

# DOES DISASTER INSURANCE HAVE A ROLE IN CLIMATE CHANGE ADAPTATION?

**Disaster insurance has a limited ability to support community responses to climate change. Priority should be given to community-based disaster risk reduction.**

Climate change is unequivocally taking place and some of the poorest people in the world are already suffering from its effects. Higher global surface temperatures and sea level rises are contributing to increasing frequency and intensity of extreme weather events, with disastrous effects on individuals and governments in developing countries.<sup>1</sup>

As the cost of damage caused by extreme weather conditions soars, the need to find more effective and sustainable ways to tackle weather risk is also rising. It is in this context that public-private partnerships in risk financing – ranging from weather insurance to disaster funds – are becoming more popular. New risk-transfer mechanisms, such as parametric insurance,<sup>2</sup> have been recently piloted to test their ability to fund safety-net and disaster-relief programmes, which help reduce poor people's vulnerability to climate change.<sup>3</sup>

Such insurance can have a role in protecting livelihoods; guarantee predictable and reliable payouts, allowing long-term development planning; diminish the negative effects relief interventions may have on local market and social inequalities; and increase governments' self-determination and ownership.

Recognised limitations, however, are the difficulties in targeting the most vulnerable with payouts, the prohibitive cost of premiums for local governments, and the complexity of cost benefit analysis, which means it can be difficult to tell if insurance gives value for money.

Moreover, the top-down approach that characterises these schemes, under which the premium cost and payout triggers are decided far from vulnerable

communities, can make community and civil society participation and ownership very challenging.<sup>4</sup>

## **Proposals for disaster insurance at the United Nations Framework Convention on Climate Change (UNFCCC)**

During the last UN negotiations on Climate Change – in Poznan, Poland, in 2008, and in Copenhagen the following year – it was evident from a growing interest in climate insurance that this could become a key element of climate change adaptation.

The Bali Action Plan, drawn up at the UN Climate Change Conference in Indonesia in 2007, called for 'consideration of risk sharing/transfer mechanisms, such as insurance', while insurance initiatives are already explicitly mandated under UNFCCC article 4.8:

'Parties shall give full consideration to what actions are necessary under the Convention, including actions related to funding, insurance and the transfer of technology, to meet the specific needs and concerns of developing country Parties arising from the adverse effects of climate change...'<sup>5</sup>

The official outcome of the Copenhagen talks included references to insurance as a means of enhanced disaster reduction,<sup>6</sup> and insurance proposals were presented during the summit – the main two coming from the Munich Climate Insurance Initiative (MCII)<sup>7</sup> and the Alliance of Small Island States (AOSIS).<sup>8</sup>

Each proposal combines prevention and insurance, while the one from AOSIS also includes a rehabilitation component. Rehabilitation deals with the ongoing negative impact of climate change that

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**Most top-down approaches to disaster risk management fail to address the specific needs of at-risk communities**

cannot be addressed by risk reduction measures or insurance – for example, damage to coral reefs or loss of fisheries.

The MCII proposal includes a 'Prevention Pillar' which focuses on activities that prevent human and economic loss, linking the insurance schemes directly to risk reduction efforts. In the proposal, the costs of prevention activities will be covered by the UN Adaptation Fund.<sup>9</sup>

This proposal also contains an 'Insurance Pillar', with two tiers. The first is a global Climate Insurance Pool absorbing a pre-defined proportion of high-level climate risks, covering damage from extreme weather with a return period of more than 100 years (with a premium covered by the Adaptation Fund). The second is a Climate Insurance Assistance Facility that will provide technical support to allow public-private insurance instruments covering middle-layer risks for extreme weather damage occurring up to every 15 years. Individual countries will be responsible for the payment of the premium.

Among the new insurance instruments, some pilot schemes – such as the Ethiopian drought insurance, piloted by WFP in 2006, but not renewed,<sup>10</sup> and the Caribbean Catastrophe Risk Insurance Facility (CCRIF) – are often cited to illustrate that insurance for natural disasters is playing an increasingly visible role in developing countries, potentially providing comprehensive safety nets for some of the most vulnerable communities.<sup>11</sup>

### Stakeholder review of CCRIF<sup>12</sup>

As most papers describing these new insurance schemes have been produced by organisations directly involved in their implementation, Christian Aid decided to gain a civil society perspective on current experience. We therefore instigated research from March to May 2009 in four Caribbean countries participating in CCRIF – Jamaica, Haiti, Barbados and Trinidad and Tobago.<sup>13</sup>

The main objectives of this research were:

- to provide a better understanding of how CCRIF works, including its purpose, its implementation and stakeholder involvement
- to see if CCRIF can be used as a tool to address hurricane risk in the research countries, and if so, how it can contribute to disaster risk management, thus responding to community needs
- to see if CCRIF influences a government's accountability and transparency in disaster risk management at a local level.

### CCRIF: a brief description

Piloted in 2007, CCRIF is the first multi-country disaster risk insurance pool in the world. It is designed to cover fast-onset disasters, such as hurricanes and earthquakes, and is intended to provide Caribbean governments with ready cash for urgent recovery operations – overcoming the delay in aid dissemination that often prevails after a disaster, enabling a faster, more effective recovery.

CCRIF policies are based on a parametric index which uses the wind speed at one or more locations (or measuring points) in each covered territory as a means of calculating government losses. CCRIF does not need to measure actual losses on the ground; instead it pays out based on those costs estimated from the calculated parametric index.

The parametric index formula used converts wind speed at each measuring point to a dollar loss estimate, and then aggregates this for the entire territory. The advantages of parametric policy formulation are that it allows a faster settlement of claims, is competitively priced, and enables CCRIF to have a low operating cost, the savings of which are passed to countries through a low premium.

CCRIF policies have a high deductible or excess,<sup>14</sup> so that CCRIF covers losses only from severe weather damage with a return period of more than 15 years.<sup>15</sup> The premiums that countries pay to CCRIF for coverage are directly related to the risks being transferred – were CCRIF to offer coverage for more frequent events, premium costs would increase substantially.

### Structure and parameters of CCRIF

CCRIF, a not-for-profit company, is the result of two years' collaboration among Caribbean governments, key donor partners and experts from the World Bank. It is an independently managed regional entity, defined as a mutual insurance company controlled by the participating countries. CCRIF governance structure comprises: a board of directors (on which the Caribbean Community and Common Market – CARICOM – and the Caribbean Development Bank are represented); insurers; a working team; an insurance manager; an asset manager; and a reinsurance broker.

CCRIF is attractive to countries primarily because it ensures a prompt payout in case of disaster, overcoming the usual delay before humanitarian aid becomes available. It also allows CARICOM countries to approach insurers as a group, diversifying the risk and therefore allowing lower premiums (saving about 40 per cent).

The calculation of the premium is based on the assumptions that wind speed estimates at the measuring points give an accurate representation of the wind actually felt; and that wind speed is the main damage agent in storms. But after the significant damage that both Haiti and Jamaica experienced in 2008 from heavy rain, CCRIF is now working on a rainfall policy.

Since it launched in February 2007, the only payout from CCRIF's hurricane policy occurred in 2008 when the Turks and Caicos Islands received about US\$6.3 million following Hurricane Ike. The hurricane premium paid by the 16 insured CARICOM countries for 2008 was about US\$15 million.

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## Research findings

### *What are CCRIF's main technical characteristics and limitations in disaster management?*

The CCRIF team has been consistent in portraying the facility as only one of a number of tools that a government can use to mitigate the impact of natural catastrophes. Disaster insurance is not a panacea, and is only financially sustainable when providing coverage for extreme weather damage. Other measures – for instance, regional or national funds – are necessary for milder, more frequent events.

Moreover, to be financially sustainable, disaster insurance can only cover a percentage of damage. With CCRIF, countries can buy coverage up to 20 per cent of their estimated loss; therefore, other measures are also necessary in case of severe disasters.

With CCRIF, certain triggers are used to estimate government losses. CCRIF attempts to calculate impact of extreme weather damage on the ground to government infrastructures and revenue-generation activities. In areas where government infrastructures are limited, regardless of the presence of vulnerable population, the impact would be measured as low because no formal indicators would be triggered. CCRIF payouts are primarily intended for reconstruction of infrastructure and to support government services to get the economy back on track, rather than being for the direct benefit of those most vulnerable to climate change impact.

CCRIF is still in its testing stage, and experience has resulted in some modifications to improve the scheme's responsiveness (in particular, extending its coverage from level 5 to level 4 and above hurricanes).

However, CCRIF does not currently pay out

for damage caused by storms where wind speed is not the main damage agent, thus rainfall/flood damage and storm surge – when water is pushed toward the shore by winds – do not trigger a payout.

CCRIF is working to include rainfall in its insurance coverage, to allow payments after low-wind, high-rain storms, and this should be launched by the end of 2010. However, according to CCRIF staff, providing parametric coverage for storms that cause coastal damage far from the storm track is very challenging and it is unlikely that CCRIF will develop coverage for storm surge in the near future.

### *Is CCRIF contributing to disaster risk management, and responding to community needs in the research countries?*

At present, CCRIF appears unresponsive to community needs and a poor fit between investment and return. Countries paying premiums for hurricane coverage can experience severe and repeated floods, storm surges and wind damage without qualifying for a CCRIF payout.

This view is supported by the experience of two of the research countries, Haiti and Jamaica, which suffered significant damage during 2007 and 2008 when they were hit by hurricanes. They were unable to claim any CCRIF payouts despite suffering considerable damage, including loss of life, displacement and destroyed livelihoods.

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## Experience of CCRIF's hurricane policy in Haiti

In August/September 2008, Haiti was hit by three hurricanes over a two-week period – Gustav (category four), Hanna (category one) and Ike (category four) – which caused the deaths of 800 people. Displacement, destroyed livelihoods and environmental impact were considerable, with resultant problems relating to waste management, water and sanitation posing additional threats to people's health.

In the interviews that CPDC conducted for Christian Aid, officials seemed surprised to discover the country was ineligible for a CCRIF payout, despite the fact that the equation for payout calculation is readily available to the Ministry of Finance and can be replicated to check accuracy. In this case, payment was denied because the devastation was caused by rainfall and flooding, while wind-related losses fell below the threshold which triggers payment.

Although CCRIF staff say they are now working to develop a policy to pay out

in the event of damage caused by heavy rainfall, this will obviously increase the premium costs.<sup>16</sup> In Haiti, Ministry of Finance representatives admitted in the interviews with CPDC that the country would not be able to afford a raised premium.

Our research shows that CCRIF does not appear to contribute to better disaster risk planning and is seen by communities in the four research countries as a possible distraction from risk reduction as it diverts resources into a long-term facility which is virtually inaccessible for meeting the needs of communities.

*Is CCRIF influencing government's accountability and transparency in disaster risk management at local level?*

During our research, the first unexpected finding was a lack of knowledge of CCRIF among government representatives and civil society organisations (CSOs) in all four research countries. Those representatives interviewed from large and diverse CSOs had almost no knowledge of CCRIF.<sup>17</sup> Among government representatives, only ministers of finance together with few technical advisors at national level were involved in its implementation.

Our research also suggests that communities have little contribution to, awareness or oversight of CCRIF. They do not know what CCRIF is, who manages it, how it takes account of their needs, how to inform the CCRIF of their priorities, or influence and shape it to address these priorities.

The results show a general lack of culture of accountability and transparency in disaster risk management in the Caribbean. After a hurricane, governments concentrate on restoring the infrastructure to allow production and limit damage to the economy. Thus road clearance, water, electricity and telephone supply to economic centres receive priority over communities, and CCRIF implementation is not changing this trend.

In fact, the use of a payout is entirely at a state's discretion – the World Bank, donors, the CCRIF board and the Caribbean Disaster Response Agency all lack oversight and have all treated payouts as internal national matters.

In the research countries, there is no governance framework linking national and regional disaster response agencies to those international volunteer agencies that specialise in providing a humanitarian response to disasters. None of these organisations – whether governmental or voluntary – considers it within its purview to interfere in the way that financial framework functions or to question it.

## Recommendations

As the frequency and scale of major natural catastrophes continue to increase as a result of climate change, there is a growing need to explore new opportunities for managing and reducing the risks associated with extreme weather, including risk-transfer solutions such as disaster insurance.

However, evidence suggests that the CCRIF is failing to address the threat of damage from extreme weather and meet community needs. Moreover, it seems to have undermined community-based adaptation priorities, both directly by diverting resources that could have been used for this purpose and indirectly by contributing to a lack of transparency in the use of risk reduction and adaptation resources.

Our main conclusions are, firstly, that the infrequency with which such insurance schemes are designed to pay out means that they can only be a minimal part of risk reduction and adaptation efforts and this should be reflected in the use of the Adaptation Fund. Secondly, these mechanisms have to be significantly adapted to meet the real needs of communities, therefore the inclusion of civil society and communities in their design and implementation is essential to ensure the schemes are more responsive.

These are our main recommendations to governments, civil society and international bodies involved in responding to disasters and reducing the risk of their impact.

- **Focus on risk reduction and build a culture of prevention.** The Adaptation Fund was established to support the most vulnerable countries and communities to adapt and reduce the risk of climate impact. Therefore, an increased focus needs to be placed on risk reduction measures and on building a culture of prevention rather than on risk transfer mechanisms that address the impact after a disaster has occurred.
- **Place prevention above insurance.** When using the Adaptation Fund, it is crucial to ensure that enough funding and attention are given to strategies of prevention as most costs related to extreme weather affecting vulnerable communities are covered by this rather than insurance.
- **Emphasise the importance of adaptation planning,** at a local and national level, as a precursor or to accompany measures relating to disaster insurance.
- **Provide support for a timely, reliable humanitarian response.** All national funds, including contingency funds that target low and medium disaster events,

need to support a timely and reliable humanitarian response.

- **Focus on a risk management strategy**, involving CSOs and communities, where risk reduction, contingency funds, effective risk sharing mechanisms, and so on, work in synergy to make vulnerable communities more resilient to climate change.
- **Monitor the use of adaptation funding, insurance premiums and payouts.** Support and intensify efforts to mobilise CSOs around disaster risk reduction and climate change adaptation, with a particular focus on tracking the use of adaptation funding, the correlation of tropical storms/hurricanes with insurance payout thresholds and the use of funds derived from insurance payouts when these are triggered.
- **Involve communities and civil society at every stage of disaster risk recovery.** This research and Christian Aid's past experience has shown that most top-down approaches to disaster risk management fail to address the specific needs and demands of at-risk communities. This failure alienates local actors and leads to less efficient risk reduction investments which, in turn, can lead to aid dependency.
- **Ensure civil society and communities are key actors in adaptation** at every stage of planning, implementation and monitoring, and that their formal role in monitoring adaptation funding and holding to account those institutions that use, for example, the Adaptation Fund is recognised.
- **Instigate further research to identify if or how public-private partnerships support** disaster risk reduction or how they can help institutionalize and 'scale up'<sup>18</sup> community-based disaster risk reduction initiatives proven to be effective and efficient.

## Endnotes

**1** For evidence of this, see *Intergovernmental Panel on Climate Change Report 2007, including Climate Change 2007, 'The Physical Science Basis'*, issued on 2 February, and *Climate Change 2007, 'Impacts, Adaptation and Vulnerability'*, issued in April, [www.ipccinfo.com/extreme.php](http://www.ipccinfo.com/extreme.php)

**2** Parametric insurance is also referred to as index-based insurance. Unlike traditional insurance, parametric policies pay out following a physical trigger (for example, rainfall measurements at a local weather station) rather than using actual losses. Since the index is based on objectively measurable data (which comes from weather stations) this can be transferred to international financial markets directly.

**3** Mark Pelling, *The 2007 ProVention Forum: Making Disaster Risk Reduction Work*, ProVention Consortium, Dar es Salaam, Tanzania, 2007.

**4** Rachele Pierro, Bina Desai, 'Climate Insurance for the Poor: Challenges for Targeting and Participation', *IDS Bulletin*, Volume 39, Issue 4, London, UK, 2008.

**5** UNFCCC, 1992, Article 4.8, [www.unfccc.int/essential\\_](http://www.unfccc.int/essential_)

[background/convention/background/items/1362.php](http://background/convention/background/items/1362.php)

**6** This was noted in the *Report of the Ad-Hoc Working Group on Long-term Cooperative Action under the Convention on its Eighth Session*, held in Copenhagen from 7 to 15 December 2009, available at [www.unfccc.int/resource/docs/2009/awgla8/eng/17.pdf](http://www.unfccc.int/resource/docs/2009/awgla8/eng/17.pdf)

**7** The Munich Climate Insurance Initiative, *Draft Article for Risk Reduction and Insurance Mechanisms in the Context of Adaptation to Climate Change for Party Consideration in the Copenhagen Negotiating Text*, 2009, available at [www.climate-insurance.org/upload/pdf/20090410\\_draft\\_MCII\\_April\\_24\\_submission.pdf](http://www.climate-insurance.org/upload/pdf/20090410_draft_MCII_April_24_submission.pdf)

**8** Alliance of Small Island States, *Multi-Window Mechanism to Address Loss and Damage from Climate Change Impacts*, 2008, available at [www.unfccc.int/files/kyoto\\_protocol/application/pdf/aosisinsurance061208.pdf](http://www.unfccc.int/files/kyoto_protocol/application/pdf/aosisinsurance061208.pdf)

**9** The Adaptation Fund was established to finance concrete adaptation projects and programmes in those developing countries party to the Kyoto Protocol that are particularly vulnerable to the adverse effects of climate change.

**10** Ulrich Hess, William Wiseman and Tim Robertson, *Ethiopia: Integrated Risk Financing to Protect Livelihoods and Foster Development – Discussion Paper, 2006*, available at <http://one.wfp.org/policies/introduction/background/documents/Ethiopia.pdf>

**11** The Munich Climate Insurance Initiative, *Insurance Instruments for Adapting to Climate Risks. A proposal for the Bali Action Plan*, Version 2, 2008, available at [www.climate-insurance.org/upload/pdf/MCII\\_submission\\_Poznan.pdf](http://www.climate-insurance.org/upload/pdf/MCII_submission_Poznan.pdf)

**12** The Caribbean Policy Development Centre (CPDC) undertook this analysis for Christian Aid over a period of eight months, from November 2008 to July 2009.

**13** In its research for Christian Aid, CPDC used a combination of secondary methods, via a comprehensive desk-based internet review, as well as empirical field research in each of the four countries. It interviewed key figures targeted from government departments – including the Finance ministries and Finance and Disaster Management departments – national meteorological departments, and the Caribbean Disaster and Emergency Response Agency.

They also conducted semi-structured interviews with CCRIF representatives and CSOs.

**14** 'Deductible' or 'excess' is the portion of a claim that is not covered by the insurance provider.

**15** A return period is the number of years over which an insurance company needs to collect premiums in order to break even on the loss.

**16** In the *CCRIF quarterly report*, June-August 2008, it is written: 'CCRIF has noted the significant damage inflicted in Haiti from the heavy rains which accompanied [Hurricane] Hanna. CCRIF is now working as quickly as possible to have a rainfall-triggered policy. This addition will increase the premium costs.' This was confirmed in an interview that CPDC conducted with a CCRIF communication officer.

**17** About 40 people in total were interviewed from different NGOs, churches, trade unions, service clubs and the private sector.

**18** 'Scaling up' an initiative means to increase significantly its impact by increasing its size, amount or extent.

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