

Exploring challenges in scaling up insurance as a disaster resilience strategy for smallholder farmers

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Agricultural insurance for smallholder farmers contributes to many policy objectives.

It helps smallholder farmers gain access to finance, increase productivity and income, thereby reducing poverty and vulnerability. It also helps enhance food security and government resilience in response to natural hazards and climate change, which further causes an increase of hazards such as tropical cyclones, drought, floods and bushfires. This is especially important for countries where agriculture is a key contributor to the economy, and where crops and livestock are highly exposed to natural disasters. Agricultural insurance enables better management of government finances by reducing expenditure on post-disaster relief, reducing volatility and sharing the financial burden with the industry.

Product, approach and technological innovations have opened up new possibilities for underwriting agricultural risk.

Index-based insurance initiatives, where benefits are paid out based on a predetermined index (e.g. change in rainfall level) rather than an assessment of claims, have helped overcome some of the disadvantages of indemnity-based insurance. One way is through avoidance of moral hazard, which is where the farmer may be more careless and take greater risks because he or she is protected by insurance. Unlike indemnity-based insurance, index insurance does not reduce the incentive of the farmer to undertake good agricultural practices. Administration is faster and simpler as there is no need for a claim assessment process. However, this comes with the issue of basis risk, whereby the claim pay-outs do not match the insured's actual losses. Advancements in technology have enabled the gathering of more accurate data that enable the design of indices that link more closely to actual loss. For example, SANASA Insurance plans to adopt automated weather stations linked to an online database to enable fast payouts. India is exploring using satellite and remote-sensing technology to complement the results of Crop Cutting Experiments. There is also increasing exploration of hybrid products that combine both index and indemnity-based elements, such as a weather index and indemnity-based insurance for pests and diseases.

Key challenges

The majority of agricultural insurance schemes remain in a pilot phase. High loss ratios have led to some national schemes being revised multiple times. Many also face operational challenges such as delays in claims payout. There are a few reasons for this:

- **Need to coordinate with high-level stakeholders with different interests.** A national scheme could involve the Ministry of Finance, Ministry of Agriculture, disaster management agencies, meteorological departments, the insurance supervisor and industry associations, all of whom could have different understandings or expectations of agricultural insurance. For example, agricultural insurance is sometimes only seen as a way to protect the balance sheet of a bank or microfinance institution against a default in their agricultural loan portfolio.
- **Reliance on a wide network of non-insurance related entities.** Enrolment, premium collection, and claims payout may need to be carried out by

“We know that agriculture is a risky business. Farmers understand this everyday. Being a smallholder is even more risky.”

Craig Thorburn, *World Bank*

“Customise products such that they meet the needs of farmers!”

Karthikeyan Muniappan, *DHAN Foundation, India*

“For index products, basis risk is a real challenge. It needs to be managed through careful product design, data analytics, pricing and through raising awareness on what exactly is insured and what is not insured.”

Agrotosh Mookerjee, *Risk Shield Consultants*

“When developing index products, think about the correlations very carefully. This is important for marketing because farmers can feel whether it relates to their losses or not.”

Ravinda Herath, *SANASA Insurance, Sri Lanka*

“The best way is education of farmers.”

Busaraporn Rattanayod, *Ministry of Finance, Thailand*

organisations such as state governments, NGOs, farmer associations, and agricultural banks, leading to market conduct and consumer protection concerns. Training of these organisations and farmer education via programs such as Thailand’s Train-the-Trainers scheme is crucial.

- **Smallholder farmers’ low understanding of and demand for insurance.** Farmers often still do not recognise insurance as a risk mitigation tool. Farmers who receive fully subsidised insurance are often not even aware that they have insurance. Index insurance is more complex to understand; to build understanding, some providers chose not to bundle their index products to ensure uptake is always voluntary.
- **High costs of running the schemes.** The repair and replacement of infrastructure such as rain gauges for purposes of rainfall indices are expensive. Furthermore, the end-to-end delivery of agricultural insurance often involves many processes and agencies such as bank branches, NGOs and cooperatives that are spread nationwide.
- **For index insurance, scarcity of reliable data with a strong correlation to actual experience.** The data needed is often collected by government agencies for their own purposes and therefore not always suitable for insurance purposes. In some countries, agricultural data could be shaped by political interests. Governments also often have reservations about public data sharing due to food and national security concerns. Technology has been a significant help but has its limitations – for example GPS coordinates may not be specific enough to reflect micro-climates and reduce basis risk to a satisfactory level for the farmer.

“Farmers’ interviews in the Philippines showed their top concern is high price of agro inputs, while weather risks were not mentioned, despite frequent natural hazards.”

Jimmy Loro, *GIZ-RFPI Asia*

“We encourage insurers to explain to farmers the issues of basis risk, and we require an actuarial report from insurers showing how the product design is geared towards reducing basis risk before a product is launched into the market.”

Joseph Owuor, *Insurance Regulatory Authority, Kenya*

“Evaluating the performance of pilots is sometimes seen as a weak link.

Interpretation is based on opinion and impressions and there is less confidence in the results of the innovation in the absence of data to back it up!”

Arup Chatterjee, *Asian Development Bank*

Looking ahead

Product design and distribution need to stay focused on needs and actual experience of farmers. Farmers face all kinds of risk. Providers should be clear about the specific risk or aspect of the agricultural value chain the product is intended to cover – for example whether day-to-day production risks or large-scale disaster risks, or whether costs of production or yield. Additionally, actual experience can be very dynamic. Loss data can differ significantly between the average district level compared to the individual village level due to localised calamities. The type of crops and crop cycles can change depending on soil conditions and weather patterns, which has implications on the terms of the coverage. There is a tendency to retreat to technical aspects of the product design and lose sight of the priorities of customer. Also, limiting the basis risk in index insurance is an absolute must. The reliability of forecasts and thus payment of claims needs to be improved in order to enhance customer satisfaction.

There is still little clarity among insurance supervisors on how index insurance should be supervised and developed in line with inclusive insurance objectives. As Governments, international development partners and the insurance industry look for solutions to upscale index insurance, it is important for supervisors to have a clear stance on their approach to index insurance. Kenya and the Philippines have issued either draft or final regulations relating to agricultural or index insurance, but for many others, fundamental aspects with respect to how index insurance fits into existing legislation and regulations remain unanswered. Not enough supervisors have a clear product approval framework setting out how to assess the adequacy of index insurance product proposals, and monitoring performance and understanding impact of pilots is especially lacking.

A key question is the role of government subsidies in enabling sustainable large-scale schemes. Pricing of agricultural insurance might be actuarially sound, but still not affordable especially in high-risk areas. It is not uncommon for schemes to be discontinued due to the lack of subsidies. While some schemes in Sri Lanka have proven to be profitable, many feel that subsidies are crucial, especially because shifting the burden of premiums to farmers could lead to a public backlash as the agricultural sector is often a highly politically sensitive topic. However, subsidies could also crowd out private insurers, limiting competition and product innovation. It is worth exploring how subsidised and private sector-driven products can coexist in the market in a complementary manner. Products that are subsidised should still be run in a manner that is commercially sustainable and treats farmers fairly.

There is a need to better integrate agricultural insurance and insurance regulation into national disaster risk management strategies. There is currently a lack of understanding at the policymakers’ level as to how the various risk management strategies can work together to achieve the most efficient arrangement for risk sharing between regional, local, national level. The technical basis for this now exists and global risk markets currently also offer affordable rates for risk transfer. It is now timely for public and private sector stakeholders to take coordinated action and leverage on this opportunity.

Key takeaways and recommendations for action to the industry

- Keep products as close as possible to actual experience and farmer needs
- Agricultural insurance can be profitable if products are designed well
- Invest in obtaining high-quality data for index insurance
- Keep products simple in order to tailor to the understanding of farmers
- Leverage on full range of technology to innovate and improve cost-effectiveness of key processes such as claims verifications and pay-outs
- Work with supervisors and policymakers to educate them on the technical aspects and support needed for agricultural insurance to work

Key takeaways and recommendations for action to regulators

- Stay at the forefront of initiatives to develop agricultural and index insurance
- Engage in dialogue with policymakers and industry on how insurance should be integrated into broader policy frameworks such as disaster risk management
- Pursue formal collaboration with other stakeholders based on clear objectives, strategy and outcomes in key areas such as data sharing
- Continue building internal technical expertise and understanding of index insurance products
- Monitor performance of pilots, and support farmer impact studies
- Continue pursuing strategies to develop farmer understanding of insurance

“Index insurance is taking off. We need a proper protocol on data sharing for insurance.”
Jimmy Loro, *GIZ-RFPI Asia*

“In our experience, for agricultural insurance schemes to be viable, the Government has to subsidise. It is a state obligation.”
Dr. Ashish Bhutani, *Ministry of Agriculture & Farmers’ Welfare, India*

“The end goal is that people voluntarily buy insurance, without being compelled or compulsorily packaged with something else.”
Craig Thorburn, *World Bank*

“Macro, meso and micro level elements have to work together. We have worked in silos for too long.”
Dr. Simon Young, *African Risk Capacity*