

# Submission

on the type and nature of actions to address loss and damage for which finance may be required<sup>1</sup>

Submitted by the

**Munich Climate Insurance Initiative (MCII)**

to the Executive Committee of the Warsaw International Mechanism on Loss and Damage

15. February 2018

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<sup>1</sup> This submission from the Munich Climate Insurance Initiative (MCII) is part of its mission to develop insurance-related solutions to help manage the impacts of climate change. MCII was founded as a non-profit innovation laboratory in response to the growing realization that insurance solutions can play a role in addressing some of the negative impacts of climatic stressors, as suggested in the Framework Convention and the Paris Agreement. 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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## Table of contents

1. Introduction.....	2
2. Actions to address loss and damage.....	2
3. Supporting a comprehensive risk management approach through the UNFCCC .....	11
4. Decision support tools.....	12
5. Way forward .....	13
Bibliography.....	14

## 1. Introduction

MCII writes this submission in response to the ExCom’s invitation to provide submissions on the “type and nature of actions to address loss and damage for which finance may be required”. The submission is supposed to provide input to determine the scope of a technical paper which will serve as an input to the review of the Warsaw International Mechanism for Loss and Damage in 2019 (decision 4/CP.22, paragraph 2 (f) and (g)).

Funding for loss and damage is severely needed. Both for extreme weather events and for slow onsets. Between 1997 and 2016, more than 524,000 people died worldwide and losses of US\$ 3.16 trillion (in Purchasing Power Parity, PPP) were incurred as a direct result of more than 11,000 extreme weather events (Eckstein/Künzel/Schäfer 2017). Additionally, slow onset events have an eminent impact on societies and span a broad range of systems. Already today, many communities are faced with the challenges posed by sea level rise, ocean acidification, glacial retreat and related impacts.

In working on actions to address loss and damage for which finance may be required, the ExCom is slowly operationalizing one of the WIM’s core mandates – to “facilitate the mobilization and securing of expertise, and enhancement of support, including finance” (3/CP. 18, para. 6 WIM function 3). This mandate was reiterated in the Paris Agreement (Article 8). Before the review of the WIM in 2019, the WIM should be further operationalized, including its mandate to enhance action and support including finance – in particular for the poorest and most vulnerable countries.

## 2. Actions to address loss and damage

Comprehensive climate risk management can help address risks that are posed by extreme weather events and slow-onset processes. It provides a guiding framework on how to address both types of events before they occur, when they occur, and after they have occurred. In analyzing the types of actions to address loss and damage that need financing, it is therefore important to consider the different steps in a risk management process.

The following graph depicts five different phases including prevention, dealing with residual risks, preparation, responding and recovering after a shock.



**Figure 1**The comprehensive risk management cycle

Figure 1:

Source: MCII/GIZ 2017

### The role of risk transfer tools

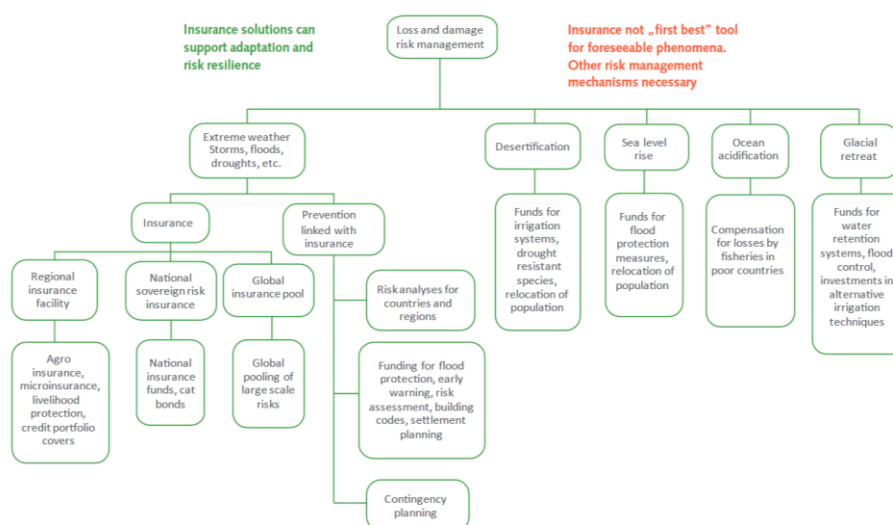
In the context of comprehensive climate risk management, risk transfer tools like insurance can play key functions at the individual, community, national, regional and global level. As a key function, it allows the spread of risks among people and over space and time, thereby allowing collectively managed losses that would overwhelm individual members of a group, limiting the ability for members to take costly individual action (Schaefer/Warner/Kreft 2018). Climate risk insurance 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 (MCII 2016).

Insurance can also play multiple roles in the different phases of climate risk management. Financial protection by insurance occurs, both ex-post (response and recover phase: when insurance protects households from the economic implications of actualized risks) and ex-ante (prevent phase: where insurance creates a space of certainty within which investments, planning and development activities can be undertaken) (MCII 2016). This space of certainty can allow for improved ex-ante planning and decision making (Schaefer/Warner/Kreft 2018). Moreover, if designed in a smart way, insurance related instruments play a role as a messenger of climate change impact through

its terms and price signals. In an ideal scenario, insurance incentivizes risk reduction behavior, e.g. by price rebates on premiums for risk reducing behavior, by exclusion policies or by bundling insurance with other forms of productive social safety nets e.g. providing the option for people to work for their insurance cover in community-identified projects to reduce risk and build climate resilience.

## Other types of action

Insurance, however, cannot be a universal remedy for all types of loss and damage resulting from climate change. As figure 2 shows, insurance options can support adaptation and risk resilience for extreme weather, but are not appropriate for other creeping climate-induced impacts.<sup>2</sup> As we see in Figure 2 insurance is not appropriate or generally feasible for slowly developing and foreseeable events or processes that happen with high certainty under different climate change scenarios. The losses from long-term foreseeable risks, such as sea level rise, desertification and the loss of glaciers and other cryospheric water sources, are estimated to be substantial in the future. Even for parts of weather-related events with very high frequency, such as recurrent flooding insurance would be an ill-advised solution. Resilience building and prevention of loss and damage in such instances may be cost-effective ways to address these risks (see also MCII 2012).

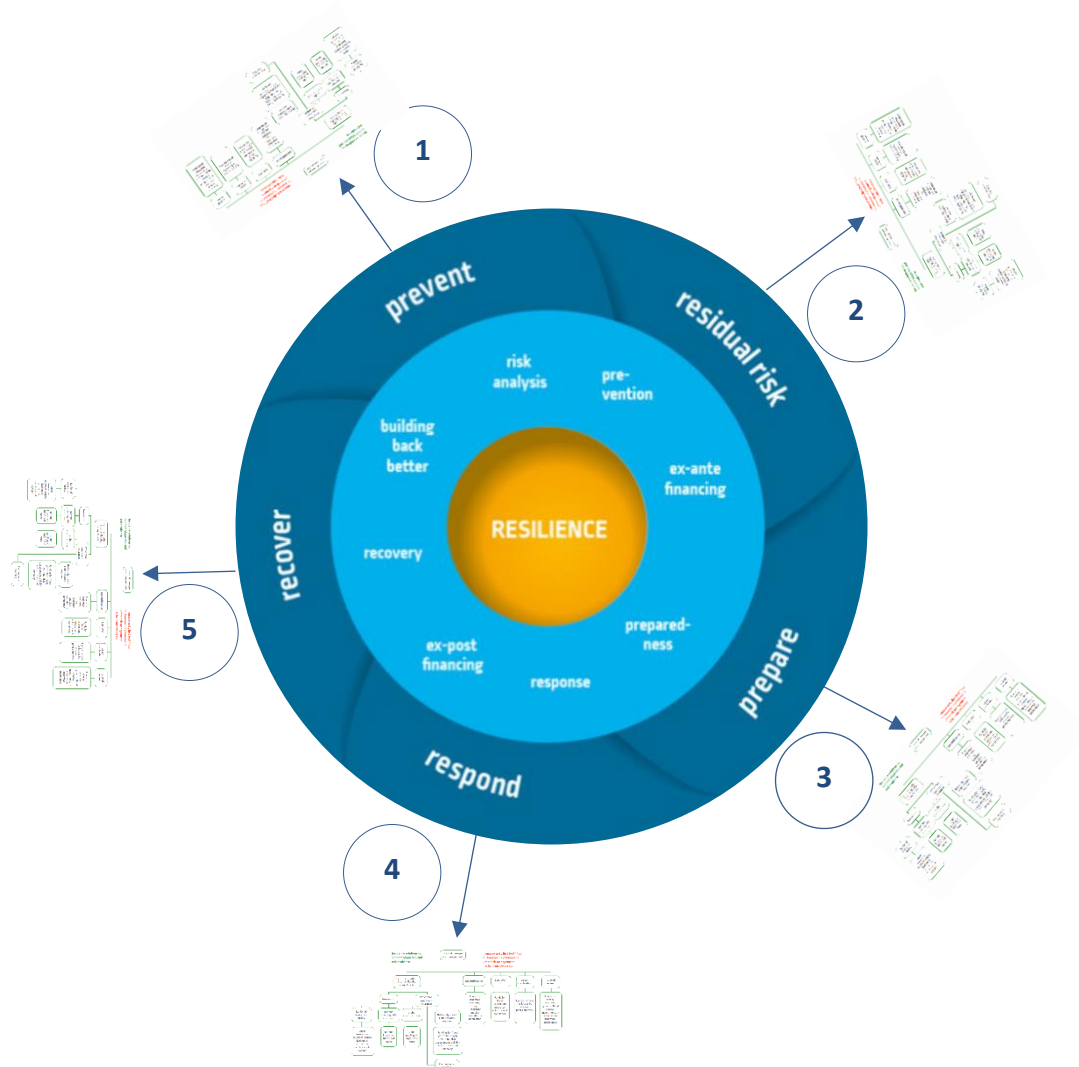


**Figure 2: Decision tree**

Source: MCII 2012

<sup>2</sup> Insurability is depending on three conditions: 1) the loss event must be fortuitous; 2) the insurer must be able to determine and measure the loss, as well as establish the probabilistic distribution of risks and chances of losses; 3) premiums need to be economically feasible, i.e. the insured needs to be able to pay the premium.

For a detailed overview of different types of actions to address loss and damage, the decision tree can be applied to each phase of the comprehensive risk management circle. This idea is applied in the following figure 3:



**Figure 3: Types of actions to address loss and damage linked to comprehensive risk management**

Source. Author's own

As seen by the following figures, for each phase of comprehensive climate risk management a decision tree is depicted, showing different types of actions appropriate for the respective phase.<sup>3</sup>

<sup>3</sup> We are not claiming that this is an exhaustive list, but we intend this as an illustration of actions in the comprehensive climate risk management cycle.

1

Prevention

Residual risk

Prepare

Response

Recover

Low frequency, medium - high  
severity events

High probability of loss,  
foreseeable events

Extreme weather events

Slow onset events

E.g.

**Risk analysis on all levels**

- Hazard Analysis
- Exposure Analysis
- Vulnerability Analysis

**Effective mitigation action**

**Risk reduction**

- Structural measures
- Non-structural measures
- Legislative measures
- Planning
- Risk communication and awareness raising

E.g.

**Risk analysis on all levels**

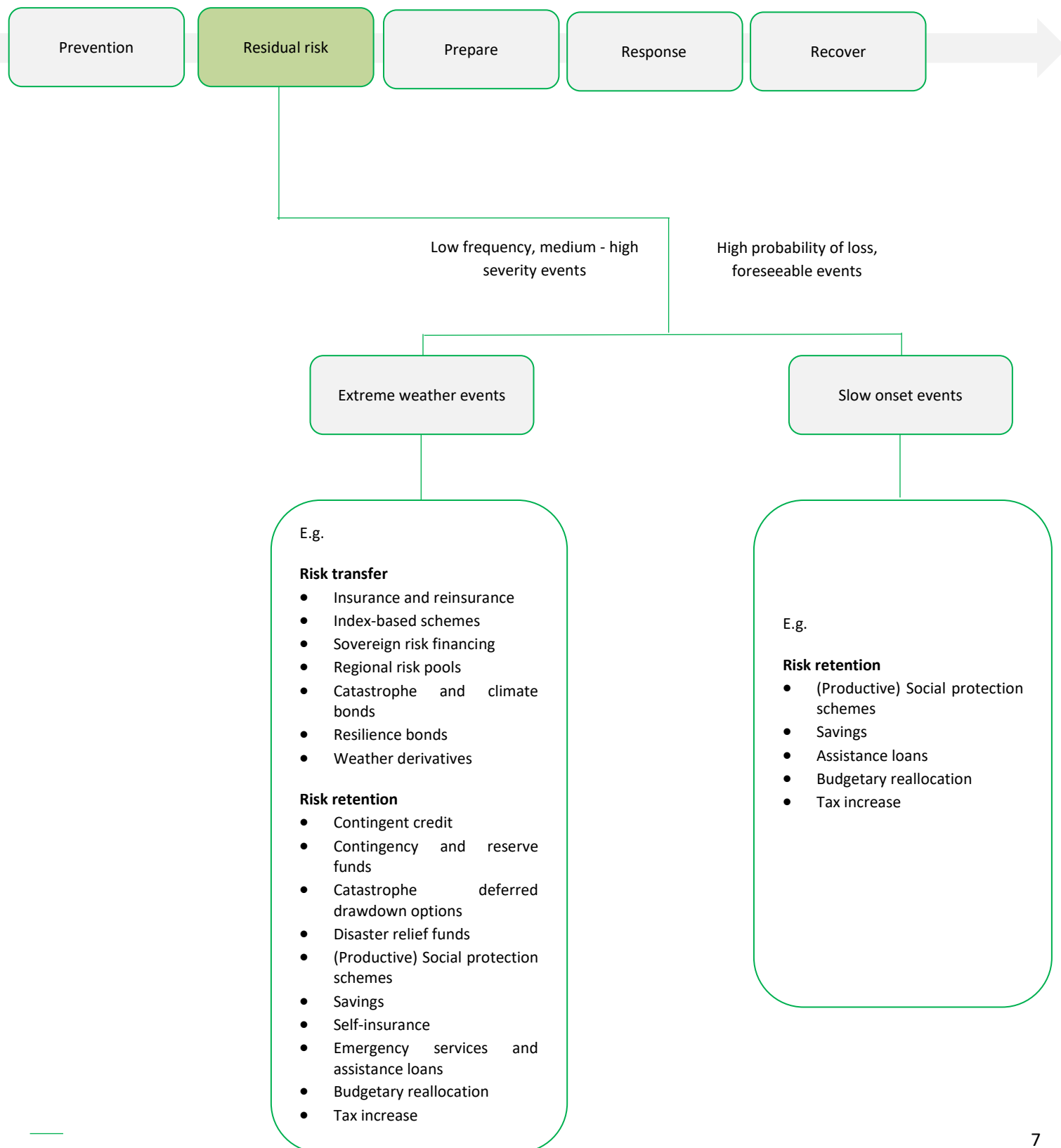
- Hazard Analysis
- Exposure Analysis
- Vulnerability Analysis

**Effective mitigation action**

**Risk reduction**

- Settlement planning
- Structural measures (e.g. flood protection)
- Non-structural measures
- Legislative measures
- Planning
- Investment in alternative techniques (e.g. irrigation techniques) or drought resistant varieties

2



3

Prevention

Residual risk

Prepare

Response

Recover

Low frequency, medium - high  
severity events

High probability of loss,  
foreseeable events

Extreme weather events

Slow onset events

E.g.

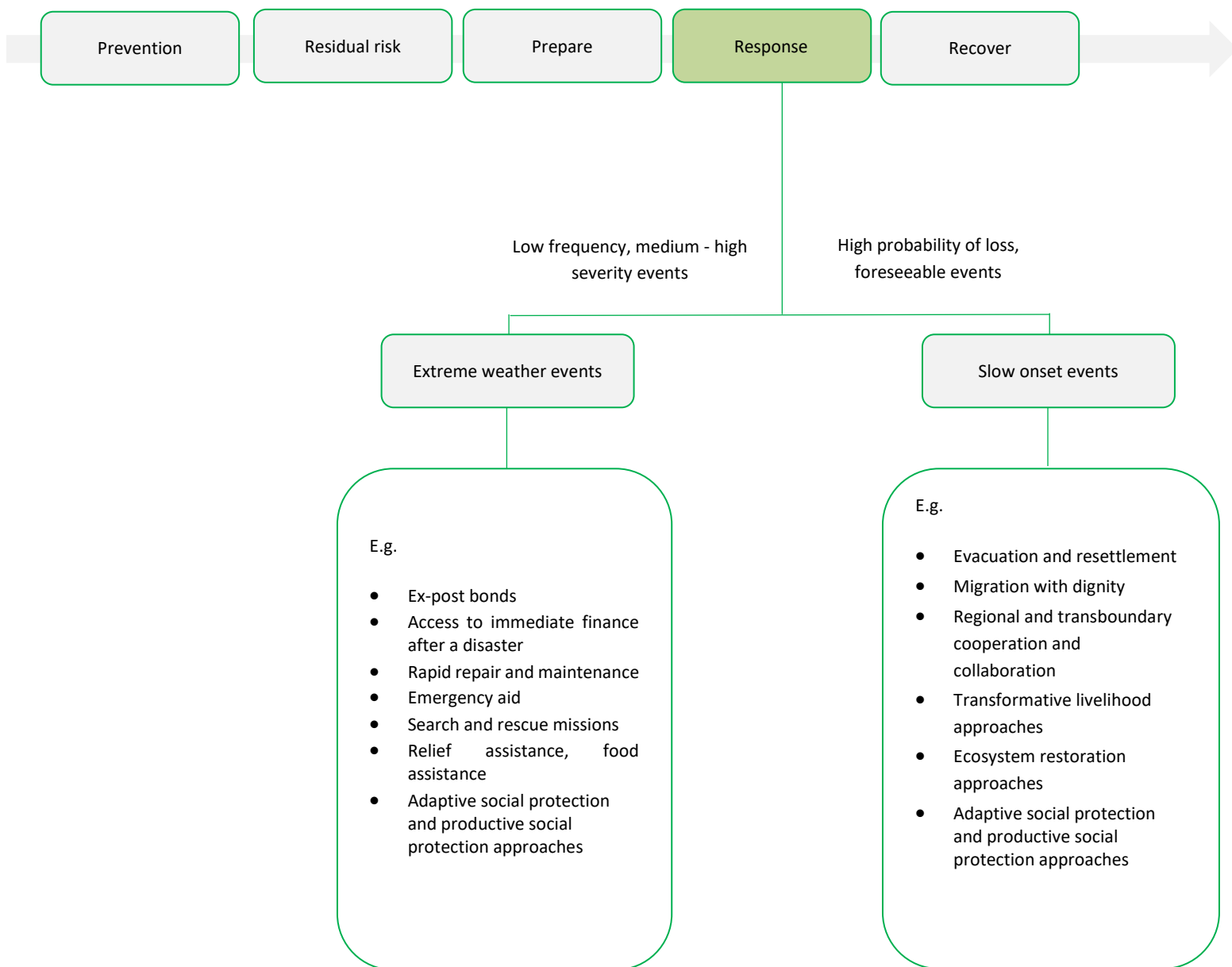
- Contingency plans
- Forecasting and early warning systems
- Awareness raising & education
- Evacuation plans
- Rescue and emergency services training
- Adaptation strategies

E.g.

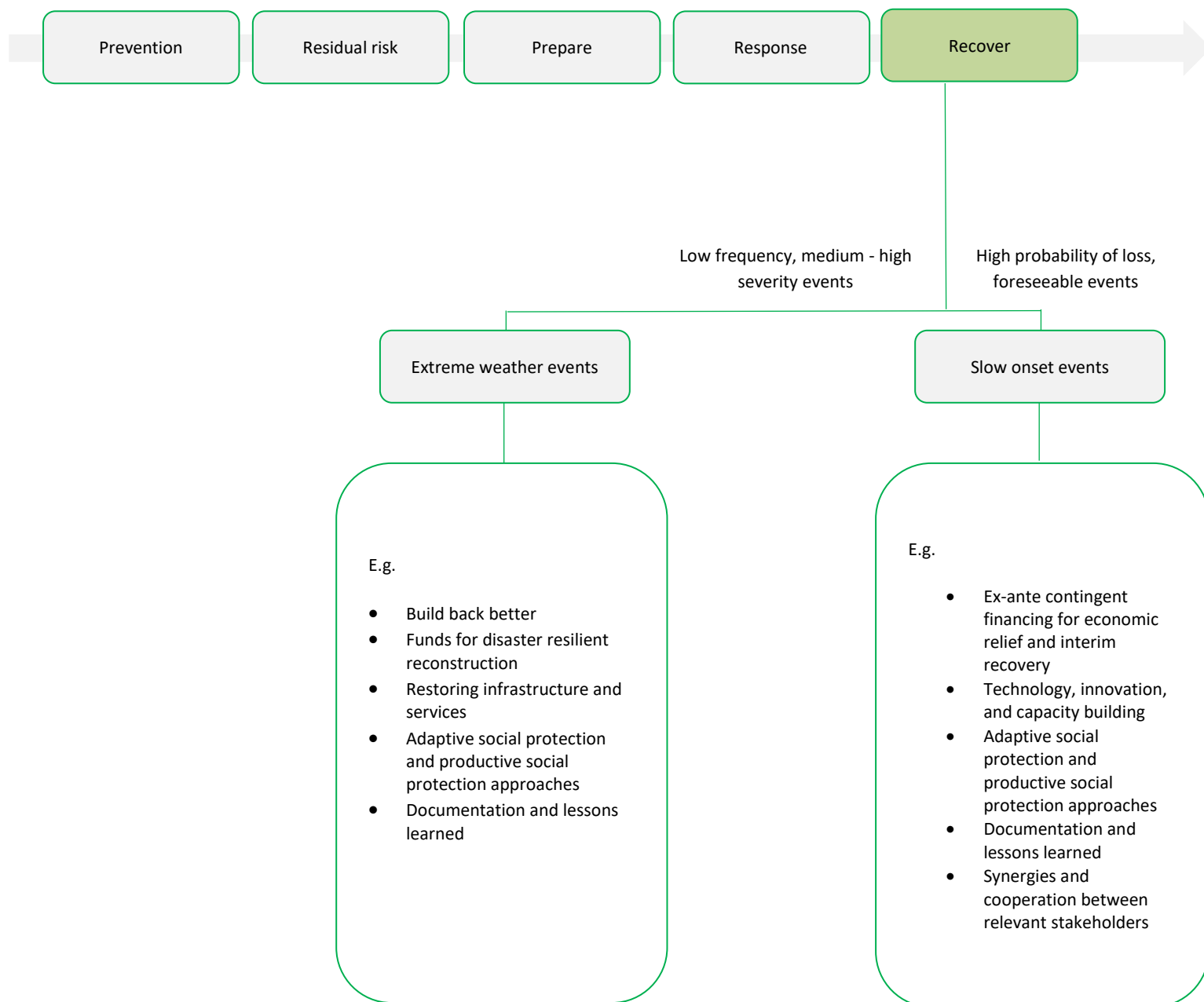
- Evacuation and resettlement plan
- Forecasting
- Planning and zoning
- Regional and transboundary cooperation and collaboration
- Land suitability and adaptive agriculture
- Land reclamation and land elevation raising (e.g. building cross dams)
- Integrated management of land and water



4



5



### 3. Supporting a comprehensive risk management approach through the UNFCCC

The support architecture under UNFCCC has seen major developments in the past decade. Looking at the comprehensive risk management cycle, support is already available for several activities. An analysis of the available funding under the UNFCCC for the five different phases reveals the following:

**1. Guidance, process and institutions exist to support the prevention phase:** The prevention phase is covered e.g. in the National Adaptation Plans which allow countries to identify medium- and long-term adaptation needs as well as developing and implementing strategies and programmes to address those needs. There are two funding windows for the formulation and implementation of NAPs available. These are:

- Green Climate Fund (GCF), to support projects, programmes, policies and other activities in developing country Parties using the thematic funding window of adaptation.
- Global Environment Facility (GEF) through the LDCF and SCCF, mainly for capacity-building/enabling activities, such as through the NAP Global Support Programmes managed by UNDP and UNEP; and through individual country proposals to the GEF for support (subject to availability of funding in the LDCF/SCCF).

**2. Residual risk and preparing – some first movers under the GCF:** Activities within the phases of dealing with residual risks including risk transfer as well as preparing for extreme weather events and slow onset processes can so far be only financed as part of one of the GCF adaptation results areas. They include:

- Increased resilience and enhanced livelihoods of the most vulnerable people, communities, and regions
- Increased resilience of health and well-being, and food and water security
- Increased resilience of infrastructure and the built environment to climate change threats
- Improved resilience of ecosystems and ecosystem services

An analysis of accepted GCF proposals shows that risk transfer approaches are already funded by the GCF as part of bigger project proposals that respond to one of the four results areas mentioned above. For example, with the aim to increase the resilience of vulnerable households in Senegal to climate-related risks through better risk management, water and soil conservation, the Rural Resilience Initiative (R4) is supported with a ten million USD GCF grant. One of the four integrated risk management approaches is risk transfer for smallholder farmers.

**3. To fully reflect the important phases dealing with residual risks and preparing in the funding mandate of the GCF, further guidance is needed.** One way would be to establish additional result areas and indicators for adaptation activities under the GCF. A process in this direction was already started in 2014, when the GCF Secretariat prepared a recommendation on additional result areas, including “Approaches to risk sharing and transfer.”<sup>4</sup> The recommendations were not picked up by the GCF board. This process should be taken up again in 2018 to develop concrete guidance on additional result areas or sub result areas. This would also help the ongoing discussion under the GCF with regard to the difference of adaptation and development projects.

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<sup>4</sup> [https://www.greenclimate.fund/documents/20182/24940/GCF\\_B.06\\_03\\_-\\_Additional\\_Result\\_Areas\\_and\\_Indicators\\_for\\_Adaptation\\_Activities.pdf/f4d8b6f0-72d8-47c4-8fc5-bdf0479c3839](https://www.greenclimate.fund/documents/20182/24940/GCF_B.06_03_-_Additional_Result_Areas_and_Indicators_for_Adaptation_Activities.pdf/f4d8b6f0-72d8-47c4-8fc5-bdf0479c3839)

**4. There is no funding mandate under the UNFCCC for all activities in the phase of responding.** Rehabilitation and reconstruction activities so far seems to have limited funding opportunities under the UNFCCC's financial mechanism. Therefore, the WIM should coordinate with bodies such as the GCF to mobilize activities that comprehensively address climatic loss and damage.

#### 4. Decision support tools

Identifying specific Climate Change Adaptation (CCA) measures are ensuring investments that are more sustainable, while promoting assets and economic activities that are more resilient to the impacts and consequences of current and projected future climatic conditions. Considering CCA early on and integrating them into a Disaster Risk Management (DRM) and Disaster Risk Reduction (DRR) approach can be fostered by the NAP process in providing opportunity for integrative approaches and mainstream them into other activities on sustainable development.

Decision makers are increasingly confronted to the decision involving prioritisation of CCA and their integration into DRR and DRM. A plethora of approaches have already been designed to respond to the complexity and the uncertainty of climate change related projects. With regards to the implementation of climate change adaptation strategies, they range from climate vulnerability assessments, risk assessments, economic and/or sustainability impact assessments to decision making support tools. Among these, none has been fully integrating processes from risk assessment to a feasibility of CCA measures. The IPCC (2014b) emphasises that responding to “climate-related risks involves decision making in a changing world, with continuing uncertainty about the severity and timing of climate-change impacts and with limits to the effectiveness of adaptation. This underlines the importance of enhanced climate risk management. One important tool to enhance climate risk management is the development of effective and well-functioning Decision Support Systems (DSS).

In moving this challenge forward, MCII is using the Economics of Climate Change Adaptation (ECA) approach. ECA offers a unique contribution, which combines risk assessment, adaptation measures and risk transfer. Its results allow a flexible identification of cost-effective CCA for a variety of projects and sectors.

ECA offers a systematic and transparent approach that fosters trust and initiates in-depth inter-sectoral stakeholder discussions. The methodology has been applied in more than 20 countries, and MCII implements it in four case studies (4) and has developed in collaboration with KfW a guidebook on how and when to apply ECA.<sup>5</sup> It can be flexibly applied from the national down to local level to different sectors (Urban, Agriculture, Tourism, MSMEs, etc.) and different hazards (Flood, drought, Hurricane, storm surge, drought, etc.). It gives also guidance on what aspects to focus on during a feasibility study. It provides key information for decision makers who want to determine which investment and trade-off should be made.

The ECA approach is supported by a quantitative modelling tool “Climada” which consists in several modules such as:

- Hazards: stochastic simulation of hazards (Historical damages, hazard maps, historical met-series, GIS data, remote sensing validation data, etc.)

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<sup>5</sup> [https://www.kfw-entwicklungsbank.de/PDF/Download-Center/Materialien/2016\\_No6\\_Guidebook\\_Economics-of-Climate-Adaptation\\_EN.pdf](https://www.kfw-entwicklungsbank.de/PDF/Download-Center/Materialien/2016_No6_Guidebook_Economics-of-Climate-Adaptation_EN.pdf)

- Scenarios: development of climatic and socio-economic scenarios relevant to the study (data needed: climate simulation, regional models, socio-economic simulations etc.)
- Assets: spatial distribution and monetary values of different asset classes. Asset can be persons, roads, ecosystems and can be clustered by sectors (data: Monetary values, detailed cadastre plan, demographics, interviews, and damage data)
- Adaptation measures: different adaptation measures, including their costs and impact are introduced in the model and ranked in terms of efficiency (data: existing and planned adaptation measures, recommendations of new adaptation measures, construction costs, maintenance costs, location, effect on particular assets etc.)

We are currently developing this tool by including climate risk insurance. We plan to develop additional modules such social resilience and ecosystem services as well as using different remote sensing technologies in the approach. We are also discussing how to address uncertainty cascade in the modelling tool, i.e. how does uncertainty from scenarios, hazards and assets values accumulate, and possibly influence the performance of one or the other CCA.

## 5. Way forward

The Munich Climate Insurance Initiative is a leading think-tank on the nexus climate, insurance and its benefits for resilience especially for the most vulnerable segments of population. MCII, through its unique set-up, provides a forum and gathering point for insurance-related expertise on climate change impacts. The independent and neutral 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 develops pioneering concepts through its vast network of experts advocating for new ways of how to apply insurance to complement risk management and adaptation. We can share lessons learned from our lighthouse projects, such as the Livelihood Protection Policy in the Caribbean. Targeted at individuals, this product helps protect the livelihoods of vulnerable low-income individuals by providing swift un-bureaucratic cash payouts following extreme weather events (i.e. high wind speed and heavy rainfall).

But we also address critical questions with regard to climate risk insurance as a tool, aiming to overcome challenges in its application. One of our latest activities includes producing briefings and papers on critical questions by delegates, practitioners and the science community.

We are looking forward to engaging with you on further shaping the UNFCCC loss and damage related work for the next five years. To this end, a team of experts from MCII will participate at the sixth meeting of the ExCom and be ready for further discussions.

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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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