MCII

MUNICH
CLIMATE INSURANCE INITIATIVE

UNU-EHS PUBLICATION SERIES
POLICY REPORT 2016
NO. 1

MAKING CLIMATE RISK INSURANCE WORK FOR THE MOST VULNERABLE: SEVEN GUIDING PRINCIPLES

HOSTED BY

UNITED NATIONS UNIVERSITY
UNU-EHS
Institute for Environment and Human Security

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::: About MCII :::

The **Munich Climate Insurance Initiative (MCII)** is the leading innovation laboratory on climate change and insurance. It was launched over 10 years ago in response to the growing realization that insurance-related solutions can play a role in adaptation to climate change, as advocated in the Framework Convention and the Kyoto Protocol. MCII, through its unique set-up, provides a forum and gathering point for insurance-related expertise on climate change impacts. The Initiative brings together insurers, experts on climate change and adaptation, NGOs and researchers intent on finding effective and fair solutions to the risks posed by climate change, as well as sustainable approaches that create incentive structures for risk and poverty reduction. MCII is hosted by the United Nations University Institute for Environment and Human Security (UNU-EHS) in Bonn, Germany.

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Munich Climate Insurance Initiative

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Abbreviations used for analysed insurance schemes

ACRE Africa	Agriculture and Climate Risk Enterprise Africa
ARC	African Risk Capacity
CCRIF SPC	Caribbean Catastrophe Risk Insurance Facility
IBFIP	Index-Based Flood Insurance Project
IBLI	Index-based livestock insurance
IBLIP	Index-Based Livestock Insurance Program
LPP	Livelihood Protection Policy
MiCRO-Haiti	Microinsurance Catastrophe Risk Organisation
mNAIS	Modified National Agricultural Insurance Scheme
PCIC	Philippine Crop Insurance Corporation
PCRAFI	Pacific Catastrophe Risk Assessment and Financing Initiative
R4	The R4 Rural Resilience Initiative
SANASA	SANASA agricultural insurance
FONDEN/ AGROASEMEX	Mexican National Disaster Fund/Mexican rural insurer and reinsurer
PepsiCo	PepsiCo India
MicroEnsure	MicroEnsure Rwanda
La Positiva	La Positiva Seguros
PlaNet Guarantee	PlaNet Guarantee

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Key Recommendations

MCII's seven principles for benefiting the poor and vulnerable with climate risk insurance, including recommendations for action. Further elaboration of the principles and recommendations can be found in chapter 3.

Pro-Poor Principles for Climate Risk Insurance

1 COMPREHENSIVE NEEDS-BASED SOLUTIONS

Solutions to protect the poor and vulnerable from extreme weather events must be tailored to local needs and conditions. It is imperative to embed insurance in comprehensive risk management strategies that improve resilience.

- Implement risk, needs and context assessments to identify the real needs of vulnerable communities with regard to climate risk management and where insurance can fill gaps in existing strategies.
- Closely link insurance products with ex-ante climate risk management strategies that place priority on preventing and reducing losses and damages.
- Foster nationally and locally driven and owned schemes that are tailor-made to the national/local context and linked to traditional risk management approaches.

2 CLIENT VALUE

Providing reliable coverage that is valuable to the insured is crucial for the take-up of insurance products.

- Ensure that coverage is reliable and that critical risks are not under-insured.
- Bundle the insurance product, where appropriate, with additional services that are valuable to the client
- Actively reduce basis risk, which remains a key challenge when parametric insurance based on indices is applied

3 AFFORDABILITY

Measures to increase the affordability for poor and vulnerable people are paramount to the success of an insurance scheme and also important to satisfy equity concerns.

- Establish solidarity and human-rights-oriented insurance schemes that respond to concerns of equity by applying measures to increase affordability of insurance for poor and vulnerable people.
- Strive to indirectly reduce premiums by investing in risk reduction measures and an enabling environment (see Principle 7). This will create long-term co-benefits for the building of a comprehensive disaster risk management framework.
- Provide smart premium support that is reliable, flexible and long term, which distorts incentives as little as possible and makes the client aware of the true risk costs.

4 ACCESSIBILITY

Efficient and cost-effective delivery channels that are aligned with the local context are key for reaching scale.

- Build on natural aggregators, such as associations, cooperatives, mutuals, federated self-help groups, and savings and credit groups, which have established successful delivery mechanisms and align the insurance scheme with the local context.
- Invest in tech-leveraged secure client identification and targeting and payment systems to reduce fraud and improve the timeliness of payouts.
- Utilize social protection programmes, where appropriate, to implement large-scale development of insurance for the poor and vulnerable.

5 PARTICIPATION, TRANSPARENCY & ACCOUNTABILITY

Successful insurance schemes are based on the inclusive, meaningful and accountable involvement of (potential) beneficiaries and other relevant local level stakeholders – in the design, implementation and review of insurance products – creating trust and providing a basis for local ownership and political buy-in.

- Actively support and build partnerships, networks and communication channels that allow for inclusive and meaningful involvement of the poor and vulnerable. Organizations and structures that have deep roots within the local context are favourable partners.
- Ensure that the design and implementation processes are transparent and accountable.
- Establish an effective monitoring and evaluation framework that measures outputs, outcomes and impacts to ensure that the insurance schemes actually reach and benefit poor and vulnerable people.

6 SUSTAINABILITY

Safeguarding economic, social and ecological sustainability is crucial for the long-term success of insurance schemes.

- Provide a long-term perspective on project planning and financing as setting up insurance schemes is a multi-year effort.
- Incentivize risk reduction and prevention through the design of the insurance scheme, including risk-based premiums.
- Ensure that insurance schemes do not incentivize practices that are not environmentally sustainable.
- Ensure the participation and inclusion of women in climate risk insurance policy and programming.

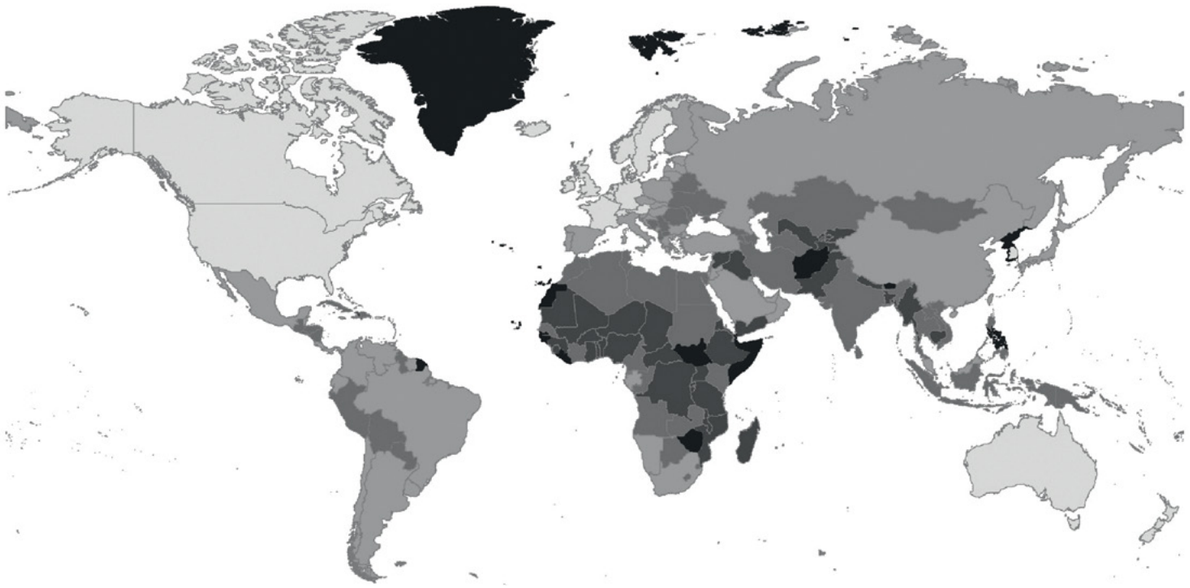
7 ENABLING ENVIRONMENT

It is vital to actively build an enabling environment that accommodates and fosters pro-poor insurance solutions.

- Support capacity-building to improve financial and insurance literacy and risk awareness of the insured, local insurers, distribution channels and governments.
- Strengthen regulatory and legal frameworks that govern the market, support the effective functioning of the scheme and allow growth by actively working with national governments and regulatory agencies.
- Promote strong, long-term partnerships, in particular public–private partnerships, which foster a clear allocation of roles.
- Invest in freely accessible data and technology as well as hazard/weather monitoring infrastructure, which are essential for effective and efficient design and implementation as well as for ensuring the uptake, distribution and payout of insurance products.

1. Introduction

The devastating impacts of climate change are already being felt around the globe, threatening sustainable development and resilience, impairing socioeconomic development and reinforcing cycles of poverty. According to Munich Re's NatCatSERVICE database, weather-related loss events have tripled globally since 1980 (Munich Re, 2014). Scientists are increasingly able to confidently attribute the increased intensity and frequency of extreme weather events – such as droughts, heatwaves, floods and cyclones – to human-induced climate change (NAS, 2016). As stated by the Fifth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC), the risks associated with these extreme weather events will further increase with rising temperatures (IPCC, 2014). The adverse effects of climate change are not evenly distributed across the world because of differing exposures, vulnerabilities and coping capabilities. Worldwide, the poorest people bear a disproportionate burden of climate stress, yet they have contributed least to the drivers of climate change. In the face of predicted growing weather extremes and profound shifts in natural systems, the need is greater than ever to support the most vulnerable people and countries in finding effective strategies to manage risks and unexpected shocks and to build resilience to climate impacts.



Insurance density per country
Classification per capita by property insurance premium
(non-life including health)

Highly insured (>1,000 USD)

Well insured (101 - 1,000 USD)

Basically insured (10 - 100 USD)

Inadequatley insured (<10 - 100 USD)

No data

Figure 1: Insurance density worldwide in 2014
Source: Munich Re Economic Research (2016).

1.1 Climate risk insurance for the poor and vulnerable

As this policy report will illustrate, well-designed climate risk insurance – when applied in conjunction with other disaster risk management measures and strategies – can protect people against climate shocks by acting as a safety net and buffer shortly after an extreme weather event. In this way, insurance can promote opportunities by helping to lessen financial repercussions of volatility and can stimulate transformation by incentivizing risk reduction behaviour and fostering a culture of prevention-focused risk management. However, meaningful insurance coverage is currently not widely available for poor and vulnerable people, particularly in developing countries. Based on a broad estimate, only about 100 million people in Africa, Asia and Latin America are covered by direct or indirect insurance against climate risks (GIZ and BMZ, 2015). Data reveals that between 1980 and 2015, only two per cent of losses caused by weather-related natural catastrophes in lower middle and low-income countries[1] were covered by insurance (Munich Re, 2016). This means that about 98 per cent of catastrophe losses have been borne by individuals, firms and governments. The figure to the left classifies the insurance density per country as of 2014.

1.2 The political momentum

The year 2015 saw a major shift in political narratives about how climate-change-related risks are addressed – moving away from an attitude of coping with impacts (ex-post) to that of effectively managing risks before they occur (ex-ante). If applied in the right way, climate risk insurance can play an important role in realizing this shift in practice. The need to enhance action to reduce the risk of climate change and manage residual impacts has been recognized in many international agreements and frameworks that guide policy agendas and set the stage for shaping "the trajectory of resilience and sustainable development for the coming decades" (GIZ and BMZ, 2015). Climate risk insurance is specifically anchored as one tool to address the risk of climate change in such policy agendas. The Sendai Framework for Disaster Risk Reduction highlights the importance of mechanisms for disaster risk transfer and insurance at all levels – global, regional, national and local – and, for the first time, this framework includes an explicit role for the private sector to contribute to disaster resilience (UNISDR, 2015). The topics of "risk insurance facilities, climate risk pooling and other insurance solutions" are mentioned explicitly in Article 8 of the recent Paris Agreement as areas of cooperation and facilitation to enhance understanding, action and support for loss and damage (UNFCCC, 2015). Already two years earlier, insurance approaches were included in the two-year workplan of the Executive Committee of the Warsaw International Mechanism for Loss and Damage, as part of comprehensive climate risk management approaches. Moreover, the now fully operative Green Climate Fund can provide funding for large-scale adaptation projects in developing countries including innovative risk transfer mechanisms.

Harnessing the political will regarding the topic of climate risk insurance, the G7 countries announced a Climate Risk Insurance Initiative (InsuResilience) during their 2015 summit in Elmau, Germany, to point the way towards climate-resilient development pathways (G7, 2015). InsuResilience aims to increase the number of poor and vulnerable people in vulnerable developing countries who have access to direct or indirect insurance coverage against the negative impact of climate-change-related hazards by up to 400 million by 2020 (G7, 2015).

1 According to the World Bank, lower middle income countries have a gross national income (GNI) of between USD 1,026 and 4,035 and low-income countries have a GNI of < USD 1,025.

1.3 Purpose of this policy report

The relevance of insurance as a tool within comprehensive climate risk management has been recognized by policymakers and practitioners around the world. Many actors are currently investing resources in developing and supporting climate risk insurance schemes, and are looking for ways to implement insurance on a larger scale; many of these efforts are specifically targeted at covering the poor and vulnerable in developing countries. Now is the time to learn and adapt from existing pilots and schemes, to ensure that climate risk insurance efforts effectively contribute to the ultimate objective of climate risk management: supporting poor and vulnerable people in finding climate-resilient development pathways.

This policy report contributes to the learning process by presenting the results of the study "Climate risk insurance for the poor & vulnerable: How to effectively implement the pro-poor focus of InsuResilience" (see box on page 13), that analysed 18 already existing climate risk insurance schemes to investigate:

1. If and how climate risk insurance can contribute to building the resilience and alleviating poverty of its target group.

2. How climate risk insurance can effectively reach the poor and vulnerable, including success factors and challenges.

The findings from the study provide the basis for distilling the Pro-Poor Principles for Climate Risk Insurance, and highlight the importance of offering comprehensive and needs-based solutions to climate risk as well as linking insurance to other comprehensive risk management strategies.

The research behind this policy report: A study on 'Climate risk insurance for the poor & vulnerable: How to effectively implement the pro-poor focus of InsuResilience'.

The content presented in this policy report stems from a study in the context of the G7 InsuResilience Initiative. The research aims to support the Initiative in effectively benefiting the poor and vulnerable by learning lessons from existing direct and indirect schemes. While the Study was principally conducted to inform the G7 InsuResilience process, the findings can be applied broadly to guide other climate risk insurance efforts and the international policy process in realizing insurance as a tool to address climate risks.

Applying a mix of qualitative scientific methods, researchers from MCII analysed 18 already existing climate risk insurance schemes specifically looking for answers to the following five questions:

- → Does the insurance product target poor and vulnerable people? If yes, did the insurance scheme have positive impacts on the resilience of the poor and vulnerable?
- → What were important elements in the design of the insurance product that helped in reaching the poor and vulnerable?
- → What were challenges in reaching the poor and vulnerable with the insurance product?
- → What were success factors for the insurance product in reaching the poor and vulnerable?
- → What kind of enabling environment supported the success of the product?

Annex 1 provides an overview of the analysed schemes. Although not all analysed schemes had a central focus on the most vulnerable, all schemes tried to reach them as one of their target groups. A combination of desk research and interviews with representatives and stakeholders of selected schemes was used. Additionally, in-depth structured interviews were conducted with thought leaders and innovators from primary and reinsurance companies, pioneers using risk transfer to reshape humanitarian assistance and practitioners at the vanguard of risk management and adaptation. This led to a collection of views from relevant actors in the field on good practice, success factors and challenges in all aspects of climate risk insurance for the poor.

The Study and its methods should be treated as points of departure for further research into climate risk insurance for the poor. The analysed insurance schemes are relatively new interventions and only a few impact assessment evaluations have been performed to assess their viability. In cases where these evaluations do exist however, they tend to base their statements on a limited number of households. Therefore, the analyses for this Study are strongly derived from interviews with experts including project supporting or implementing partners, which may provide biased perspectives based on personal impressions. A list of research gaps was formulated accordingly, which needs to be addressed in future research.

You can find the full Study at: http://www.climate-insurance.org/publications/.

Table 1: List of analysed insurance schemes [2]

Level	Scheme (+ Abbreviation)	Country/ Region	Type of Insurance	Type of Peril	Type of coverage	No. of insured (cumulative unless otherwise stated)
Micro	Index-Based Livestock Insurance Program (IBLIP)	Mongolia	Livestock Index-based insurance	Extreme weather conditions	Livestock Mortality	14,000 Herders (Mongolian nomadic herders) (as of 2009)
	Modified National Agricultural Insurance Scheme (MNAIS)	India	Agricultural Index-based insurance	Cyclones	Crops	1,794,259 farmers (Rabi and Kharif seasons in 2014-15)
	Philippine Crop Insurance	Philippines	Government Agriculture Insurance	Typhoon, flood, drought, volcanic eruption, and earthquake	Multi-Risk Cover; nat. dis./ pests/disease	389,056 farmers (in 2013)
	SANASA Agricultural insurance	Sri Lanka	Index-based crop Insurance	Drought, excess rain	Crops	14,514 farmers (in 2014), 46,456 (cumulative)
	PepsiCo	India	Agricultural index insurance	Late Blight Disease (Caused by rain, dew, irrigation or high humidity + moderate temps)	Potato crop	~10,000 (in 2008)
	R4 Initiative (R4)	Ethiopia, Senegal, Malawi, Zambia	Index-based Insurance	Extreme weather events/climate related shocks	Assets	37,058 farmers (as of 2016)
	MicroEnsure (MicroEnsure)	Rwanda	Index-based Insurance	Dry spells and excess rainfall	Crops	35,134 farmers from 2011 to 2014; policy discontinued
	Agriculture and Climate Risk Enterprise (ACRE Africa)	Kenya Rwanda Tanzania	Index-based Insurance	Drought, excess rain and storms, risks associated with accidental death and pregnancy losses for calving cows	Maize, beans, wheat, sorghum, coffee, potatoes, livestock	394,426 farmers (in 2015) (Kenya: 145,757; Rwanda: 222,505; Tanzania: 26,164)
	Index-based livestock insurance (IBLI)	Kenya, Ethiopia	Livestock Index-based Insurance	Drought related asset losses	Livestock Mortality	10,067 farmers (as of 2015)
	Microinsurance Catastrophe Risk Organisation (MiCRO-HAITI)	Haiti	Natural catastrophe and weather index insurance	Rainfall, wind, seismic activity	Protection of entrepreneurs against nat. catastrophes	~60,000 women-owned micro-enterprises (as of 2012), policy discontinued in 2013
	La Positiva Seguros (La Positiva)	Peru	Agricultural Catastrophic Crop Insurance	Drought, low/high temps, hail, flooding, freezing, winds, plagues, diseases, humidity	Crops	8000 (as of 2013)
	Livelihood Protection Policy (LPP)	Latin America & Caribbean	parametric index micro insurance policy	High wind speed and excessive rainfall	Damage resulting from Peril	~ 1000 (as of 2016)
Meso	PlaNet Guarantee	Mali, Burkina Faso	Index-based Insurance	Drought	Maize and cotton	Benin: 1,099 (2014), Burkina Faso: 8,281(2014),Mali: 17,481 (2014),Senegal: 4,035 (2014)
	Index-based Flood Insurance Project (IBFIP)	Bangladesh	Index-based flood insurance scheme	Flood	Cash relief in event of catastrophic flood.	1660 poor and vulnerable households (2014)
Macro	Caribbean Catastrophe Risk Insurance Facility (CCRIF SPC)	Caribbean	Multi-country risk pool reginal catastrophe fund	Earthquake, cyclones, excess rainfall	Damage resulting from Peril	16 countries (2016)
	African Risk Capacity (ARC)	Africa	Pan-African risk pooling disaster response system	Droughts, floods and cyclones	Damage resulting from Peril	16 MOU Countries (2016)
	National Disasters Fund (FONDEN) & AGROASEMEX	Mexico	Index-based National Catastrophe Fund	Extreme weather events	Damage on public buildings and infrastructure	State of Mexico
	Pacific Catastrophe Risk Assessment and Financing Initiative (PCRAFI)	Pacific	market based sovereign risk insurance scheme	Tropical cyclones and earthquakes/tsunamis.	Damage resulting from Peril	15 countries (2016)

2 To the best of our knowledge, the information contained herein is accurate and reliable as of the date of publication.

2. Climate risk insurance – what, why and for whom?

As climate change continues to have drastic and significant impacts worldwide, individuals, communities and states need to enhance their abilities to "anticipate, absorb and adapt to" (ODI, 2015) current and future climate risks – thereby paving pathways towards climate-resilient development. Climate-resilient development requires the use of strategies to understand and manage the risks associated with current and future climate hazards. Insurance should be one step in a risk management cycle, addressing residual risks that could not be further reduced by prevention and reduction measures.

2.1 What is climate risk insurance?

Climate risk insurance is a facilitative mechanism which provides support against the loss of assets, livelihoods and lives due to climate-related risks. It does so by ensuring effective and expeditious post-disaster financial support at an individual, community, national and regional level. We understand climate risk insurance as products that cover losses and damages caused by extreme weather events, which are intensified and increased in frequency by climate change. Climate risk insurance works by replacing "the uncertain prospect of losses with

the certainty of making small, regular premium payments" (Churchill, 2006). Financial protection by insurance occurs both ex-post and ex-ante: ex-post when insurance protects households from the economic implications of actualized risks, and ex-ante where insurance creates a space of certainty within which investments, planning and development activities can be undertaken.

Climate risk insurance schemes may be both direct and indirect in their targeting of poor and vulnerable communities. We define direct and indirect insurance as follows:

Direct insurance approaches are those in which the insured benefits directly from transferring risk to a risk-taking entity (such as an insurer). In the event the insurance agreement is triggered the insured beneficiary receives the insurance payout (direct transfer).

Indirect insurance approaches are those where the final intended target group benefits indirectly from payments intermediated by an insured government or from being a member of an institution that has insurance.

Climate risk insurance can be implemented at three levels:

Micro level (direct): Policyholders are individuals, e.g. famers, market vendors or fishers, who hold policies and receive payouts directly. These policies are often sold at the local level and retailed through a variety of channels, including microfinance institutions, farmers' cooperatives, banks, NGOs and local insurance companies. Premiums are either paid in full by clients or subsidized.

Meso level (indirect): Policyholders are risk aggregators such as associations, cooperatives, mutuals, credit unions or NGOs, whereby a (re-)insurer makes payments to the risk aggregators, which then provide services to individuals.

Macro level (indirect): Policies are held by governments or other national agencies, within the international/regional reinsurance market. Payouts can be used to manage liquidity gaps, maintain governmental services or finance post-disaster programmes and relief efforts for predefined target groups. Beneficiaries of these programmes can be individuals. These schemes can be operationalized through regional risk pools.

There are different insurance product types to target the above-mentioned levels, the two main types being indemnity-based insurance and parametric (index-related) insurance. In indemnity-based insurance the claim is assessed by measuring the percentage of damage after an extreme event occurs. Based on this loss assessment payouts are provided. This type of insurance is well known in traditional insurance markets. Index insurance on the other hand pays out after an index has been triggered by exceeding a predefined threshold (e.g. a certain air temperature over a period of time or a certain wind speed). Not requiring a claims assessment process, this product allows for a quicker claims settlement. Index insurance can be designed as a weather-station-based, satellite-based or yield-based product, referring to the kind of trigger used to determine the insurance payout.

2.2 The role of insurance in comprehensive risk management

Transferring risks in a cost-efficient way through insurance or other tools is a key financial instrument to address residual risk – but is only one step in a systematic process. To enable climate-resilient development, effective risk management should involve a portfolio of actions aimed at improving the understanding of disaster risks, to reduce and transfer risk and to respond to events and disasters as well as measures to continually improve disaster preparedness, response and recovery – as opposed to a singular focus on only one action or type of action (IPCC, 2012, p. 5).

The figure below highlights the key steps in a comprehensive risk management approach:

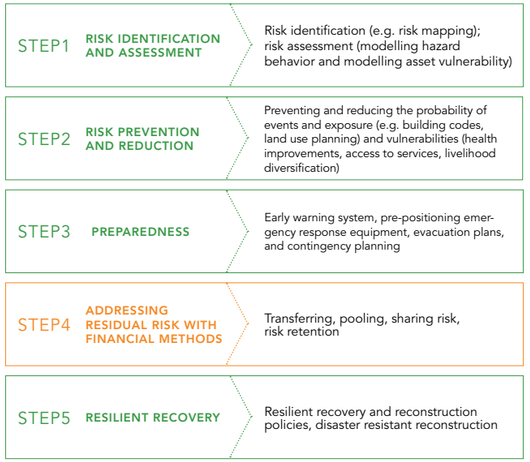


Figure 2: Insurance in the process of comprehensive climate risk management
Source: Modified from World Bank (2015).

Once risks have been prevented or reduced as far as economically possible, the residual portion of risks needs to be addressed. There is a broad range of financial instruments available to do so, and they differ depending on whether they are applied at an individual, intermediary or government level. To suit the risk profile, innovative financial instruments are now available and several instruments can be blended to meet the needs of the poor and vulnerable. We differentiate between risk transfer, sharing and pooling, risk retention and risk financing. The table on page 20 provides an overview of different instruments within these categories and compares their speed of disbursement.

When and how to apply insurance within comprehensive risk management can be guided inter alia by a cost–benefit ratio and risk layering.

Cost–benefit ratio

The various financial tools to address residual risks have different cost–benefit ratios. Before applying insurance as a tool, its costs and benefits should be assessed thoroughly. High premium prices are major obstacles responsible for low insurance penetration in developing countries, and lead to many schemes not reaching scale. In other words, financial sustainability is a major challenge for climate risk insurance schemes.

Risk layering

There are different layers of risks that risk management measures need to respond to. An efficient risk management scheme involves assigning an instrument or set of instruments to each layer, consistent with the selected strategy (reduction, retention or transfer). Financial instruments, in combination with risk prevention and reduction measures, should be selected on the basis of frequency and severity of disasters. This suggests that for weather-related risks which happen often (high frequency) but which are less serious (low severity), preventative and risk

Table 2: Instruments for disaster risk financing

TYPE OF INSTRUMENT	INSTRUMENT	SPEED OF DISBURSEMENT	EXAMPLES/COMMENTS
RISK RETENTION	Reserve funds	Fast	National Disaster Fund (FONDEN), Mexico National Calamity Fund, Philippines.
	Budgetary reallocation	Moderate	Used by most countries to get funds from other budget heads. Procedures, level of approval, and time required varies.
	Tax increase	Slow	Difficult tool, as it adversely affects much-needed investment and is not popular. Difficult to assess to what degree this instrument is used as a resource.
	Donor assistance	Slow	Normally available only in high severity disasters with international exposure and not for low severity–high frequency disasters, slow to come, sometimes with conditions attached. Hence does not solve immediate liquidity needs
RISK FINANCING	Contingent credit line	Fast	Catastrophic Risk Deferred Drawdown Option (Cat DDO) from the World Bank.
	Loans	Slow	Normally slow to come and useful mainly for reconstruction.
RISK TRANSFER, SHARING, POOLING	Multi-country/ Regional risk pool	Fast*	Examples: CCRIF SPC, ARC, PCRAFI *Speed of payment depends on the product type (index or indemnity)
	National sovereign insurance pool	Fast*	Example: Turkish Catastrophe Insurance Pool *Speed of payment depends on the product type (index or indemnity)
	Micro-insurance	Index: Fast Indemnity: Moderate - Fast	Indemnity based examples: IBLIP, mNAIS Index scheme examples: R4, ACRE Africa
	Alternative risk transfer instruments	-	Natural catastrophe and weather index insurance

Source: Modified and complemented from Poundrik (2011).

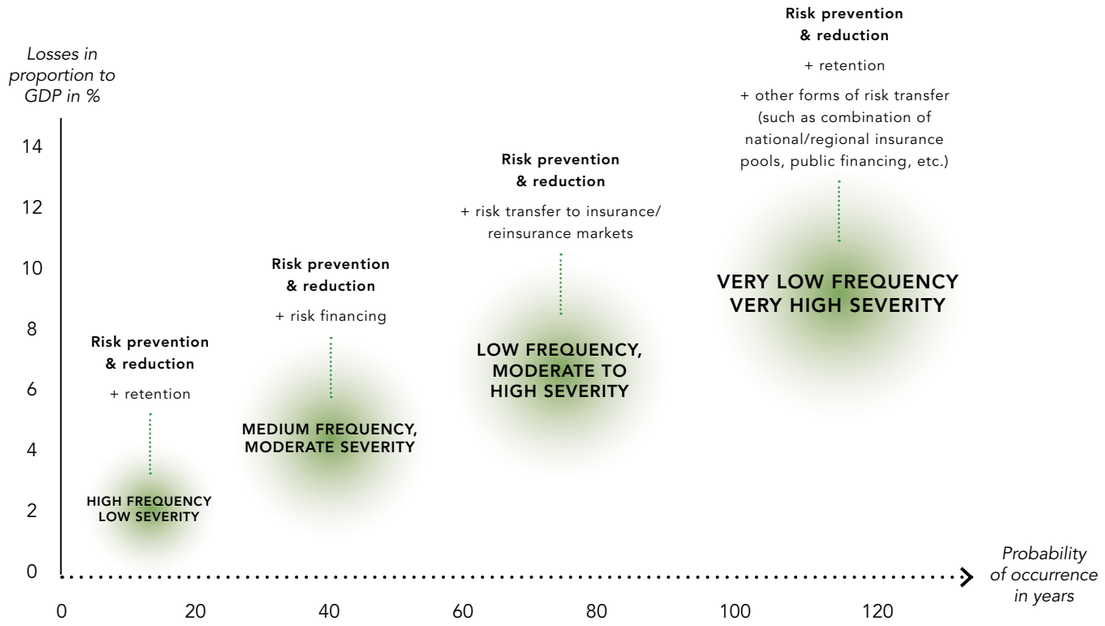


Figure 3: The risk-layering approach
Source: Authors' own, inspired by Poundrik (2011).

reduction activities may be the most cost-effective. The more severe and less frequent risks could be transferred to private and public insurance markets. However, it is important to note that despite adaptation strategies, climate change may bring some residual risks which cannot be transferred to the insurance market cost-efficiently (Warner et al., 2012). Governments also need to adopt approaches to address these residual risks, "the loss and damage that remains once all feasible measures (especially adaptation and mitigation) have been implemented" (UNFCCC, 2012). The figure on page 21 illustrates a risk-layering strategy on the basis of the frequency and severity of the event.

Insurance and social protection

Insurance may be integrated as a tool to complement social protection measures and social sector policies. It can build upon and strengthen social protection systems, which are "set up by government[s] to cushion the poor and most vulnerable against shocks" (aii, 2014). Insurers bring important risk assessment skills and can help social systems share the costs of larger shocks. Handling claims and contributory payments are ways in which insurance can improve the efficiency of social protection schemes, particularly in countries with weak governance and public administration (ibid). Moreover, social protection principles can guide insurance schemes; they provide a powerful way of thinking about smart subsidies that helps make a clear distinction between market and non-market solutions, which is essential in reaching the poorest. When implemented successfully, the usage of such systems can potentially contribute greatly to reducing transaction costs, as well as make the insurance schemes easier to communicate and more consistent with other support received by the households. R4, a rural resilience initiative in Africa, is a good example of how a microinsurance product for the poor can be integrated into a social safety net.

2.3 The potential of climate risk insurance in increasing resilience

Extreme poor (< USD 1.9 PPP/day based on 2011 PPP [purchasing power parity]) and poor (< USD 3.1 PPP/day) people are disproportionally affected by climate change due to higher exposure, higher vulnerability and fewer coping capacities:

- → The extreme poor and poor are more exposed to extreme weather events as many of them live in at-risk climate zones and work in sectors that are most affected by natural hazards (e.g. agriculture).
- → The extreme poor and poor are least able to prevent, cope with and adapt to extreme weather events. Without access to formal protection schemes they often resort to a variety of coping strategies (e.g. activity diversification, selling assets, reducing food consumption, taking children out of school or borrowing) in the event of a crisis. Applied on their own, these strategies might impede sustainable development and even further trap them in poverty (Deblon and Loewe, 2013).
- → The extreme poor and poor lose more in the occurrence of an extreme weather event. In relation to national income, direct economic losses were more than double in low-income versus high-income countries (Munich Re, 2013). Moreover, data from 1980 onwards reveal that in the past 36 years 76 per cent of fatalities from natural disasters occurred in developing countries (Munich Re, 2016).

However, climate change will not only worsen conditions for poor people but also the dynamics of poverty, causing people to fall (back) into poverty (Hallegatte et al. 2016). If embedded into a wider risk management approach, climate risk insurance can contribute to improving key capacities that are imperative for reducing poverty and making poor and vulnerable people more resilient. These capacities include anticipatory, absorptive, and adaptive capacities.

The Study (see box, p.13) showed that insurance can contribute to increasing these key capacities in four ways, both ex-ante and ex-post, namely by[3]:

1. Protecting against climate shocks.
2. Promoting people by unlocking opportunities.
3. Catalysing other elements in the process of comprehensive risk management that are necessary to build resilience.
4. Spurring transformation by incentivizing risk reduction behaviour and fostering a culture of prevention-focused risk management.

The following figure broadly depicts our findings:

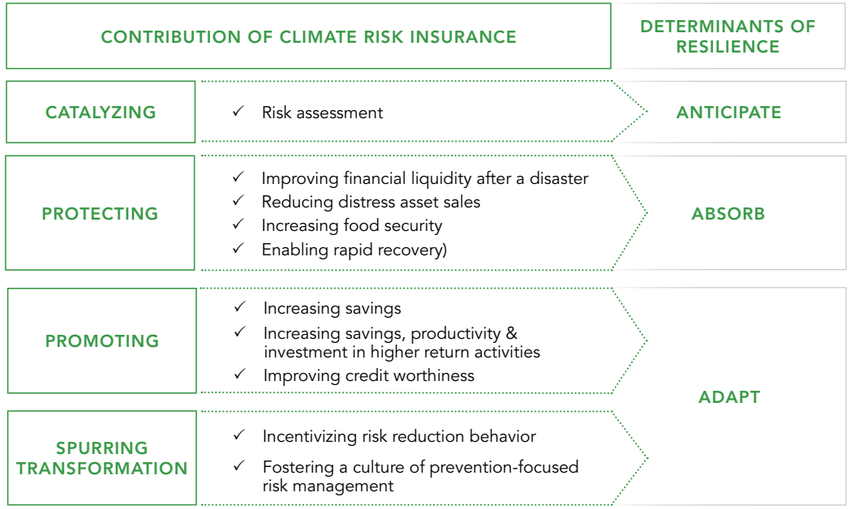


Figure 4: Findings on the contribution of climate risk insurance in comprehensive distaster risk management to resilience-building
Source: Authors' own (2016).

3 This framework was inspired by a similar concept on social protection from Devereax and Sabates-Wheeler (2004) and language used in MCII (2009). Protect and promote are also used as impact categorioes in the insurance context by Hess and Hazell (2009), and aii (2014).

2.3.1 Protecting – A buffer and safety set through timely finance

What is the problem? When a crisis occurs, the most vulnerable often resort to a variety of coping strategies that might, applied on their own, impede sustainable development and can trap people even further into poverty. These strategies encompass reducing expenditures for food, education and health or selling productive assets, such as livestock, seeds or land (e.g. Carter et al., 2014). Also strategies like borrowing money from family or friends, microfinance institutions, or moneylenders, relying on savings and taking out loans might exacerbate dependence and insecurity in the long run (Deblon and Loewe, 2013). At the macro level, governments are also challenged in managing their risks in an effective way: due to limited tax bases, high indebtedness and low or no insurance cover, many highly exposed developing countries cannot fully recover from disaster shocks by simply relying on limited external donor aid. On average a country can expect international assistance to cover only about nine per cent of direct disaster losses (Andersen et al., 2011). In turn, external investors are wary of the risk of catastrophic infrastructure losses, and small firms and farmers cannot receive the credit necessary for investing in higher-return/higher-risk activities.

What is the role of insurance? By providing timely finance that improves financial liquidity shortly after a disaster, insurance can play a role as a safety net and buffer for people and countries shortly after an event. Under these circumstances, insurance helps the insured to better absorb shocks, as they may not have to resort to coping strategies that might impede sustainable development. It can also help people to avoid slipping (back) into poverty (e.g. insurance can help to reduce distress asset sales and help to increase food security, both enabling faster recovery after a shock). Timely and reliable payouts enable households to protect their livelihoods when a disaster strikes. Based on the timely finance, insurance allows more effective risk-coping strategies to be taken. On a meso level insurance can help small and medium enterprises to recover more quickly and avoid business interruptions. On a macro level, timely finance after a disaster can help governments maintain their services and avoid fiscal deficits and costly post-disaster loans.

Early financing from ARC

The African Risk Capacity's (ARC) index-based insurance payouts, based on Africa RiskView data, are triggered at or before harvest time in the event of drought. Compared to humanitarian aid, this type of response provides faster liquidity to governments which they can use to effectively protect a household's income generation potential by intervening in time. This can prevent households from employing negative coping strategies when faced with a drought. This early financing, "linked to predefined national contingency plans, is key to improving the efficiency of disaster response, and to building the capacity of countries to lead their own responses and reduce their reliance on the international appeals process for assistance" (ARC, 2015). In traditional emergency response, affected countries assess yield losses, appeal for funding and receive aid well after the crisis. ARC plans to deliver payouts to governments within two to four weeks of the end of the season, so that relief can be distributed to vulnerable people on the ground within 120 days. When a drought hit Niger, Mauritania and Senegal in 2015, the ARC payout of more than USD 26 million arrived "while a UN aid appeal was still being formulated" (Okonjo-Iweala and Thunell, 2015). An internal analysis showed that due to reduced response time and risk pooling, the costs of running ARC are outweighed 4.4 times by the benefits of it compared to traditional emergency appeals (ARC, 2015).

2.3.2 Promoting – A space of certainty that unlocks opportunities for growth and adaptation

What is the problem? To limit their exposure, poor households often try to avoid risks. Therefore, they choose activities with lower risk, but also lower returns, and forego income opportunities (Cole et al., 2012). Researchers observed in Tanzania that poorer farmers grew more sweet potatoes (which is a lower-risk, lower-return crop) than richer farmers – resulting in a reduction of up to 25 per cent average earnings (Dercon, 1996). To be prepared in the event of a shock, the poor also tend to diversify their income-generating activities, assets or choice of crop or accumulate precautionary savings. While this is certainly a sensible measure to decrease risk, it can also lead to a loss of profits as people cannot afford to specialize in the more profitable options. In general, these informal strategies to manage climate risk usually cover only a small proportion of the loss, so "the poor have to patch together support from various sources" (Churchill, 2006).

What is the role of insurance? By reducing the residual risk that could not be reduced by measures already taken, insurance can help lessen financial repercussions of volatility and, in the longer term, help people to adapt to climate change. It creates a space of certainty within which investments, planning and development activities can be undertaken. Thereby, insurance can incentivize "positive risk taking" (Hallegatte et al., 2015), which is essential for innovation and growth. At the micro level it can help to unlock opportunities and may help increase savings, increase investments in higher-return activities and improve credit worthiness, all of which might allow people, or small and medium enterprises, to escape from poverty traps or from the threat of them. At the macro level, research suggests that insurance may contribute to economic growth by allowing for more effective risk management. In a literature review of the relevant research, Lester (2014) demonstrates that the insurance sector contributes at a basic level to inclusive economic growth and the effectiveness of the credit function. However, the analysis in the Study (see box, p. 13) lacked data to support this claim.

Unlocking opportunities at the micro level

An impact evaluation of the R4 initiative in Tigray, Ethiopia, provides evidence that insured farmers increased their savings by 123 per cent more than uninsured farmers did (Madajewicz et al., 2013). R4 farmers also increased their grain reserves as well as the number of oxen that they own by 0.18 of an ox more than uninsured farmers did (ibid). However, this impact cannot solely be tracked back to insurance but to the comprehensive approach of R4, which includes a savings component and aims to enhance access to credit (R4, 2015).

We see similar evidence for the index-based livestock insurance (IBLI) in Kenya and Ethiopia. Households with IBLI coverage increased investments in livestock veterinary and vaccination services, and reduced their herd size (most likely reflecting a reduction in precautionary savings in response to an insurance alternative). The project team observed that these changes to production strategies led to an increase in milk productivity of livestock and the total value of milk produced (Jensen et al., 2015). IBLI also had an impact on greater household income per adult equivalent and led to improvements in mid-upper arm circumference, which is an indicator of child malnutrition (Mude, Andrew. Email interview. 5 April 2016). IBLI improved purchasers' well-being even when droughts or indemnity payments do not occur, by "providing improved peace of mind about drought risk exposure" (Jensen et al., 2015).

Promoting economic growth potential on the macro level

A cost–benefit analysis conducted for ARC showed that compared to traditional aid channels, the early disbursement through ARC can lead to higher welfare benefits for countries and their vulnerable households (ARC, 2012). The analysis provides evidence that suggests that reaching households within the critical three months after harvest could result in economic gains of over USD 1,200 per household (ibid).

2.3.3 Catalysing – Assessing the risk of loss and damage

What is the problem? Risk assessment serves to bring attention to the hazard potential, the exposure and vulnerability, and in this way it can raise awareness and expose new options for managing the risks. Publicly collected and open-source data and risk assessments, as well as open-source hazard modelling, can contribute meaningfully to regional, national and local risk management and investment decisions. Risk assessment is key to improving anticipatory capacity as a proactive action before a foreseen event to avoid upheaval, thereby helping individuals and countries better plan for issues like financial needs (for adaptation and managing loss and damage). However, risk assessments are often not performed in developing countries (Collier et al., 2009). And for many parts of the world good and dense hazard and weather data are lacking.

What is the role of insurance? Both at micro and macro levels, insurance can act as a catalyst for risk assessment. Risk assessment is a vital part of insurance as it is the precondition for calculating premium levels for policyholders. Accordingly, insurance can facilitate regional and international data analysis, such as establishing data standards, methods and data repositories, and therefore can be a catalyst for risk assessment. Assessing the risk of loss and damage is a prerequisite for identifying needs and policy priorities. Moreover, "public awareness of risk can have a major effect in reducing the impacts of extreme weather events: risk awareness encourages risk-reducing behaviour and increases the demand for insurance coverage" (Warner et al., 2012)

Increasing farmers' sensitivity to changing rainfall patterns on the micro level

PepsiCo offers agricultural index insurance in India and installed weather stations on suppliers' farms. The weather stations provide information on temperature, rainfall and sunshine levels as well as forecasts. Surveys by Weather Risk Management Services in India could show that farmers have a better understanding of the likely impact of weather on yields (Hellmuth et al., 2009).

The R4 initiative, in addition to the satellite rainfall data, also gathered rainfall information by distributing plastic rain gauges to sample programme participant farmers. The programme organized training on how to collect rainfall data, so as to monitor the actual rainfall situation on the ground, helping to increase farmers' sensitivity to changing rainfall patterns (Sharoff et al., 2015). Moreover, by installing automatic rain gauges for validating the satellite-based rainfall information, the database of the Ethiopian National Meteorological Agency is improved.

Helping countries to better understand, model and assess their risks

The Pacific Catastrophe Risk Assessment and Financing Initiative (PCRAFI), a pan-national sovereign risk insurance scheme, produced detailed probabilistic hazard models, such as for tropical cyclones with winds, storm surges, rain, earthquakes with ground-shaking and tsunamis, to help countries better understand, model and assess their exposure to natural disasters. This information allowed a detailed quantitative assessment of the potential costs of natural disasters to the national budget and facilitated the development of sovereign disaster risk financing instruments and the development of specific technical and financial solutions (or applications) to reduce or mitigate the effect of these risks (World Bank, 2012).

ARC's proprietary risk modelling and early warning software platform, Africa RiskView, uses satellite-based data to estimate the impact of weather events on vulnerable populations – and the response costs required to assist them – before a hazard season begins and as it progresses. This instrument provides the hard triggers for ARC's insurance mechanism but also "allows countries to monitor and analyse rainfall throughout the continent in near-real time and estimate the impact of weather developments on vulnerable populations in-season, thus providing ARC Member States and Partners with an innovative early warning tool" (ARC 2015).

2.3.4 Spurring transformation – Reshaping the way risks are managed

What is the problem? Economies, societies and livelihoods will have to change drastically to achieve zero emissions and to cope with the increasing impacts of climate change. Thus, the concepts of transformation or paradigm shift increasingly become cornerstones in climate policy and debates. With regards to climate-resilient development, one key component of transformation is reshaping the risk management strategy from ex-post crisis management to prevention-focused risk management. This transformation helps develop a culture of prevention, ultimately improving preparedness for future climate change impacts.

What is the role of insurance? Insurance spurs transformation by helping countries reshape the way risks are managed. It does so by encouraging risk reduction, catalysing risk assessment, and driving more structured decision-making around ex-ante risk. At the political level, we see that requesting contingency planning as an eligibility criteria for insurance has changed the process of disaster relief programmes in relevant countries. In this way, insurance can encourage countries to develop a culture of data-driven, prevention-focused risk management. Insurance can incentivize risk reduction behaviour, e.g. by making it a prerequisite for reducing premiums or providing the option for people to work for their insurance cover by engaging in community-identified projects to reduce risk and build climate resilience. In this way, insurance can contribute to preventing losses and damages. However, only a few already existing schemes show an operational link between risk transfer and risk reduction (also found by Surminski and Oramas-Dorta, 2013).

We note though that most insurance products analysed in the context of this report are still in their early stages of implementation and it might be too early to identify a positive transformative impact. Constant analysis and monitoring of project outcomes will be crucial to track potentially transformative impacts of insurance in the years to come.

Incentivising risk reduction behaviour at the micro level

The Modified National Agricultural Insurance Scheme (mNAIS) features a premium structure including a discount provision if all farmers in a unit area adopt better water conservation and sustainable farming practices for better risk mitigation (Surminski and Oramas-Dorta, 2011). It thereby encourages risk reduction behaviour and the application of progressive farming practices.

Another good example of how insurance can actively encourage risk reduction behaviour is R4, where cash-poor farmers have the option to work for their insurance cover by engaging in community-identified projects to reduce risk and build climate resilience, such as improved irrigation or soil management. Moreover, R4 makes people identify critically needed risk reduction activities for their community, such as small-scale water harvesting, increasing soil moisture retention through improved agronomic practices and other agricultural methods to improve crop production (Oxfam, 2011).

Fostering a culture of prevention-focused risk management through contingency planning at the macro level

Requesting contingency planning as eligibility criteria for ARC has changed the process of disaster relief programmes in the relevant countries, shifting paradigms away from crisis to risk management. ARC Member States currently pay "insurance premiums through national budget processes and receive payouts for pre-approved contingency plans. Through insurance and its in-country capacity-building programme, ARC provides expertise to and incentives for governments to invest in their emergency planning and response capacities. The payment of premiums from the national budget is simply the last step in a process of building both financial and political ownership and accountability" (ARC, 2015). By providing incentives for governments to invest in their emergency planning and response capacities, ARC could contribute to shaping a culture of prevention-focused risk management in their member countries.

Considerations

The analysis of schemes from the Study (see box, p.13) showed that well-designed climate risk insurance, embedded into comprehensive risk management, can contribute to alleviating poverty and building resilience for poor and vulnerable people. However, the Study also identified challenges to reaching the poor with insurance.

These challenges are related to the integration of insurance solutions into the local context, respecting and responding to existing structures in order to not increase inequalities or destroy existing local risk management mechanisms or safety nets. When premiums have to be covered by the insured, insurance can exacerbate inequality as only the wealthier can purchase premiums. One also has to note that in the cases where insurance unlocked opportunities, it was not insurance alone but the interplay of insurance with other risk management activities and social protection tools that improved opportunities. Without this framing, supporting investment in higher-risk activities might also lead to mal-adaptation by encouraging people to undertake activities that should be avoided when considering longer-term climatic impacts. This "false sense of security" (Surminski and Oramas-Dorta, 2013) might reduce the urgency for risk prevention and reduction, thus increasing vulnerability to extreme events. Moreover, there might be certain household characteristics determining if insurance is a valuable tool or not. Successful insurance approaches at the micro level might need to include measures to lift the insured beyond a critical threshold that makes insurance useful for them, e.g. by complementing insurance with asset accumulation programmes. Research around IBLI concluded that the scheme is "not well suited for the poorest, who already slowly collapse toward destitution over time, as the premium payment tends to further speed up such herd decumulation during good seasons. By contrast, IBLI is most valuable for the vulnerable non-poor, for whom insurance can stem collapses onto a trajectory of herd decumulation following predictable shocks" (Chantarat et al., 2016). In that case, their assets are too small relative to the critical thresholds that would be needed to benefit from insurance, and the kind of insurance schemes that are more beneficial are those that operate as a social protection intervention.

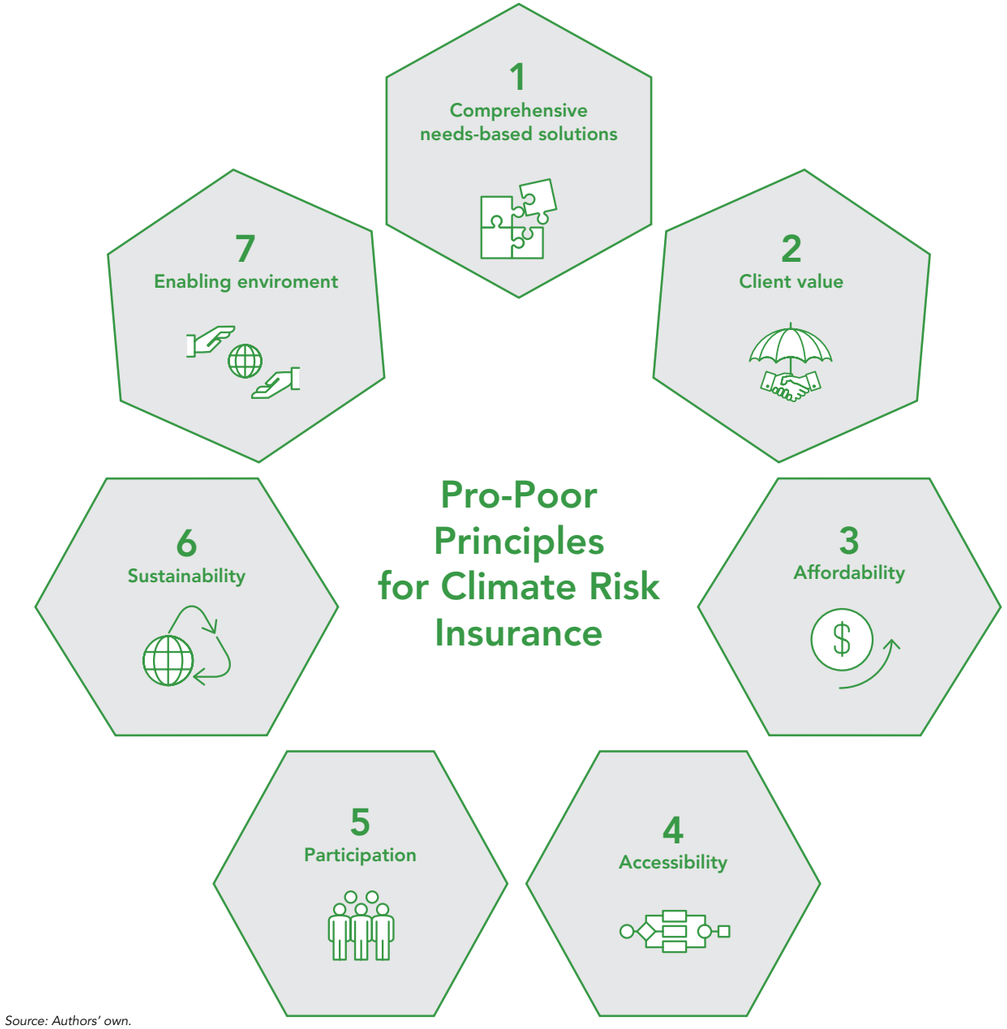
Climate risk insurance can play a powerful role in increasing the resilience of the poor and vulnerable. However, it is not the only factor determining resilience - other factors such as education, health services and infrastructure can also play an important role in resilience building.

Finally, it must be emphasized that insurance is not a universal remedy for all types of loss and damage resulting from climate change. Insurance options can be viable tools to address the risk of extreme weather, but are not appropriate or generally feasible for slowly developing and foreseeable events or processes that happen with high certainty, such as glacier melt or sea level rise, under different climate change scenarios. Even for weather-related events, insurance would be an ill-advised solution for disastrous events that occur with very high frequency, such as recurrent flooding (MCII, 2016). Resilience-building and the prevention of loss and damage in such instances may be cost-effective ways to address these risks. As climate change will increase the intensity and frequency of extreme weather events, in the long run there may come a time that some risks become so severe that they are uninsurable.

The challenges identified above highlight the need for clear guidance on how to apply climate risk insurance most efficiently to cover the poor and vulnerable. This guidance should be based on good practice and policy, and learn from the successes of existing insurance schemes. The Pro-Poor Principles for Climate Risk Insurance, outlined in the following chapter, can provide such evidence-based guidance.

3. Pro-Poor Principles for Climate Risk Insurance

The lessons learned identified through the analysis of the 18 schemes from the Study (see box, p. 13) at the micro, meso and macro level reveal common success factors for the insurance schemes in targeting and reaching the most vulnerable with climate risk insurance products. We used the factors to formulate Pro-Poor Principles for Climate Risk Insurance. They address both the design and implementation phases as well as the enabling environment to accommodate pro-poor insurance. These principles can guide the design process of new insurance schemes that benefit the poor and vulnerable. They can also help with the identification of insurance schemes to be supported by international initiatives, such as the G7 InsuResilience. Chapter 4 outlines concrete recommendations for how different groups of actors can apply the Pro-Poor Principles.



Source: Authors' own.

3.1 Comprehensive needs-based solution

Solutions to protect the poor and vulnerable from extreme weather events must be tailored to local needs and conditions. It is imperative to embed insurance in comprehensive risk management strategies that improve resilience.

The poor and vulnerable face multiple risks that get in the way of opportunities to reduce poverty. The key to success of a lot of insurance schemes has been offering a comprehensive needs-based solution to reduce climate risks, while linking insurance with other climate risk management strategies. Particularly important action areas are:

- Implement risk, needs, demand and context assessments: Successful products started with a risk and a context analysis to identify segments of clients and their most pressing risks and needs. It is important to understand the local context, the demand for insurance products and existing coping strategies, as well as the financial and budget constraints of the potential clients. On this basis, an analysis can be conducted on where an insurance product might fill gaps and offer value to the clients. This initial analysis should also include a cost–benefit analysis, making sure that insurance is the right tool for the target group. The more time and effort invested at this stage, the better the results will be.

- Insurance is not a panacea and should be closely linked with ex-ante climate risk management strategies that place priority on preventing losses: Transferring risk through insurance should be viewed as only one step in a systematic process, and can only be successful if it is used alongside other risk management measures. Prior to transferring risk, measures towards risk identification and assessment, risk prevention and reduction, and preparation for responding to future events need to be taken. Insurance can subsequently play a key role as a financial instrument to address the residual risk that remains after these other measures have been taken (see also Figure 2. page 19 – Insurance in the process of comprehensive risk management).

- Foster locally driven and owned schemes that are tailor-made to the local context and linked to traditional risk management approaches: Insurance solutions should be integrated into essential livelihood activities and linked to traditional risk management approaches and social cohesion. Decisions regarding the design and implementation of insurance solutions should be made as close as possible to their point of application and where the need is manifest. It is important to take care not to increase local inequalities. For primarily wealthier members, insurance might be a source of withdrawal from existing informal risk pooling mechanisms such as savings or credit associations (Murphy, 2011). This may result in exacerbating existing inequalities and may leave the lower-income community members even more insecure.

Comprehensive risk management with R4

The R4 initiative currently reaches more than 37,000 farmers with four integrated risk management strategies: risk transfer, risk reduction, prudent risk taking, and risk reserves.

- **Risk transfer:** R4 enables the poorest farmers to purchase a weather index insurance against drought.
- **Risk reduction:** Farmers can pay insurance pre miums in cash or through insurance for assets (IFA) schemes that engage them in risk reduction activities. IFA schemes are built into government safety net programs or World Food Programme food assistance for assets (FFA) initiatives.
- **Prudent risk taking:** With a stronger asset base, R4 farmers can increase their savings and stocks, using them along with insurance to obtain credit. They can use the money for investing in productive assets such as seeds, fertilizers and new technologies that increase productivity.
- **Risk reserves:** Individual or group saving enable farmers to build a financial base. Providing a self-insurance for communities, group savings can be loaned to individual members with particular needs.

Source: R4 (2015).

3.2 Client value

Providing reliable coverage that is valuable to the insured is crucial for the take-up of insurance products.

Client value is comprised of the following three components:

(1) The expected value that clients receive

Insurance can improve purchasers' well-being, by giving the insured peace of mind, even when no disaster event occurs or no payment is made. It can also help reduce the reliance on costly risk management strategies that may impede sustainable development.

(2) The reliability of a product

a. The catastrophic performance ratio measures what an insured farmer receives back relative to the premium paid when the insured experiences catastrophic losses. This depends on the comprehensiveness of the product and if it covers losses that are very relevant to the insured. Lowering the coverage can be seen as a tool to increase the affordability, yet in doing so it is important to ensure that critical risks are not underinsured. The poor and vulnerable face multiple sources of risk and might face losses from perils that are not included in the insurance product. That means a person might be insured against flood risks and this product might perform perfectly during floods. However, the very same person might also face drought risks and suffers losses during droughts. Multi-peril insurance or hybrid products combining weather and area yield indices seem promising to solve such problems (Morsink et al., 2016).

b. The probability of catastrophic basis risk is the probability of a beneficiary not receiving a payout after experiencing catastrophic losses, in the case of index insurance depending on the ability of the index to capture losses caused by the insured peril. Most analysed schemes from the Study (see box, p. 13) identified the well-known issue of basis risk as a central challenge for index products. Basis risk can be understood as the risk that insurance payouts do not adequately reflect the losses incurred. In the event of an imperfect correlation the insurance may not pay out when losses occur, so that insured households end up bearing a significant amount of uninsured losses. Basis risk may lead to mistrust and harm the reputation of the insurance for a long time. While it is impossible to fully eliminate the basis risk for index insurance products, the Study (see box, p. 13) showed that there are measures to reduce and minimize it. Moreover, communicating and educating policyholders about the basis risk is essential. In contrast to basis risk, trigger-based insurance schemes can have the opposite effect, i.e. payouts for people who do not have corresponding losses or even no losses at all. This is also a shortcoming of parametric insurance, but not seen as a comparable problem to basis risk as here people get more out of the system than they would expect (Morsink et al., 2016).

(3) The potential additional benefits of product-related services

A lot of climate risk insurance schemes bundle the insurance product with other services. As a result, clients are able to access services such as credit, agricultural advisory services and weather data.

Added client value through bundling with additional services or other insurance covers

The key to the success of ACRE Africa has been "offering a holistic solution to mitigate weather risks, not just insurance" (World Bank and Index Insurance Forum, 2016). That also includes bundling their customized insurance products with agricultural advisory services, weather data, local access to quality inputs, and input credit.

After realizing the relationship between rainfall and the yield, SANASA bundled additional benefits according to customer requirements as part of their product design. They found that offering covers in addition to weather insurance helped to improve product acceptance: "The unique part of the product offered by SANASA is that it is bundled with other covers like accidental death and hospitalization which catered to various needs of the farmers and offered a good coverage for both production and livelihood risks" (Prashad and Herath, 2015).

3.3 Affordability

Measures to increase the affordability for poor and vulnerable people are paramount to the success of an insurance scheme and also important to satisfy equity concerns.

Most insurance-related approaches targeting poor and vulnerable people or countries have not been started and performed without some form of financial support, often in the form of premium support. Affording risk-based premiums remains a major challenge for these target groups, and measures to increase the affordability of products are paramount to the success of insurance schemes.

Discussions around affordability need to respond to concerns of equity, aiming at establishing solidarity and human-rights-oriented insurance schemes. Climate change infringes upon basic human rights such as the rights to life, food and shelter. Climate risk insurance can contribute to protecting human rights by improving financial liquidity after disasters, helping people not resort to coping strategies that further endanger their rights, e.g. consumption smoothing.

Measures towards making the product affordable need to ensure the financial viability and sustainability of the insurance scheme and consider the value of the insurance to the client. Insurance designers need to be careful to not remove the coverage that the clients want and need in an attempt to reduce the price.

Insurance premiums usually consist of two major cost factors, a risk-based part and a markup part:

The risk-based part reflects the actual costs (expected average annual loss) of insuring some percentage of the exposure. In climate risk insurance, the risk-based premium is composed of:

- A baseline risk for the geographical area to be insured.
- An add-on risk due to climate change.

The markup part (often called loading) includes:

- Implementation costs, i.e. costs for setting up the insurance scheme (e.g. demand studies, product development and marketing).
- Transaction costs.
- Administration costs.
- Capital/reinsurance costs.

In developing countries, markups are often particularly high because of a lack of necessary data, insufficient risk assessments, underdeveloped capital markets, etc. Because of the many uncertainties it is difficult to attract relevant investments.

Different forms of premium support are described below:

(1) Full premium subsidies: Full coverage of both the risk-based and the markup part of an insurance premium.

(2) Partial premium subsidies: Coverage of only one part of the premium, either the risk-based part or the markup part. As the insured has to cover the other part of the premium costs,

partial premium subsidies can set a price signal which makes the client aware of the risk cost. This type of subsidy can therefore help minimize incentive distortion.

(3) Investments in measures that reduce premiums indirectly: These investments can target the costs that are needed in the process of setting up an insurance system. They can also target framework conditions to accommodate insurance products for the poor and vulnerable as well as the reduction of the risk itself by incentivizing and applying prevention measures. They include:

- Investments in infrastructure and technology (data, weather stations, risk modelling).
- Investments in awareness-raising and information campaigns, educational programmes and capacity-building efforts to address financial and insurance illiteracy.
- Providing incentives for the insurance industry (e.g. tax waivers on index/microinsurance products).
- Fostering regulation and policy frameworks.
- Investing in and providing incentives for risk reduction and loss prevention, resilience-building and adaptation through for example legal frameworks, flood protection, irrigation, contingency plans to facilitate additional channels of assistance or the provision of services.

The following table provides an overview of types of smart support used in the analysed schemes (see box, p. 9). It is not meant to be exhaustive as it was particularly difficult to identify investments in measures that reduce premiums indirectly:

Table 3: Financial support in the analysed insurance schemes

NAME OF THE SCHEME	TYPE OF FINANCIAL SUPPORT
IBLIP	**Investment in product development, insurance data, and reinsurance:** Mortality rates exceeding the BIP exhaustion point of 30 per cent are covered by the government, which has access to a contingent credit line from the World Bank.
PCIC	**Premium Subsidies:** Full government support, such as the government premium subsidy (GPS) offering 100 per cent free insurance. The government's share accounts for a substantial proportion of the total insurance premium; >60 per cent if low risk, >50 per cent if medium risk, ~50 per cent if high risk.
mNAIS	**Premium Subsidies:** Premium paid by the farmer is subsidized by the government. The Agriculture Insurance Company of India is responsible for managing the liability of mNAIS through risk transfer to private reinsurance markets and risk retention through its **reserves**.
R4	**Investment in product development, infrastructure and technology, insurance literacy, premium subsidies:** For the programme in Senegal the World Food Programme pays 50% of the premiums budget, while the other 50% is subsidized by the Senegalese Government (this was not the case for the other R4 Initiative programmes).
IBLI	**Premium Subsidies:** A 40 per cent premium subsidy has been provided by UK's Department for International Development (DFID), European Union and Ausstralian Agency for International Development to cushion pastoralists until market forces push the premium prices down.
MiCRO-HAITI	**Premium Subsidies:** The average premium cost is 5.3 per cent of value of a microloan. Fonkoze (a microfinance instition) is covering up to 50 per cent of premium costs.
CCRIF SPC	**Premium subsidies and capitalization:** Contributions to a multi-donor trust fund by the governments of Canada, United Kingdom, France, Ireland and Bermuda, the European Union, the World Bank and the Caribbean Development Bank as well as through membership fees paid by participating governments supported CCRIF's establishment and operations by reimbursing it for major operational expenses, reinsurance costs, and claims paid within its risk retention during its first four years.
ARC	**Capitalization of insurance entity:** Premiums are paid by ARC member states. Grant funding for product development. Capitalization of insurance entity from external donors and investors (DFID and the German Development Bank [KfW] on behalf of the German Ministry for Economic Cooperation and Development). Funds to be returned without interest by 2034.
FONDEN/ AGROASEMEX	**Capitalization:** Resources allocated through the federal budget with the Program for Reconstruction as primary budget account. It channels resources to the FONDEN Trust and the Emergency Relief Fund, which in turn create specific financial accounts for each reconstruction programme. By law, FONDEN and its related funds must receive no less than 0.4 per cent of the annual budget including any uncommitted funds in the Trust from the previous fiscal year.
PCRAFI	**Premium subsidies and technical assistance:** The provision of premium subsidies and technical assistance greatly support the scheme. The Pacific Island countries (PICs) called upon the World Bank and donor partners to support PCRAFI during the 2015 Forum Economic Ministers Meeting. In direct response to this request, the World Bank is currently working with donor partners to secure funds and to establish the PCRAFI Multi-Donor Trust Fund. Thus far there have been significant premium subsidies by donors. Under the Pacific Resilience Program, premium financing for the PICs has been secured until October 2018.

Source: MCII, own table based on interviews with project managers and literature about the schemes.

However, there are consequences to applying premium support and important points that should be considered, which are outlined in the following box.

MCII KEY MESSAGES REGARDING PREMIUM SUPPORT:

1. Direct premium support should be 'smart', understood as reliable, flexible, minimizing incentive distortions, and making the client aware of the true risk cost

Smart support is characterized by the following components:

a. Reliability: Reliable external support that ensures a long-term perspective for the insurance product is a precondition for the engagement of private sector actors in the market development for the very poor segment of society in vulnerable countries. Moreover, providing reliable support to those with little adaptive capacity and disproportionally affected by climate change is key in responding to issues of equity and responsibility.

b. Flexibility: Premium support needs to be adjustable to factors that determine affordability of the insurance product for the beneficiary, in particular changing income levels, resilience or hazard exposure. Effectively implemented product management plans can help to adjust premium support to the factors listed, decreasing or increasing it accordingly, phasing it out when the insured are in a position to cover premiums themselves.

c. Incentives and true risk cost: Targeted premium support should minimize incentive distortions and make the clients aware of the true risk cost. While addressing questions of increasing affordability through donor or government support will be necessary to get schemes up and running, efforts need to be made to make sure that support strategies do not negatively affect risk behaviour.

- Ideally, that includes premium support for only parts of the premium in a first step. For example, covering only the markup part while the beneficiary pays most of the risk-based part of the premium.
- However, an insurance product might not be affordable without addressing the risk-based part of the premium. Existing examples show that innovative payment measures that are consistent with a disaster risk management framework can help to make the risk-adequate premium affordable. One example are insurance-for-work programmes in which the insured pay part of the premium through their labour. They can work for risk reduction projects, which in turn have positive effects on decreasing the needed risk premium.

2. Smart premium support is essential for making climate risk insurance accessible for the extreme poor and poor

The poorest and most vulnerable cannot afford insurance at market prices. Insurance-related approaches specifically targeted towards the extreme poor and poor will likely need some form of smart premium support. In providing smart premium support for viable products, considering concerns of equity, donors and governments should take the following points into account:

- There are consequences to applying direct premium support that need to be actively managed (see point 1).
- Indirectly reducing premiums through investing in risk reduction measures and an enabling environment should always complement direct premium support (see point 2).
- Smart subsidies, linked to social protection programmes and other innovative mechanisms, can be blended to ensure people receive the cover they need at a cost they can afford.
- Public support for insurance products can tie in on different levels, channelling funding (e.g. loans or grants) either directly to the insured (subsidy for the premium), to the insurer (subsidy to lower the premium for the insured and making the product affordable) or to governments and organizations (financial means for disaster risk reduction measures and enabling environment conditions). Different forms of support have specific advantages and disadvantages.

From a cost–benefit perspective, insurance might not always be the best solution to address climate risks for the extreme poor and poor. Donors and governments should only provide premium support for insurance products that are needs-based, adjusted to the local context and embedded into holistic risk management and resilience-building strategies.

3. Indirectly reducing premiums is key to making pro-poor insurance solutions affordable and has long-term co-benefits for building a comprehensive disaster risk management framework

Measures to reduce premiums indirectly can also provide long-term co-benefits by contributing to the creation and strengthening of an enabling environment for insurance solutions as well as increasing the resilience of beneficiaries.

MCII therefore advises to:

- Generally support the set-up and implementation of climate risk insurance schemes in developing countries and in this way reduce premiums indirectly, and primarily apply direct premium support to make insurance solutions accessible to the poorest segment of the population.
- Gear investments into items that reduce premiums indirectly towards the development of risk management frameworks and actively work on linking the insurance products to those frameworks.

3.4 Accessibility

Efficient and cost-effective delivery channels that are aligned with the local context are key for reaching scale.

Reaching a large client base needs efficient and cost-effective delivery channels that require minimum input but ensure a widespread reach. They are a key prerequisite for insurance schemes to reach scale, particularly for pilot projects. An ideal delivery channel can be defined as: "Engaged in financial transactions with the target group; serving large volumes of clients; maintaining trust with clients; representing the interests of clients; being convinced of the value of the product" (Churchill, 2009). Building on existing networks can increase participation rates. Using natural aggregators who are trusted and have already established successful delivery mechanisms and cash management expertise (e.g. cooperatives, mutuals, business groups, federated self-help groups and savings and credit groups) can be one cost-efficient way to increase take-up. But also other formal or informal lenders, mutual-aid associations, input suppliers, output processors and even local governments or disaster relief providers can be local-level risk aggregators. Very large-scale deployment of insurance is increasingly feasible as part of government programmes that target the same communities and individuals, such as social protection programmes. If regulators permit, premiums can be collected through innovative instruments like mobile banking. Innovative technology can help with client identification, targeting and payment systems to reduce fraud and improve timeliness of payouts.

3.5 Participation, transparency and accountability

Successful insurance schemes are based on the inclusive, meaningful and accountable involvement of (potential) beneficiaries and other relevant local level stakeholders – in the design, implementation and review of insurance products – creating trust and providing a basis for local ownership and political buy-in.

Target group ownership and trust are essential for the effective use of insurance as a risk management tool. It is crucial to include the insured and beneficiaries in the design and implementation of insurance solutions and disaster risk reduction activities to ensure products truly work. Participatory approaches to product development can create trust, help with capacity building and make sure that the insurance actually meets the real needs of people at risk, thus creating client value. Using focus groups and workshops as well as frequent interaction based on information dialogues were successfully applied in some of the analysed schemes. It is also important to include potential beneficiaries at the macro level, particularly in the development of contingency plans.

There are multiple avenues to reach beneficiaries, and in cases where reaching individuals directly is not possible, relevant and entrusted local level stakeholders with established communication channels can be natural aggregators.

Transparency and accountability should be used as guiding criteria for the design and implementation of the schemes. In particular for macro-level schemes, being transparent about how the money that is received in the event of a payout is used to reach and support poor and vulnerable people is important. One way to do this is to make contingency plans prerequisite for insured countries.

ARC contingency planning

The ARC uses contingency/operations planning to ensure that "potential ARC Ltd payouts are used quickly and effectively and that ARC funds reach the most vulnerable populations in an efficient and timely manner" (ARC, 2016). The plans require countries to identify the optimal use of funds from a potential payout with view to the needs of potential beneficiaries and existing national risk management structures. They are developed in collaboration between national governments, in-country partners and the ARC Secretariat. ARC provides contingency planning standards and a guideline manual to its members.

3.6 Economic, ecological and social sustainability

Safeguarding economic, social and ecological sustainability is crucial for the long-term success of insurance schemes.

The analysis of success factors and challenges revealed that the following aspects should be considered for the sustainability of a scheme:

- Provide a long-term perspective on project planning and financing as introducing insurance schemes is a multi-year effort: A lack of long-term planning ultimately impacts the sustainability of the schemes. Reliable flows of money accompanied by a long-term perspective helps to create a safe environment for key actors to engage in.
- Incentivize risk reduction and prevention through the design of the insurance scheme, including risk-based premiums: By pricing risk, insurance can provide an important price signal to incentivize risk-reducing behaviour of individuals and governments. For example, higher insurance premiums will discourage people from living in high-risk areas. Care should be taken, therefore, to not significantly distort insurance prices or market competition, while addressing affordability and accessibility needs.
- Safeguard ecological sustainability: It is important to make sure that insurance schemes do not incentivize practices that are not environmentally sustainable (e.g. high external-input agriculture). As was the case with the U.S. National Flood Insurance Program, "artificially low insurance rates encourage development in ecologically sensitive areas" (Cleetus, 2014). This can lead to an increased risk of flooding and other disasters.
- Ensure the participation and inclusion of women into climate risk insurance policy and programming: Literature provides evidence that women and children are more likely than men to die during disasters. However, it can be concluded from evidence generated from health insurance schemes that adding family members to insurance cover can be expensive, and consequently women and girls are often left out (Churchill and Matul, 2012). Therefore, these particular vulnerabilities should be addressed by a gender analysis that focuses on the inclusion of women and girls in the cover.

The sustainability of a climate risk insurance scheme is inherently tied to many other principles listed in this policy report, such as reliability, affordability and participation. Moreover, without a strong enabling environment that fosters capacity-building, a regulatory framework and supporting data and technology, a scheme cannot be sustainable.

3.7 Enabling environment

It is vital to actively build an enabling environment that accommodates and fosters pro-poor insurance solutions.

An enabling environment is a set of interrelated legal, organizational, fiscal, informational, political and cultural conditions that facilitate the successful development and implementation of an insurance scheme. The criteria for an enabling environment will inevitably be contextual, and thus dependent on the local setting. In the 18 analysed schemes, insurance played a meaningful role in managing climate-related risks under the preconditions of investment in the capacity-building of key stakeholders, appropriate regulatory framework, strong, long-term partnerships and availability of data and technology.

Capacity-building

Support capacity-building to improve the financial and insurance literacy and risk awareness of the insured, local insurers, distribution channels and governments.

Investment in capacity-building measures including training on insurance approaches, financial risk management but also integrated climate risk management including disaster risk prevention and reduction is necessary for the following groups:

- For the insured and beneficiaries: A good understanding of existing risks and how an insurance product works is an essential prerequisite for designing a needs-based product and building trust among potential beneficiaries. Trust is an important element to consider, particularly since payouts (often) do not follow the premium payment immediately. The insured need measures to improve financial literacy, including knowledge of personal financial issues, improved skills to manage personal finances, and the confidence to make sound financial decisions, such as building up savings, protecting themselves against risk and investing prudently. Capacity-building should also improve their understanding of risk management. Measures need to be tailor-made for adult learners with low written literacy in order to facilitate access for vulnerable societies.
- For local primary insurers: Local primary insurers may need capacity in catastrophe risk modelling to price risk-adequate premiums. At the same time building awareness and informing potential clients about insurance in developing countries is a time-consuming and difficult process. Local primary insurers need the skills to access new beneficiary groups and the financial institutions that serve them (microfinance institutions, credit unions, etc.), as well as capacity to manage claims and payments.
- For delivery channels: Potential delivery channels like NGOs, rural agricultural banks and microfinance institutions benefit from capacity-building to identify the needs of clients, estimate demand and ensure the effective delivery of risk management services.
  They also need knowledge in marketing, enrollment and claims management assistance.
- For governments: It is necessary for governments to build capacity in producing required data (socio-economic, losses, exposure, etc.), modelling weather risk, operational capacity and expertise, developing financial protection strategies, and systematically integrating data into sound policymaking.

Adjusting capacity building to the needs of the clients

The analysed schemes revealed the importance of using capacity building tools that respond to the needs of the target group and are suitable to educate clients with low written literacy about the complexity of index insurance. Ways to approach this included using educational games, videos, radio programs, posters and leaflets. Moreover, using technology through e-learning and m-learning platforms has shown to reduce the costs for reaching clients in remote locations, while increasing efficiency at the same time.

In Saint Lucia, MCII worked with a local partner to promote the LPP through a series of street theatre plays. Shows were performed in the local Creole dialect and held at local fairs and festivities to explain how the product works and what the benefits to clients were. Shows even featured the local primary insurer who took an active part in the public awareness activities.

Regulatory and legal frameworks

Strengthen regulatory and legal frameworks that govern the market, support the effective functioning of the scheme, and allow growth by actively working with national governments and regulatory agencies.

Successful climate risk insurance schemes need laws and regulations to accommodate the development and use of the product, providing legal parameters that guide the policy infrastructure of the scheme and set guidelines for the operations of the stakeholders involved. Insurance regulations must also ensure that the scheme is transparent and accountable and that it protects the policyholders' rights. Enforceable contracts that insurers and policyholders can trust as well as guidelines for insurance licensing and operations are imperative for climate risk insurance and are preconditions for the engagement of insurers. Reputable insurers will not engage without regulatory frameworks and guidelines for insurance licensing and operations.

It is important to actively work with national governments and regulatory agencies to develop and strengthen legal and regulatory frameworks that govern the market, support the effective functioning of the product, and allow it to grow. In this context it is important to engage with government ministries and national and local regulators, which can provide technical and capacity-building assistance for example in designing contract conditions for insurance products. To particularly accommodate insurance products for the poor and vulnerable, governments can incentivize industry sector participation through tax exemptions on products for poor people. A regulatory environment can also facilitate and support the role of donors and reinsurance actors, as well as provide a space for important regulation workshops where international actors can convene and share experiences.

A regulatory framework should also include policies and measures for risk reduction and adaptation that reduce the exposure to risks, which can in turn indirectly reduce premiums. These include risk assessment, early warning systems, sector-specific risk reduction plans and national adaptation strategies, and also land-use planning, solid waste management, policies against deforestation. Governments can strengthen the provision of relevant data including hazard, asset exposure, agricultural production and market demand assessments.

Strong, long-term partnerships with complementary roles

Promote strong, long-term partnerships, in particular public–private partnerships, which foster a clear allocation of roles.

Partnerships and networks, often between the public and private sector, have been identified as a success factor for the development and operation of schemes. Experts stress the importance of having different partners with expertise who are trusted and have knowledge of the country. A multi-stakeholder engagement strategy can facilitate sharing information and planning. Clear agreements on the roles and responsibilities of each organization and/or individual partner are necessary to mitigate issues and avoid competition between partners. Timescales of the stakeholders may be very different, for example the planning horizons of politicians, insurance managers, community leaders, NGOs, etc. may differ from one another. A clear understanding of time needed and an agreement on time plans is crucial.

Strong, long-term partnerships are key for ensuring the sustainability of insurance products. Some of the key actors in these partnerships are:

- Local governments and their agencies: The involvement of governments and their ministries and their environmental agencies is key to political buy-in, ownership and integration of the insurance approaches in national planning, policies and regulations (such as consumer protection). Examples include: ministries of finance, development, social protection or agriculture; disaster management and meteorology agencies. Governments moreover play an important role in supporting the insurance scheme through regulation and rule-setting, provision of relevant data, consumer protection by supervision, public finance, risk reduction and support for market infrastructure. They can set incentives that facilitate insurance provision across a range of programmes, including social protection and risk management, education and agriculture. The analysed schemes from the Study (see box, p. 13) show that a 'national champion' to implement the project increases the success rate of a product.
- (Local) insurers and reinsurers: The risk management expertise of the private sector, both domestically and internationally, must be utilized to assess risks, design viable insurance products and reach beneficiaries through effective distribution channels. The private sector can contribute necessary resources to set up insurance schemes like risk capital, data service and risk structuring.
- Civil society and other support organizations can help engage the target group, build capacity through training and education, build trust with financial intermediaries. Organizations and structures that have deep roots within the local context are favourable partners (e.g. civil society organizations, mutuals, local associations and savings groups, local banks).
- Development cooperation partners play important facilitative role by providing technical and financial support with product design and implementation. They can engage in the capacity-building effort and play a vital role in linking on-the-ground experience from NGOs to decision-making at the policy level. Moreover, these partners can provide capitalization for data infrastructure, refinancing for accompanying adaptive investments and support for delivery channels.
- Academia and other experts: Experts from academia and other relevant organizations can provide much needed know-how. Research institutions can help to provide data and weather information to monitor and evaluate scheme governance and implementation. Analyses also found that a complementary research process based on a locally based knowledge hub of experts was a major success factor.

Successful insurance schemes are often built on strong public–private partnerships with a clear allocation of roles between the two actors. Such partnerships are particularly important in developing countries where high start-up costs and the unavailability of data make pure market-based solutions infeasible. Public–private partnerships should be guided by the availability and expertise of the two sides and governments must avoid the crowding out of the private sector. While the public sector can support the development of the necessary infrastructure for insurance products, e.g. creating a legal and regulatory framework and data infrastructure, the private sector can focus on carrying the risk or part of the risk, designing and implementing good insurance products and delivering payments. It is important that both actors find a balance between commercial and social objectives in order to best reach the target group.

Public–private partnership as a success factor of IBLIP

The Index-Based Livestock Insurance Project (IBLIP) in Mongolia was first introduced in 2006 and provides herders with insurance through partnering with local private insurance companies. Insurance protects herders from climate-related losses to their livestock. With IBLIP there is a risk-layering approach to holistic risk management, combining self-insurance, market-based insurance and a social safety net. Herders only bear the costs of small losses that do not affect the viability of their business; larger losses are transferred to the private insurance industry and the final layer of catastrophic loss is borne by the Government of Mongolia. The combination of the public disaster response product (a social safety net for herders offered by the government) and the private base insurance product (commercial product sold by private companies) proved to be highly successful for IBLIP.

Data and technology

Invest in freely accessible data and technology as well as hazard/weather monitoring infrastructure, which are essential for effective and efficient design and implementation as well as for ensuring the uptake, distribution and payout of insurance products.

Data and technology are an integral component in the enabling environment. To design insurance products, insurers need accurate data on historical weather events and good geographical data for the areas in which the insurance products should be placed. Beyond that, they also need data on potential policyholders and their needs. A lack of reliable data, high costs of data and poor data quality and quantity were all issues identified by several of the schemes analysed. Mass-market players will not engage without the assurance of good data on risk for pricing contracts and reliable and timely data on index values in order to settle contracts in a timely fashion (Hess and Hazell, 2009).

It is important to help countries to understand the risks, possible solutions and the costs of climate change. Therefore, building an infrastructure of weather stations to systematically cover the area of the insurance is crucial. Skills and the proper tools and technology are required to conduct accurate mapping of hazards and to effectively collect and maintain the data and make it available quickly after a loss event. Increasing the capacity of public infrastructure and working with the public sector and other relevant actors (e.g. national meteorological services) is important (Hazell et al., 2010).

Moreover, access to basic financial services is a key prerequisite for climate risk insurance uptake, effective distribution and payout. Access to technological services such as bank accounts, ID cards, mobile phone networks and other basic services is an important supplement in this regard.

4. Recommendations

The relevance of insurance as a tool within comprehensive climate risk management has been recognized by policymakers around the world and is now anchored in major international policy agendas. Climate risk insurance can support poor and vulnerable people in a concrete way in finding climate-resilient development pathways. However, research shows a strong need for guidance and careful planning and implementation in order for this to be successful. The results presented in this policy report, and the Pro-Poor Principles for Climate Risk Insurance in particular, are MCII's contribution to supporting and guiding current and future efforts in reaching and benefiting the poor and vulnerable with insurance.

Well-designed climate risk insurance, embedded into comprehensive risk management, can contribute to alleviating poverty and building resilience for poor and vulnerable people

The Study (see box, p. 13) showed that insurance, embedded into comprehensive risk management, can contribute to improving capacities that are imperative to making people more resilient to climate change impacts – namely anticipatory, absorptive, and adaptive capacities. It can protect people against climate shocks by providing timely finance that improves financial liquidity after a disaster, playing a role as a safety net and buffer for people and countries shortly after a catastrophic event. Insurance can promote opportunities by helping to lessen financial repercussions of volatility and, in the longer term, creating a space of certainty within which investments, planning and development activities can be undertaken. In this way, it can help to unlock opportunities which

might allow people to escape from poverty traps or from the threat of them. Insurance has the potential to catalyse other elements in the process of comprehensive risk management that are also necessary to build resilience – risk assessment in particular. Moreover, insurance can stimulate transformation by incentivizing risk reduction behaviour and fostering a culture of prevention-focused risk management. However, thorough assessments should be conducted to assess applicability, and other options should be explored. Generally, insurance should only be applied for medium to high-severity events with low frequency. Insurance options can support adaptation and risk resilience for extreme weather, but are not appropriate for gradually manifesting climate-induced impacts.

The relevance of insurance as a tool within comprehensive climate risk management has been recognized by relevant policy-makers and practitioners around the world. However, insurance for the poor – microinsurance, climate risk insurance, etc. – is a relatively new tool. Many pilot insurance schemes exist; some are only a few years old, and others have been in operation for over a decade. While many schemes remain in pilot phases and others continue to look for ways to scale up, the need is greater than ever for stakeholders from all sectors to come together and share insights and experiences. This will help to ensure that climate risk insurance efforts effectively contribute to the ultimate objective of comprehensive risk management: supporting poor and vulnerable people in finding climate-resilient development pathways.

The Pro-Poor Principles provide an evidence-based guide to reaching and benefiting the poor and vulnerable with climate risk insurance

The Pro-Poor Principles for Climate Risk Insurance presented in this policy report were derived from an in-depth research process, analysing 18 climate risk insurance schemes. The analysis revealed distinct factors for success and an enabling environment as well as challenges in targeting and reaching poor and vulnerable populations with climate risk insurance. It could be shown that for insurance schemes to be successful it was crucial:

- To tailor solutions to protect the poor from extreme weather events to local needs and conditions and to embed insurance in risk management strategies that improve resilience.
- To provide reliable coverage that is valuable to the insured to encourage the take-up of insurance products.
- To use efficient and cost-effective delivery channels that are aligned with the local context to ensure sufficient scale.
- To apply measures to increase affordability for poor and vulnerable people in order to promote equity.
- To base the insurance schemes on the inclusive, meaningful and accountable involvement of all relevant actors and stakeholders in the design, implementation and review of insurance products, creating trust and providing the basis for local ownership and political buy-in.
- To safeguard economic, social and ecological sustainability.
- To actively build an enabling environment that can accommodate and foster pro-poor insurance solutions.

Actors designing and implementing insurance products and comprehensive risk management strategies as well as policy-makers can use the principles as guidance to select and support climate risk insurance schemes that meet the principles or to support schemes in meeting the principles.

Creating a business model for climate risk insurance for the poor and vulnerable

Improving access to insurance for the poor and vulnerable requires a combined effort to create a business model for climate risk insurance. A variety of actors will be needed to design and implement insurance solutions that close market gaps, introducing a culture of prevention-focused risk management alongside an active increase in the awareness, knowledge and trust among the potential beneficiaries. Moreover, actors are needed to build an enabling environment that can accommodate and foster pro-poor insurance solutions. And finally international decision makers need to provide guidance and support through international policy frameworks, backed by financial and technical means.

The following box provides an overview of relevant groups of actors in this process.

Source: Authors' own.

Based on the Pro-Poor Principles, the recommendations for these groups of actors were formulated. While many of the recommendations can be applicable to and utilized by various actors, the following boxes of recommendations provide suggestions for starting points that the relevant actors may use to promote, foster and implement climate risk insurance for the poor.

ACTORS RELEVANT FOR INSURANCE DESIGN AND IMPLEMENTATION

- Put the proposed principles into action by using them as a framework for the design of insurance products.
- Design and implement insurance solutions that are needs-based, adjusted to the local content, and are linked to comprehensive risk management strategies that place priority on preventing and reducing losses and damages.
- Implement risk, needs and context assessments to identify the real needs of vulnerable communities with regards to climate risk management and where insurance can fill gaps in existing strategies.
- Incentivize risk reduction and prevention through the design of the insurance scheme, including risk-based premiums, and ensure that insurance schemes do not incentivize practices that are not environmentally sustainable.
- Design insurance products that are nationally and locally driven and owned, are tailor-made to the national/local context, and provide reliable and demand-based coverage.
- Build on natural aggregators which have established successful delivery mechanisms that are efficient and cost-effective.
- Ensure the inclusive, meaningful and accountable involvement of all relevant actors and stakeholders in the design, implementation and review of insurance products.
- Use the Pro-Poor Principles as a minimum bench mark for the monitoring and evaluation of insurance products to learn from past and current efforts and to improve outcomes in the future.

ACTORS RELEVANT TO BUILDING AN ENABLING ENVIRONMENT

Recommendations for governments and their agencies and donors

- Foster nationally and locally driven and owned schemes that are tailor-made to the national/local context and linked to traditional risk management approaches.
- Provide a long-term perspective on project planning and financing; introducing insurance schemes is a multi-year effort.
- Maximize the impact of climate risk insurance within national strategies by using the Pro-Poor Principles as a guide.
- Embed insurance into comprehensive risk management and resilience-building strategies, acknowledging that it is only one step in a systematic process that places priority on preventing and reducing losses and damages.
- Provide smart premium support that is reliable, flexible and long term, that distorts incentives as little as possible, and that makes the client aware of the true risk costs.
- Strive to indirectly reduce premiums by investing in risk reduction measures and an enabling environment.
- Invest in tech-leveraged secure client identification and targeting and payment systems to reduce fraud, and improve the timeliness of payouts.
- Support capacity-building to improve the financial and insurance literacy and risk awareness of the insured, local insurers, distribution channels and governments.
- Strengthen regulatory and legal frameworks that govern the market, support the effective functioning of the scheme, and allow growth by actively working with national governments and regulatory agencies.
- Promote strong, long-term partnerships, in particular public–private partnerships, which foster a clear allocation of roles.
- Invest in freely accessible data and technology as well as hazard/weather monitoring infrastructure, which are essential for effective and efficient design and implementation as well as for ensuring the uptake, distribution and payout of insurance products.

Recommendations for researchers

The research process also identified challenges with regards to the evaluation of the long-term impact of climate risk insurance. The following research gaps should be addressed in the near future:

- What are the key, long-term factors that determine the positive impact of insurance on reducing vulnerability and contributing to resilience-building?
- Are there negative impacts of insurance on resilience-building activities and how can these be circumvented?
- What are possible impacts of insurance on risk reduction activities and behaviour?
- What are further opportunities for innovation and synergies between insurance and social protection mechanisms?
- What are the most effective ways to integrate insurance in broader resilience-building activities?

INTERNATIONAL DECISION MAKERS

- Establish international norms on pro-poor insurance solutions by, for example, agreeing on the Pro-Poor Principles and using them as standard for drafting operational policies that guide the way forward in climate risk insurance.
- Support the building of an enabling environment that can accommodate and foster pro-poor insurance solutions is a key success factor.
- Promote solidarity and human-rights-oriented insurance schemes that respond to concerns of equity.
- United Nations Framework Convention on Climate Change (UNFCCC): Use the principles as an orientation for decisions on climate risk solutions in political bodies such as the UNFCCC Warsaw International Mechanism for Loss and Damage (WIM). The principles are particularly relevant with regards to the work on establishing a clearing house for risk transfer and activities within the (to be defined) five-year rolling work plan of the Executive Committee of the WIM.
- G7: Agree on the principles as a normative framework for the InsuResilience Initiative and use them as a benchmark for monitoring and evaluation.
- G20: Use the principles as a normative framework for decisions on climate risk insurance.

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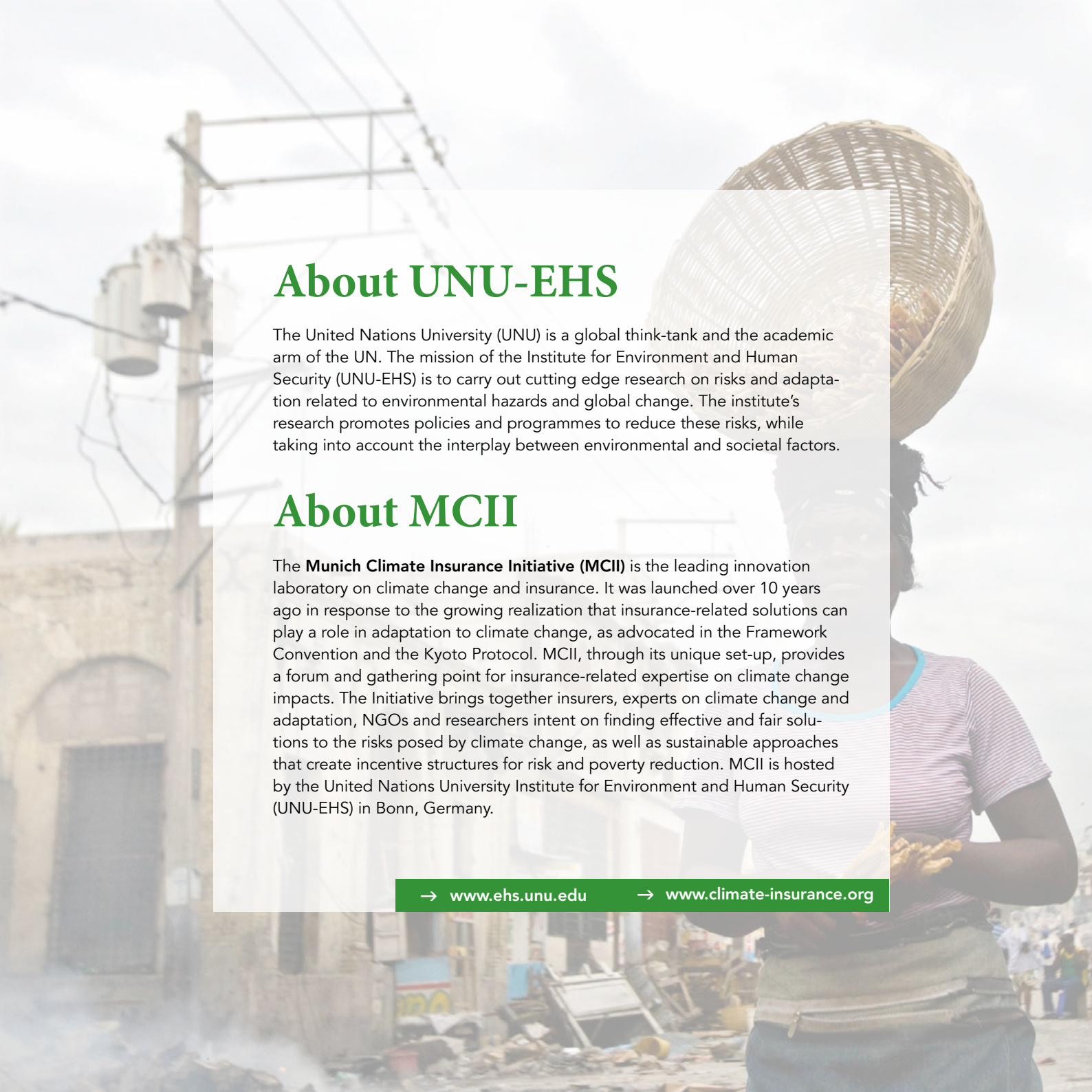

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The United Nations University (UNU) is a global think-tank and the academic arm of the UN. The mission of the Institute for Environment and Human Security (UNU-EHS) is to carry out cutting edge research on risks and adaptation related to environmental hazards and global change. The institute's research promotes policies and programmes to reduce these risks, while taking into account the interplay between environmental and societal factors.

About MCII

The **Munich Climate Insurance Initiative (MCII)** is the leading innovation laboratory on climate change and insurance. It was launched over 10 years ago in response to the growing realization that insurance-related solutions can play a role in adaptation to climate change, as advocated in the Framework Convention and the Kyoto Protocol. MCII, through its unique set-up, provides a forum and gathering point for insurance-related expertise on climate change impacts. The Initiative brings together insurers, experts on climate change and adaptation, NGOs and researchers intent on finding effective and fair solutions to the risks posed by climate change, as well as sustainable approaches that create incentive structures for risk and poverty reduction. MCII is hosted by the United Nations University Institute for Environment and Human Security (UNU-EHS) in Bonn, Germany.

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