# Global Index Insurance Facility: Lessons learned and Guidance Notes - the Adoption, Perception, and Understanding of Agricultural Index Insurance. The case of **Kenya**

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Global Index Insurance Facility
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# Acknowledgements

The report captures the Program’s current status, the progress it has made in Kenya, Senegal and Zambia, lessons learned over the years under implementation and guidance notes for its next steps.

These notes and lessons learned are the result of joint efforts, hard work and commitment with GIIF's implementing partners on the ground as well as generous support from the donors.

The findings, interpretations, and conclusions expressed in this report are entirely those of the authors. They do not necessarily represent the views of IFC/the World Bank and its affiliated organizations.

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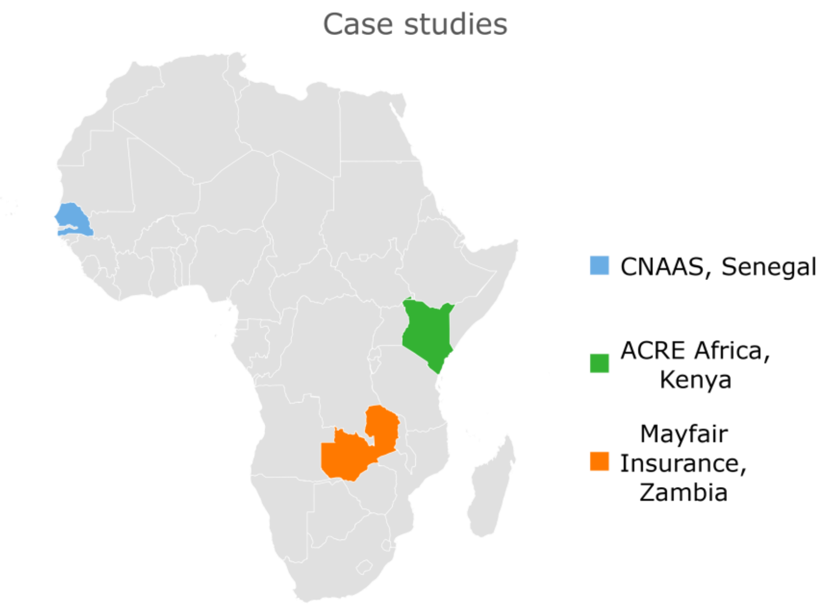
# Why this study?

- **Agricultural risks**: farmers and agricultural value-chains are faced with important risks and uncertainties. These can lead to vulnerability of rural livelihoods, to underinvestment in agriculture and to limitations in food sovereignty and agroeconomic growth.
- **Insurance**: agricultural insurance is one of the tools to manage agricultural risk. But classical indemnity-based insurance is too costly to apply for smallholders. Index insurance is a promising alternative.
- **Challenges**: agricultural index insurance (AII) seems to have challenges with farmers' acceptance, understanding and adoption. It is essential to better comprehend these challenges and their possible solutions. That is the goal of this study.

# Introduction to study goals

1. Better comprehension of Adoption, Perception and Understanding of Agricultural Index Insurance
    - Drivers of adoption (for farmers, for aggregators)
    - Farmers' understanding of AII
    - Farmers' perception of AII
2. Feedback on GIIF's country program



# Three different programmes

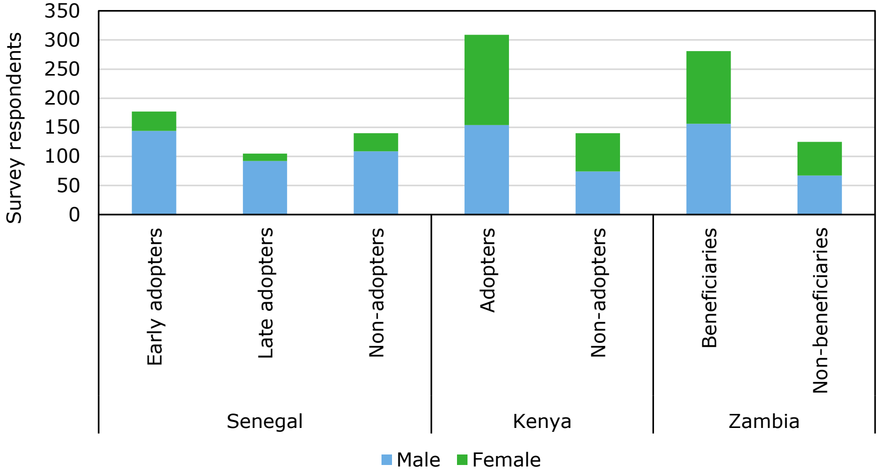
| | CNAAS Senegal | ACRE Africa,Kenya | Mayfair Zambia |
|---|---|---|---|
| Type of company | State insurance company | Agriculture insurance risk surveyor, crop insurance product developer | Private insurance company |
| Range of products | WII<br>(RFE and RET) | WII, MPCI<br>(previously also AYII) | WII, AYII |
| Distribution | Banks, MFIs<br>Agribusiness<br>Producer orgs.<br>NGOs/projects | Agribusiness<br>Banks, MFIs<br>Digital platforms<br>Village Advisors | FISP/MinAg<br>MFIs<br>Agribusiness<br>WFP |
| Compulsory? | Compulsory with credit | Voluntary | Compulsory with input subsidy |
| # farmers (all-time high) | 269,000<br>(2019) | 178,000<br>(2014) | 1,033,524<br>(2018-19) |
| Premium subsidy? | 50% govt subsidy | Only in projects or state programs | None |

# Three different products researched

| | CNAAS Senegal | ACRE Africa, Kenya | Mayfair Zambia |
|---|---|---|---|
| Product | Groundnut insurance | Bima Pima | FISP |
| Technology | WII | WII | WII |
| Compulsory? | Compulsory with credit | Voluntary | Compulsory with FISP input subsidy |
| # farmers (latest) | 83,107 (2018) | 3,994 (2021) | 874,519 ('19-20) |
| Premium | 8% (of which 50% is subsidized) | 10% | 5.9% |
| Per farmer | US$ 110-160/ ha insured US$ 6.50-6.80/ha premium | US$ 27-45 insured US$ 3-5 premium | US$ 80.23 insured US$ 4.72 premium |

# Methodology

- Review of program documents
- Portfolio analysis
- Farmer level survey Kenya
  - 309 adopters and 140 non-adopters
- Interviews with stakeholders
  - GIIF staff, implementing partner, insurance companies, insurance brokers, aggregators, farmer leaders, government/ regulator, sector projects.
- Focus on one specific AII product per country.



# GIIF's country program in Kenya

- Support to Syngenta Foundation for the Kilimo Salama (KS) project (period 2010-2012):
    - Design new index insurance products; Develop solutions that enable the scale-up of index insurance; Build the capacity of stakeholders.
- Support to ACRE Africa (period 2014-2017):
    - Expand to three East African countries (KE, RW, TZ); Develop additional products (satellite, remote sensing); Distribute products to farmer aggregators.

# ACRE Africa’s agricultural insurance products

- Variety of crops:
  - Maize, wheat, barley, sorghum, beans, potatoes, coffee, green grams, soybeans, tobacco
  - In the area of this study: maize, soybeans and green grams
- Variety of products and aggregators:
  - Replanting Guarantee (RPG) with SeedCo (covering crop germination failure caused by drought)
  - Hybrid (WII+MPCI) multi-peril crop insurance with Kenya Seed (larger seed producers)
  - Area-Yield Index Insurance with One Acre Fund
  - More recent innovations: Bima Pima, picture-based insurance, moisture index insurance
- Using data from weather stations (ACRE-owned), satellites and field measurements (only AYII).

# Evolution of the agri-insurance portfolio (1)

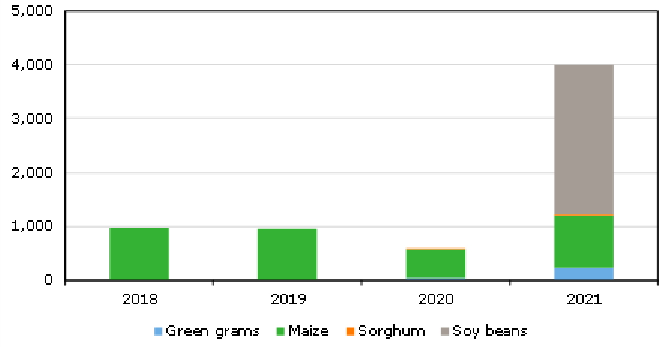
- AII started in Kenya around 2010, with KS as one of the pioneers and innovators. By 2012, KS's AII portfolio had reached US$ 0.4m (premium revenues).
- The AII portfolio at national level has grown very strongly over the years, to somewhere around US$ 8m in 2018 (annual premium revenues).
- But the growth has stagnated, and the national AII portfolio is showing a declining trend (currently around US$ 6.5m). Reasons? (a.o. challenges in portfolio risk management, suboptimal scaling strategies, lack of reliable geodata (weather, yields), policies?)

# Evolution of the agri-insurance portfolio (2)

- ACRE reached its peak portfolio in Kenya around 2015-2017, with 178,000 farmers insured (US$ 0.7m in premium revenues). Portfolio was mainly driven by a few large aggregator products (RPG, One Acre Fund, large seed producers).
- Since 2018, ACRE's portfolio declined massively, due to discontinuation of large aggregators and ending of the premium subsidy support of GIIF.
- Currently, ACRE experiments with innovative insurance products (Bima Pima, picture-based, soil-moisture index, farmer health insurance), while earning most of its premium revenues with large seed farmers. New distribution model thru village-based advisors.

# The Bima Pima product

- Operational since 2018, sequel of RPG product. Voluntary insurance.
- Full season cover, divided into four phases:
    - *drought insurance during the first three phases of the planting season (germination, vegetation, flowering)*
    - *excess rainfall insurance for the pre-harvest phase*
- Insurance premium is 10%
- Farmers purchase the insurance while purchasing bags of seeds or by buying scratch cards
- Distributed through village-based advisors (VBAs), facilitated by AGRA




*Farmers insured, Bima Pima, per crop*

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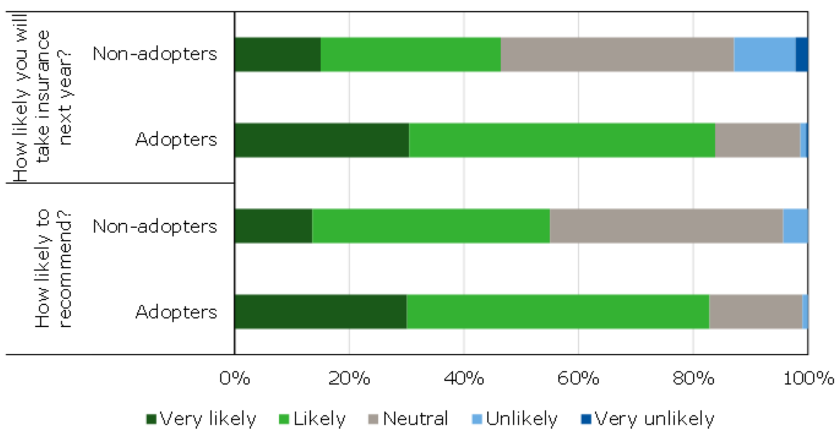
# **Effectiveness**: adoption, understanding and awareness of the Bima Pima product

- ACRE has undertaken several actions for awareness raising throughout the years (general promotion, SMS messages, VBA info)
- Farmers who have adopted the insurance have a pretty good understanding of it. They also trust insurance more than non-adopters (83% vs 56%).
- Adopters' opinions about the conditions of Bima Pima insurance (premium, frequency of payments) are quite neutral: not too good, not too bad. Opinions about the pay-out are still unknown, as the Bima Pima product is quite new in the surveyed region (Embu county, Eastern Kenya).

# **Effectiveness**: satisfaction with the Bima Pima product

- Farmers who have adopted the insurance will more likely take insurance next year than the non-adopters (84% vs 46%).
- They are also more willing to recommend it to others (83% vs 55%).




*Satisfaction with Bima Pima index insurance product (n=449)*

# **Effectiveness**: distribution model

- For the distribution of the Bima Pima product, ACRE has built a partnership with AGRA. Village-based advisors (VBAs) receive a fixed monthly remuneration, so far paid with project resources.
- VBAs interviewed have mixed feelings of satisfaction. They are happy with the SMS messages and the direct premium payment. But they find it hard to convince farmers and are uncertain about the insurance pay-out because the product is so new. Essential that ACRE make a first pay-out promptly and transparently where the situation demands.
- Most stakeholders interviewed have reservations about the potential of voluntary stand-alone insurance. “Insurance is not a demand product, but a push product.”

# **Relevance**: is AII addressing the problem at hand, and who is benefiting?

- Climate risks are the most prominent risk for farmers, especially drought and excessive rainfall. Most farmers use personal savings to mitigate.
- Before GIIF started (2010), there were practically no AII products in KE.
- The main (envisaged) users of AII in Kenya are commercial smallholders.
- Adopters more often have land titles, larger household sizes and higher financial literacy scores compared to non-adopters.
- Female adopters – compared with male adopters: lower levels of education, more risk averse, lower earnings from crops and off-farm.
- According to VBAs, older and poorer female farmers could benefit more.

# (Envisaged) **Impact**: Theoretical impact pathways and differences between beneficiaries & non-beneficiaries

- In theory, AII could impact farmers in three ways;
    - reducing farmers' losses and increasing their resilience,
    - making farmers more confident to invest and increase profits and income,
    - increasing supply of and demand for credit.
- Above effects are subject to important assumptions.

# (Envisaged) **Impact**: Input use of adopters and non-adopters

- Remarkably, we found that adopters are less likely to invest in inputs than non-adopters

| | | Adopters vs non-adopters | |
|---|---|---|---|
| | | Matched sample | Unmatched sample |
| Share of farmer using pesticides | Estimated difference | -0.13*** | -0.01 |
| | N | 48 adopters and 48 non-adopters | 309 non-adopters 137 non-adopters |
| Share of farmer using improved seeds | Estimated difference | -0.13*** | -0.02 |
| | N | 48 adopters and 48 non-adopters | 309 non-adopters 137 non-adopters |
| Share of farmer using local seeds | Estimated difference | -0.27*** | 0.07 |
| | N | 48 adopters and 48 non-adopters | 309 non-adopters 137 non-adopters |
| Share of farmer using chemical fertilisers | Estimated difference | -0.18*** | -0.04 |
| | N | 48 adopters and 48 non-adopters | 309 non-adopters 137 non-adopters |
| Share of farmer using organic fertilisers | Estimated difference | -0.08*** | -0.03 |
| | N | 48 adopters and 48 non-adopters | 309 non-adopters 137 non-adopters |

# **Coherence**: are GIIF, government and other donors working in the same direction?

- The Kenyan government showed a relatively positive attitude towards AII by publishing a policy paper, adopting AII in large agricultural programmes (KCIP, KLIP; including 50% premium subsidies) and in regional state-initiated reinsurance companies (Africa RE, ZEP-RE).
- There are several other donors and projects active in the AII sector, all with the objective of scaling the sector.
- Some stakeholders interviewed find that projects are often too much focused on innovative pilots - for hundreds of farmers - and too little on the real scaling (hundred thousands and millions of farmers). Also, pilots sometimes offer insurance at premiums that are not realistic (too cheap).
- A more systemic approach will be needed, to improve synergies between different actors, and to improve their strategic impact on scaling and sector maturity.

# **Efficiency**: cost levels and profitability of AII

- ACRE benefited from GIIF-financed premium subsidies in the period 2013-2016. This boosted the outreach of their insurance.
- Large scale and a long-term horizon are needed to achieve a cost-efficient and profitable AII sector.
- AII cannot prosper without some kind of (smart) subsidy, either premium subsidy or other types of subsidy.
- In Kenya, there is no general premium subsidy scheme for private index insurance, except in the government programs KCIP and KLIP.
- Last-mile outreach to farmers (transactions, information/ explanation) is an expensive activity. May require structural subsidy, also to reinforce the understanding and acceptance.

# **Sustainability**: can the AII sector sustain itself?

- The AII sector has grown substantially in the period 2010-2020 but seems to be shrinking now. Important to understand why.
- ACRE has enjoyed robust growth until 2017 but has been facing serious challenges with continuity of its products in recent years. Factors: dependency on large aggregators and premium subsidy, operational challenges, acceptability of weather index.
- AII has been replicated and innovated by others, since KS/ACRE started with GIIF support: other developers (Pula), insurance companies (Insurance Pool), other products (AYII). These are positive signs of sustainability, though dependent on government support.

# Recommendations

1. Strengthen the client side: invest more in AII products and outreach approaches that are people-centred and increase acceptance among farmers.
2. Reflect on why the scale of AII is not further increasing in Kenya, and how renewed and sustainable growth can be achieved.
3. Invest in coordination of efforts among stakeholders around a system's strategy for renewed growth of AII.
4. Link insurance efforts with other programmes for prevention of risks.
5. Continue building technical skills in the sector, also for the business and operations aspects of AII.
6. Investments in technology, also for AII portfolio management.
7. External stimuli, such as donor programmes, smart subsidies and mandatory bundling of insurance remain important. Research needed into options and alternatives for subsidies in enhancing insurance uptake.

# Questions for reflection

1. How to improve the understanding, acceptance and demand for insurance?

2. What needs to be done to revert the recent trend of decline of the AII sector in Kenya and to enter a new growth stage?

3. What policy options need to be operationalised to enhance AII penetration in the rural area?

4. What should be the top three priorities to arrive at a healthy and prosperous AII sector in Kenya? And how to achieve that all actors contribute to this agenda?

# Thank you!

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# Abbreviations

| Abbreviation | Name |
|---|---|
| **ACRE Africa** | Agriculture and Climate Risk Enterprise Ltd |
| **AGRA** | Alliance for a Green Revolution in Africa |
| **AII** | Agricultural index insurance |
| **ARC2** | Africa Rainfall Climatology, version 2 |
| **AYII** | Area-yield index insurance |
| **EC** | European Commission |
| **FAO** | Food and Agriculture Organization of the United Nations |
| **GAP** | Good Agronomic Practices |
| **GIIF** | Global Index Insurance Facility |
| **GoK** | Government of Kenya |
| **GPS** | Global Positioning System |
| **IFAD** | International Fund for Agricultural Development |
| **IFC** | International Finance Corporation of the World Bank Group |
| **ILO** | International Labor Organization of the United Nations |
| **IRA** | Insurance Regulatory Authority |
| **KAIRMP** | Kenya Agricultural Insurance and Risk Management Program |
| **KCB** | Kenya Commercial Bank |
| **KCEP-CRAL** | Kenya Cereal Enhancement Program – Climate-Resilient Agricultural Livelihood window (GoK-EC-IFAD) |
| **KLIP** | Kenya Livestock Insurance Program |
| **KNAIP** | Kenya National Agricultural Insurance Program |
| **KS** | Kilimo Salama |
| **LR** | Long Rain season |
| **MPCI** | Multiple Peril Crop Insurance |
| **MoALFC** | Ministry of Agriculture, Livestock, Fisheries and Cooperatives |
| **OECD** | Organization for Economic Cooperation and Development |
| **RPG** | Replanting Guarantee |
| **SDM Bank** | State Bank of Mauritius |
| **SFSA** | Syngenta Foundation for Sustainable Agriculture |
| **SR** | Short Rain season |
| **TAMSAT** | Tropical Applications of Meteorology using SATellite data and ground-based observations |
| **VC** | Village Champion |
| **WFP** | World Food Program |
| **WII** | Weather Index Insurance |