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## Scaling up agricultural index insurance in Africa: Building disaster resilience of smallholder farmers

**10<sup>th</sup> Consultative Forum on microinsurance regulation for insurance supervisory authorities, insurance practitioners and policymakers**  
**24 and 25 May 2017, Common Wealth Speke Resort, Kampala, Uganda**

This Consultative Forum was the second in a three-event series organised in 2017 on the topic of agricultural insurance as a tool for disaster resilience in the three developing regions of Asia, Africa and Latin America. The first event in the series, which took place in Singapore<sup>1</sup> in March 2017, covered both indemnity- and index-based agricultural insurance, whereas this event focused exclusively on index-based agricultural insurance as an innovative tool for agricultural insurance to become more affordable for smallholder farmers. The third event in the series will take place in Peru in November.

A number of the key challenges to scaling up agricultural insurance identified at the event in Singapore emerged again during the Consultative Forum in Uganda, namely: The low demand for agricultural insurance, limited availability and accessibility of good quality data, and the need for greater clarity from insurance supervisors on how index-based products will be dealt with. There were also commonalities in the critical success factors for scaling up agricultural insurance, such as the need to design products that correspond to customers' actual needs, the need for effective coordination between different stakeholders and for enabling technological innovations that make processes more efficient.

**Climate change-related weather events have a significant negative impact on smallholder farmers in the African region.** Agriculture is considered the lifeblood of African economies. More than half a billion Africans depend on smallholder farms for their livelihoods and source of income. Agriculture represents 21% of total GDP on average (ranging from 3% in Botswana and South Africa to more than 50% in Chad) and 50% of the total value of exports. Lack of access to inputs, services, credit and markets make smallholder farmers highly vulnerable to risks, which have been increasing due to extreme weather events, such as drought, heat stress and flooding. The impact of small shifts in temperature and rainfall has been found to be disproportionate, greatly reducing crop and livestock yields and productivity. For example, in Cameroon a 14% reduction in rainfall is estimated to have caused around USD 4.65 billion in economic losses.

**Index-based insurance is considered a promising tool to enhance farmers' resilience and protect their production risks.** 96% of the products that are available in the agricultural insurance market are indemnity-based. Indemnity-based agricultural insurance provide valuable support in many countries. However, they are susceptible to

"It is fine to use an aggregator, as long as the insurer retains the ultimate accountability and responsibility, because the ultimate relationship remains between the insurer and the insured."

**Jonathan Dixon,**  
**Financial Services Board, South Africa**

"There is a virtuous circle between scale and affordability and the role of the government is important in this respect."

**Peter Wrede, World Bank Group, USA**

"Benefits of index-based insurance have three aspects: it increases access to finance and productivity for smallholder farmers; it increases food security; and it increases finances to government for post-disaster relief responses."

**Joseph Owuor,**

<sup>1</sup> <http://www.microinsurancenetowork.org/sites/default/files/9th%20Consultative%20Forum%20Briefing%20Note.pdf>





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adverse selection (less efficient farmers are more likely to purchase insurance), moral hazard (farmers may exaggerate yield loss) and high costs of loss assessment, linked to the fact that farm visits are needed to determine the cover limits and assess the loss when a claim has been made.

Index-based insurance is based on a proxy indicator for loss and can therefore reduce administrative and transaction costs. Index-based insurance, whether based on area yield or weather-related factors, offers benefits that are paid out according to a predetermined index rather than an assessment of claims. This type of insurance has helped overcome some of the disadvantages of indemnity-based insurance by reducing moral hazard, adverse selection, underwriting and claim assessment costs while speeding up claims settlement. One example of an agricultural index insurance programme is the government-sponsored Kenya Livestock Insurance Program (KLIP) which is scaling up across the region. In this programme, the government purchases drought insurance from private insurance companies on behalf of vulnerable pastoralists. Satellite data is used to estimate the availability of pasture on the ground and triggers pay-outs to pastoralists when availability falls. However, index based insurance also introduces a new set of challenges and, despite the existence of several pilots, has yet to reach scale.

### Key challenges

**Availability and access to accurate and good-quality agricultural data can be a challenge in designing an index-based product.** Index-based insurance relies on historical data (meteorological data, yield statistics, satellite data) and current yield data to create a benchmark for assessing the level of compensation when losses occur. In many cases, in order to improve the quality and availability of data, investment is required to enable improvements such as renovation of automated weather stations and development and implementation of more modern data collection and storage technologies. For example in Zambia, weather data had been collected but was not accessible because it was stored on floppy disks. Also, in some cases, data can be costly to obtain from the public authorities who own it. Establishing public-private partnerships (PPP) with statistical offices and weather stations may partly solve the issue. Challenges around data are not unique to indices based on weather station-based data; even indices based on satellite data make use of some ground-based data. Ensuring that the pixel size is sufficiently large to manage basis risk is important for satellite data.

**Index-based agricultural insurance products are vulnerable to high basis risk.** Sometimes contracts fail to provide compensation for losses: farmers pay premiums, losses occur, but no claims payments is forthcoming. This leaves the smallholder farmer worse off than if the insurance had not been purchased at all. This effect is caused by a high adverse basis risk. On the converse, index based insurance is also exposed to perverse basis risk, whereby an index might be triggered and farmers receive a pay-out despite no damage or loss occurring to their crops. This undermines the basic principle of insurance (whereby a pay-out is made following a loss) and can reduce it to a form of gambling in more extreme cases. Concerns on basis risk can be significantly reduced by designing better indices that are more granular and more closely related to farmer

### Insurance Regulatory Authority, Kenya

“Insurers pooled resources for consumer education, however, the costs were very high and the funds were depleted in three months.”

**Protazio Sande, Insurance Regulatory Authority, Uganda**

“Two major lessons learned in relation to agricultural insurance: farmers do not trust insurance salesmen, but prefer known intermediaries (like agro-processors) and farmers do not want to buy insurance as a stand-alone product.”

**Rahab Kariuki, ACRE Africa, Kenya**

“Solutions related to the potential of index-based insurance are often home-grown.”

**Isaac Magina, Swiss Re, Switzerland**

“We need to consider what we are promising





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losses. Index-based insurance can also be combined with an indemnity-based cover: one example of hybrid index and indemnity product comes from Zambia, where the product combines the index trigger with actual on the ground loss adjustment (assessment of the amount of compensation after a claim has been made) to improve the accuracy of the loss assessment.

**Farmers are not ready to buy stand-alone agricultural insurance products.** Insurance is harder to sell than micro-credit. This is because farmers “get the money now” under a credit agreement whereas for insurance, they receive a pay-out later if the loss event occurs or the index is “triggered”. This challenge is exacerbated by the complexity of agricultural index-based insurance products and jargon used to explain them. Building trust in agricultural index-based insurance requires a joint effort from insurers and regulators, for example by implementing joint consumer education strategies. However, even when a pay-out is made to an individual, it does not always result in future uptake: culture and beliefs are strongly embedded, and individuals may still decide not to purchase coverage in the future despite previous positive experience.

### Success factors

**The success of agricultural index-based insurance depends on effective partnerships, where each player gets value from their participation.** The value chain for agricultural index-based insurance comprises a diverse range of stakeholders: data providers and analysts are essential for product design; insurers, reinsurers and actuarial experts are needed for product pricing and determining the level of cover; aggregators<sup>2</sup> including distribution channels and intermediaries, support processes to mobilise demand, client enrolment, payments of premiums and claims, complaints management and client communication; and policymakers, supervisors, donors and the media support in the development of an enabling environment. In order to maintain interest from this diverse group of stakeholders, it is important that each somehow benefits from their participation in the process. In the case of microfinance institutions (MFIs), the value added for offering insurance with credit, would be to guarantee that the customer will not default on loan payments even if they encounter financial difficulties. One example of such a partnership is between the MFI Vision Fund International and ACRE Africa in Kenya, where compulsory insurance is provided to farmers along with credit.

**Aggregators play a key role in creating awareness and in the distribution of agricultural index-based insurance.** Common to the provision of microinsurance in other areas, aggregators in agricultural insurance play a vital role in achieving economies of scale and increasing access. To be most effective, aggregators need to be locally established or at least well known and trusted by the local community. In fact, they are often more likely

with agricultural index insurance, and if we can deliver on those promises.”

**Miguel Solana, ILO, Switzerland**

“Source, accuracy and access to weather data from weather or satellite stations need to be improved.”

**Agrotosh Mookerjee, Risk Shield Consultants, Zambia**

“Farmers all over the world are the same. They don’t trust insurers. They need subsidies. We talk about insurance but the basis risk is completely put on farmers. Awareness and education is not the issue, but communication is.”

**Momath Ndao, Ministry of Economy and Finance, Senegal**

“Insurance will not make crops grow.

<sup>2</sup> Aggregators can be defined as entities that bring together people for non-insurance purposes (for example retailers, service providers, utility companies, member-based organisations or civil society organisations) and that are then utilised by insurers, with or without the intervention of agents or brokers, to distribute insurance and, depending on the model, fulfil additional functions such as administration and/or claims payout.

<https://www.iaisweb.org/page/consultations/closed-consultations/issues-on-conduct-of-business-in-inclusive-insurance/file/58440/post-consultation-draft-issues-paper-conduct-of-business-in-inclusive-insurance-clean>



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to be trusted by farmers than insurers. In Ethiopia, Oromia Insurance Company solved the lack of trust in insurance agents by co-opting primary cooperatives and members of farmers' unions to explain insurance and by using opinion leaders and radio broadcasters to raise awareness among farmers. In Kenya, agricultural input suppliers collect premiums, provide product information, register the client and hold the reference policy documents. However, in many countries in Africa, the regulatory frameworks do not currently accommodate these types of players or allow for aggregators to distribute insurance.

**Technology can be used to support claims assessment and improve communication with clients.** If clients have access to a mobile phone, they can be provided with information about their cover as well as additional services like weather and sowing information via SMS. Claims can also be dealt with through using mobile technology, for example using a GPS signal to confirm the location of the plot and subsequently process claims payment.

**Bundling several services with index-based insurance is considered part of a broader value proposition for farmers.** To generate sales of agricultural insurance products in Kenya, insurance is linked to credit from microfinance institutions (MFIs), input companies, off-takers (which guarantee the sale of production), farmer associations, mobile companies, and climate information services. Bundling agricultural index-based insurance with other insurance products and providing value-added services like weather information services or access to training on new farming methods may be attractive to customers and improve the product value proposition. One example of bundling products would be medical insurance combined with seed insurance, or life insurance combined with dairy insurance.

**Consumer understanding and product information disclosures warrant extra attention in case of a complex product like index-based insurance.** The marketing material should explain the product features as well as the risks and eligibility criteria for the product. This implies explaining that the pay-out depends on the value of the index and not the actual loss. It is also necessary to explain which risks are covered and which are not, what index level is used and the expected frequency of the pay-out. Disclosures and marketing material should avoid using jargon and focus on explanations and examples that will help clients to understand these products.

**Governments and the donor community need to support an enabling environment for the uptake of index-based insurance.** Increasing recognition of the role of insurance as a risk management tool for smallholder farmers by policymakers helps the development and implementation of agricultural index-based insurance programmes. There are three levels of public and donor involvement: 1) providing premium subsidies and supporting the development of well-designed appropriate products integrated with safety nets; 2) establishing consumer awareness programmes to encourage demand and uptake, and; 3) introducing proportionate and supportive regulatory environments that accommodate different types of aggregators for product distribution, allowing for

Incorporating risk reduction mechanisms such as weeding, irrigation and recommendations for planting at the right time can be combined with insurance”  
**Rahab Kariuki,**  
**ACRE Africa, Kenya**

“The best way to manage risk is to work via the value chain such as the MFI or the cotton mill or other producers like nut roasters — they all depend on the farmers. That might make insurance more viable.”  
**Mia Thom,**  
**Cenfri, South Africa**

“Sustainability is key to providing client value. Since the understanding by farmers is low, the focus is on socio-psychological benefits as well as economic benefits for clients.”  
**Melkachew Temesgen,**  
**Oromia Insurance Company, Ethiopia**

“Bundling may be useful in order to give extra benefits with the product to obtain client trust and renewal. Aggregators such as





simplified organisational processes and proportionate solvency requirements, while encouraging appropriate risk mitigation measures (for example use of reinsurance) to ensure the sustainability of this business and to help the market reach scale. Governments can also get involved in index-based insurance through supportive tax regimes. The Uganda Agriculture Insurance Scheme (UAIS) is a public-private partnership to provide agricultural insurance to small and large-scale farmers in Uganda. This public-private partnership supports accessibility of index-based insurance for smallholder farmers through government-subsidised premiums. It also leverages industry knowledge on how best to develop products and service premiums and claims and in a cost-effective way. A joint approach between the insurance industry and the supervisor is also being undertaken for consumer awareness of index-based insurance products.

community-benefit societies are not regulated but provide worthwhile benefits and services to people.”

**Mia Thom,  
Cenfri, South Africa**

### Key takeaways and recommendations for action to the industry

- Involve aggregators who are known to the farmers, such as agro-processors or elders from the communities, in the insurance sales process.
- Bundle the agricultural insurance product with a tangible product like a loan or life insurance and combine it with value-added services such as irrigation, weather information services and advice on new farming practices to increase the value of the product to the farmer.
- Be transparent and clear about the product specifications by avoiding complex jargon.
- Promote and share testimonials to drive adoption of agricultural index-based insurance.
- Leverage technology in the enrolment process to reduce administrative and transaction costs.
- Establish smart public-private partnerships between insurers, donors, multilateral organisations, input suppliers, retailers and NGOs, to deliver simple, accessible and affordable products.
- Ensure immediate payments after disasters occur to enhance uptake and renewal rates.

“The insurance regulator should talk to the agriculture regulator to see how to collaborate in terms of regulating agricultural organisations (cooperatives and supply providers).”

**Agrotosh Mookerjee,  
Risk Shield Consultants,  
Zambia**

### Key takeaways and recommendations for action to regulators

- Understand and raise awareness on the importance of index-based agricultural insurance as a tool to overcome production risks, especially in extreme weather events, and enhance the livelihoods of smallholder farmers.
- Set up key criteria for the regulation of distribution channels, such as input suppliers and alternative intermediaries without hampering their work.
- Consider the effectiveness of proposed risk mitigation measures, including reinsurance for insurance providers when assessing the viability and sustainability of the product.