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A photograph of several colorful rickshaws being pedaled through a flooded street in an urban area. The water is murky brown. The rickshaws have vibrant, patterned canopies. The background shows buildings and other people, suggesting a busy, low-income neighborhood.

CLIMATE RISK INSURANCE FOR RESILIENCE:  
ASSESSING COUNTRIES' IMPLEMENTATION PLANS

**REPORT**  
**NO. 23**

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# **CLIMATE RISK INSURANCE FOR RESILIENCE: ASSESSING COUNTRIES' IMPLEMENTATION PLANS**

An analysis in the context of NDCs (Nationally Determined Contributions)  
and policy recommendations

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# Abbreviations

<b>COP</b>	Conference of the Parties
<b>GCF</b>	Green Climate Fund
<b>GDI/DIE</b>	German Development Institute/Deutsches Institut für Entwicklungspolitik
<b>GEF</b>	Global Environment Facility
<b>LDC</b>	Least Developed Country
<b>MCII</b>	Munich Climate Insurance Initiative
<b>NAP</b>	National Adaptation Plan
<b>NARF</b>	National Agricultural Resilience Framework (Nigeria)
<b>NDC</b>	Nationally Determined Contribution
<b>SEI</b>	Stockholm Environment Institute
<b>SIDS</b>	Small Island Developing States
<b>UNFCCC</b>	United Nations Framework Convention on Climate Change





Figure 1: The NDC explorer – the leading visualization tool for countries' climate pledges – now featuring a global overview on climate risk insurance.

Source: Pauw and others, 2016.

This report provides for the first bottom-up assessment of countries' articulated demands over climate risk insurance in their climate policy pledges as part of the Paris Agreement. It is the result of a collaboration between the Munich Climate Insurance Initiative (MCII) and the German Development Institute (GDI/DIE). In conjunction with the launch of this report,

the NDC Explorer – the leading interactive online visualization tool on countries' commitments to the Paris Agreement – is to be updated to capture countries' intended policies on climate risk insurance. Please visit the NDC explorer at:

<http://www.klimalog.die-gdi.de/ndc/>

# Executive Summary

## CLIMATE RISK INSURANCE FOR RESILIENCE

### MESSAGE 1

Well-designed climate risk insurance, embedded into comprehensive risk management, can contribute to alleviating poverty and building resilience for poor and vulnerable people. It can contribute to improving key capacities that are imperative for reducing poverty and making poor and vulnerable people more resilient. These include anticipatory, absorptive, and adaptive capacities.

### MESSAGE 2

Climate risk insurance 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 and can stimulate transformation by incentivizing risk reduction behaviour and fostering a culture of prevention-focused risk management.

### MESSAGE 3

Although climate risk insurance is a beneficial and effective tool in a lot of cases, experience reveals multiple limitations of insurance: it is not applicable for all types of risk, does not directly prevent or reduce the likelihood of damage and fatalities from extreme weather events and does not cover all losses. Potential un-insurability associated with increasing

frequency and magnitude of extreme weather events poses an additional limitation. Moreover, it is not always the most cost-effective approach. When and how to apply insurance within comprehensive risk management can be guided inter alia by analysis on cost-benefit ratios and a risk-layering approach.

## BOTTOM-UP ANALYSIS OF CLIMATE RISK INSURANCE IN NDCS

### RESULT 1

Climate risk insurance is a priority area for countries in order to implement the adaptation goal of the Paris Agreement at national level: overall 38 countries mention climate risk insurance approaches in their Nationally Determined Contributions (NDCs). In addition, another four countries feature the topic in their more elaborated National Adaptation Plans (NAPs). Together these countries represent more than 4 billion people, including approximately half of the world's extreme poor (defined as those living on less than \$1.90 a day). Climate risk insurance is mentioned in various forms – on an objective level, in terms of priority action and in view of international cooperation needs (including financing).

### RESULT 2

Climate risk insurance is featured in various forms in the NDCs. Most countries seek to enhance their climate risk insurance capabilities at the national level (26 countries). Thirteen

countries want to upscale existing climate risk insurance schemes as part of the implementation of the Paris Agreement. Some countries raised specific needs to access global or regional risk management facilities.

### RESULT 3

There are different pathways to foster climate risk insurance markets at the national level. Countries mostly raised specific implementation plans in relation to the agriculture sector and food-security objectives (in total 27 countries), but other sectors such as infrastructure, fisheries, coastal and rural areas, livestock and health were stated, too. Some countries specifically raised the need to develop catastrophic-risk insurance. Four countries included the objectives to especially benefit vulnerable groups and smallholder farmers. Seven countries stated climate risk insurance solutions at a general level – including, in some instances, climate literacy campaigns to national insurance stakeholders, or generally increasing government capacities around climate risk management and insurance.

### RESULT 4

Climate risk insurance needs are raised across different levels of development, regions and political groupings. Both poor countries (a total of 12 countries in the World Bank low-income category), lower-middle-income countries (18) and upper-middle-income countries (six), as well as high-income countries (four), define climate risk insurance as a national implementation option. A total of 19 Least Developed Countries and seven Small Island Developing States (SIDS) raise the issue. There is a significant demand from countries of the Climate Vulnerable Forum<sup>1</sup> (in total 15) formulated in their NDCs and NAPs.

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<sup>1</sup> The CVF is a global partnership of countries disproportionately affected by climate change, <https://thecvf.org/>

### RESULT 5

Countries raise specific cooperation and support needs to fulfil the adaptation and loss-and-damage-specific commitments in their NDCs. This includes agreements that stimulate investments, technology transfer and the creation of capacity. Countries request receiving international support, including through the Green Climate Fund (GCF), the Global Environment Facility (GEF), the Adaptation Fund and other multilateral as well as bilateral agencies. The majority of the ‘insurance countries’ refer to insurance schemes in sections such as Adaptation Strategies/Plans/Actions/Objectives, while the rest of the NDCs mention insurance under Means of implementation.

### RESULT 6

Climate risk insurance mentioned in the context of NDCs is a signal of political will on the part of implementing countries. Further information, analysis and strategies are necessary, however, to fully guide the international community on the implementation of such approaches at the national level. This could take the form of specific Climate Risk Management Strategies (for example as part of the National Adaptation Planning Process) detailing implementation plans.

## RECOMMENDATIONS TO ADVANCE THE CLIMATE RISK INSURANCE AGENDA

### RECOMMENDATION 1

Bilateral and multilateral initiatives should strive for broadened impact of climate risk insurance approaches through increased support for climate risk insurance mechanisms; improved accountability of the pro-poor focus of existing initiatives and





the institutionalization of a partnership at the global level on climate risk insurance to overcome current implementation challenges.

### RECOMMENDATION 2

Countries implementing climate risk insurance approaches need to provide the enabling conditions at national level (among others: data provision, regulatory and supervisory frameworks, capacity development of key institutions and insurance literacy campaigns, and strengthened social safety nets); develop climate risk management strategies to better guide climate risk insurance implementation and further detail climate risk insurance concepts as part of the next NDC iteration. The human rights approach to identify and empower the people most at risk in terms of their basic human rights (for example food, water, health) should be supported.

### RECOMMENDATION 3

United Nations Framework Convention on Climate Change (UNFCCC) decision-makers should set up support structures for pro-poor climate risk insurance approaches through the UNFCCC process. As part of this it is necessary to:

- Fully operationalize the Risk Transfer Clearing House as the central go-to place on climate risk insurance
- Establish international guidance on Integrated Climate Risk Management approaches, and to initiate further steps to enhance action and support for climate risk insurance







# 1. Introduction

Climate change is altering weather extremes around the globe. The years 2016, 2015 and 2014 all struck global records for the warmest recorded average global temperatures. 2017 has seen an extraordinary hurricane season in the Atlantic basin; El-Niño- and La-Nina-linked drought conditions have led to spiking rates of food insecure people in Southern and Eastern Africa; and intense precipitation events in China, Bangladesh and India as well as Western Africa have resulted in loss of life in the thousands, especially among vulnerable populations.

The Paris Agreement is one of the major multilateral successes in recent history. It provides the guardrails for countries' individual climate policies to stabilize planetary climate change to well below 1.5°C – 2°C of warming compared to the pre-industrial age. The Paris Agreement – together with other international frameworks like the Sendai Framework, the Sustainable Development Goals, and initiatives such as the Group of 7 InsuResilience – pushes a shift in political narratives away from an attitude of coping with impacts in an ex-post fashion to managing climate risks in a more anticipatory manner. Climate risk insurance, if applied in the right way, can become one of the key strategies to implement this shift (Schaefer and others, 2016).

However, the Paris Agreement is only as good as its national implementation and uptake. The coming years will be decisive to initiate a transition to zero-emission economies that are resilient against the increasing burden of climatic shocks. The NDCs provide the starting point, reflecting countries' political ambitions as well as an analysis of international cooperation



needs (including, for example, support).<sup>2</sup> This report analyses the current status of NDCs' potential for climate risk insurance approaches. It will be used to distill the documented needs of countries' climate risk insurance for their NDC implementation, especially to enhance resilience-building capacities in various sectors towards climate-related impacts such as extreme weather events and disasters caused by natural hazards.

The analysis provides a useful signpost for implementation initiatives world-wide, including InsuResilience<sup>3</sup> and the Global Partnership for Climate and Disaster Risk Finance and Insurance Solutions, which was recently acknowledged by the Group of 20.<sup>4</sup> It should also inform the further operationalization of UNFCCC institutions and policies, especially the loss-and-damage work-stream, including the five-year rolling work plan of the Warsaw International Mechanism and the set-up of the Clearing House for Risk Transfer.

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<sup>2</sup> For further information see [http://unfccc.int/focus/ndc\\_registry/items/9433.php](http://unfccc.int/focus/ndc_registry/items/9433.php)

<sup>3</sup> InsuResilience is the commitment of the Group of 7 in Elmau in 2015 to seek direct or indirect insurance coverage for an additional 400 million poor and vulnerable people in developing countries by 2020, see <http://www.insuresilience.org/>

<sup>4</sup> See the G20 Hamburg Climate and Energy Action Plan for Growth [http://www.g20.org/Content/DE/\\_Anlagen/G7\\_G20/2017-g20-climate-and-energy-en.pdf](http://www.g20.org/Content/DE/_Anlagen/G7_G20/2017-g20-climate-and-energy-en.pdf)







## 2. Climate Risk Insurance as a policy option for resilience

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 (Schaefer and others, 2016).

Based on the analysis of 18 already-existing insurance schemes, Munich Climate Insurance Initiative (MCII) research found that: well-designed climate risk insurance schemes, embedded into a wider risk management approach, 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. Insurance can contribute to increasing these key capacities, both ex-ante and ex-post, in four ways:

### **Protecting – A buffer and safety net through timely finance**

Insurance plays an important role as part of contingency strategies. 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 (Warner and others, 2012). Under these circumstances, insurance can help the insured to better-absorb shocks, as they

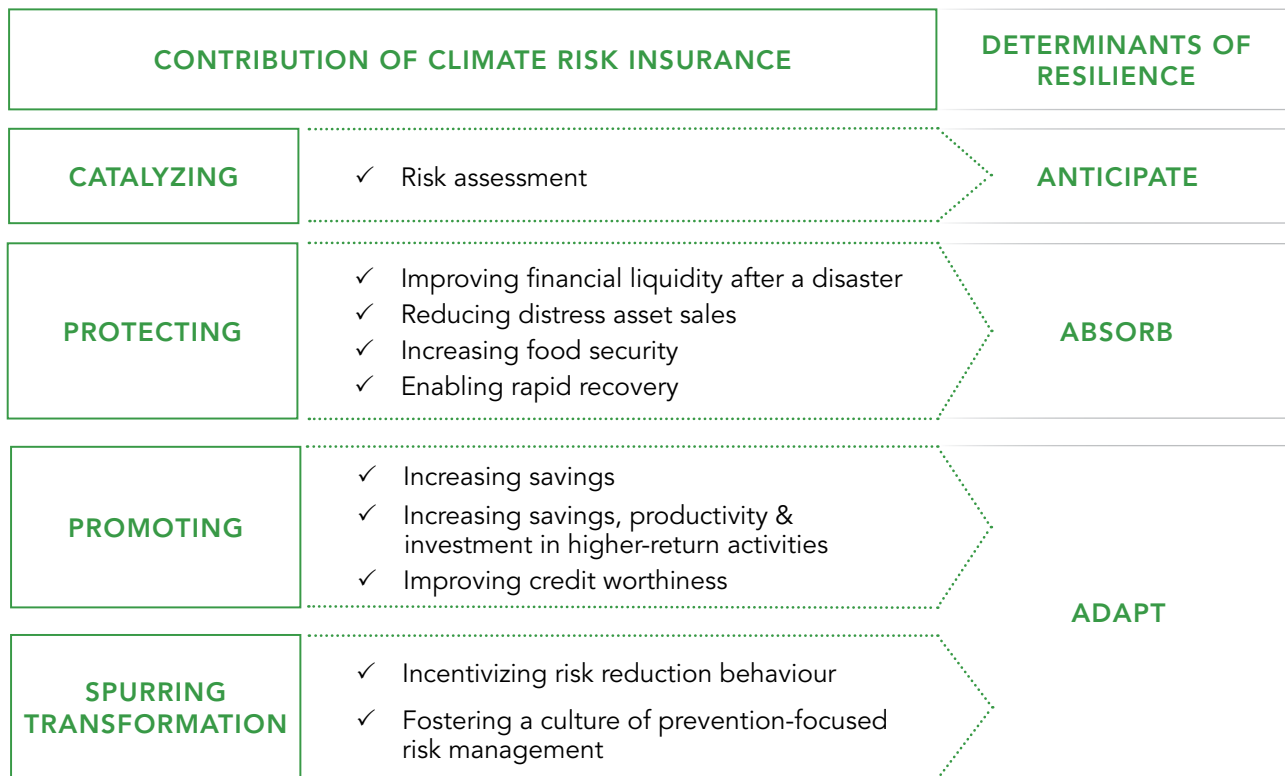


Figure 2: Pathways to resilience: The role of climate risk insurance

Source: Schaefer and others, 2016.



may not have to resort to coping strategies that might impede sustainable development. Timely and reliable payouts enable households to protect their livelihoods when a disaster strikes: they can help individuals to cover losses and damage, stabilize their income, purchase food and other necessities, and avoid costly asset depletion – ultimately allowing people to choose alternative means of coping with negative shocks (Suarez and Linnerooth-Bayer, 2011). There is significant evidence that insurance tools can help people to reduce distress asset sales and to increase food security, both enabling faster recovery after a shock. Based on timely finance, insurance can also help to avoid business interruptions, fiscal deficits and post-disaster loans (for example the payout received by Caribbean governments from CCRIF following the passage of storm Tomas).<sup>5</sup> By reducing the residual risk that could not be reduced by measures already taken, insurance can help lessen the financial repercussions of volatility and, in the longer term, help people to adapt to climate change. Insurance is an adaptation measure when it reduces the burden of climate impacts, risks and vulnerabilities, if not the average loss (Linnerooth-Bayer and others, 2010). The given examples illustrate clearly how ‘quick and sufficient’ payouts are key for insurance to realize its potential within a contingency strategy. A poorly designed insurance product that neither covers a sufficient amount of the damage nor provides incentives for risk reduction behaviour might lead to perverse incentives and increase the risk of people slipping (back) into poverty or staying poor.

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

Insurance-related approaches, in combination with a wide range of others at local, national, regional and international levels, can contribute to creating a space of certainty within which improved ex-ante decision-making is possible. By creating a secure investment environment, insurance instruments can enable productive risk-taking on the part of individuals and governments, and in this way contribute to mitigating disaster-induced poverty traps and fostering climate-resilient development (Warner and others, 2012). 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 and others, 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 (Lester, 2014). However, we need to note that in all of the cases examined, it was not insurance alone but the interplay of insurance with other risk management activities and social protection tools that improved opportunities and created incentives. Without this relationship, supporting investment in higher-risk activities might also lead to maladaptation 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, and thereby increase vulnerability to extreme events.

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<sup>5</sup> Caribbean governments received a \$12.8 million insurance payout from CCRIF following storm Tomas, 2010, see <http://www.ccrif.org/news/caribbean-governments-receive-us128m-insurance-payout-ccrif-following-passage-tomas>

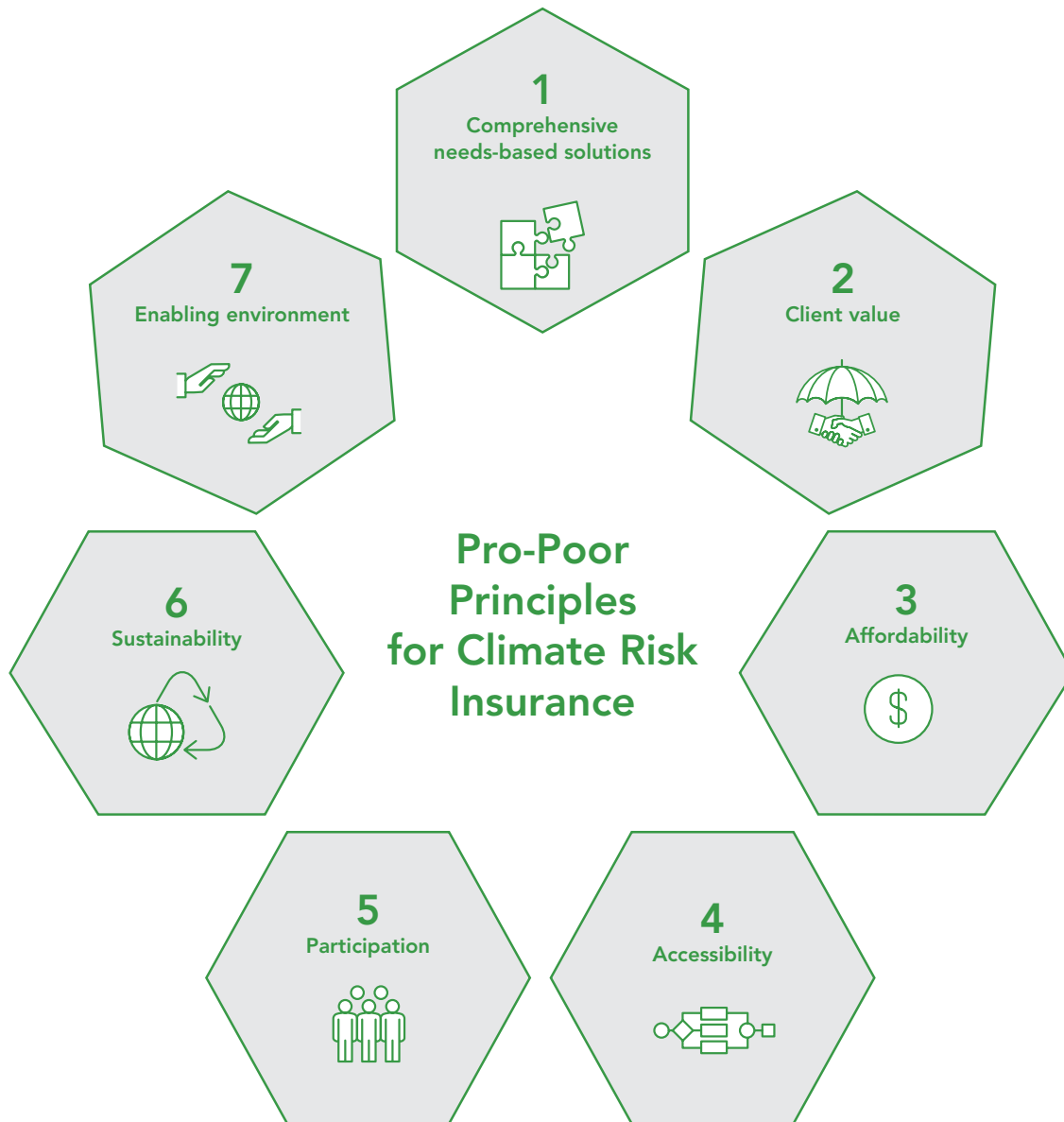


Figure 3: Seven principles for pro-poor climate risk management. Source: Schaefer and others, 2016

Source: Schaefer and others, 2016.

## BOX 1: PRO-POOR PRINCIPLES FOR CLIMATE RISK INSURANCE

Based on the analysis of 18 existing climate risk insurance schemes (both direct and indirect) and interviews conducted with experts from the fields of insurance, climate change adaptation, disaster risk reduction and climate risk management, MCII distilled seven Pro-Poor Principles for Climate Risk Insurance. The principles can guide climate risk insurance schemes before and during operations and are a key component for establishing solidarity-oriented insurance schemes and responding to concerns of equity.

### Catalysing – Assessing the risk of loss and damage

Assessing the risk of loss and damage is a prerequisite for identifying needs and policy priorities. Risk assessment brings attention to the hazard potential, to exposure and vulnerability, and in this way can raise awareness and expose new options for managing the risks (Warner and Spiegel, 2009). Publicly collected and open-source data and risk assessments, as well as open-source hazard modelling, can contribute meaningfully to national and regional risk management and investment decisions. However, risk assessments are often not performed in developing countries (Collier and others, 2009). Being the precondition for calculating premium levels for policyholders, risk assessment is a vital part of insurance. Accordingly, insurance can be one way to facilitate regional and international data analysis – such as establishing data standards, methods and data repositories – and can therefore be a catalyst for risk assessment.

### Spurring transformation – Reshaping the way risks are managed

Increasing risk of extreme weather events driven by climate change strengthens the need for a more forward-looking

approach to disaster risk management, with greater focus on reducing risk before a disaster strikes. Moving away from purely ex-post responses, actors need to manage risk proactively, before a disaster strikes. Insurance can set incentives to manage risk proactively and ex-ante. Through the technical risk pricing of contracts, insurance can provide valuable information for societal and economic actors in understanding the risks and how risk cost may be changing. In an ideal scenario, insurance thereby incentivizes risk reduction behaviour, for example by making it a prerequisite for reducing premiums or by providing the option for people to work for their insurance cover by engaging in community-identified projects to reduce risk and build climate resilience. 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).

Yet, insurance has more than one means to incentivize proactive risk management. At the political level, we see that requesting contingency planning as an eligibility criterion 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 (Schaefer and Waters, 2016).





### 3. Implementing the Paris Agreement: What NDCs say about climate risk insurance

Governments have a central role to play in order to implement climate risk insurance approaches that help countries to better anticipate, absorb and adapt to changing climate parameters. The NDCs are the centre-pin of the climate agenda and will be for the following years. They cover a broad suite of countries, with currently 165 having submitted NDCs.<sup>6</sup> By analysing the full set of NDCs one can establish the current status of relevance of climate risk insurance from a vulnerable-country perspective, and one can discuss further action – by governments, by multilateral and bilateral initiatives, and by the UNFCCC regime.

#### Bottom-up analysis of NDCs through coding framework

Out of 165 submitted NDCs, 38 were identified as having a relevant reference to insurance schemes related to different kinds of climate risks such as floods and droughts, etc. These 38 countries mentioned in their NDCs keywords such as:

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<sup>6</sup> In some instances countries have not submitted their NDC, while they did submit an intended NDC (INDC) prior to COP21 in Paris. In these instances we included them in our analysis.

## BOX 2: METHODOLOGY

For this analysis, 165 submitted NDCs were analysed for their potential uptake of climate risk insurance mechanisms. First, all submitted NDCs were screened according to specific keywords (i.e. whether keywords were mentioned literally) that are directly related to insurance, or keywords that constitute a common synonym for insurance. For this reason, the following keywords were selected to obtain a pre-selection of potential NDCs: 'insurance', 'risk transfer' and 'risk sharing'. As many NDCs are published in Spanish and French, keywords were accordingly adjusted for the screening. Second, the pre-selected NDCs (with insurance incidents) were scrutinized in terms of the wealth of the detail they contained, applying specific criteria such as 'is insurance mentioned in the context of a specific sector? In addition, the existing NDC Explorer was used to further analyse the selected NDCs by checking insurance-relevant subcategories (for example 'Loss and Damage', 'Disaster Risk Reduction', etc.) from the online database. The NDC Explorer was developed by the German Development Institute and the Stockholm Environment Institute (SEI) in cooperation with the UNFCCC secretariat. The project analysed ambitions and priorities from all submitted NDCs and built a database consisting of 60 subcategories on mitigation, adaptation, finance and support, planning and process, as well as categories that revealed links to international debates such as 'Loss and Damage' under the Warsaw International Mechanism (Pauw and others, 2016).<sup>7</sup>

It is noteworthy that this analysis simply focuses on what NDCs mention, not what the actual financial needs are in reality. For instance, although some countries might not have a reference to insurance schemes targeting climate-related impacts in their NDCs, they do in fact have such a policy in place, whereas other countries might plan the improvement of emergency response mechanisms and consider insurance only as a potential tool. However, if insurance or risk transfer was not directly mentioned in the NDCs, it was not included in this analysis.

*'insurance', 'risk transfer', 'risk sharing', '(l') assurance(s),  
'transferencia del riesgo' and 'seguro(s)'*

Figure 4 (p. 25) as well as Table 1 of the annex gives an overview of the countries including climate risk insurance in their NDCs. In terms of the context of these approaches, we identified three different categories:

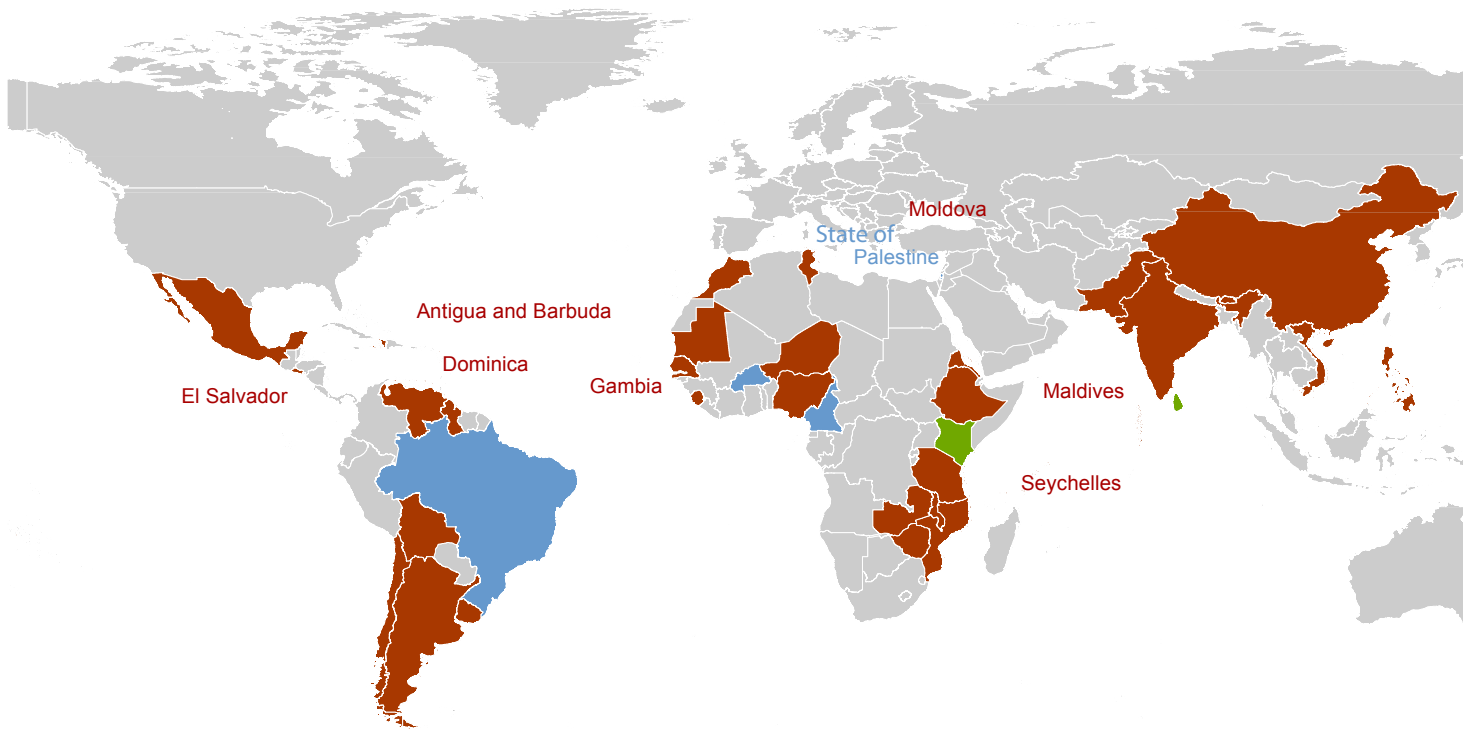
- Climate risk insurance (market) development: Most countries state the desire to develop insurance approaches for specific climate change-related hazards. This includes, in some instances, addressing foundational market barriers, doing concrete product development (especially

index-based insurance products) and conditioning the enabling environments at national level.

- Upscaling existing climate risk insurance schemes: The second category includes countries that plan to upscale existing climate insurance schemes as part of their NDC implementation.
- Access to regional and global risk insurance facility: The last category – and by actual numbers the smallest –

<sup>7</sup> See <http://www.klimalog.die-gdi.de/ndc>





**Countries including climate risk insurance in their:**

- Nationally Determined Contribution (NDC)
- National Adaptation Plan (NAP)
- NDC + NAP
- No Statement in NDC/NAP

Figure 4: Countries featuring climate risk insurance as an element of their NDC or National Adaptation Plan

Source: Authors' own

includes countries that specifically ask for access to regional and global risk-sharing mechanisms.<sup>8</sup>

We also analysed the context in which insurance was mentioned in the respective NDCs. This included the relevant sector (for example agriculture, infrastructure, etc.) as well as any specification on the target groups of the proposed climate risk insurance initiatives.

In implementing adaptation action at national level, the Paris Agreement is not limiting countries to only communicate their adaptation needs as part of the NDC process. Rather it also endorses countries to work with National Adaptation Plans – an instrument which was created at the 16th Conference of the Parties (COP16) in Cancun and for which there is considerable support in terms of technical guidance available.<sup>9</sup> Following a similar coding effort as with the NDCs – Table 2 of the annex shows countries that mention climate risk insurance as part of their NAPs.

## KEY INSIGHTS FROM THE ANALYSIS

### RESULT 1

Climate risk insurance is a priority area for countries in order to implement the adaptation goal of the Paris Agreement at national level: overall 38 countries mention climate risk insurance approaches in their NDCs. In addition, another four countries feature the topic in their more elaborated National Adaptation Plans. Together these countries represent more than 4 billion people, including approximately half of the world's extreme poor (defined as those living on less than \$1.90 a day). Climate risk insurance is mentioned in various forms – on an objective level, in terms of priority action and in view of international cooperation needs (including financing).

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<sup>8</sup> This includes, for example, access to the African Risk Capacity. For specific barriers see [http://www.climate-insurance.org/fileadmin/user\\_upload/20170316\\_MCII\\_G20\\_Position\\_2017.pdf](http://www.climate-insurance.org/fileadmin/user_upload/20170316_MCII_G20_Position_2017.pdf)

<sup>9</sup> See [http://unfccc.int/adaptation/workstreams/national\\_adaptation\\_plans/items/6057.php](http://unfccc.int/adaptation/workstreams/national_adaptation_plans/items/6057.php)

### RESULT 2

Climate risk insurance is featured in various forms in the NDCs. Most countries seek to enhance their climate risk insurance capabilities at the national level (26 countries). Thirteen countries want to upscale existing climate risk insurance schemes as part of the implementation of the Paris Agreement. Some countries raised specific needs to access global or regional risk management facilities.

### RESULT 3

There are different pathways to foster climate risk insurance markets at the national level. Countries mostly raised specific implementation plans in relation to the agriculture sector and food security objectives (in total 27 countries), but other sectors such as infrastructure, fisheries, coastal and rural areas, livestock and health were stated, too. Some countries specifically raised the need to develop catastrophic-risk insurance. Four countries included the objectives to especially benefit vulnerable groups and smallholder farmers. Seven countries stated climate risk insurance solutions at a general level – including, in some instances, climate literacy campaigns to national insurance stakeholders or generally increasing government capacities around climate risk management and insurance.

### RESULT 4

Climate risk insurance needs are raised across different levels of development, regions and political groupings. Poor countries (a total of 12 countries in the World Bank low-income category), lower-middle-income countries (18), upper-middle-income countries (six) and high-income countries (four) all define climate risk insurance as a national implementation option. A total of 19 Least Developed Countries (LDCs)

and seven Small Island Developing States raise the issue. There is a significant demand from countries of the Climate Vulnerable Forum<sup>10</sup> (in total 15) formulated in their NDCs and NAPs.

### RESULT 5

Countries raise specific cooperation and support needs to fulfil the adaptation and loss-and-damage-specific commitments in their NDCs. This includes agreements that stimulate investments, technology transfer and the creation of capacity. Countries request receiving international support including through the Green Climate Fund, the Global Environment Facility, the Adaptation Fund and other multilateral as well as bilateral agencies.

The majority of the ‘insurance countries’ referred to insurance schemes in sections such as Adaptation Strategies/Plans/Actions/Objectives, while the rest of the NDCs mentioned insurance under Means of implementation.

### RESULT 6

Climate risk insurance mentioned in the context of NDCs is a signal of political will on the part of implementing countries. Further information, analysis and strategies are necessary, however, to fully guide the international community on the implementation of such approaches at the national level. This could take the form of specific Climate Risk Management Strategies (for example as part of the National Adaptation Planning Process) detailing implementation plans.

#### BOX 3: ZIMBABWE: EARLY WARNING AND INDEX-BASED INSURANCE FOR THE AGRICULTURE SECTOR

Within its NDC, Zimbabwe underlines the importance of climate risk insurance within the section ‘Actions, gaps and barriers’. The major challenges comprise (1) inadequate institutional capacity with regards to timely early warning systems, (2) insufficient grain storage facility capacities, (3) insufficient support services for index insurance, (4) incoherent institutional frameworks (policies) to coordinate disaster risk reduction, and (5) lack of financial resources.

Therefore, Zimbabwe puts emphasis on building resilience towards managing climate-related disasters and risks. In particular, droughts, hail, violent storms/winds, frosts, heatwaves, erratic rainfall and floods are persistent climate-related hazards. In this light, one of the long-term and near-term adaptation visions, goals and targets emphasizes the promotion of climate-indexed solutions. In addition, Zimbabwe realizes the necessity of enhancing an enabling market framework.

Source: Zimbabwe NDC <http://www4.unfccc.int/ndcregistry/PublishedDocuments/Zimbabwe%20First/Zimbabwe%20First%20NDC.pdf>

10 The CVF is a global partnership of countries disproportionately affected by climate change, <https://thecvf.org>



#### **BOX 4: PAKISTAN – CAPACITY BUILDING FOR RISK MANAGEMENT AND RISK TRANSFER MECHANISM**

Within its NDC, Pakistan underlines the relevance of agricultural insurance under the section ‘Capacity Building Needs’ as part of strengthening its risk management system with respect to agriculture. The first objective is to train workers in risk management and risk transfer mechanisms, which build the base for enhanced knowledge and skills. Secondly, the focus is on developing an institutional set-up for providing agricultural insurance. Thirdly, educating farmers in schools to build awareness of agricultural insurance options is seen as important. Fourthly, Pakistan aims to initiate study tours for government officials of the financial sector to other countries. Lastly, the importance of pre-feasibility studies is accentuated to assess viability and capacity gaps for weather index insurance systems.

*Source: Pakistan NDC <http://www4.unfccc.int/ndcregistry/PublishedDocuments/Pakistan%20First/Pak-INDC.pdf>*

#### **BOX 5: NIGERIA – ENCOURAGING SAVING AND INSURANCE SCHEMES FOR INDUSTRY AND COMMERCE**

Within its NDC, Nigeria underlines the relevance of insurance under the section ‘Strategies, policies, programmes and measures for key sectors’. In particular, Nigeria mentions climate risk insurance with regards to strategies for industry and commerce. The objective is to encourage informal savings and insurance schemes, as well as increasing the availability of medium-term credit (especially for industries in crisis).

Furthermore, climate risk insurance is mentioned within Nigeria’s National Agricultural Resilience Framework (NARF), which is based on principles that relate to adaptive management and participatory engagement. More precisely, objective two relates to risk transfer and insurance: “Evaluation and introduction of risk transfer and risk management strategies (for example improved seasonal and real-time weather forecasts, insurance-based risk mitigation options, etc.) into the agricultural sector and widespread deployment of the same through communication technologies, including mobile phones”.

*Source: Nigeria NDC [http://www4.unfccc.int/ndcregistry/PublishedDocuments/Nigeria%20First/Approved%20Nigeria%27s%20INDC\\_271115.pdf](http://www4.unfccc.int/ndcregistry/PublishedDocuments/Nigeria%20First/Approved%20Nigeria%27s%20INDC_271115.pdf)*









## 4. Next steps for the Climate Risk Insurance Agenda

The 23rd Conference of the Parties of UNFCCC (6th to 17th of November, 2017) in Bonn, Germany, comes at a crucial juncture. For three reasons it bears significance for the debate on climate risk insurance:

Firstly, COP23 will be under the presidency of Fiji, which will allow an “Island agenda” for the COP and reflect a Small Island Developing States perspective on climate change-related challenges. Fiji has the opportunity to set a specific emphasis on outcomes related to the impacts of climate change including climate risk insurance approaches.

Secondly, COP23 comes during a year of international momentum for climate risk insurance approaches. The G20, for instance, acknowledged a ‘Global Partnership for Climate and Disaster Risk Finance and Insurance Solutions’ during their summit in May. Meanwhile, the G7 InsuResilience Initiative of 2015 is in its full implementation. COP23 serves as a platform to communicate progress and establish next steps. In parallel to the COP, the first InsuResilience Partnership Forum will take place.

Thirdly, COP23 has to decide on the course of action for the Warsaw International Mechanism to address climatic loss and damage. UNFCCC decision-makers will need to determine the work plan of the Warsaw Mechanism for the next five years, which includes a detailed set of activities for the next

two years – including activities on comprehensive risk management. In addition, the UNFCCC secretariat is to launch a Clearing House on Risk Transfer, which was mandated by the Paris Agreement in 2015. In moving the climate risk insurance debate we suggest the following:

## **BILATERAL AND MULTILATERAL INITIATIVES: STRIVE FOR BROADENED IMPACT OF CLIMATE RISK INSURANCE APPROACHES**

### *1. INCREASE THE SUPPORT FOR CLIMATE RISK INSURANCE MECHANISMS*

Support for climate risk insurance schemes was significantly advanced by G7 and recently by the G20. Until today, G7 states and their partners EU Commission and the Netherlands promised \$550 million for implementing the InsuResilience Initiative. The newly established InsuResilience Solutions Fund and the London Centre of Global Disaster Protection are the latest examples of concrete support. Further support will be needed to achieve the objectives of the initiative and meet the demand for climate risk insurance. For InsuResilience, some countries played a role as frontrunners; others still have to follow. The G20 Global Partnership for Climate and Disaster Risk Finance and Insurance Solutions should provide sufficient incentives for countries to contribute to scaling up support in the future. There is a need to provide a long-term perspective on project planning and financing as setting up insurance schemes is a multi-year effort.

### *2. ENSURE ACCOUNTABILITY OF PRO-POOR FOCUS OF EXISTING INITIATIVES*

Climate risk insurance approaches should be governed by an effective monitoring and evaluation framework to ensure that the insurance schemes actually reach and benefit poor and vulnerable people. The Pro-Poor Principles (see Box 1, p. 21)

can act as a normative framework for decisions on climate risk insurance and should provide guidance on project and programme objectives.

### *3. INSTITUTIONALIZE A PARTNERSHIP ON CLIMATE RISK INSURANCE THAT ADDRESSES RELEVANT ISSUES*

There will need to be an effective governance framework to address key points in implementing climate risk insurance. Key aspects to work on include, among others:

- Increasing the effectiveness and client value of regional risk facilities (including increasing geographical scope, covering additional climatic hazards, additional services and strengthened pay-out procedures)
- Providing guidance and harmonization of assessment methods and data collection standards
- Providing guidance on technical measures and design elements of risk transfer in general
- Addressing key barriers around climate risk insurance affordability and evaluation for impact as well as ensuring the necessary leverage of private sector capacities

In the current debate to institutionalize the G20 partnership at the global level, MCII welcomes an inclusive approach calling for the participation of relevant non-country partners from different areas, including international organizations, academic partners, civil society and the private sector. The importance of non-country actors should be reflected in the governance structure of the partnership.

## NATIONAL GOVERNMENTS: HOW COUNTRIES CAN IMPLEMENT EFFECTIVE CLIMATE RISK INSURANCE APPROACHES

### 1. PROVIDE ENABLING CONDITIONS FOR CLIMATE RISK INSURANCE APPROACHES

Countries have the responsibility to set up the right enabling framework to establish climate risk insurance, including by:

- Providing data for climate risk insurance schemes (including digitized historical data on weather and losses)
- Ensuring an adequate regulatory and supervisory framework, including for parametric and non-commercial products and including appropriate consumer protection
- Entertaining meaningful capacity development of key actors as well as insurance and financial literacy campaigns and education
- Encouraging public-private partnerships. The public sector can undertake many activities that facilitate comprehensive climate risk management
- Strengthening social safety nets to bring risk sharing and transfer approaches to all segments of populations

### 2. DESIGN CLIMATE RISK MANAGEMENT STRATEGIES TO BETTER GUIDE IMPLEMENTATION APPROACHES

Countries need to strategically place their climate risk insurance approaches in a wider risk management strategy. Such comprehensive climate risk management strategies are an essential governance tool to allow the implementation of the Sendai Framework<sup>11</sup> and the achievement of the

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11 The Sendai Framework is a 15-year multilateral agreement that aims for a substantial reduction of disaster risk and losses of lives. The Sendai Framework consists of global targets as well as priority actions, with respective commitments for national governments.

Sustainable Development Goals.<sup>12</sup> They can be a strategic instrument to implement a human-rights-based approach by governments to manage adverse impacts on, for example, life, water, food and the health of their populations.<sup>13</sup> Such strategies could be implemented as part of the National Adaptation Plans. Ideally, such plans are oriented along the cycle of integrated climate risk management<sup>14</sup> (prevent, residual risk management, prepare, respond, recover) and include specific contingency planning. Countries should also undertake a financial climate management approach including a pre-disaster financing approach to manage their contingencies to be sufficiently equipped to protect their most vulnerable populations and communities when climatic shocks occur. Countries should establish loss-and-damage focal points.<sup>15</sup> Such risk officers could become the central agent at national level and should be assigned the relevant decision-making capacities.

### 3. REVISIT CLIMATE RISK INSURANCE CONCEPTS AS PART OF NEXT NDC ITERATION

As countries revisit their NDCs (in the context of the Paris Agreement's five-year ratcheting mechanism), all countries should further explore how climate risk insurance approaches can help them achieve their national adaptation objectives. In addition NDCs should clearly formulate general and specific claims for assistance. Countries can receive information on the best solution for the inclusion of climate risk into comprehensive climate risk management strategies through a multitude of actors.<sup>16</sup>

12 For the link on insurance and the Sustainable Development Goals, see <http://www.cenfri.org/documents/microinsurance/2017/Inclusive%20Insurance%20and%20the%20Sustainable%20Development%20Goals.pdf>

13 MCII will publish an analysis on the interplay between climate risk insurance and a human-rights-based approach to manage climatic risks in due course. Please check <http://www.climate-insurance.org>

14 For further information on the Integrated Climate Risk Management Approach, see <http://www.climate-insurance.org/projects/advancing-climate-risk-insurance-aci/>

15 COP22 in Decision 4/CP.22 Paragraph 4d) invited countries to establish loss-and-damage contact points.

16 For instance the NDC partnership, see <http://www.ndcpartnership.org>

## UNFCCC – DECISION-MAKER: OPERATIONALIZE SUPPORT STRUCTURES FOR CLIMATE RISK INSURANCE APPROACHES IN UNFCCC

### 1. OPERATIONALIZE THE RISK TRANSFER CLEARING HOUSE AS CENTRAL GO-TO PLACE

The Risk Transfer Clearing House<sup>17</sup> should become a central gateway for the international work on climate risk insurance and comprehensive climate risk management. This includes:

- Ensuring that the clearing house is interactive and provides needs-based services
- Making available lessons learned and analyses of existing risk transfer approaches worldwide. This can help as governments and relevant stakeholders implement climate-resilient approaches

As much progress on loss and damage in general, and in climate risk insurance specifically, has been achieved outside of UNFCCC. The clearing house should actively link with outside initiatives such as InsuResilience.

### 2. ESTABLISH INTERNATIONAL GUIDANCE ON INTEGRATED CLIMATE RISK MANAGEMENT APPROACHES

One central function of UNFCCC through the Executive Committee (Excom) of the Warsaw International Mechanism is to ensure policy coherence and appropriate use of risk transfer tools in a wider context of climate risk management. This includes drawing operational linkages to the Sendai Framework and the Sustainable Development Goals. Specifically, as part of the next workplan the Excom should aspire to:

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17 COP21 requested the Executive Committee to establish a clearing house for risk transfer that serves as a repository for information on insurance and risk transfer, in order to facilitate the efforts of countries to develop and implement comprehensive risk management strategies (decision 1/CP.21, paragraph 48). A beta version of the clearing house is scheduled to be launched at COP23.

- Provide guidance on enabling conditions for implementing a comprehensive risk management approach that includes insurance with a focus on: infrastructure, incentives, data collection and standards, assessments, public-private partnerships, innovative insurance solutions and funding mechanisms, etc.
- Issue country guidance in setting-up a contingency plan that can be used to analyse the impact of potential climate-related risks and ensure adequate and appropriate arrangements are made in advance in order to be able to respond in a timely, effective and appropriate way to the needs of the affected population

Given capacity constraints on the part of Excom decision-makers, it is crucial to establish the expert group on comprehensive climate risk management as the key agent driving international guidance on integrated climate risk management.

### 3. ENHANCE ACTION AND SUPPORT

It is an imperative that emitters of greenhouse gases manage the transboundary impacts of their action including covering part of the increased climate impact burden,<sup>18</sup> especially the risks in Least Developed Countries and Small Island Developing States. This calls for broad international support on climate risk insurance as part of enhanced action and support to address climatic loss and damage. This analysis shows that there is an articulated need as well as desire by developing countries to implement climate risk insurance approaches as part of their Paris commitments. This should be addressed in the coming years, including through specific support from the UNFCCC financial mechanism – including the Green Climate Fund, the Global Environmental Facility as well as the Adaptation Fund. These entities will have to be sufficiently resourced.

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18 Climate change presents an externality of the use of fossil fuels and other greenhouse gas-emitting activities. Factoring in the social costs of greenhouse gas emissions in decisions and actions is good risk management. Thus, MCII prefers financing approaches such as carbon levies etc. that set disincentives towards the profligacy of carbon-intensive energy sources.













## References

Collier, Benjamin, and others (2009). Weather Index Insurance and Climate Change: Opportunities and Challenges in Lower Income Countries. *The Geneva Papers*, vol. 34, pp. 401-424.

Hallegatte, Stephane, and others (2015). Higher losses and lower development in the absence of disaster risk management investments. *Policy Research Working Paper*, No. 7632. Washington, D.C.: World Bank.

Lester, Rodney (2014). Insurance and Inclusive Growth. *Policy Research Working Paper*, No. 6943, June. The World Bank.

Linnerooth-Bayer, Joanne, and others (2010). Insurance as part of a climate adaptation strategy. In *Making climate change work for us: European Perspectives on Adaptation and Mitigation Strategies*, Mike Hulme and Henry Neufeld, eds. Cambridge: Cambridge University Press, pp. 340-366.

Pauw, W.P., and others (2016). NDC Explorer. German Development Institute/Deutsches Institut für Entwicklungspolitik, African Centre for Technology Studies (ACTS), Stockholm Environment Institute (SEI). <http://www.klimalog.die-gdi.de/ndc/>

Schaefer, Laura, and Eleanor Waters (2016). *Climate Risk Insurance for the Poor & Vulnerable: How to Effectively Implement the Pro-Poor Focus of InsuResilience*.

Schaefer, Laura, and others (2016). Making climate risk insurance work for the most vulnerable: Seven guiding principles. *Policy Report No. 1*. Bonn: United Nations University Institute for Environment and Human Security (UNU-EHS).

Suarez, Pablo, and Joanne Linnerooth-Bayer (2011). Insurance-related instruments for disaster risk reduction. Global Assessment Report on Disaster Risk Reduction. Geneva: UNISDR.

Surminski, Swenja, and Delioma Oramas-Dorta (2013). Do flood insurance schemes in developing countries provide incentives to reduce physical risks? Working Paper No. 139. Centre for Climate Change Economics and Policy.

Warner, Koko, and Andreas Spiegel (2009). Climate change and emerging markets: the role of the insurance industry in climate risk management. In *Geneva Association, the insurance industry and climate change: contribution to the global debate*, Patrick Liedtke, ed. Geneva: Geneva Association, pp. 93-96.

Warner, Koko, and others (2012). Insurance solutions in the context of climate change-related loss and damage. UNU-EHS Policy Brief. UNU-EHS.

# Annex: Tabular country analysis of climate risk insurance in NDCs and NAPs

**Table 1:** List<sup>19</sup> of identified countries that show significant references for insurance schemes in their Nationally Determined Contributions.<sup>20</sup>

NO.	COUNTRY	REGION	WB INCOME GROUP	PARTY GROUPING	FOCUS ACTION/SECTOR/TARGET GROUP
1	Antigua and Barbuda	Latin America & Caribbean	Lower middle income	SIDS	Insurance (market) development. Special focus: agricultural sector, residential areas and business owners
2	Argentina	Latin America & Caribbean	High income		Insurance (market) development. Special focus: agricultural sector
3	Bhutan	South Asia	Lower middle income	LDC	Insurance (market) development. Special focus: agricultural sector
4	Bolivia	Latin America & Caribbean	Lower middle income		Insurance (market) development. Special focus: agricultural sector
5	Chile	Latin America & Caribbean	High income		Insurance (market) development. Special focus: agricultural sector
6	China	East Asia & Pacific	Upper middle income		Existing insurance mechanisms (need for upscaling). Special focus: disaster insurance

<sup>19</sup> NOTE: Kuwait, Saint Lucia and Saint Vincent and the Grenadines were initially part of the list. However, these countries were removed due to the lack of detail and insufficient mentioning in NDC sections, in which actions, plans and strategies were outlined. The three countries mentioned 'insurance' mainly in the introduction section or reported them only under climate change impacts/vulnerabilities.

<sup>20</sup> As communicated to the interim NDC registry <http://www4.unfccc.int/ndcregistry/Pages/Home.aspx>

NO.	COUNTRY	REGION	WB INCOME GROUP	PARTY GROUPING	FOCUS ACTION/SECTOR/TARGET GROUP
7	Dominica	Latin America & Caribbean	Upper middle income	SIDS	Insurance (market) development: Special focus: food security. Target group: smallholder & vulnerable groups
8	El Salvador	Latin America & Caribbean	Lower middle income		Insurance (market) development. Special focus: infrastructure
9	Eritrea	Sub-Saharan Africa	Low income	LDC	Insurance (market) development. Special focus: hydro-meteorological and catastrophic risks
10	Ethiopia	Sub-Saharan Africa	Low income	LDC	Insurance (market) development. Special focus: agricultural sector
11	Gambia	Sub-Saharan Africa	Low income	LDC	Global/Regional insurance facility
12	Guyana	Latin America & Caribbean	Upper middle income	SIDS	Insurance (market) development.
13	Haiti	Latin America & Caribbean	Low income	LDC / SIDS	Existing insurance mechanisms (need for upscaling)
14	India	South Asia	Lower middle income		Existing insurance mechanisms (need for upscaling). Special focus: food security and comprehensive risk management
15	Kenya	Sub-Saharan Africa	Lower middle income		Insurance (market) development. Target group: smallholder & vulnerable groups
16	Kiribati	East Asia & Pacific	Lower middle income	LDC/SIDS	Global/Regional insurance facility
17	Malawi	Sub-Saharan Africa	Low income	LDC	Insurance (market) development. Special focus: agricultural sector. Target group: smallholder
18	Maldives	South Asia	Upper middle income	SIDS	Existing insurance mechanisms (need for upscaling). Special focus: agricultural sector, fishery and tourism sector



NO.	COUNTRY	REGION	WB INCOME GROUP	PARTY GROUPING	FOCUS ACTION/SECTOR/TARGET GROUP
19	Mauritania	Sub-Saharan Africa	Lower middle income	LDC	Existing insurance mechanisms (need for upscaling). Special focus: agricultural sector
20	Mexico	Latin America & Caribbean	Upper middle income		Insurance (market) development. Special focus: hydro-meteorological and catastrophic risks
21	Morocco	Middle East & North Africa	Lower middle income		Insurance (market) development. Special focus: agricultural sector
22	Mozambique	Sub-Saharan Africa	Low income	LDC	Insurance (market) development
23	Niger	Sub-Saharan Africa	Low income	LDC	Existing insurance mechanisms (need for upscaling). Special focus: agricultural sector
24	Nigeria	Sub-Saharan Africa	Lower middle income		Existing insurance mechanisms (need for upscaling). Special focus: agricultural sector
25	Pakistan	South Asia	Lower middle income		Insurance (market) development. Special focus: agricultural sector
26	Philippines	East Asia & Pacific	Lower middle income		Insurance (market) development
27	Republic of Moldova	Europe & Central Asia	Lower middle income		Existing insurance mechanisms (need for upscaling). Special focus: agricultural sector
28	Senegal	Sub-Saharan Africa	Low income	LDC	Existing insurance mechanisms (need for upscaling). Special focus: agricultural sector and livestock
29	Seychelles	Sub-Saharan Africa	High income	SIDS	Existing insurance mechanisms (need for upscaling). Special focus: agricultural sector and fishery
30	Sierra Leone	Sub-Saharan Africa	Low income	LDC	Insurance (market) development
31	Sri Lanka	South Asia	Lower middle income		Insurance (market) development. Special focus: agricultural sector, fishery & infrastructure

NO.	COUNTRY	REGION	WB INCOME GROUP	PARTY GROUPING	FOCUS ACTION/SECTOR/TARGET GROUP
32	Tunisia	Middle East & North Africa	Lower middle income		Insurance (market) development. Special focus: agricultural sector
33	United Republic of Tanzania	Sub-Saharan Africa	Low income	LDC	Insurance (market) development: Special focus: agricultural sector and livestock. Target group: smallholder
34	Uruguay	Latin America & Caribbean	High income		Insurance (market) development. Special focus: agricultural sector, health sector & urban infrastructures
35	Venezuela	Latin America & Caribbean	Upper middle income		Insurance (market) development. Special focus: agricultural sector
36	Vietnam	East Asia & Pacific	Lower middle income		Existing insurance mechanisms (need for upscaling)
37	Zambia	Sub-Saharan Africa	Lower middle income	LDC	Insurance (market) development. Special focus: agricultural sector and infrastructure
38	Zimbabwe	Sub-Saharan Africa	Low income		Existing insurance mechanisms (need for upscaling). Special focus: agricultural sector and livestock

**Table 2:** List<sup>21</sup> of identified countries that show significant references for insurance schemes in their National Adaptation Plans.<sup>22</sup>

NO.	COUNTRY	REGION	WB INCOME GROUP	PARTY GROUPING	FOCUS ACTION/SECTOR/TARGET GROUP
1	Brazil	Latin America & Caribbean	Upper middle income		Existing insurance mechanisms (need for upscaling): agriculture, coastal zone and rural insurance
2	Burkina Faso	Sub-Saharan Africa	Low income	LDC	Insurance (market) development. Special focus: agricultural sector and livestock
3	Cameroon	Sub-Saharan Africa	Lower middle income		Insurance (market) development
4	Kenya	Sub-Saharan Africa	Lower middle income		Existing insurance mechanisms (need for upscaling)
5	State of Palestine	Middle East & North Africa	Lower middle income		Insurance (market) development
6	Sri Lanka	South Asia	Lower middle income		Insurance (market) development

21 NOTE: Kuwait, Saint Lucia and Saint Vincent and the Grenadines were initially part of the list. However, these countries were removed due to the lack of detail and insufficient mentioning in NDC sections, in which actions, plans and strategies were outlined. The three countries mentioned 'insurance' mainly in the introduction section or reported them only under climate change impacts/vulnerabilities.

22 As communicated to the NAP Central, see [http://www4.unfccc.int/nap/News/Pages/national\\_adaptation\\_plans.aspx](http://www4.unfccc.int/nap/News/Pages/national_adaptation_plans.aspx)

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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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