

### Editorial

Smallholder farmers produce almost half the world's food. Nevertheless, in developing countries many farming families live in poverty. Although in Switzerland farmers whose crops are destroyed by hail can claim compensation from their insurance companies, this is not the case with the overwhelming majority of smallholder farmers in developing countries. For them, floods, droughts or other extreme meteorological phenomena cause the loss of a large part of their livelihoods.

But this is all set to change. For a good ten years, international cooperation has been developing insurance schemes for smallholder farmers. The SDC is working at a number of levels in this innovative sector. At the local level, it is supporting, for example, pilot projects specialised in offering cover against non-germination of seeds, drought or prolonged rain. At a more global level, it is participating in a public-private partnership that aims to inform, through the use of satellite imagery, governments, producers and insurance providers about the stages of rice crops in several Asian countries.

Supporting insurance schemes for smallholder farmers means offering them the possibility to manage the many risks confronting them more effectively. This increases their resilience, which is one of the priorities of the SDC's activities in the area of food security.

I hope you enjoy reading this edition of Global Brief.

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Deputy assistant director

## AGRICULTURAL INSURANCE: OFFERING HOPE FOR THE FUTURE TO SMALLHOLDER FARMERS



Flooding can be a disaster for farmers who are not covered by an insurance, as in Malawi in 2015.  
Photo Luca Sola/FAO

**The poorest farmers in the countries of the South are not insured against climate hazards. Micro-insurance aims to mitigate this problem, but achieving this means meeting a triple challenge: it has to be effective, accessible and sustainable.**

Gérard Asson is a 70-year-old smallholder farmer from the village of Dame-Marie in the western tip of Haiti. In 2012, he was about to harvest his rice crop when Hurricane Sandy devastated his fields. He lost everything. As his production costs are very high, he turned to growing bananas and sugar cane, two crops that can tolerate large quantities of water. In 2014, there was a drought that lasted eight months and caused further losses. In this unpredictable climate "the only constant is poverty," says Asson in the report he submitted to the Global Press Journal, a publication focused on the consequences of climate change. As one of his neighbours puts it, "a farmer is like a soldier – always exposed to mortal dangers."

Some 500 million smallholder farmers in the world are living, like Gérard Asson, in poverty and insecurity even though they make a crucial contribution to world food security. For them, an extreme climate event often results in the total loss of a year's revenue or worse. Their vulnerability is exacerbated by the fact that they can be forced to go into debt to feed their families, buy seed, or even pay back debts. It is very difficult for smallholders to break out of this vicious circle.

An insurance policy could help them. By providing farmers with the means to deal with unexpected events and to recover, agricultural insurance contributes to food security and fighting poverty, and also provides

a form of social security. According to the United Nations Development Programme, only 3% of farmers in the world have agricultural insurance. Although various models of agricultural insurance have been developed to cover risks associated with unforeseeable climate events and other disasters (earthquakes, hurricanes, fires, tsunamis, etc.), the poorest farmers have remained excluded from this market.

## The insurance business is innovative

Although supply has been slow in coming, demand has also been weak. Insurance as a concept is not always well understood by farmers because it sells a service they only see after a disaster has happened.

Moreover, although many governments subsidise agricultural insurance in part, the question remains of how insurance products that offer real added value can be made commercially viable with clients with little or no means to pay for them? There is no easy answer. Index-based insurance, a form of insurance that is growing fast, could provide at least part of a solution. For a good ten years, Switzerland, via the SDC, has been supporting pilot projects in developing micro-insurance in close cooperation with partners from the private sector such as Swiss Re, Allianz or Sarmap.

As its name suggests, this type of product is based on indexes of reference data linked to agricultural production that can be objectively measured, such as the amount of rain, the water level or wind force, for example. In the event of a claim, the farmers are not compensated on the basis of the losses they suffer individually, but receive compensation when thresholds that are determined in advance for their region are exceeded or not attained.

## Protective function

This approach avoids the need to send experts to the field to verify damage, which is expensive, and thus makes this kind of insurance affordable for smallholder farmers. Furthermore, index-based insurance reduces the scope for fraud and enables claims to be settled within weeks rather than months.

For farmers the advantage is clear: they are compensated rapidly, which enables them, for example, to buy new seed and replant quickly enough so as not to lose the season's crop. At the minimum, the compensation they receive helps them to feed their families until the next harvest. In this way insurance provides both social security and protection against indebtedness.

Index-based insurance can also cover other risks, such as price volatility on markets or disasters, such as earthquakes, and is particularly well adapted to smallholder farmers: premiums are more affordable and the risks insured can correspond precisely to their needs, depending on the crops they grow and the region where they live.

Experience gained has made it possible to confirm the potential for using index-based insurance for smallholder farmers under specific conditions: the promotion of an 'insurance culture' within the target population; public authorities open to commercial insurance, in particular public-private partnerships; an adequate supervisory framework; an effective and inexpensive distribution network in order to reach a critical mass of clients quickly. Spreading risks through reinsurance, mostly at the international level, is essential. Lastly, even though current changes in climate often contradict knowledge accumulated over the years, historical data on climate change and harvests is indispensable for setting indexes. The absence of or gaps in such historical data in many developing countries is one of the main obstacles to providing affordable micro-insurance.

## Know-how and training

Designing and launching micro-insurance requires specialised know-how and a significant investment to be able to provide accessible, commercially viable and sustainable products. This also requires a solid legal framework and in many cases external technical expertise. The SDC provides the necessary transfer of know-how and technology. It assists, for example, the supervisory authorities in carrying out essential reforms to insurance law. It also facilitates public-private partnerships in the development of new insurance products and their wholesale launch in little known markets. In addition, it not

only co-finances the development of new insurance products but also the necessary training at all levels in the provision of these services (training bank personnel, financial education for clients, etc.).

Reaching a population that is by definition spread out over wide areas and that a priori shows little interest – largely because it is uninformed – remains a challenge. Farmers' associations and agricultural micro-finance bodies serving these populations are well placed to participate in marketing such products, and can themselves propose this kind of insurance often in connection with other services (agricultural advisory services, sale of improved seed, bank loans).

Micro-insurance for smallholder farmers is not a panacea and is to be handled with care. It is part of a larger framework for managing and preventing risk in the event of disasters in developing countries. However, although limited to specific cases, it has, like savings, a protective function. Moreover, it contributes to increasing agricultural production. Experience shows that insured farmers tend to be more dynamic than non-insured farmers when it comes to investing in new production methods, such as new technologies or new seed. This enables them to increase their revenue, and, of course, in the case of losses, they are the first to recover. ■



Seed selection is one of the ways to cope with climate change, but it is not always sufficient.  
Photo Curt Carnemark/World Bank

# Three questions for ...

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## Is the index insurance market for poor farmers in the developing world still in the experimental phase?

The first index insurance schemes for smallholder farmers were piloted in rural India a bit more than a decade ago. In 2016, the Indian scheme will have an expected premium volume of more than USD 1 billion. Hence, it serves as a role model for replication around the world. Experience with these schemes highlight the need for supporting factors, such as enabling insurance regulation and scalable business models. Distribution and financial education are key as many clients are first-time insurance customers. Last but not least, a close eye needs to be kept on the 'basis risk' to maintain the value of such products. To meet these challenges, all stakeholders are required to innovate and test new models.

## The historical data to document what a 'normal' year for agriculture means are often lacking in developing countries. How do insurance companies establish an index in such situations?

Availability and access to data can differ from country to country. First-generation index insurance schemes mainly relied on rainfall data coming from weather stations. With the use of satellite data and its different type of sensors, it was possible to develop new index solutions. They come with their own challenges, and weather station data will continue to be important. The bigger challenge, however, is reliable and consistent yield data, either to calibrate indices or to create yield-index products. Insufficient data availability increases basis risk and drives up premiums. We see a strong role for governments or development cooperation here.



## What kind of disaster can index insurance cover for poor farmers in addition to crops and harvest?

The insurance industry has proven its innovation capacity when it comes to developing new solutions. Various risks, such as floods and earthquakes can be covered. Index insurance can for example also protect the cost of agricultural inputs or even farmers' homes. There is also a number of innovative insurance schemes that cover livestock – not only against death, but also from lack of forage in times of drought. ■

## Easy and mobile insurance

Certain kinds of micro-insurance for smallholder farmers are starting to develop successfully. This is the case with ACRE Africa (Agriculture and Climate Risk Enterprise LTd.), an insurance agency based in Nairobi, Kenya, whose products are marketed by local insurers. ACRE, which was established in 2014, is the follow-up to a programme that was launched in Kenya in 2009 under the name of Kilimo Salama by the Syngenta Foundation and GIIF.

GIIF is a multi-donor trust fund linked to the World Bank which aims at supporting index-based insurance schemes in developing countries. Switzerland participates in the programme via the Swiss Capacity Building Facility. This partnership between the SDC and Swiss financial-sector companies helps financial institutions (including insurance companies) in developing countries to increase their outreach to the poorest sections of society.

ACRE Africa, which operates on a commercial basis, offers several formulas for smallholder farmers, including an index-based insurance scheme based on climate variations. It can cover the non-germination of seed, the risk of drought before flowering (resulting in the crop not flowering), prolonged rain or storms during the maturation or harvesting period. The insurance premiums amount to at least 5% of the sum insured.

Weather data is collected by a network of ground stations or satellites and communicated at regular intervals to the insurance company. Objective measurements trigger payments as soon as the predefined thresholds are passed: too much or too little rain. As a service provider, ACRE deals with the entire insurance value chain, from the development of products to relations with reinsurers. The insurance policies are negotiated with partner representatives (farmer organisations, service providers, etc.), but contracts are concluded with individual clients.

From the farmers' perspective, nothing could be easier: the insurance policies are often sold with a micro-credit, an advisory service or a purchase of seed. Example: at the beginning of the season, a farmer buys the insured seed. In the packaging the farmer finds a code that he only needs to send by SMS to the insurance company which locates him with his mobile phone and inspects the area in question. In the event of a drought, if the seed does not germinate after 21 days, compensation is sent to the farmer on his telephone and he can immediately buy new seed.

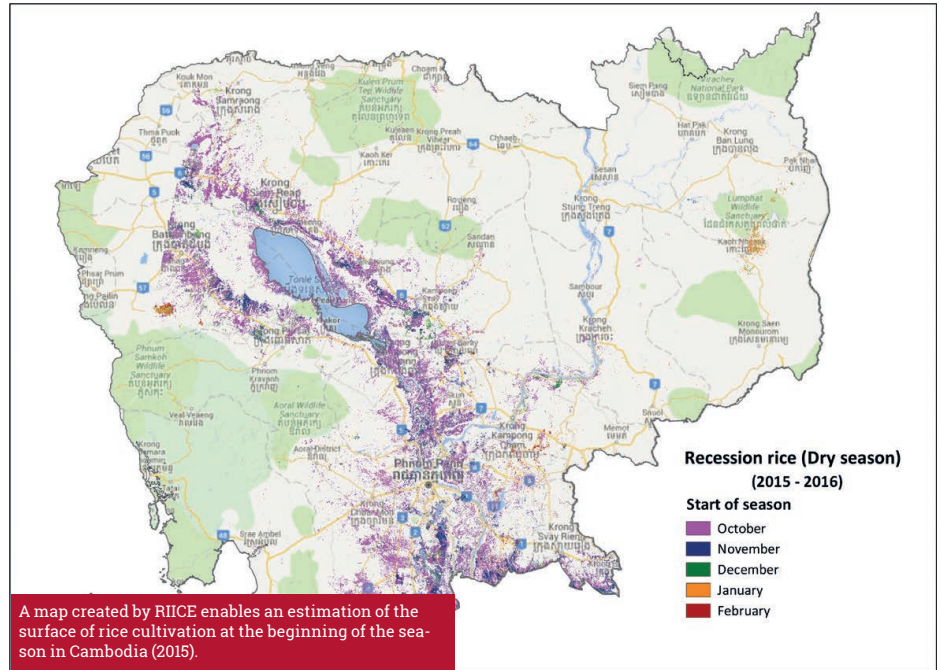
According to ACRE Africa, insured farmers invest 20% more and make 16% more than uninsured farmers. In 2014, the model was extended from Kenya to Tanzania and Rwanda. In these three countries more than 800,000 farmers (aggregated figures) were insured until 2015. Uganda and Zambia are expected to follow. ■

# Crops seen from the sky

Reliable agricultural and meteorological data is frequently lacking in many developing countries and is a major obstacle to developing agricultural insurance. The aim of the RIICE project is to fill this information gap.

The acronym stands for the combination of two kinds of expertise: the one, a product of the Swiss company 'sarmap' that facilitates analyses of soil conditions and plant cover using satellite images taken by radar (rather than optical methods), enabling images to be taken even with cloud cover. This technology makes it possible to monitor rice growth over periods of weeks and to identify the extent of damage, where the case may be, with high precision. The other, developed by the International Rice Research Institute (IRRI), based in the Philippines, forecasts yields on the basis of soils, rice varieties, meteorological data, etc.

The combination of these two forms of expertise makes it possible, using satellite images, to produce maps of rice crops and to provide forecasts and yield estimates. This information clearly interests insurers and reinsurers, such as Allianz, which is associated with the programme. Insured farmers, including the poorest, should also benefit from this technology. The rapidity and reliability of the information provided by RIICE



reduces the time lapse between the damage sustained and the insurance payment from several months to a few weeks.

This technology is currently being tried out in five Asian countries with a range of public and private partners. Switzerland, via the SDC's Global Programme Food Security, is the main provider of public funds and is the driving force in the strategic coordination of the project as well as in the institutional and

political work being carried out in Vietnam and Cambodia.

The programme constitutes a steering instrument of unprecedented precision and effectiveness in terms of food security and risk management. In November 2015, for example, thanks to the RIICE programme, the authorities of Tamil Nadu, in India, were able to rapidly draw a map of the damage caused by the severe flooding that had occurred, and to provide seed to enable farmers to re-plant immediately. Without this programme the people who suffered these losses would have had to wait for months to receive aid.

## Priorities of the SDC

The SDC:

- supports the development of index-based micro-insurance against natural disasters such as torrential rainfall that causes flooding, as well as droughts and earthquakes. Micro-insurance is designed in particular for smallholder farmers who do not have access to the conventional insurance market.
- supports the development of innovative technologies and methods of data collection (in particular meteorological or those linked to agricultural production) that use satellite images to gather more reliable and detailed data. These data are made available by public bodies and

provide the scientific basis that is essential for insurers to develop well adapted insurance products to meet the needs of large and smallholder farmers alike.

- assists governments in Africa to manage risks associated with extreme meteorological phenomena at the central state level. Together with other donor countries, the SDC supports the development of an insurance mechanism for several countries (Africa Risk Capacity).
- facilitates public-private partnerships between the governments of partner countries and insurers with the aim of developing and marketing new insurance products and technologies.

## Imprint

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