originally planned village champion model by partnering with MINAGRI and underwriter officials. This was necessary to meet the requirements set by the Rwandan government for partners seeking to engage with the NAIS.
- iii. **Technology:** Partnering with BK (BK Bank, BKGI, and BK TechHouse) helped to quickly bundle multiple products, including technology, digital services, insurance, and agri-loans. ACRE has also leveraged this technology to digitise the NAIS programme, which is currently in an advanced stage and is scheduled to be completed by December 2022. This will provide another channel for the distribution of commoditised products and help streamline the enrolment process for farmers and other stakeholders.

Overall, these challenges and success factors highlight the importance of agility, partnerships, and technology in the rollout and sustainable functioning of agri-insurance systems. By addressing these issues and leveraging its strengths, ACRE Africa was able to make significant progress in improving the resilience of smallholder farmers and supporting the development of the Rwandan agriculture sector.

Challenges:

- The method currently used to estimate losses and verify claims before a payout can be triggered is yield-based crop cut assessments at the individual farmer level. However, this method can be expensive to provide at scale to smallholder farmers.
- Efforts have been made to build capacity across value chain actors in order to sustain the scale of the scheme. However, due diligence continues to identify critical technical knowledge gaps among insurance companies when it comes to underwriting new crop commodities and livestock species.
- A lack of consistently high-quality and granular agro-meteorological weather and crop production and yield data makes it difficult to price and offer high-quality insurance products.
- Many Rwandan farmers operate on a small scale, so there is a need for robust distribution channels, particularly digitally-enabled platforms that can reach a large number of these farmers in a cost-effective manner.
- Developing interventions to scale up agriculture insurance separately from the government scheme has been challenging because non-NAIS initiatives do not have subsidy incentives to support insurance uptake by farmers.

Recommendations:

- Going forward, the National Agriculture Insurance Scheme (NAIS) needs to be supported in conducting capacity needs assessments for the supply and demand platforms involved in the agricultural insurance ecosystem.
- Training on scheme data management, including data gathering, collection, verification, and analysis, should be organised to update climate vulnerability assessments and to use climate science and generate data for customising and automating products.
- There should be a transition from the current high monitoring and claim verification costs of traditional yield-based insurance to more scalable, smallholder-centered index products.
- Under a government/private sector collaboration initiative, actuarial analysis and the design of tailor-made products for micro, small, medium, and large-scale categories of farmers should be performed.
- Feedback cycles are needed to gather insights from clients and insurance companies on the performance of deployed products.
- Cooperatives need to be better supported in becoming sustainable agribusiness ventures by linking them with the financial sector and establishing crop-centric public-private partnership forums.
- Financial institutions' awareness of green finance and the integration of environmental and climate risk screening criteria into credit application and reporting procedures needs to be enhanced.
- Loss adjustment systems and the certification of specialised loss adjusters should be designed and established through an official registry listing all certified professionals, including details on specialised value chains and perils.
- Developing an IT system to connect retailer outlets/branches/agents and consumers by digitising dissemination channels for agriculture insurance can help to solve the last mile distribution challenge.

¹ <https://documents1.worldbank.org/curated/en/219651563298568286/pdf/Rwanda-Systematic-Country-Diagnostic.pdf>

² https://www.bnr.rw/fileadmin/user_upload/2020_Rwanda_Finscope.pdf