An introduction to climate risk insurance

**Target 1.5**

By 2030, build the resilience of the poor and those in vulnerable situations and reduce their exposure and vulnerability to climate-related extreme events and other economic, social and environmental shocks and disasters.

The devastating impacts of climate change – including increasingly severe and frequent droughts, heatwaves, storms and floods – are already being felt across the world. The World Economic Forum’s latest ‘Global Risks Report’ identifies failure to tackle climate change as the biggest global risk in terms of its potential impact. These climate impacts are taking a disproportionate toll on the world’s poorest and most vulnerable communities, the very people least responsible for causing them.

Around two-thirds of the extreme poor work in agriculture, one of the sectors most affected by natural hazards and disasters. The majority of vulnerable people are the world’s 2.5 billion small-scale farmers, herders, fishers and forest-dependent communities. Smallholder farming is an already inherently risky business, with entire families’ futures resting precariously on a multitude of factors – not least the weather – coming together in exactly the right way in just one or two growing seasons that are available each year. Climate change is making this enterprise much more difficult and unpredictable.

People living in poverty often have little choice but to settle and live in areas that are more at risk of natural hazards, due to affordability and marginalisation. Evidence shows that they are much more exposed than non-poor people to drought, detrimentally high temperatures, and urban flooding. Moreover, surveys have revealed that they tend to lose a much greater share of their income and assets when disaster strikes.

When climate shocks do occur, those living in or close to poverty are the least able to cope, due to their lack of assets, savings, adequate government support or other safety nets. Two billion people globally have no access to financial services – this “unbanked” population are disproportionately female, and disproportionately live in the poorest countries in Africa and Asia. Today, vulnerable people still have extremely limited access to insurance coverage that protects them from climate risks.

What is climate risk insurance?

Climate risk insurance is one important tool in the toolkit of climate change resilience. Broadly speaking, it comprises two kinds of instruments:

**Weather-indexed microinsurance** (applicable to agriculture as well as other enterprises), which can be targeted directly at individuals themselves (the “micro” level), or delivered through aggregator organisations such as cooperatives and farmers’ groups, or provided to financial institutions to insur[e their portfolio of micro-lending (the “meso” level).

The truth about climate risk insurance

| **2x** | **100m** | **78%** | **2bn** |
| Extreme weather-related disasters were almost 2 x as common over the past decade as they were in the 1980s. | 100 million people will be pushed back into extreme poverty by 2030 without urgent action to tackle the impacts of climate change. | 78% of the extreme poor live in rural areas and 63% of them work in agriculture, mostly smallholder farming. | 2 billion people worldwide still have no access to financial services, mobile money or government social protection that could provide a safety net during a disaster. |
Disaster insurance and sovereign risk pooling, through which governments or other organisations such as humanitarian agencies take out policies that will provide a payout in the event of a defined extreme weather event such as a major drought or hurricane occurring in the country (the “macro” level). This payout, which can deliver critical funding as much as 4x more efficiently, in terms of rapidity and cost, than a traditional international aid appeal in the event of a crisis, relieves the immediate financial pressure, and enables governments and other agencies to reach disaster-affected people without cutting into their regular budgets and pulling vital funding away from other key development programmes. A number of innovative regional pooled schemes have been established over the past few years, including the African Risk Capacity (of which DFID was a founding partner), the Caribbean Catastrophe Risk Insurance Facility, and the Pacific Catastrophe Risk Assessment and Financing Initiative.

Climate risk insurance builds resilience in three key ways:

**01 Most immediately, insurance acts as a form of safety net.** When a climate shock strikes, a rapid financial payout can prevent a household from falling into poverty and resorting to negative coping strategies that can have far-reaching and even irreversible impacts, such as selling their livelihood assets, compromising their health and nutrition, or taking their children out of school. The rapidity of the index insurance model ensures that the precious window of time in the immediate aftermath of a shock or disaster is not lost, which may help to avert a full-blown crisis from developing.

- Case studies from Ethiopia and Malawi suggest that the cost of a drought to households can increase from zero to about $1,300 if support is delayed by 6-9 months, and resulting desperate decisions can have far-reaching and even irreversible impacts on families. Studies estimate that if Ethiopia’s 1999-2004 droughts had been covered by insurance, consequent poverty would have been one-third lower.

- After tropical storm Ondoy and Typhoon Pepeng in the Philippines in 2009, the poverty rate in Rizal province rose from 5.5% to 9.5%; six years later, 7.6% of families were still under the poverty line.

**02 Equally important for building pathways from poverty to prosperity, insurance allows people to take smarter risks and boost their productivity.** Microinsurance could be the difference that gives a smallholder the confidence to take out a small loan for the first time to invest in higher-quality inputs, or the local credit institution the security to lend to those who would not otherwise qualify.

*What is “parametric” or “index” insurance and how does it differ from traditional insurance?*

The emergence of innovative “parametric” or “index” insurance over the past decade is a game-changer, dramatically lowering transaction costs compared to traditional indemnity insurance (particularly in the predominantly rural and remote locations where the poorest communities live). It has for the first time made access to climate-related microinsurance feasible for low-income households on a mass scale.

Index insurance differs from traditional indemnity insurance, where payouts are explicitly based on measured loss for a specific client. Instead, coverage is based on an index or set of parameters that is correlated with those losses, such as wind speeds or the amount of rain during a certain window of time. This information can be collected through weather stations, satellites and mobile phone data. Payouts are then triggered automatically when the measured weather data falls above or below a pre-specified threshold. This means that index insurance is not designed to protect people against multiple problems, but is instead designed for situations where there is a well-defined, measurable and quantifiable climate risk that significantly influences livelihoods or a government’s ability to provide protection and services to its citizens (such as reduced rainfall leading to a drought).

The truth about climate risk insurance

- Only an estimated 100 million people across Africa, Asia and Latin America have access to direct or indirect insurance coverage to protect them from climate risks.
- A negligible 0.02% of people in sub-Saharan Africa have agricultural microinsurance.
- Studies estimate that if Ethiopia’s 1999-2004 droughts had been covered by insurance, consequent poverty would have been one-third lower.
- Farmers in a weather-indexed microinsurance programme in Rwanda earned 16% higher income and invested 19% more into their farms compared to their uninsured neighbours.
● For example, Agriculture and Climate Risk Enterprise (ACRE) reached almost a quarter of a million farmers across Kenya, Tanzania and Rwanda in 2014. ACRE-insured farmers earn 16% higher income and invest 19% more into their farms compared to their uninsured neighbours.

● Small farmers insured through the R4 Rural Resilience Initiative (a World Food Programme and Oxfam America partnership in Ethiopia and Senegal) save more than twice than those without any insurance and invest more in seeds, fertilizer and productive assets. Women, who often head the poorest households, increased their productivity the most by investing more in labour and planting tools.

03 To be viable at all, insurance requires that societies reduce, share and manage their risks within tolerable limits. Beyond a point, certain risks – including climate risks – become uninsurable. The insurance industry has a powerful role to play in shifting societal and economic patterns, and exerting pressure for firmer action on mitigation of further dangerous climate change.

Insurance relies on a systematic assessment and mapping of risks so that it can price them properly. It uses objective data to highlight risks that may otherwise have been poorly perceived and incentivises the reduction of these risks, so that premiums remain affordable. As recognised in the UN’s ‘Synthesis Report’ for the World Humanitarian Summit, this systematic assessment, mapping and analysis of risk is precisely the approach that is critical for governments and other institutions to proactively adapt to climate change and build the resilience of communities.

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**Zemada Kebeb’s Story**

Zemada Kebeb is a smallholder farmer who lives in the village of Abraha Atsbeha in the drought-prone Tigray region of Ethiopia. Throughout her life, recurring droughts have left her and her four children teetering on the brink of chronic hunger. When one drought hit, and Zemada couldn’t pay back the small loans she had been obliged to take out in order to invest in seeds and fertiliser for her farm, she even found herself in court. However, a few years ago, she enrolled with the R4 Rural Resilience Initiative – a groundbreaking programme run jointly by the World Food Programme and Oxfam America. Built into the Ethiopian Government’s National Productive Safety Net Programme, the scheme is specifically targeted at people who were previously considered uninsurable due to a combination of poverty, lack of education, and geographic remoteness.

When drought reappeared in 2012, Zemada received an insurance payout of 2,100 Ethiopian birrs (roughly £70). This sum not only covered her loan repayment, but also added two sheep to the family farm, which now produce milk for her and her children. “I was always very afraid of what could happen if a drought occurred at the end of the season,” explains Zemada, “Now we have no fear because we have seen that insurance works.” Nowadays, Zemada has five sheep on the farm and has expanded into growing mangos. She is no longer forced into selling her belongings to keep up with her loan repayments.