

Climate Risk Finance for Resilience

Impact, Tools and Strategies

Presented by United Nations University - Institute for Environment and Human Security (UNU-EHS)

Munich Climate Insurance Initiative hosted at UNU-EHS

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Agenda

1. Introduction: Climate Risk Finance landscape
2. Key instruments
3. Application strategies
4. Case studies
5. Key takeaways

Part 1: Climate Risk Finance Landscape

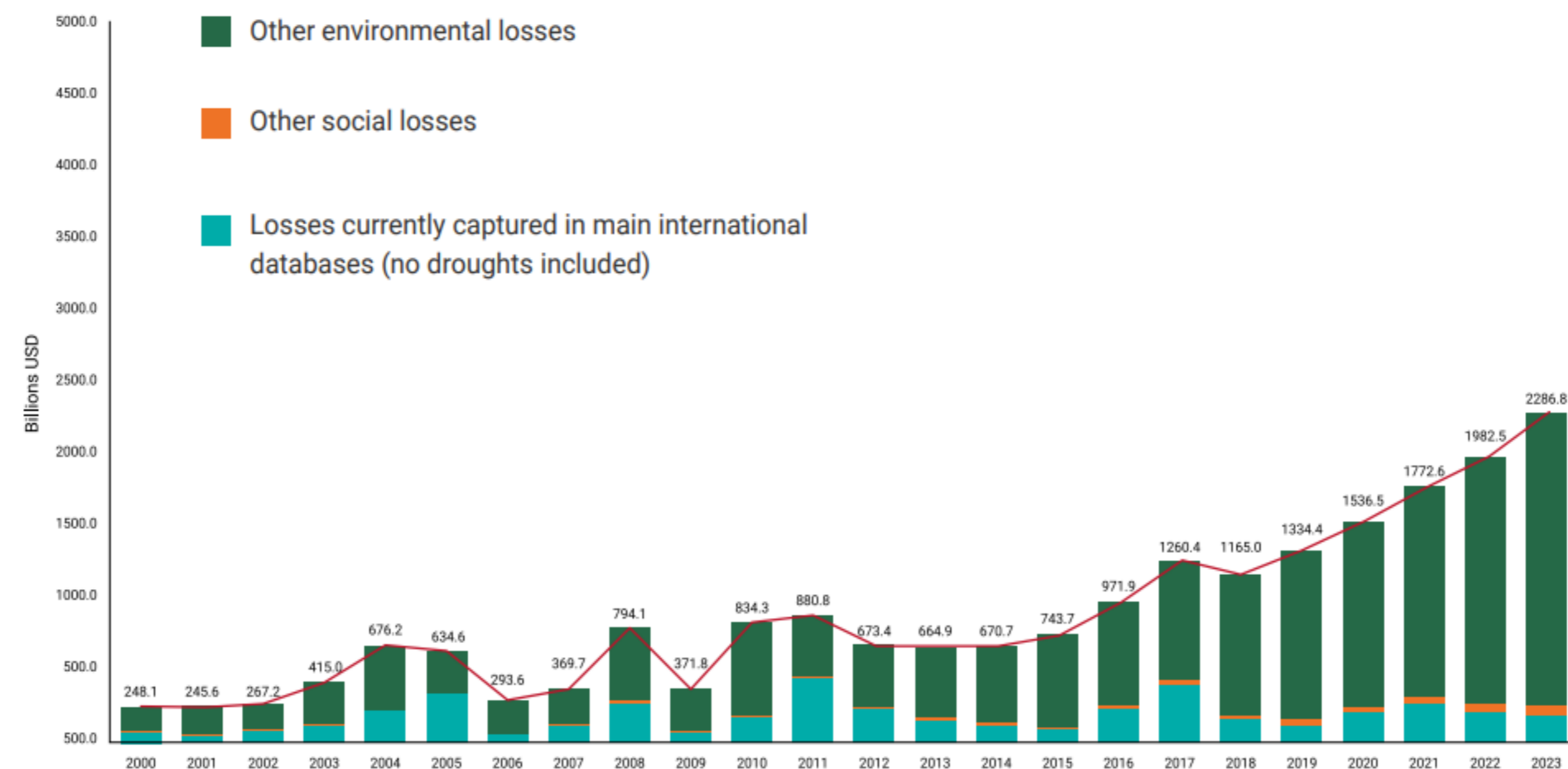
1. Background
2. Climate Risk Finance Overview

1. Background:

Total disaster costs are rising

According to UNDRR Global Assessment Report (GAR2025), total disaster costs are now exceeding **\$2.3 trillion** annually when indirect and ecosystem impacts are included.

The costs of disasters: official, social and environmental, 2000-2023 (Billion USD)



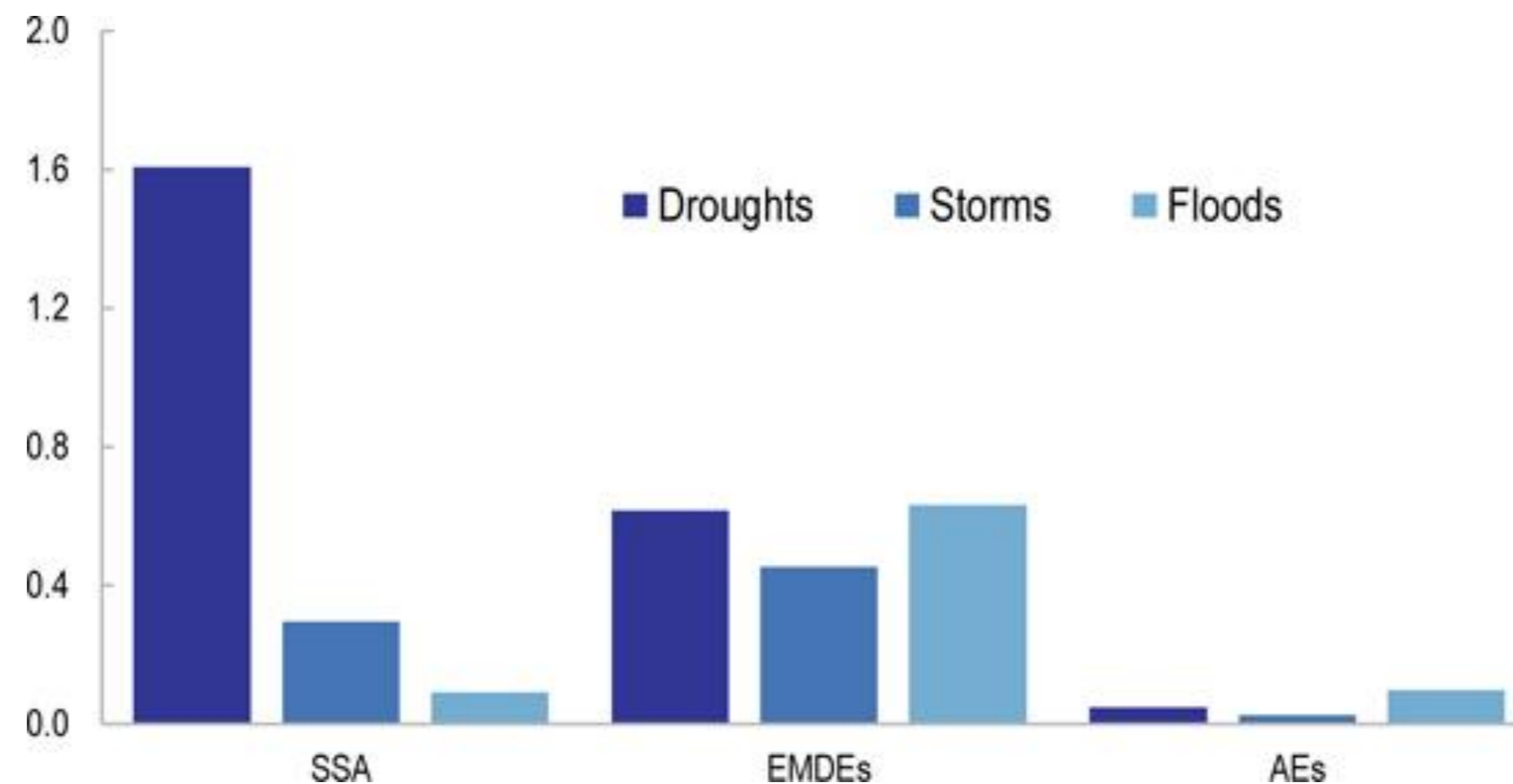
Source: UNDRR (2025)

1. Background:

Economic losses hinder fiscal capacity

Climate-induced disasters are becoming more frequent and severe, disproportionately impacting Emerging Markets and Developing Economies (EMDEs) over advanced economies.

Exposure to Extreme Disasters since 1990 (Average percentage of population affected in a year)



Source: IMF (2023); EM-DAT, the International Disaster Database; and IMF staff calculations.

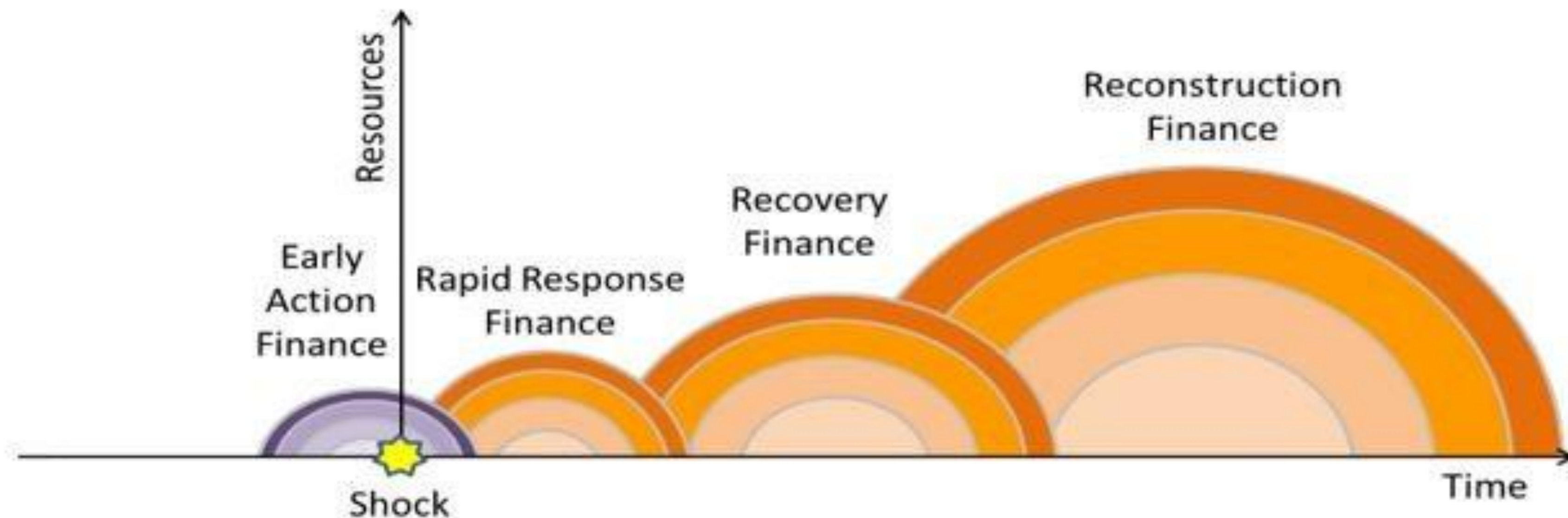
Note: SSA = Sub-Saharan Africa; EMDEs= Emerging Market and Developing Economies, excluding SSA; AEs = Advanced Economies.

1. Background:

Delayed disaster response increases long-term economic losses

Disaster risk financing and insurance helps **minimize the cost and optimize the timing of meeting post-disaster funding needs** without compromising development goals, fiscal stability, or wellbeing.

Financing needs at different stages of an emergency



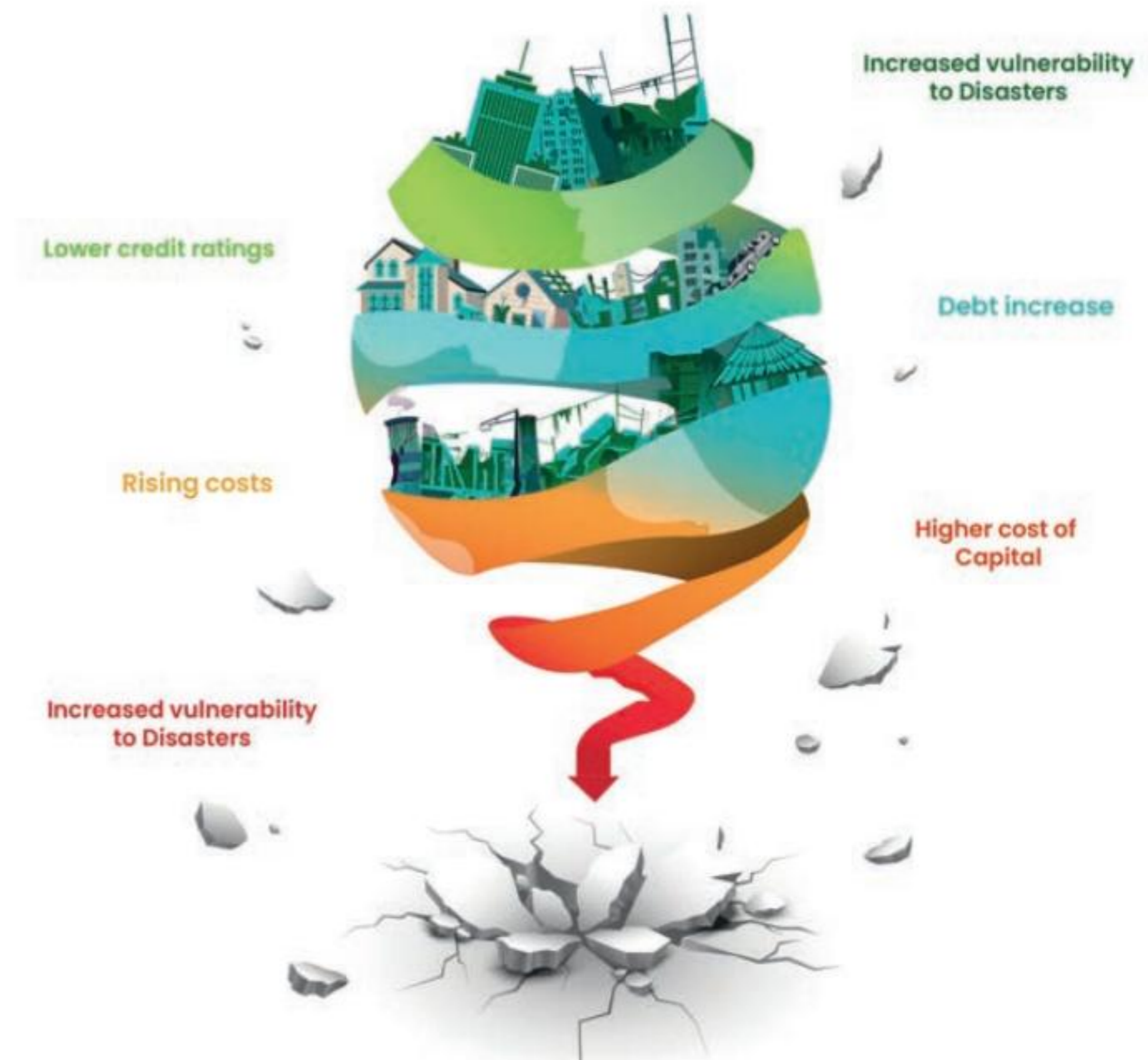
1. Background:

Most climate disasters are not financially protected

In most climate-vulnerable countries, only **2%** of losses from climate-related disasters is financially protected, leaving an estimated average **protection gap of about 98%**

Applying climate risk finance effectively **can address the protection gap** by providing **timely, predictable financial resources**

The decreasing income debt spiral



2. Climate Risk Finance Overview: Why do we need CDRFI?



Enhance financial liquidity and stability

Provide quick and reliable financial support pre and post climate event



Improve data and technical capacity

CDRFI tools-risk modelling, assessment and data analysis-enhance country's technical capacity



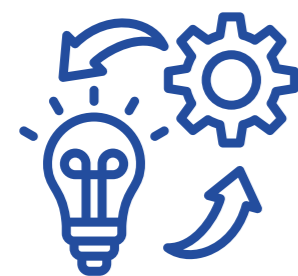
Mobilise finance and secure investment

De-risk and enhance climate resilience of the investment



Bring stakeholder groups together

Foster inter-governmental and public-private collaborations



Manage climate and disaster risk more effectively and comprehensively

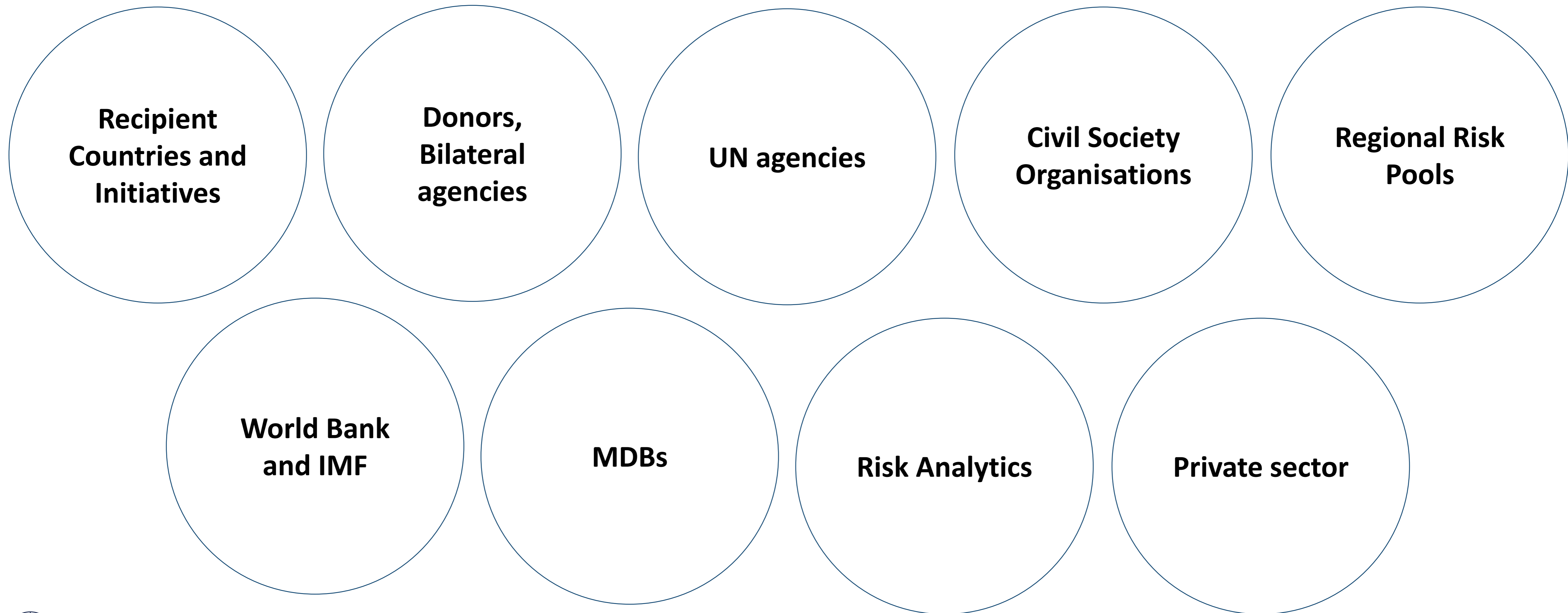
CDRFI can establish cost-effective risk management strategy



Support most vulnerable community/sector

Applicable across multiple sectors and communities, supporting inclusive and comprehensive adaptation efforts.

2. Climate Risk Finance Overview: The current Global CDRFI Architecture



Part 2: Key Instruments

1. Climate and Disaster Risk Finance and Insurance (CDRFI)
2. Ex-Ante and Ex-Post approaches
3. CDRFI Instrument Categories
4. Pre-Arranged Finance (PAR): The example of Climate Risk Insurance

1. What is Climate and Disaster Risk Finance and Insurance (CDRFI)?

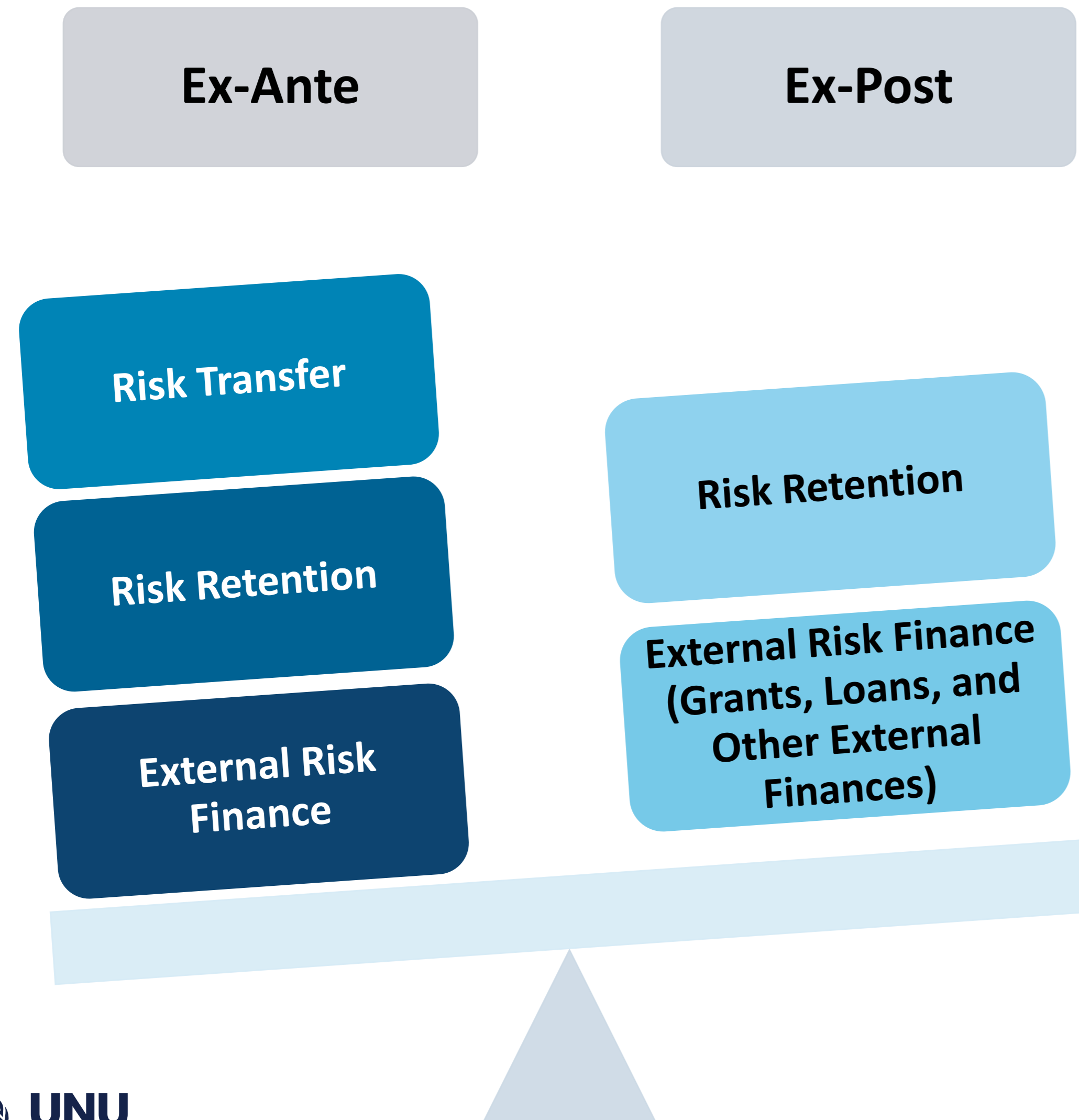
CDRFI refers to **financial instruments and strategies** that aim to **improve the financial preparedness and resilience** of individuals and societies **against climate and natural hazards**.

Central goals



- Assist more rapidly and reliably those in need when a disaster strikes by using an array of quickly disbursing financial instruments.
- Protect economic activity, livelihoods and development.

2. Ex-Ante and Ex-Post approaches



Ex-Ante Finance:

Resources used before an event/hazard occurs

Ex-Post Finance:

Resources used after an event/hazard occurs

3. CDRFI Instrument Categories



4. Pre-Arranged Financing (PAF)

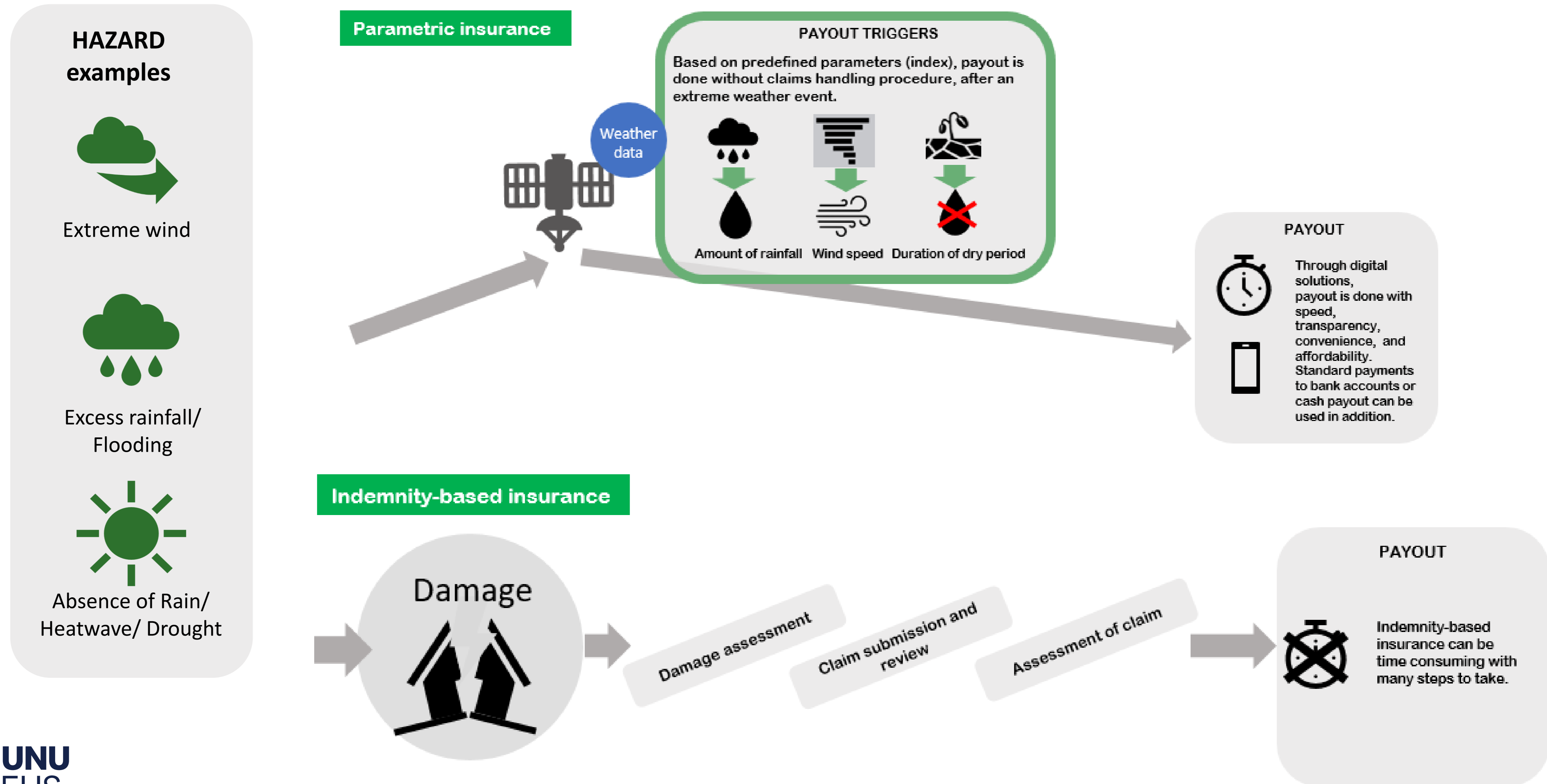
“Financing that has been **approved in advance** of a crisis and that is guaranteed to be **released** to a specific implementer when a specific **pre-identified trigger condition is met**.

The **trigger** may be based on data or models related to impact, forecasts, or projections of need, or a declaration of emergency (or similar) by the specified respondent.

The **funding may be used for anticipatory action or in response to a crisis**, either linked to a clear plan for a very specific purpose or general budget support."

Source: Definition as in CDP (2023)

Climate Risk Insurance (indemnity vs. parametric)

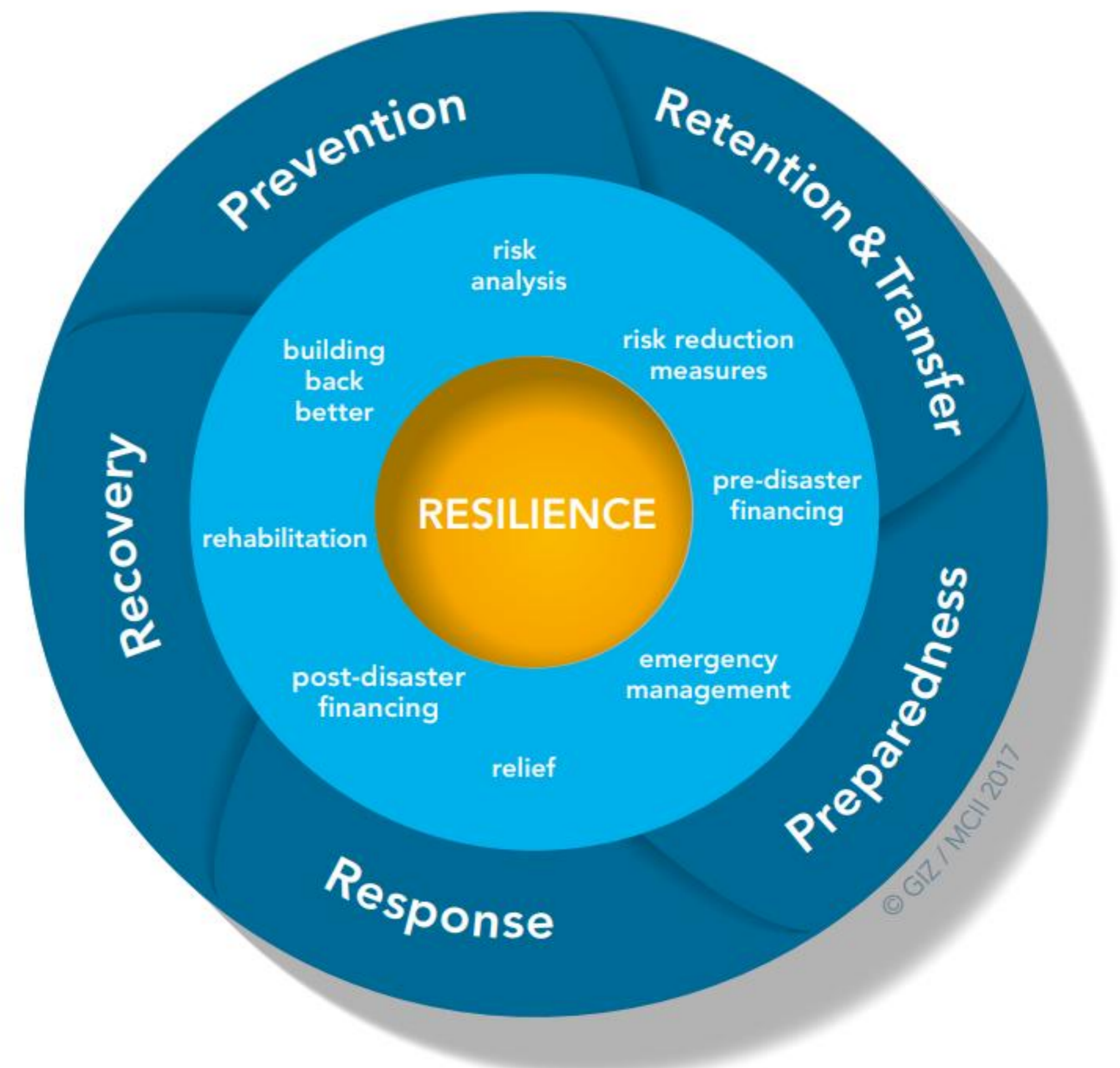


Part 3: Application Strategies

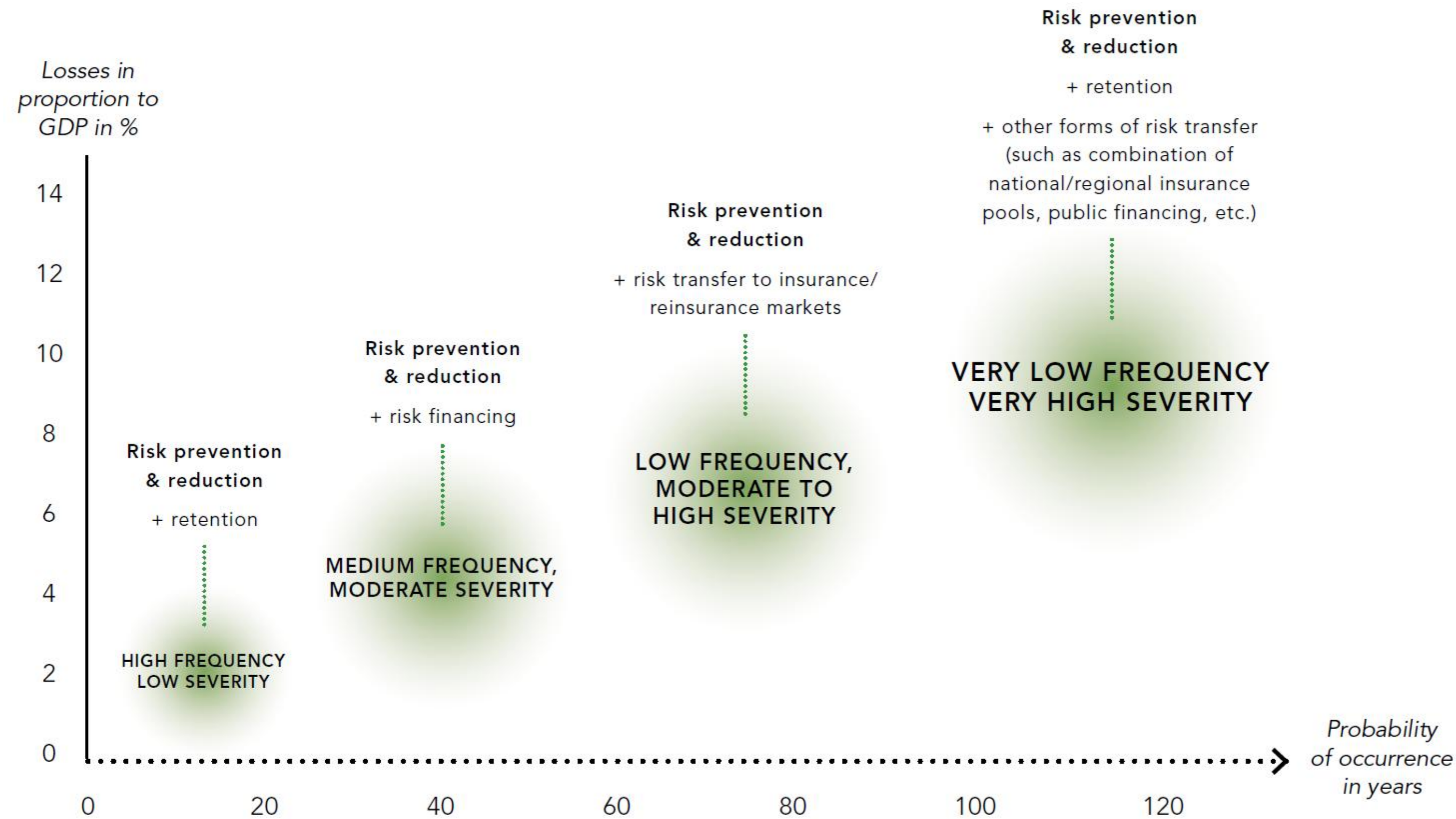
1. Integrating CDRFI into Disaster Risk Management
2. Risk layering approach
3. Comprehensive risk and response management framework
4. Other things to consider

1. Integrating CDRFI into Disaster Risk Management: How should we manage disaster risks?

- **Integrated Climate Risk Management (ICRM)** is a holistic approach that helps governments, businesses, and communities systematically manage increasing climate risks and natural hazards.
- It consists of **five interconnected phases**— all of which can be developed in parallel.
- ICRM emphasizes **risk transfer tools**, such as insurance, to reduce economic losses and strengthen overall resilience, requiring continuous planning and stakeholder engagement.



2. Risk layering Approach

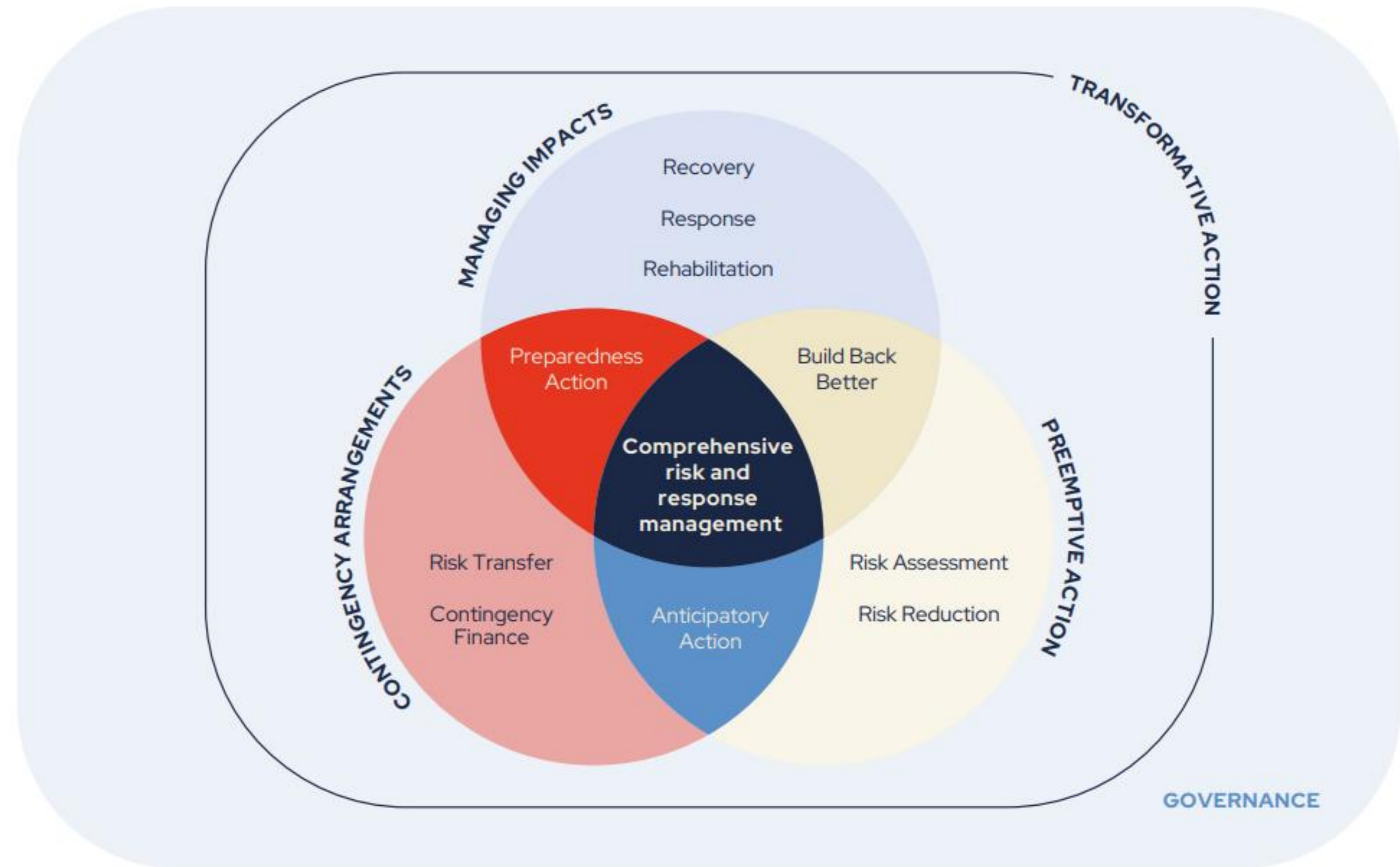


Source: Schäfer, L., Warner, K., Kreft, S. (2019)

Risk layering allows a government to plan for the finance needs to manage different climate risks, from the more common to the most catastrophic.

3. Comprehensive risk and response management framework

The framework aims to inspire and empower various actors to systematically reduce and manage loss and damage from climate change impacts.

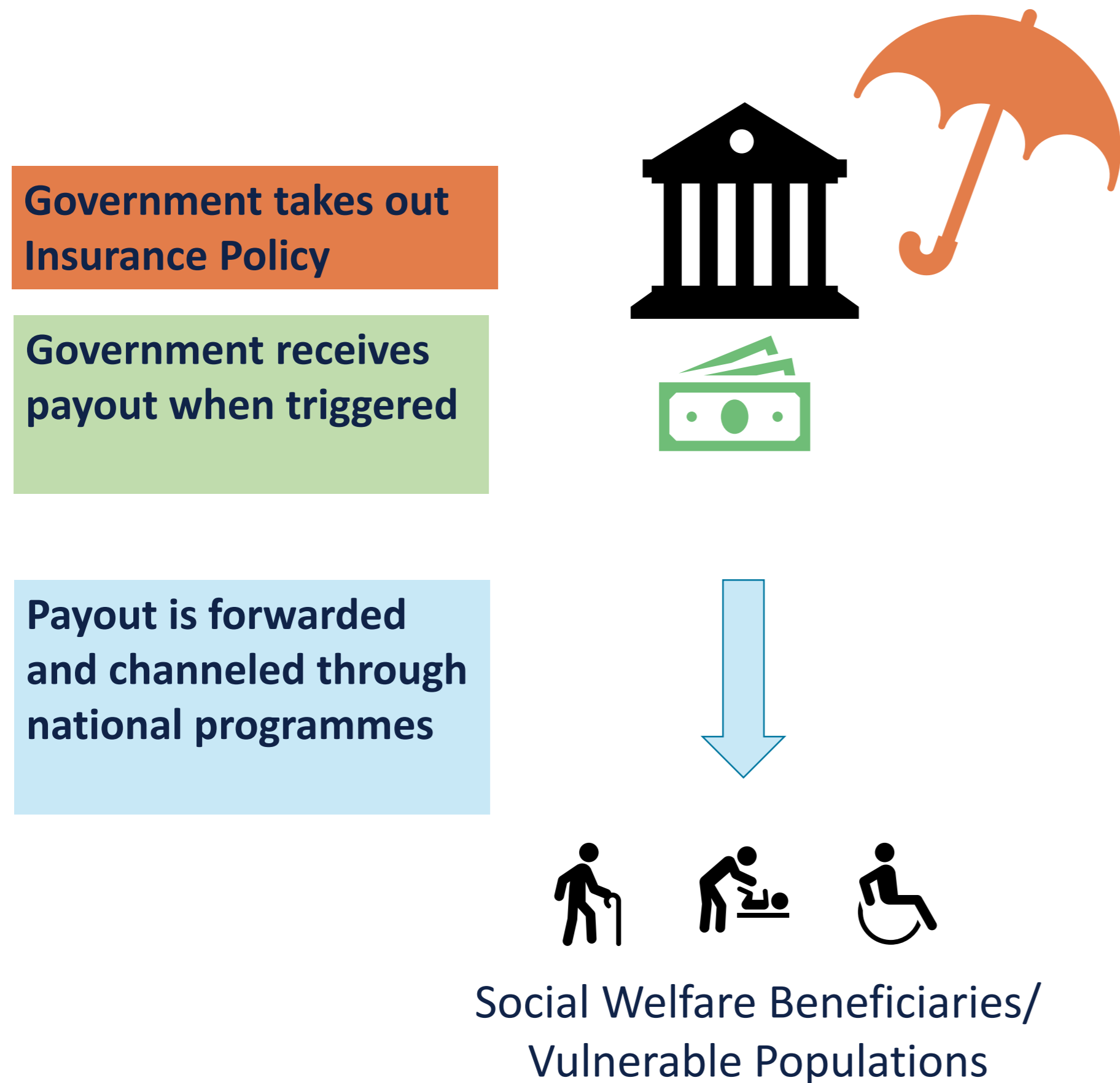


Other things to consider



Part 4: Case studies: Climate Risk Insurance for Resilience

Climate Risk Insurance for Resilience – **MACRO** level approaches



Regional Risk Pools provide protection to governments

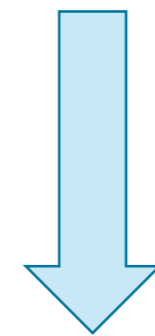
- ARC is a regional risk pool. Its purpose is to help African governments improve their capacities to better plan, prepare, and respond to extreme weather events and natural disasters.
- ARC supports its member countries in tailoring insurance schemes to meet their specific needs and capacities. In some cases, **social protection programmes serve as delivery channels for insurance payouts.**
- Payouts enable **vertical and horizontal expansion** of existing social protection programmes when extreme hazardous events and disasters occur.
- There are **four regional risk pools**:
 - In addition to ARC (covering Africa), there are
 - CCRIF SPC (covering the Caribbean),
 - PCRIC (covering the Pacific), and
 - SEADRIF (covering ASEAN+).

Climate Risk Insurance for Resilience – MESO level approaches

Humanitarian Agency/
NGO/ Company/
Cooperative/
Association takes out
Insurance Policy

Meso partners receives
payout when triggered

Payout is forwarded
and channeled through
existing programmes or
in-kind support



Social Welfare Beneficiaries/
Vulnerable Populations

Humanitarian actors are taking out insurance for their target communities

- ARC Replica - ARC's Replica Coverage allows UN agencies and other humanitarian actors to match ARC country insurance policies (e.g., **WFP, Start Network**)
- Countries lacking financial and operational capacity for greater coverage expansion beyond that purchased by themselves benefit from humanitarian actors taking out complementary insurance, providing both increased insurance-based funding and scaled, coordinated, and timely operational execution.

Parametric insurance with the option for anticipatory payouts for agricultural cooperatives in Fiji

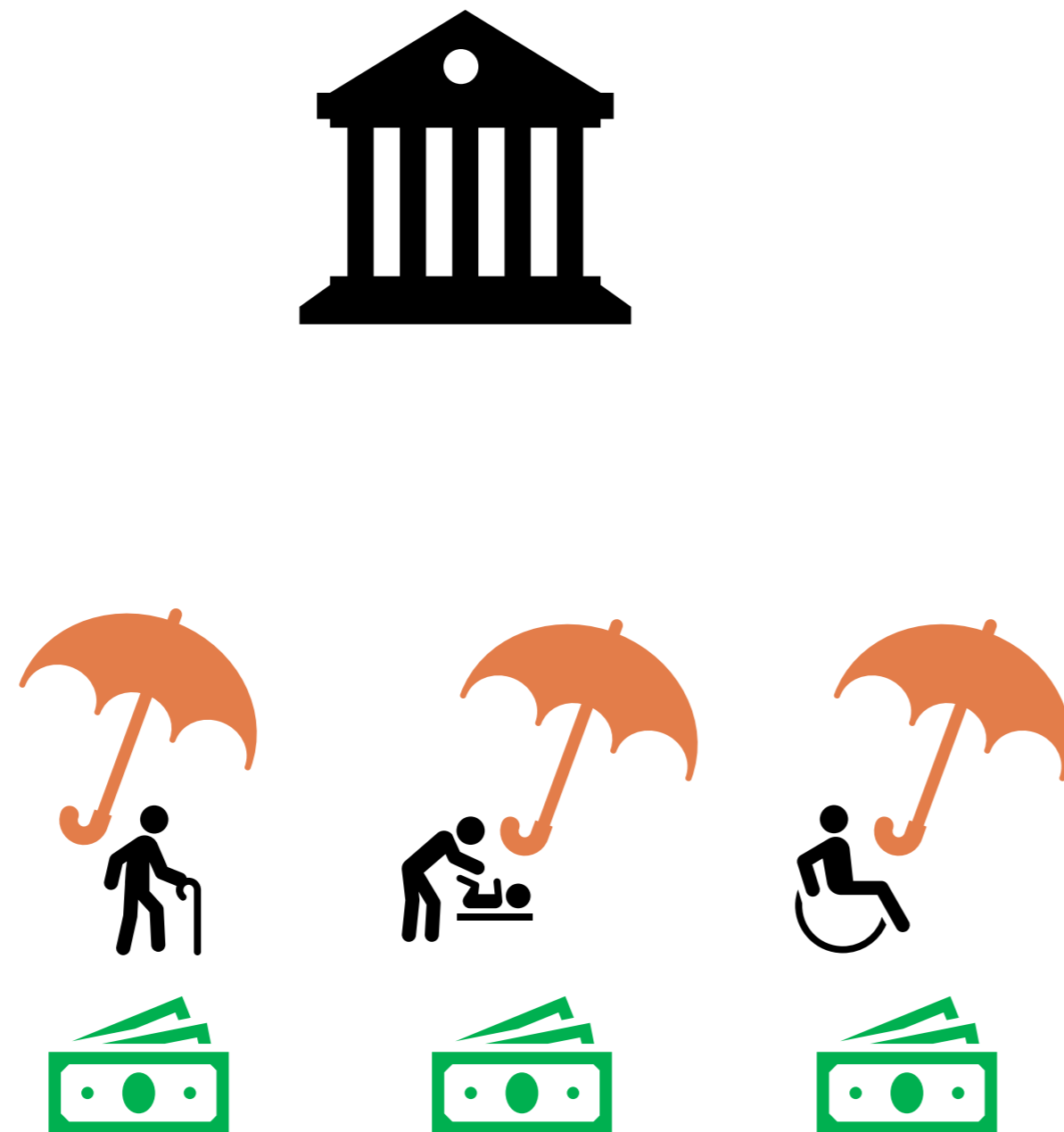
- Under the joint UNCDF, UNDP & UNU-EHS Pacific Insurance and Climate Adaptation Programme (PICAP), UNCDF and UNDRR jointly launched a meso-level anticipatory insurance scheme in Fiji.
- It aims to provide **timely financial support to cooperatives** and associations, **enabling them to act before and after disasters**, reducing economic losses, and enhancing community resilience.

Climate Risk Insurance for Resilience – **MACRO-TO-MICRO** level approaches

Government **pays premium for social welfare beneficiaries** to receive micro individual insurance coverage

Insurance companies **issue policies to identified individuals**

Individual social welfare beneficiaries **receive payout directly when triggered**



Social Welfare Beneficiaries/
Vulnerable Individuals

Fiji facilitates direct protection of its social welfare beneficiaries

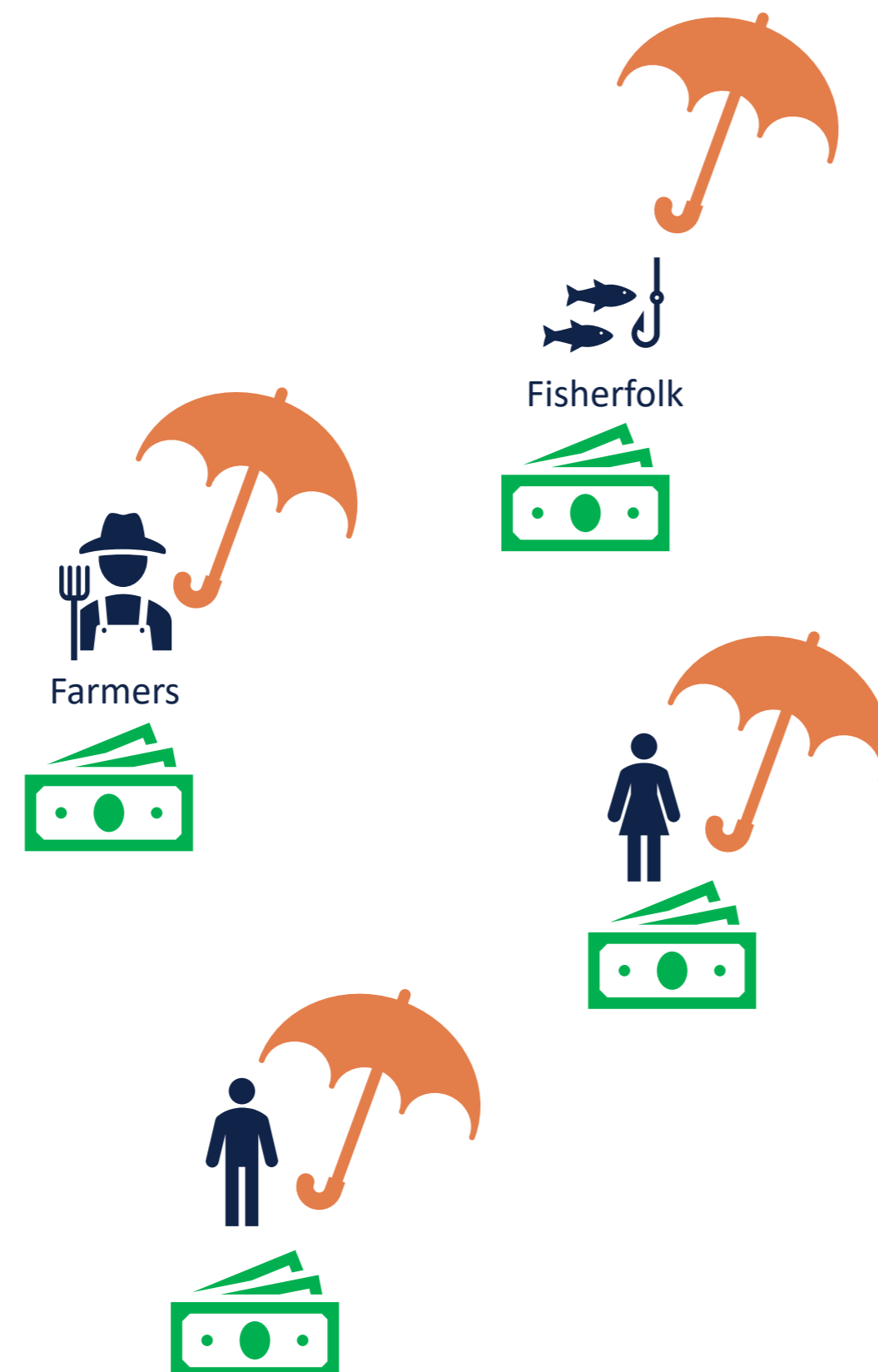
- Since 2021, the UNCDF, UNDP, and UNU-EHS's Pacific Insurance and Climate Adaptation Programme (PICAP) has collaborated with Fiji's Ministry of Women, Children, and Social Protection to introduce a climate risk insurance product for social welfare beneficiaries.
- The Fiji government aims to gradually protect the entire population covered by the national social protection system through a **macro-to-micro insurance mechanism**.
- The insurance contracts are made with the policyholder individually and, **when payouts are triggered, they are directly transferred to the respective social welfare beneficiaries**.

Climate Risk Insurance for Resilience – MICRO level approaches

Individuals pay insurance themselves, or they receive partial or full premium subsidies

Insurance companies issue policies to identified individuals

Individual beneficiaries receive payouts directly when triggered



Protecting climate-vulnerable livelihoods in the Caribbean

- As part of the Climate Risk Adaptation and Insurance in the Caribbean (CRAIC) project, CCRIF SPC and MCII are developing and introducing the **Livelihood Protection Policy (LPP)** to help protect the livelihoods of climate-vulnerable individuals and communities in Jamaica, St. Lucia, Grenada, Trinidad & Tobago, and Belize.
- The LPP is unique as it is a micro-parametric climate risk insurance product developed by the regional risk pool (CCRIF SPC) to be offered by interested local insurance companies.
- The project seeks to build the capacities of local insurance companies to offer parametric and micro-parametric climate risk insurance solutions.

Introducing the first micro-parametric insurance offer in the Pacific

- PICAP works with public and private partners to build the ecosystem and local markets to improve the financial preparedness of Pacific islanders against climate risks.
- PICAP is working with regional insurance companies to introduce and offer the first micro-parametric insurance solutions in the Pacific to vulnerable individuals and entrepreneurs in Fiji, Vanuatu, Tonga, Samoa, PNG, the Solomon Islands, and Tuvalu.

Part 5: Key Takeaways

Key takeaways

1. Economic impacts of disasters are rising — **climate disaster risk financing and insurance solutions can be key mechanisms** for building climate resilience.
2. Well-designed **climate risk insurance, embedded into comprehensive risk management**, can contribute to building resilience for climate-vulnerable communities and countries and to close the existing large protection gap, helping them to **anticipate, absorb, and adapt to climate impacts**.
3. The use different CDRFI instruments **must be integrated** into broader disaster risk reduction and resilience strategies/policies.
4. The effective and appropriate use of CDRFI solutions requires a **risk-layering approach** and strong **integrated climate risk management (ICRM)**.

Thank you

For further questions or engagements, please contact:

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For further reading

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