



Swiss Re



Agriculture Microinsurance in India

PROGRAMME OF THE SAVINGS AND CREDIT FORUM

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Importance of Agriculture in India

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- India sustains 16% of the world's population on 2.4% of land resource
 - Agriculture contributes 18% of the Indian GDP
 - Livelihood support to two-thirds of the population
 - Employment to 57% of work force
 - Single largest private sector occupation
 - Raw material source to large number of industries like (textiles, silk, sugar, rice, flour mills, milk products)
 - Agriculture accounts for about 14.7% of the total export earnings

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- High dependence on weather
 - Up to 80% of variability in crop yields is attributable to weather
 - Less than 40% of net sown area irrigated
 - Most irrigation from non-perennial sources
 - Affects adoption of improved crop production techniques because of high risks and low margins
 - Extreme Weather Events in India (cold wave, drought, fog, heat wave, tropical cyclones, floods)
 - Dwindling ground water resources
 - Market and Production risks make income unstable
 - Access to formal financial services is limited

Agriculture (micro)insurance

- **Agriculture insurance** has a long tradition in industrialised economies and is increasingly introduced in emerging markets
- However: Traditional agriculture insurance works only for larger farm units (> 10 ha) and usually relies on the insurance industry as a distribution channel, is expensive (loss adjustment, administration) and therefore often needs government subsidies to make it affordable.
- In many emerging markets, index based products are the only instruments available as there is no other risk information available for developing conventional insurance products; nor is there any infrastructure for assuring field level loss settlement.
- But: developing markets with predominately small farm units need risk transfer products that are cost efficient and payout fast. Two approaches have worked:
 1. Bundling risks: area-yield index covers (e.g., India government program) or conventional agriculture insurance where one policy is issued for an entire village (e.g. China)
 2. Using proxies: weather measurements that are closely correlated to yield
- The largest agricultural microinsurance programmes today are in Asia with a lot of initiatives being started in Africa.

Index-based insurance

- Index based insurance is a financial protection with payouts defined as a function of a weather parameter
- To structure an “index”, historical weather data from a dense network of weather stations and agriculture production statistics need to be available
- Index insurance pays out based on the “index” (without field assessments) that is highly correlated with agriculture production
- Advantages: fast payout, reduced administrative costs, limited anti-selection / moral hazard (payout based on index)
- Disadvantages: basis risk, usually lack of local expertise and trust in index
- Beneficiaries of index products include:
 1. Farmers and cooperatives
 2. Banks / MFIs
 3. Government entities



India

From pilots to commercial markets

- National Agriculture Insurance Scheme (NAIS) is a country wide programme that started in early 90's which covers a variety of crops and linked to crop credit
- Government provided premium subsidies to small/marginal farmers and also pays claims
- Premium rates for the program are not based on actuarial loss calculations but on flat rates, rendering the program unattractive for the private insurance sector so far
- The Modified NAIS scheme to be launched this year aims to improve the NAIS with actuarial calculation of rates and lowering settlement levels to reduce basis risk
- Weather Insurance was launched in 2003 as an innovative risk management tool for Indian agriculture and has been achieving growth over the last 7 years
- Government of India provided subsidies to make weather insurance cost effective since 2007. This gave the growing weather market a much needed boost
- Weather Insurance may not be a substitute for traditional indemnity based crop insurance but is a complementary tool for effective risk management
- The growing weather market still faces challenges such as need to increase awareness among farmers, develop cost effective distribution channels, increase density of weather stations, availability of quality weather data which are being addressed

India

From pilots to commercial markets

- Weather Insurance in India was able to sustain and scale up from a pilot project to a market due to
 - Transparent index that correlates for key peril(s) with agriculture production with basis risk clearly understood by all parties
 - Commitment of local insurer to understand index, interest for commercialization and willingness to assume part of the risk
 - Use of effective distribution channels (e.g., insurers, governmental institutions, MFI/NGO/SHG, input suppliers, banks, post office) where a large rural population can be reached in a cost- effective manner
 - Legal framework that recognizes index products
 - Buyer of the index being aware of the benefits of the product
 - Support from international reinsurers to protect from larger losses and to foster future growth

- Swiss Re has been supporting growth in the Indian market by sharing knowledge on pricing weather products, structuring effective solutions, engaging in dialogue with government to develop state/ nation level risk transfer solutions, working with insurance companies to develop solutions for corporates in the agri value chain

Key Benefits from an Index based Insurance Program

Farmer

- Insures debt service exposure against catastrophic events and maintains credit worthiness
- Smooths income swings over time
- Build up remunerated savings and collateral
- Can eventually optimise earnings through a credit line

Banks

- Secures lending and reduces default rates
- Improves collateral
- Can increase lending amounts and savings in rural areas

Agriculture Service and Input providers

- Increases business due to larger lending amounts
- Increases farmers loyalty through multi year savings programme

State

- Benefits from stabilised farmers incomes through reduced emergency assistance outlays



Pepsico Contract farming

- India is the third largest producer of potatoes in the world, grows approximately 25 mn tons of potatoes annually
- PepsiCo started a contract farming programme for potatoes in India in 1995 to secure its supply of processing potatoes, used for potato chips
- In its contract farming arrangement, PepsiCo offers an extensive package of services – access to fertilizers, pesticides, high quality seeds, technical advise, access to financial services such as crop loans, insurance
- Weather index insurance helped farmers gain access to financial services and in return a host of agri extension services to help increase their crop yield
- Coverage : approx 50% of farmers enrolling for weather insurance were smallholders, owning less than 5 acres (2.025 ha) of land
- Triggers : Risk of late blight disease is covered by an index that pays out if crops experience consecutive days of average relative humidity greater than 90% and average temperature of 10-20°C. In subsequent years, a frost index was also added to the coverage, which triggers payout when the temperature falls below 1-2°C.

Source : The Potential for Scale and Sustainability in Weather Index Insurance, IFAD

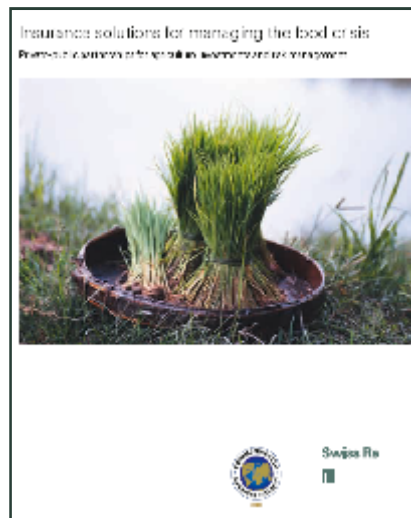
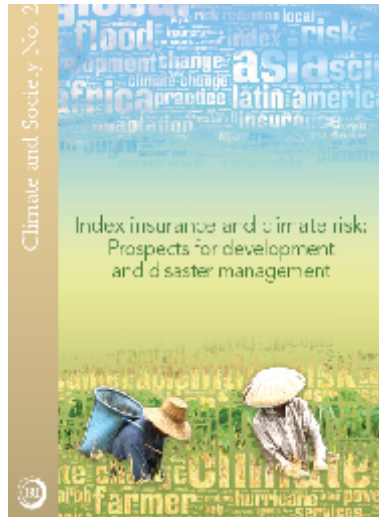


States in India where PepsiCo engages in contract farming for potatoes

Road Ahead

- Microinsurance solutions provide a safety net for smallholder farms and, as these are often used as collateral, facilitate farmers' access to credits
- They are therefore key to transforming farmers from subsistence to small-scale commercial farming, thus helping to fight poverty
- On a larger scale, the build-up of microinsurance markets would allow governments to shift from ex-post disaster relief aid to a more preventive risk management framework based on ex-ante financing and transfer of peak risks to international reinsurance markets

Some publications



Microinsurance in agriculture – Index for the green fields

Although health microinsurance is increasingly available for low-income populations worldwide, related developments in the non-life sector, particularly in the agricultural field, still lag behind. **Ms Harini Kannan** and **Mr Roman Hohl** from Swiss Re's Weather and Agriculture team, reveal how innovative index solutions can foster the rural sector's access to financial risk management in developing markets.



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Thank you

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