

Bigger, Stronger, more Sustainable:

Financial Resilience in Africa through holistic Public-Private Solutions

*A practical overview of
global risks, natural disasters
and how African
governments, re/insurers
and businesses can protect
their populations and assets
through analytics and
efficient use of public-
private risk financing*

Public Sector &
Climate Resilience
Solutions
Global Practice

Gallagher Re

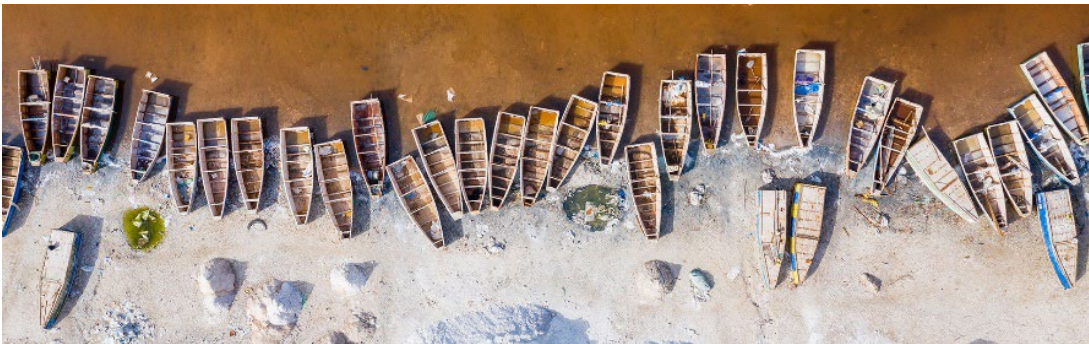
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AIO Conference,
03 June 2024



Gallagher Re

Navigating a wide range of Risks & Losses



1,000
100
10
1
(US\$bn)

Some numbers:

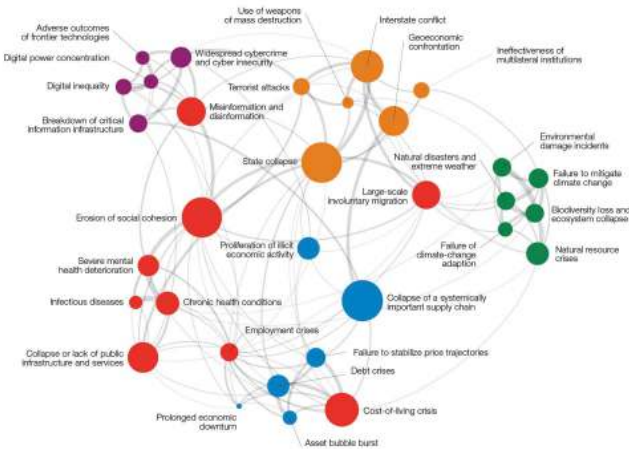
- Annual Adaptation Needs
- Resilience Losses & Protection Gap
- Hurricane Katrina 2005
- Theoretical Loss & Damage Fund
- African Annual Adaptation Needs
- African Annual Food Security Needs
- Brazil droughts 2023
- Pre-arranged Crisis Financing (3%)
- Mozambique Cyclone Idai 2019
- Moroccan 2023 Earthquake
- Actual Loss & Damage Fund 2024



Navigating a wide range of Risks & Losses

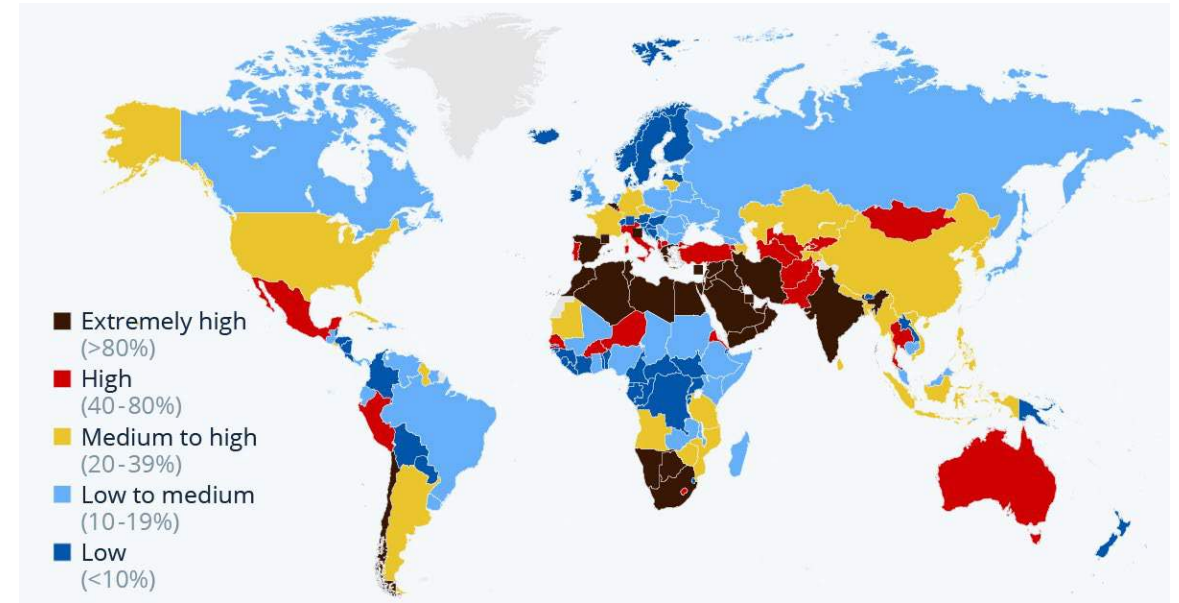
Interconnected Risks & Threats And the water-energy-food nexus

Source: World Economic Forum 2023



Where water stress will be highest by 2050

Projected ratio of human water demand to availability in 2050



According to "business-as-usual" scenario of +4.6C by 2100. Source: World Resource Institute



Key messages

- Climate and systemic events create significant fiscal, financial and livelihood losses that can be **reduced through financial preparedness and insurance**
- Governments and businesses are exposed through a number of direct and indirect channels
- Expected **returns** on ex-ante risk finance and insurance investments **exceed 300% on average**
- Advancements in risk data and analytics are **unlocking new risk transfer applications, including parametric**, for more efficient use of taxpayers' money
- National risk transfer schemes can be **simple to implement** through modular, customized approach, adapted to **country-specific** environments

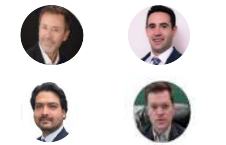
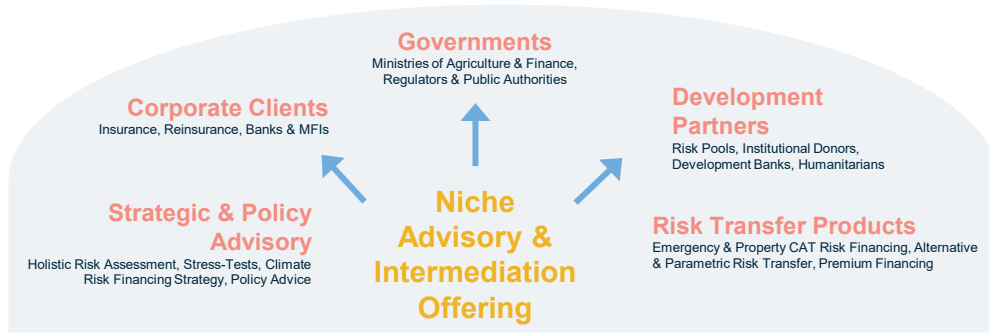
Practical PPP Solutions Framework

addressing wide range of climate and systemic risks, through turnkey solutions covering

- Awareness
- Policy
- Actuarial
- CBA
- Budgetary
- Fund Raising
- Exposure Mapping
- Risk Modelling
- Structuring
- Placement
- Claims
- Comms and M&E



Who we are



Regional Leads & Champions
Regions, Agri, C ESG, SFA, GRC, InsurTech

Public Sector, Parametric & Climate Resilience Solutions Global Practice

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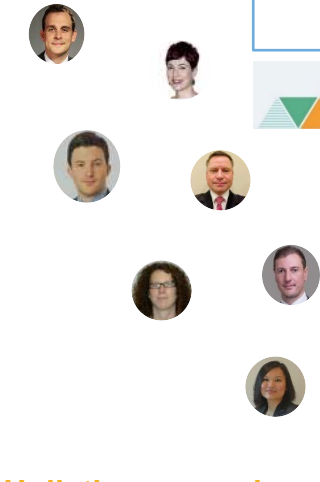


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Supported by Analytics Experts



Holistic approach
to closing the Protection Gap with fully integrated Analytics & Advisory offering

Enabling access
to Alternative Risk Financing & Parametric Solutions for Public & Private sector Clients



Our Mission

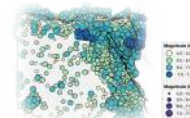
3 Focus Areas:

Closing the Protection Gap Promoting Alternative Re/insurance Serving a broader range of Clients

Our Expertise

- Climate & Disaster Risk Finance
- Public-Private Partnerships & Risk Pools
- NatCat Scheme Design & Implementation
- Sovereign Risk & Emergency Relief Finance
- Parametric Solutions (Private & Public Sector)
- Climate Stress-Testing
- Risk Financing Strategy
- Premium Financing

Egypt, PPP
EQ & Flood for Residential (target inception Q1 2025)



Senegal
Sovereign Climate Risk Finance



Morocco,
Sovereign R/I, Property & Emergency Relief



Major Clients



World Bank
Sovereign Risk Finance & R/I Advisory



Caribbean Risk Pool CCRIF
Public-Private Parametric R/I

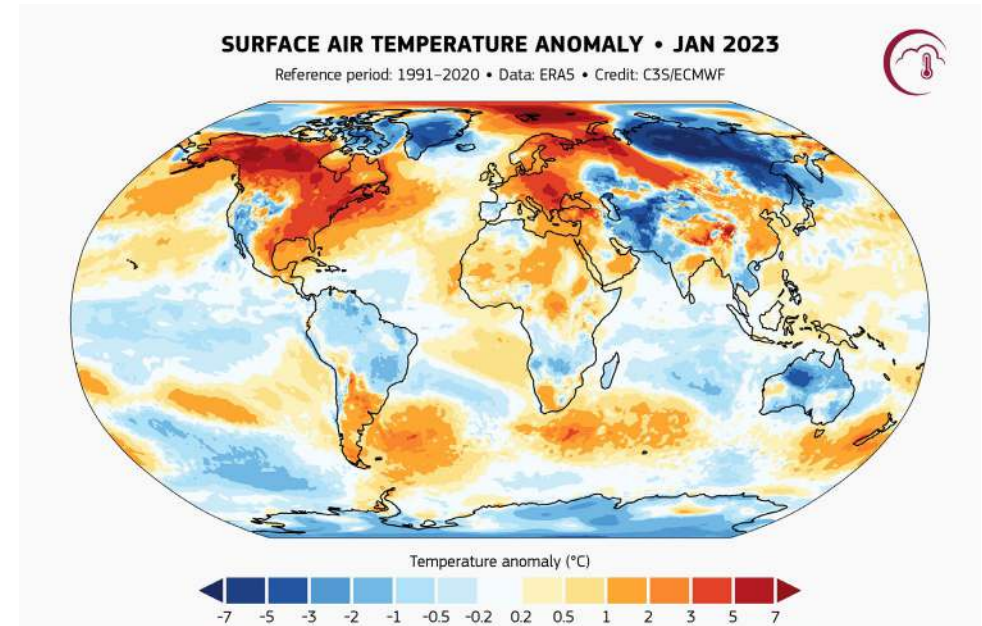


ARC
UN/Sovereign, Food insecurity



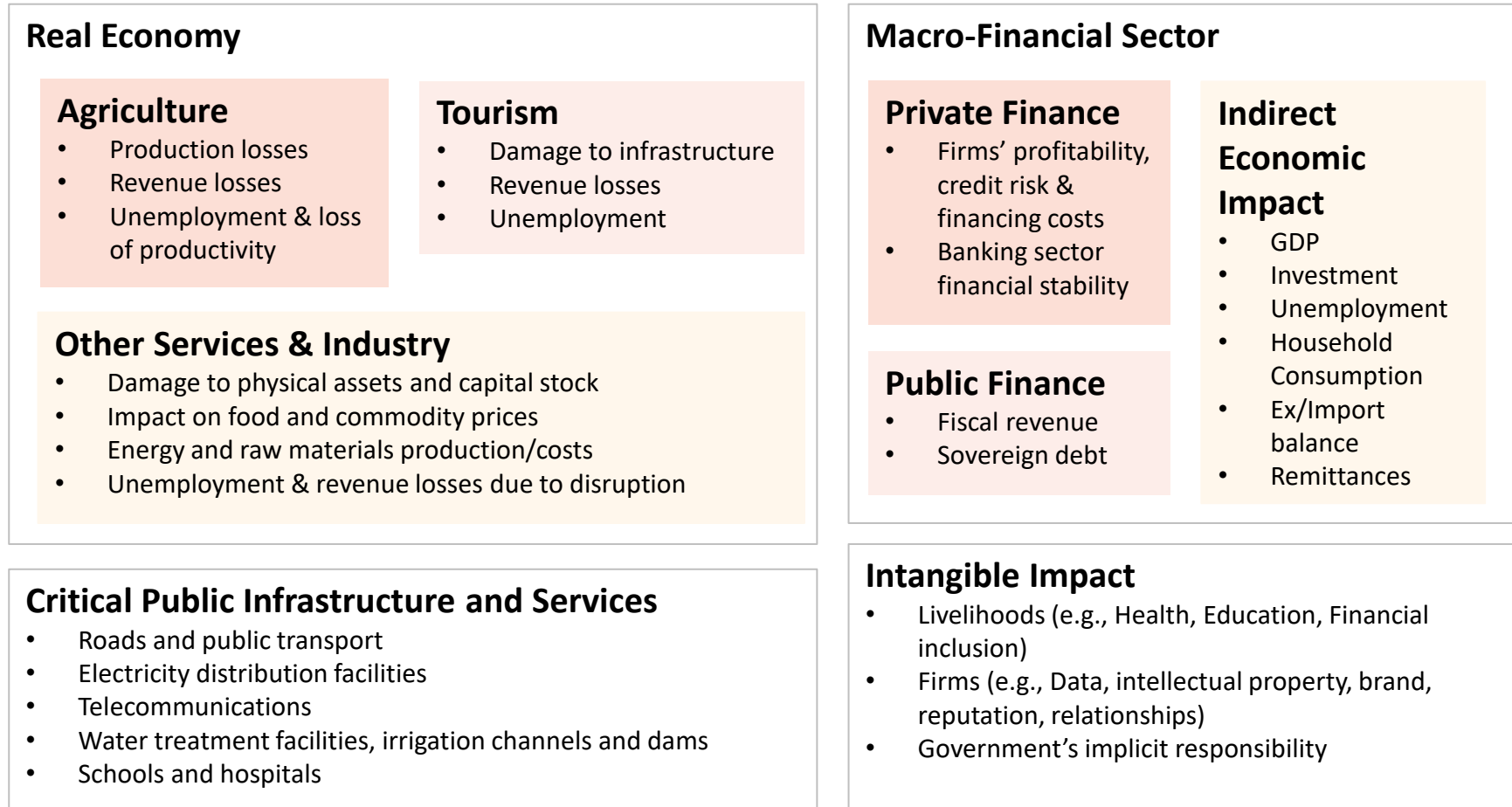
Understanding Risks & Costs

- Recent years have seen increased volatility in both frequency and severity of climate and disaster events. Most of which are leaving communities, businesses, supply chains, infrastructure and critical services uncovered, with the global risk protection gap sitting largely in excess of 90%.
- Climate and extreme events affect **economies and livelihoods differently and propagate over time**, sectors and geographies through various transmission channels
- In the absence of financial response, **these costs double or triple up over time**, creating significant burdens on economies and societies
- Governments have **various financial tools at their disposal** to anticipate and best respond to these costs, often in short supply and with the difficulty of knowing how to leverage and better target such budgetary instruments
- It is therefore essential to **mobilize and prioritize ex-ante risk financing** where and when most critical, by focusing on most pressing needs and most impactful response mechanisms and supported by sound, holistic and forward-looking risk understanding



2023 Temperature Anomaly compared to 1990's.
Source: Copernicus/ECMWF

Understanding Risks & Costs



spill-over & compounding effects



Understanding Risks & Costs

Examples of past historical events and their impacts on the African continent



Real Economy

Agriculture

Morocco, 1994/95 Drought:

- Ag GDP -45% ; National GDP -8%

South Africa, 1990 Drought:

- \$2.1bn damage

Tourism

- Damage to infrastructure
- Revenue losses
- Unemployment

Other Services & Industry

Egypt, 2021 Suez Canal Blockage:

- \$100m in lost toll revenue ; National GDP -0.03%

Macro-Financial Sector

Private Finance

- Firms' profitability, credit risk & financing costs
- Banking sector financial stability

Public Finance

- Fiscal revenue
- Sovereign debt

Indirect Economic Impact

Oman, 2007 Cyclone Gonu:

- \$5.5bn in damage (7% of national GDP)

Egypt, 1992 Cairo Earthquake:

- \$2.3bn in damage (0.6% of national GDP)

Critical Public Infrastructure and Services

- **Algeria, 2003 Boumerdès Earthquake :**
 - \$7.4bn damage (5% of national GDP)
- **Egypt, 1992 Cairo Earthquake:**
 - \$2.3bn damage (0.6% of national GDP)

Intangible impact

- **Mozambique, Zimbabwe, and Malawi Idai Cyclone :**
 - 3m people affected
 - \$2.2bn damage
- Government's implicit responsibility

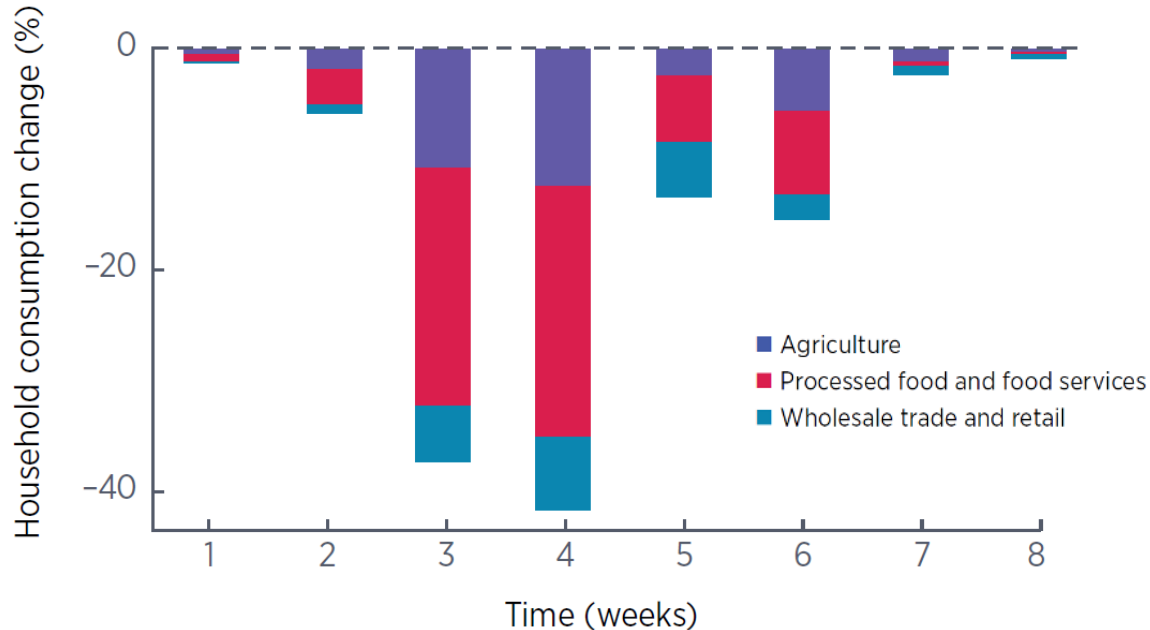


Understanding Risks & Costs

Why countries require customized solutions

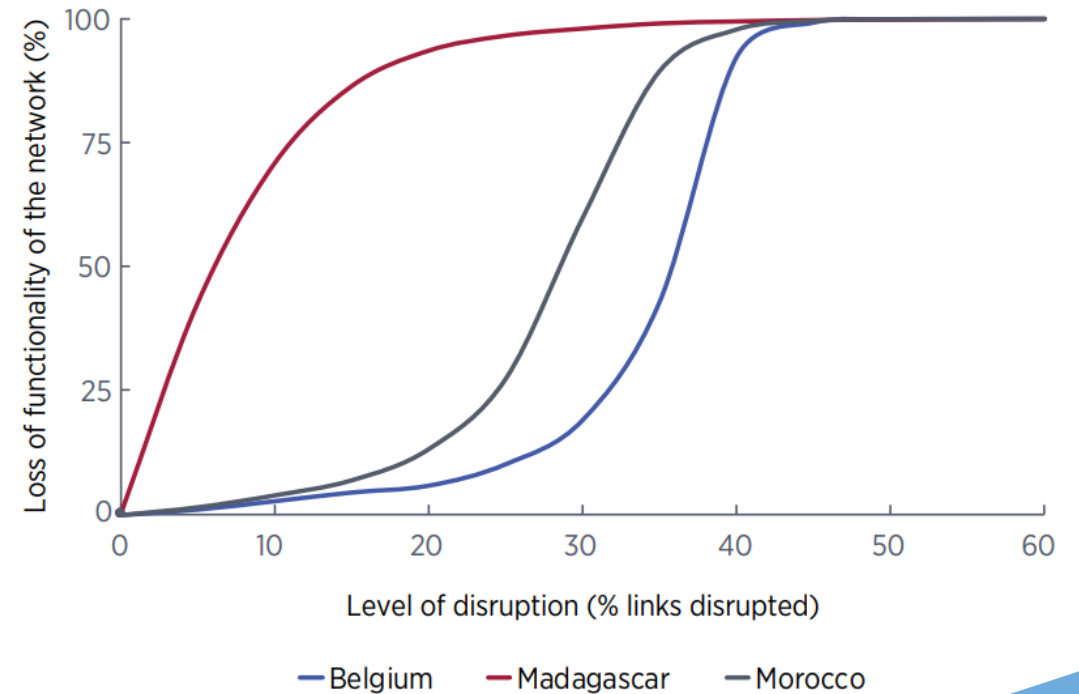
Impact on consumption from long-duration floods in Tanzania, highlighting cascading effects

(e.g., on supply chain, source: World Bank, Colon et al, 2019)



Country-specific context and vulnerability's influence on actual impact on the ground

(source: World Bank, Rozenberg et al, 2019)



Understanding Risks & Costs

Climate Change: Overview

Examples of global impact from a 1.5°C scenario

(sources: Gallagher Re, IPCC)

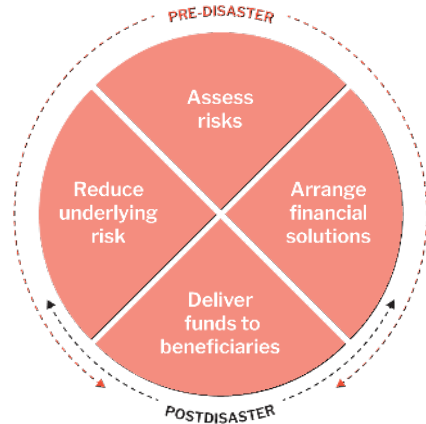
- More frequent and more severe catastrophe events globally
- Increases in average and extreme temperatures (up to +3°C in some regions)
- 420 million people frequently exposed to extreme heat waves, and 65 million people to exceptional heat waves
- Increase in heat-related morbidity and mortality (e.g., urban heat islands)
- More extreme urban floodings in West Africa
- Global sea level rise of about +50cm by 2050
- Coral reefs to decline by a further 80%
- Ocean acidification will amplify the adverse effects of warming, impacting the survival of broad range of species, from algae to fish
- Decrease in global annual catch for marine fisheries of about 1.5m tons
- Risks from some vector-borne diseases, such as malaria and dengue fever, to increase, including potential shifts in their geographic range
- Reductions in yields of maize, rice, wheat (-20% globally), and potentially other cereal crops, particularly in sub-Saharan Africa
- Countries in the tropics and Southern Hemisphere subtropics to experience the largest impacts on economic growth
- Hotspots: Sub-Saharan Africa, tropical coastal areas and low-lying land



Benchmarking expected flood damage from future climate change impact globally
Source: Aqueduct/WRI

Why?

Risk Financing : Direct Benefits



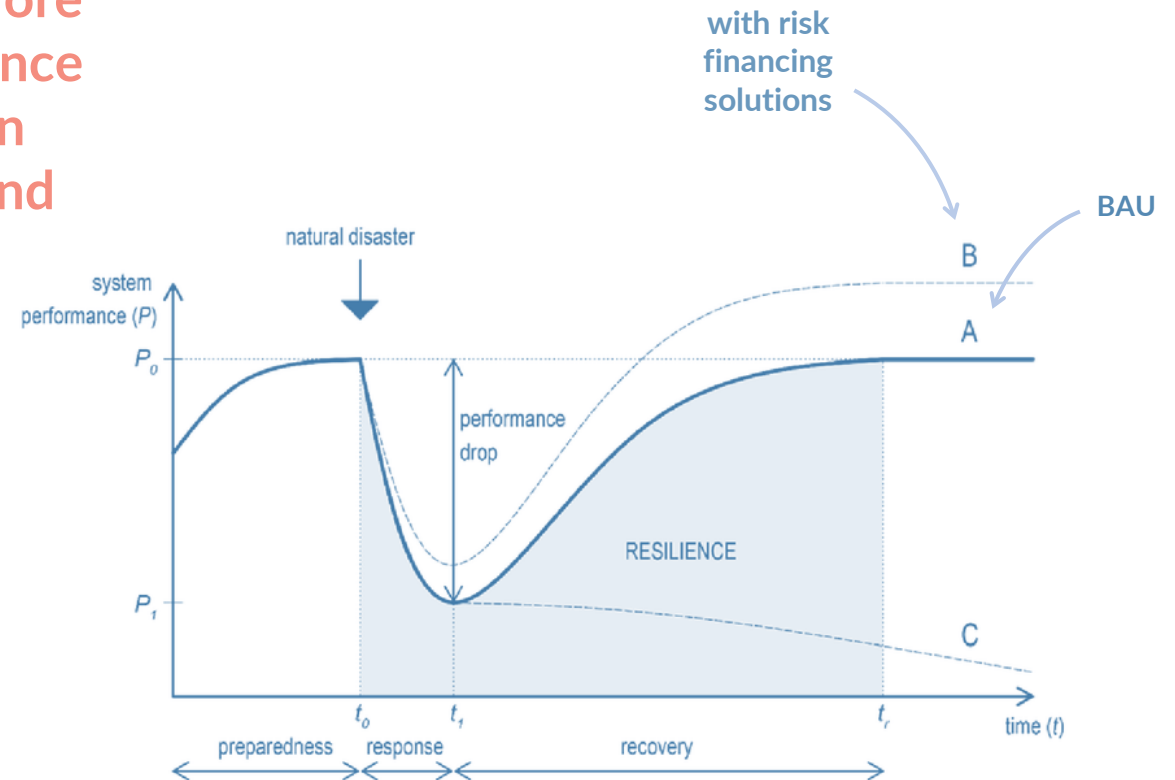
By mobilizing financing before disasters strike (e.g., insurance schemes), the net impact on governments, businesses and livelihoods is reduced significantly

Expected Returns on Risk Financing & Insurance Investments

~ 300% to 400% on average

i.e., for every \$1 invested (e.g., insurance premium, subsidies, budget line mobilization) a return of x2 to x4 is expected over time.

Source: Center for Disaster Protection & World Bank

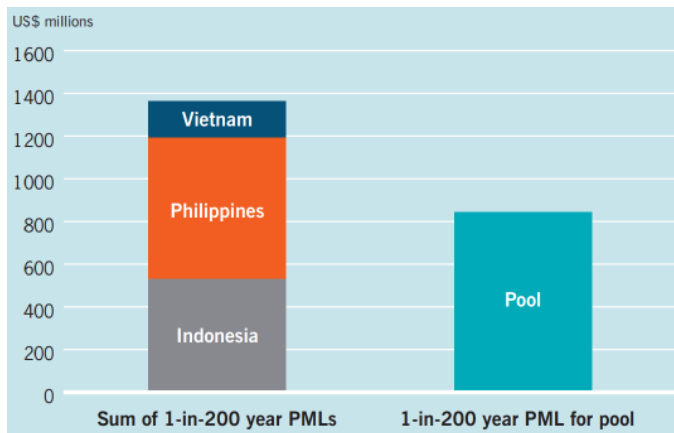


Why?

Risk Financing : Additional Benefits

Reduced cost of capital through risk transfer & pooling

Example: Indicative diversification benefits modelled for Indonesia, the Philippines, and Vietnam (World Bank, 2019)



Strengthening resilience of most vulnerable, such as SME, agriculture and specific sectors

Promoting insurance and financial sector development through sustainable, national insurance schemes

Paving the way to climate adaptation efforts, through risk analytics and resilience framework

Increased financial stability and safe investment environment

Reducing risk of social unrest through active government response

Improving risk understanding through large-scale data and model registries

Protecting hard-won development gains with risk transfer capital



How?

PPP approach to Resilience : Accelerating Action through scalable Ecosystem



Mobilizing Risk Finance, Capital & Expertise at scale

through public private partnerships & holistic risk financing strategies

- Government's Reserves & Budget Reallocation
- Donors & Development Partners' Funding
- Contingent Line of Credit
- Insurance, Reinsurance & Alternative Markets
- Individual Policyholders



Practical Solutions Implementation Framework

addressing wide range of climate and systemic risks, through turnkey solutions covering

- Policy
- Regulatory
- Legal
- Actuarial
- Budgetary
- Fund Raising
- Exposure Mapping
- Risk Modelling
- Structuring
- Placement
- Claims
- Comms and M&E

Scalable Solutions fully customized to country needs

reflecting government's risk appetite, exposures, priorities, political & financial constraints



- Emergency Response
- Government's Contingent Liability
- Agriculture & Crop / Food Insecurity
- Tourism & Fiscal Revenues
- Residential & Commercial buildings
- Critical Public Infrastructure



How?

Examples of Potential Applications

Covering wide range of financing needs

Budget Protection: Supports ministries of finance to manage their contingent liability and meet the cost of disasters and climate shocks through ex-ante financial and insurance solutions.

- The Government of the Philippines secured a US\$500 million contingent line of credit (DPF with CAT DDO), placed US\$206 million parametric insurance program for sub-sovereigns and issued a US\$225m Cat Bond.

Resilient Livelihoods: Supports governments in channeling emergency support to households through social protection mechanisms, enabling faster and transparent disaster response and helping to reduce humanitarian impacts.

- US\$8 million has been transferred to 180,000 households in the northern counties in Kenya following major food insecurity event.
- Public works safety net in Uganda disbursed US\$6 million to 50,000 households in response to drought in the Karamoja region.

Public Asset Insurance: Supports Ministries of Finance to minimize impact of extreme climate events on public infrastructure and public facilities through insurance solutions

- US\$2 billion of exposed public assets covered under Indonesia's public asset insurance scheme
- Colombia insured US\$38 billion of new road infrastructure built through public-private partnerships.
- Infrastructure risk assessments to support decision-making on climate adaptation financing in Morocco

SME Protection: Minimizes the impact of disruptive events on businesses and economic activity through quick, parametric insurance coverage or partial credit guarantee

- Cat bridge financing facility backed by parametric insurance to give loans to cover the credit servicing cost of vulnerable MSMEs affected by climate shocks for a defined period and thus prevent them defaulting on their loan.
- Existing indemnity insurance products being extended to include business interruption insurance



Example: Development Risk Pools

Scheme	Purpose and coverage	Nature of scheme
African Risk Capacity (ARC)	Reduce fiscal impacts of disasters (drought, flood, tropical cyclones)	ARC is an extreme weather insurance scheme designed to help African Union member economies resist and recover from natural disasters. The scheme uses advanced satellite weather surveillance and software – developed by the WFP – to estimate and disburse immediate funds to African economies hit by severe drought, with other hazards to follow in the coming years. Economies that participate in ARC will benefit from an index-based insurance mechanism for infrequent, severe drought events. The ARC risk pool transfers extreme risk that it believes it would be inefficient to hold as reserves within the pool to international carriers via reinsurance.
Caribbean Catastrophe Risk Insurance Facility (CCRIF)	Reduce fiscal impacts of disasters (hurricanes, earthquakes, excess rainfall)	CCRIF is a country risk pooling facility owned and operated by participating Caribbean governments. In return for premiums, the pool provides a payout when a policy is triggered. Policies are based on parametric triggers (in this case, modelled government loss) and are designed to provide governments with the funds needed to manage the immediate aftermath of a disaster. Coverage limits are determined by governments, but no country can purchase coverage in excess of USD100 million per hazard. Payments are made on a sliding scale relative to scale of the loss. The pool's capacity is augmented by the purchase of reinsurance and a catastrophe swap with the World Bank. The World Bank provides oversight of the CCRIF and manages a trust fund, used to support the CCRIF, on behalf of foreign donors.
Southeast Asia Disaster Risk Insurance Facility (SEADRIF)	Finance emergency needs for populations affected by floods and tropical cyclones in Cambodia, Lao PDR, Myanmar	SEADRIF is a regional platform that provides participating nations with advisory and financial services to increase preparedness, resilience and cooperation in response to climate and disaster risks. As a regional platform under the political umbrella of ASEAN+3, it supports multiple purposes:: <ul style="list-style-type: none"> - serve as a forum for sharing knowledge and good practices. - promote shared investments in public goods to support the understanding of risk. - sustain political momentum – driving engagement and progress on disaster and climate shock management.
Pacific Catastrophe Risk Insurance Company (PCRIC)	Reduce fiscal impacts of disasters (Earthquake (and following Perils) + Cyclone)	PCRIC aims to provide disaster risk finance products including catastrophe risk insurance against natural and climate disasters to Pacific Island Countries, with an aim of providing liquidity to enable governments to deliver relief efforts as quickly as possible after a disaster.



Scaling up Resilience in Africa:

Accelerating Action through modular Public-Private schemes

Creating the ecosystem

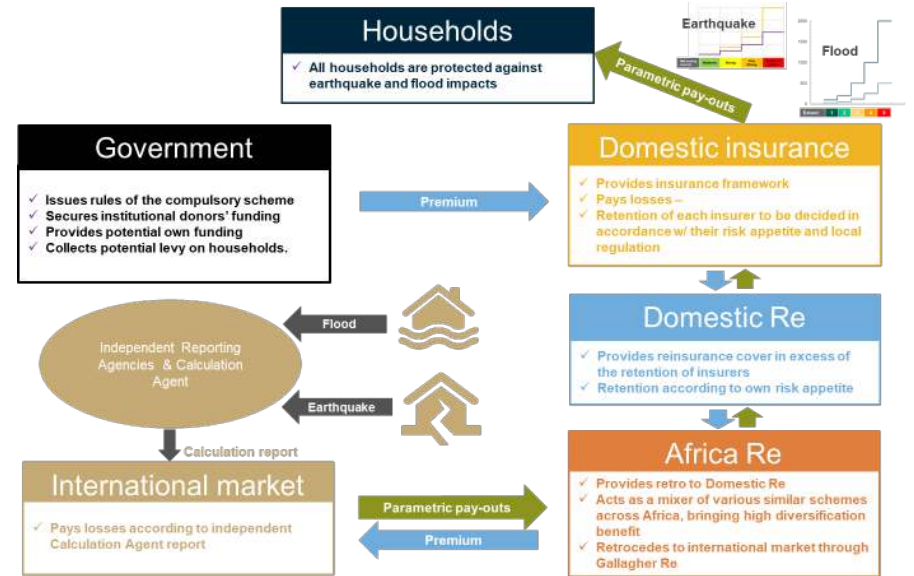
Facilitating governance, roles, agreements, mechanisms and communication across stakeholders, supporting decision-making every step of the way through state-of-the-art risk & financial analytics

Implementing practical solutions

Focusing on executing design, implementation & operationalization activities in accelerated timeframes (e.g., 18-24 months)

Promoting sustainable growth over time

Building on previous experience, aiming to reach scale and achieve regional momentum, as a long-term partner



Example of country project supported with risk analytics, legal and regulatory framework review, governance and PPP structuring, pricing and funding scheme design. This has been successfully performed in a number of countries and regions and - building on lessons learnt - offers the potential for at-scale deployment across Africa.

in partnership with:



Thank you

How to contact us



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