



# Index insurance and climate risk:

## Prospects for development and disaster management

The climate has always presented a challenge to those whose livelihoods depend on it. Moving away from such dependence is usually an early step in economic development, but many millions have not yet succeeded in taking that step. As climate variability and uncertainty increase with climate change, human development reversals are a distinct possibility (UNDP, 2007)\*. Climate has thus become an urgent issue on the development agenda.

For poor people, a variable and unpredictable climate presents a risk that can critically restrict options and so limit development. When a weather shock occurs, poor people are vulnerable. Local coping strategies often break down. Poor people have few assets to fall back on, and may be forced to sell these in order to survive so that when the crisis is over they will be in a much worse position than before. These impacts can last for years in the form of diminished productive capacity and weakened livelihoods.

Global leaders recognize the pressing need for fresh approaches to confront this challenge at scale. The Hyogo Framework and Bali Action Plan advocate new approaches, respectively prioritizing disaster risk reduction and comprehensive risk sharing and transfer mechanisms, such as insurance. In *Index insurance and climate risk: Prospects for development and disaster management*, index insurance is examined as one innovative response to enable poverty reduction and development through better climate risk management.

As an innovation, index insurance may hold answers for some of the more obstinate problems faced by the poor and the vulnerable. It works best when integrated into broader programs for development and disaster management, as one piece of a risk management package. Index insurance is being tested in places like Malawi, Ethiopia, India, Brazil,

“[The poor]... swim and sink on their own. So to hear that ... weather index insurance can also be available for them is going to be the difference between survival and catastrophe...and this is something that we will take forward and see how we can build on that.”

Kofi Annan, President  
Global Humanitarian Forum

Thailand and Mexico. In Malawi, index insurance has brought access to credit and insurance for high-risk populations previously considered uninsurable. Some farmers have received credit for the first time, allowing them to buy and use critical agricultural inputs and technologies such as improved seeds and fertilizers. The government of Ethiopia and the World Food Programme (WFP) collaborated on a pilot project that uses a rainfall index-based insurance contract as part of a broader disaster risk reduction strategy to enable earlier response.

However, if index insurance is to contribute to development at meaningful scales, a number of challenges must be overcome. For example, some efforts to implement index insurance have ultimately failed due to lack of capacity, institutional, legal and/or regulatory issues, lack of data, and other constraints. Weather insurance markets are virtually nonexistent in developing countries, so the starting point for scale-up is to lay the foundations for these markets to develop. This can entail high start up costs. At the same time, where markets are being established, positive externalities are being experienced- including access to banking, internet, cash machines and other financial services in rural areas.

\* full references available in the parent document

## What is weather index insurance?

Index insurance is insurance linked to an index, such as rainfall, rather than a possible consequence of weather, such as crop failure. At the farmer scale, this resolves a number of fundamental problems that make traditional insurance unworkable in developing countries. Unlike traditional crop insurance against crop failure, the insurance company does not need to visit farmers' fields to assess damages (reducing so-called transaction costs). Instead the insurance is designed around rainfall data for example. If the rainfall amount is below the earlier agreed-upon threshold, the insurance pays out. This process also removes the 'perverse incentives' of crop insurance, where farmers may actually prefer their crops to fail so that they receive a payout. With index insurance, the payout is not linked to the crop survival or failure, so the farmer has the incentive to make the best decisions for crop survival. Rapid payouts are the major advantage of index insurance when this is used as a disaster management tool. Again, time-consuming loss assessments are not needed, as payouts are based on objective data. With index insurance in place, governments and relief agencies can plan ahead of crises, knowing that funds will be available when they need them. Planning is also facilitated because governments and relief agencies can track the index and prepare an early response.



E. Holthaus/IRI

In addition, research targeting the use of technologies (both existing and in development) to help overcome data barriers is showing promise. Technologies tested in pilots include remote sensing, rainfall modeling and simulation, seasonal forecasting, techniques for modeling risk over time and space, modeling of long-term processes and trends, systematic communications tools and agricultural systems modeling. Insurance has also stimulated new markets for weather data. In some cases private companies are stepping in to fill the void. In India, for example, the private-sector is investing in new weather stations and selling the data to insurance providers.

Meeting our collective goals of poverty reduction and economic growth requires working together to confront common challenges. The publication highlights efforts by many partners to bring state-of-the-art knowledge and practice on index insurance into new settings: by applying innovative science and technology, by enhancing the role of private sector players, by connecting to international risk pooling, and by working with countries in developing the capacity of their people and institutions.

## Lessons from Practice

- Low data quality and quantity restricts the implementation and scale-up of index insurance.
- Premium subsidies for development-oriented projects need to be carefully thought through.
- Index insurance works best when integrated into broader programs for development and disaster management.
- Investments in capacity building and marketing are needed to support the scaling up of index insurance
- Evaluation is needed to find out if there is a real impact on poverty, and to improve the products.
- Insurance must be demand driven and locally owned.
- Index insurance can help vulnerable populations better manage climate risk, and could be a useful strategy for climate change adaptation
- Governments should prioritize the development of a strong legal and regulatory system for index insurance
- Index insurance players could benefit from each other's knowledge.

This policy brief summarizes the main messages of the report Index insurance and climate risk: Prospects for development and disaster management. The full reference is:

Hellmuth M.E., Osgood D.E., Hess U., Moorhead A. and Bhojwani H. (eds) 2009. Index insurance and climate risk: Prospects for development and disaster management. Climate and Society, No. 2. International Research Institute for Climate and Society (IRI), Columbia University, New York, USA.\*  
The report is available at <http://iri.columbia.edu/csp/issue2>

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\* full references available in the parent document



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