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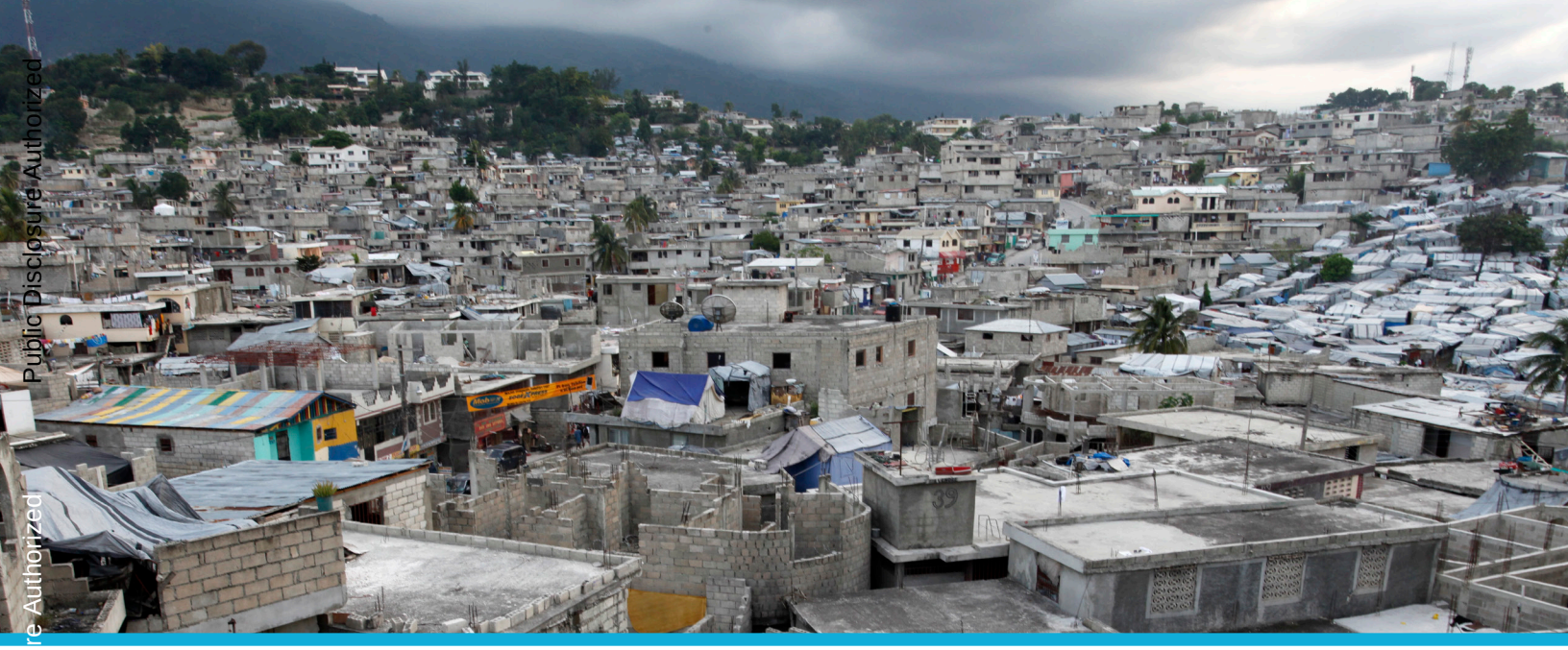

SOVEREIGN CATASTROPHE RISK POOLS

A Brief for Policy Makers

More than 1 billion people have lifted themselves out of poverty in the past 15 years, but climate and disaster risks threaten these achievements. Global asset losses' from disasters are now reaching an average of more than US$300 billion a year. A recent World Bank report finds that the impacts of disasters on well-being are equivalent to a US$520 billion drop in consumption (60 percent more than the asset losses usually reported) and force some 26 million people into poverty every year (Hallegatte et al., 2017). Moreover, countries face increasingly complex threats that often compound the negative impacts of disaster and climate shocks, ranging from migration caused by fragility and conflict situations, to the risk of pandemics. For instance, it is estimated that 93 percent of people facing extreme poverty today are living in countries that are politically fragile or environmentally vulnerable, and in many cases both. The United Nations' humanitarian appeal for 2017, for example, stands at a record US$22.2 billion, to help almost 93 million people affected by conflicts and natural disasters.

Climate change exacerbates some of these risks by increasing the frequency and intensity of extreme weather events. In addition, economic growth and rapid urbanization increase exposure. Building resilience is therefore crucial to safeguard poverty reduction efforts and promote sustainable and inclusive development—particularly for the poor and vulnerable, who are the least able to cope with and adapt to increasing risks.

Climate and disaster risks are threatening achievements in poverty reduction

This briefing note was prepared by the World Bank. It is based on the technical report entitled *Sovereign Climate and Disaster Risk Pooling* prepared by the World Bank Disaster Risk Financing and Insurance Program (DRFIP), drawing on inputs from internationally renowned experts, at the request of the Federal Ministry for Cooperation and Development of Germany (BMZ) to inform discussions on disaster risk financing and pooling with the G20 member countries.

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Current post-disaster response financing, including donor assistance and commercial insurance, covers only a fraction of disaster losses, creating a protection gap. On average only about 30 percent of catastrophe losses have been covered by insurance over the past 10 years. That means that about 70 percent of catastrophe losses have been borne directly by individuals, firms and governments (SwissRe, 2016). Donor assistance is struggling to keep up with growing needs, with an estimated funding gap for humanitarian action of US$15 billion (UN, 2016).

Financial protection helps ensure predictable and timely response, reducing the costs and impacts of disasters

FINANCIAL PROTECTION: PLANNING AHEAD FOR IMPROVED RISK MANAGEMENT

A growing number of governments are moving toward a proactive (and more cost-effective) approach to financial planning to protect national budgets as well as the lives and livelihoods of their citizens from the impacts of disasters. This approach complements other elements of a comprehensive disaster risk management strategy, ranging from investments in risk reduction, to improved preparedness and resilient recovery and reconstruction.

Financial protection involves planning ahead to better manage the cost of disasters, ensure predictable and timely access to much needed resources, and ultimately mitigate long-term fiscal impacts. By combining various financial instruments—such as contingency funds, contingent loans and grants, and risk transfer solutions—financial protection allows governments to manage the full range of disaster impacts. Different instruments help address different risks (ranging from recurrent to more rare events) and different funding needs (ranging from short-term emergency relief to recovery and reconstruction).

A COMPREHENSIVE DISASTER RISK MANAGEMENT FRAMEWORK

PILLAR 1 **RISK IDENTIFICATION**	Risk assessment and risk communication
PILLAR 2 **RISK REDUCTION**	Structural and nonstructural measures—infrastructure, land-use planning, regulations
PILLAR 3 **PREPAREDNESS**	Early warning systems, contingency planning
PILLAR 4 **FINANCIAL PROTECTION**	Assessing and reducing contingent liabilities, financial planning for disaster response
PILLAR 5 **RESILIENT RECOVERY**	Resilient recovery and reconstruction policies

Financial protection is an integral part of a comprehensive disaster risk management framework.

To sustainably reduce the impact of disasters on people, livelihoods and national budgets governments should always consider ways to identify and reduce the underlying drivers of risk. Financial protection **complements risk reduction by helping governments address risks that cannot be mitigated** (residual risks). It helps shift the paradigm of risk management towards a more proactive approach focused on planning financial responses in advance, rather than relying on fund-raising efforts after disasters.

Rapid financing allows for early action that reduces humanitarian impacts

$1 SPENT FOR EARLY DISASTER RESPONSE SAVES UP TO

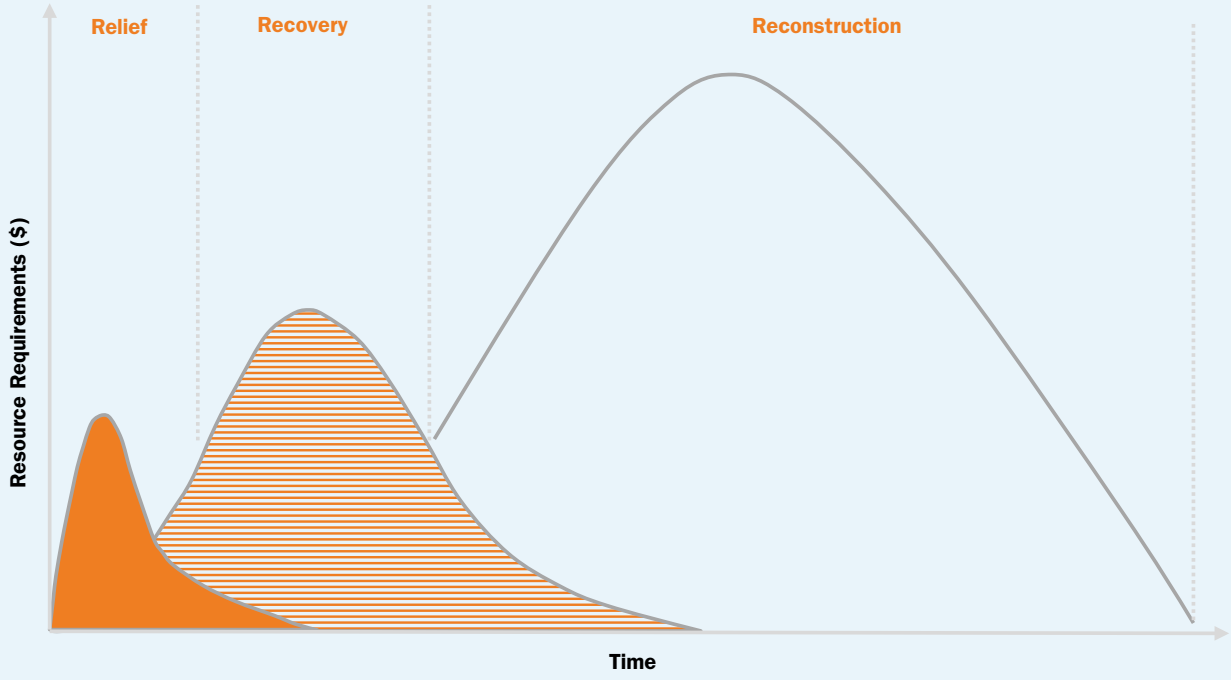
$5

IN FUTURE COSTS

In the immediate aftermath of a disaster, being able to rapidly access financial resources is crucial to save lives and livelihoods. Quick-disbursing financial protection instruments, such as contingent credit and insurance, can reduce humanitarian impacts and save money by enabling rapid crisis response and relief efforts. In Ethiopia, for example, every US$1 secured ahead of time for early drought response can save up to US$5 in future costs. (Wiseman and Hess 2007)

Catastrophe risk pools are emerging as a promising vehicle to help countries access quick liquidity for disaster response. They allow countries to (i) pool risks in a diversified portfolio; (ii) retain some risk through joint reserves/capital; and (iii) transfer excess risk to the reinsurance and capital markets. By putting a price tag on risk, risk pools increase the value of risk information and create incentives to invest in risk reduction.

A TIMELINE OF POST-DISASTER FINANCING NEEDS



Different levels of post-disaster funds need to be available at the appropriate time following a disaster to cover relief, response, and reconstruction efforts. In the aftermath of a disaster, the government does not require money for the entire reconstruction program at once, while **immediate liquidity is crucial to support relief and early recovery operations.** Likewise, businesses and households need to have access to timely financing **to ensure business continuity and avoid negative coping strategies.**

Risk pools, as vehicles for quick-disbursing risk transfer solutions, play an important role in enabling rapid response.

SOVEREIGN CATASTROPHE RISK POOLS AROUND THE WORLD

Over the past 10 years, 26 countries in three regions—Africa, the Pacific, and the Caribbean and Central America—have joined sovereign catastrophe risk pools. They have purchased parametric catastrophe risk insurance for an aggregate coverage of US$870 million and an aggregate premium volume of US$56.6 million (2016/17), backed by more than 30 reinsurance companies. The three pools have so far made payouts for a total of just over US$105 million.

Parametric insurance solutions allow for rapid payouts in the event of a disaster, providing liquidity within a couple of weeks and facilitating rapid response. For example, having purchased insurance through the Pacific Catastrophe Risk Assessment and Financing Initiative (PCRAFI), the government of Vanuatu received a payout of almost US$2 million just seven days after Tropical Cyclone Pam made landfall in March 2015. This amount was eight times the government's emergency provision and was critical for funding a number of urgent priorities, including flying nurses to the most affected areas and providing lifesaving assistance.

There are opportunities to expand risk pools to new countries and regions. Given their high exposure to floods, cyclones, earthquakes, and droughts, a number of Asian countries are individually using disaster risk financing mechanisms, and a possible sovereign catastrophe risk pool for Cambodia, the Lao People's Democratic Republic, and Myanmar is currently being discussed. In addition, India, Pakistan, and the Philippines are exploring subnational structures for disaster risk financing. Subnational approaches can be effective solutions in larger countries where local government entities (such as provinces or states) have substantial power and responsibility in the financial response to disasters. For example, Mexico's disaster fund, which acts as a national-level risk pool, provides indemnity coverage, where payouts are based on actual losses on public infrastructure.

But differences in risk profiles as well as in economic and geographical size have so far hampered the establishment of an Asian regional sovereign risk pool. In Latin America, however, Chile Colombia, Mexico, and Peru are exploring a multicountry (parametric) catastrophe bond against earthquake risk under the auspices of the Pacific Alliance.

Governments can also take steps to promote domestic catastrophe risk pools to transfer disaster risks from households and small and medium enterprises to the private insurance and reinsurance markets (the Turkish Catastrophe Insurance Pool is an example). The role of the government is essential in such endeavors, which must align incentives and generate a sustainable demand for catastrophe risk insurance, especially where insurance literacy and penetration are low.

Sovereign catastrophe risk pools help access financial solutions for rapid response financing

3 POOLS

26 COUNTRIES

$57M
ANNUAL PREMIUM

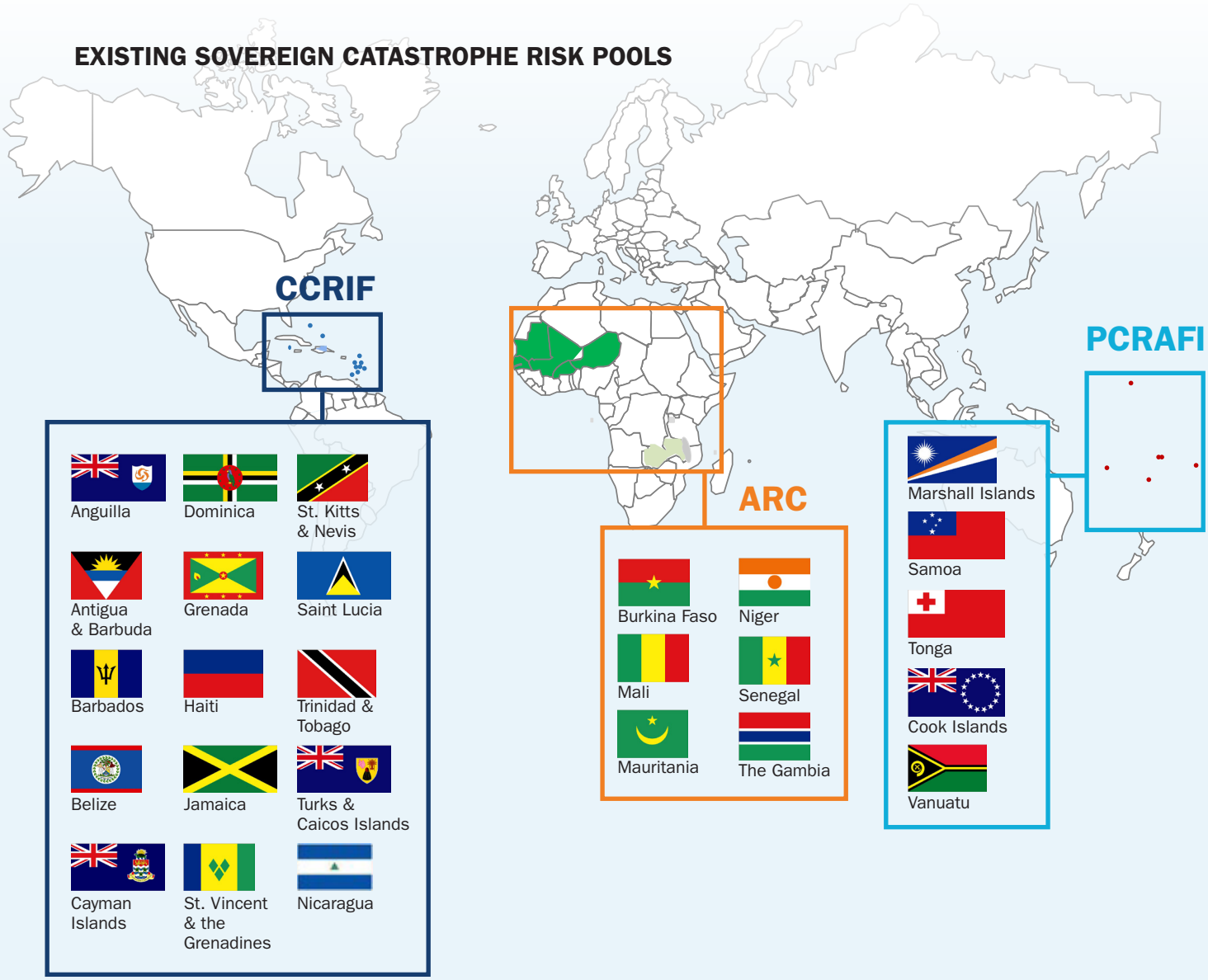
$870M
ANNUAL COVERAGE

$105M
INSURANCE PAYOUTS

30+ INTERNATIONAL REINSURERS

Untapped opportunities, especially in Asia…

… and at the national level



An enabling legal and regulatory framework is key to the success of any pool structure. This is especially true when the government is the policyholder, as in sovereign risk pools, and premium payments have to be included in the national budget. In Indonesia, for example, the government had to pass a new regulation to explicitly allow the Ministry of Finance to purchase insurance. In countries where there is no legal and institutional framework regulating sovereign insurance, the resulting uncertainty complicates the allocation of responsibility among government entities and leaves the insurance program vulnerable to political changes.

10 LESSONS FOR POLICY MAKERS TO BRING CATASTROPHE RISK POOLS TO SCALE

A decade of experience has shown that *political commitment, sound operational design, and financial sustainability* are at the foundation of successful risk pools. When those foundations are in place, risk pools can in turn generate positive externalities that further enhance their impact, by fostering political, operational, and financial effectiveness. To build on this experience and bring catastrophe risk pools to scale, policy makers should keep in mind the following 10 lessons.

POLITICAL COMMITMENT IS BOTH A PRECONDITION FOR SUCCESSFUL CATASTROPHE RISK POOLS AND A BY-PRODUCT OF COLLABORATION

1. POOLS CAN SUCCEED ONLY WITH STRONG POLITICAL COMMITMENT AT THE NATIONAL AND INTERNATIONAL LEVEL

Sovereign catastrophe risk pools require strong political momentum and coordination among participating countries, especially during the design and preparation stage. A strong regional organization is often critical to facilitate the political and policy coordination needed between participating governments.

...can succeed only with strong political commitment at the national and international level

2. POOLS OFTEN RELY ON STRONG DONOR SUPPORT

Humanitarian and development donors have a role to play in creating incentives for investments in pre-agreed risk management and risk financing solutions (both at the country level and within donor organizations), and in reducing reliance on unpredictable and uncertain post-disaster humanitarian assistance. Concessional financing from donors or multilaterals may be necessary to create the enabling environment and incentives for systematic adoption of disaster risk finance and insurance solutions, including catastrophe risk pools.

...often rely on strong donor support

3. POOLS CAN STRENGTHEN DISASTER PREPAREDNESS AND CRISIS RESPONSE

Catastrophe risk pools are part of a comprehensive approach to disaster risk management and play a key role in efforts to strengthen preparedness and crisis response.

Not all disasters and crises can be prevented. Governments need to be ready to manage the impacts of such residual risks through pre-agreed post-disaster plans, backed by pre-planned financing.

The process of developing such post-disaster actions plans and identifying related costs can also generate risk information and create incentives to step up investments in prevention and adaptation to reduce risks in the first place.

...strengthen disaster preparedness and crisis response

COORDINATED PLAN FOR POST-DISASTER ACTION AGREED IN ADVANCE

FAST, EVIDENCE-BASED DECISION-MAKING PROCESS

PRE-PLANNED FINANCING TO ENSURE PLAN CAN BE IMPLEMENTED

- **Ensures funds are available quickly when – and only when – they are required**
- **Binds partners to pre-agreed objectives, decision processes, and implementation modalities**
- **Greater discipline, transparency, and predictability in post-disaster spending**
- **Ensures rapid mobilization of funds, reducing humanitarian costs and potentially saving money**

4. POOLS CAN FOSTER POLICY DIALOGUE ON RISK MANAGEMENT AND RISK OWNERSHIP

...foster policy dialogue on risk management and risk ownership

In addition to offering financial protection, catastrophe risk pools can facilitate regional policy dialogue and improved collaboration between participating countries and donors on risk reduction and risk management. They offer a vehicle to anchor (i) financial planning (with participation in a risk pool an integral part of a more comprehensive disaster risk financing strategy that brings together various financial instruments); (ii) contingency planning; (iii) ownership of and collaboration on the climate risk management agenda between and within countries; and (iv) risk-informed investments in risk reduction through the pricing of climate and disaster risks.

In addition, pools help clarify who "owns" the risk and encourage countries to plan for disaster response. Many developing countries still rely on appeals-based mechanisms and seek donor assistance to help fund relief and response activities following a shock. Although it may come at no cost to the recipient country, such aid is unpredictable and uncertain, and often takes time to materialize.

SOUND OPERATIONAL DESIGN MAXIMIZES IMPACT AND GENERATES PUBLIC GOODS

5. POOLS CAN MAXIMIZE IMPACT BY DEVELOPING PRE-AGREED DISASTER RESPONSE PLANS

...maximize impact by developing pre-agreed disaster response plans

Pre-agreed disaster response plans ensure a timely, transparent and efficient use of funds in the aftermath of a disaster, thereby maximizing the impact of rapid cash injections. Linking financial instruments, including risk pools, to pre-agreed post-disaster programs, can help ensure that funds are efficiently channeled to support targeted post-disaster responses. For example, payouts from risk pools could potentially be used to scale up support from existing national safety net programs

to poor and vulnerable household in the event of a disaster. Likewise, pre-agreed response plans can help identify critical infrastructure to prioritize in the aftermath of a disaster. However, response plans should always allow for some flexibility to ensure they can address unexpected expenses.

By engaging a wide range of stakeholders, including civil society members, the process of developing such plans can also contribute to raising awareness of the benefits offered by risk reduction and financial protection.

6. POOLS CAN CREATE PUBLIC GOODS

The creation of risk pools has driven the development of catastrophe risk models and other public goods (such as improved insurance literacy, institutional capacity, and disaster risk data and modeling capacity) that have proved to be valuable in multiple areas. For example, the Pacific Risk Information System (a platform that includes an exposure database of over 4 million assets in the region) and its associated catastrophe risk model have been used by domestic insurers and brokers to inform their underwriting and pricing decisions. In Fiji, the model was used to inform the provision of catastrophe risk insurance for hotels and resorts. The model has also been used to explore the feasibility of crop insurance in some Pacific islands. Another example is offered by Africa RiskView, the in-house modeling platform of African Risk Capacity (ARC), which estimates drought impacts in terms of population affected and response costs. This information can be used by member states as an early warning tool and to inform financial planning.

...create public goods

FINANCIAL SUSTAINABILITY ALLOWS CATASTROPHE RISK POOLS TO PROVIDE ACCESS TO COST-EFFECTIVE INSURANCE AS PART OF A STRATEGIC APPROACH TO FINANCIAL PROTECTION

7. POOLS CAN OFFER COST-EFFECTIVE INSURANCE SOLUTIONS

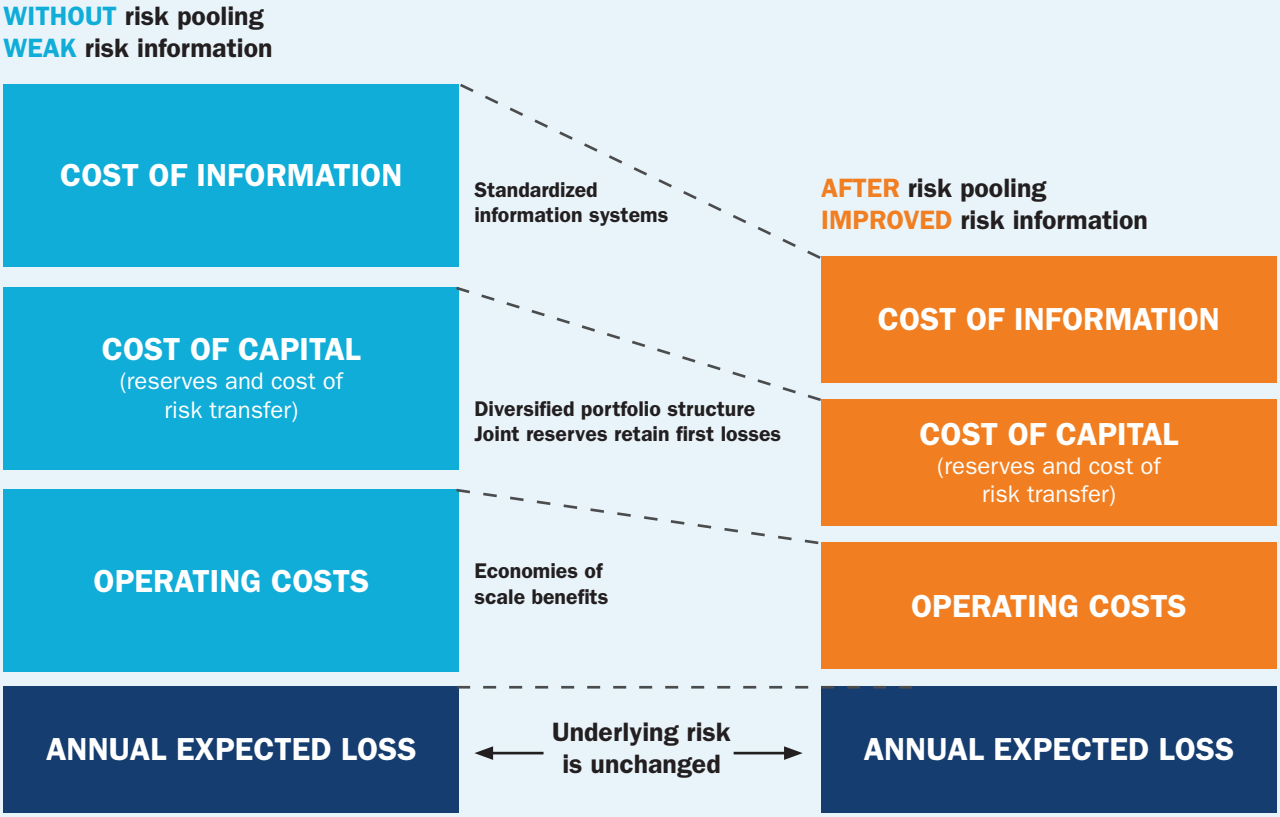
Pools can make risk transfer more cost-effective by helping to (i) diversify risk across multiple countries with different risk profiles; (ii) establish joint reserves to self-insure a part of the risk managed by the pool; (iii) facilitate access to international reinsurance and capital markets; (iv) share operational costs, such as program development and day-to-day back office operations; and (v) build up a better foundation of risk information.

...offer cost-effective insurance solutions

By helping countries develop standard products based on their respective needs, and structuring a portfolio of diversified country risks, risk pools offer larger transaction sizes that are more attractive to global reinsurance and capital markets.

In addition, risk pools can reduce premiums by reducing the cost of capital, operating costs, and the cost of risk information. Pools cannot reduce the underlying climate and disaster risks countries face. But they can create incentives for risk reduction measures by putting a price on risk.

CATASTROPHE RISK INSURANCE PREMIUM DECOMPOSITION



Note: The size of the boxes is not meant to be proportional to each component's actual contribution to the insurance premium.

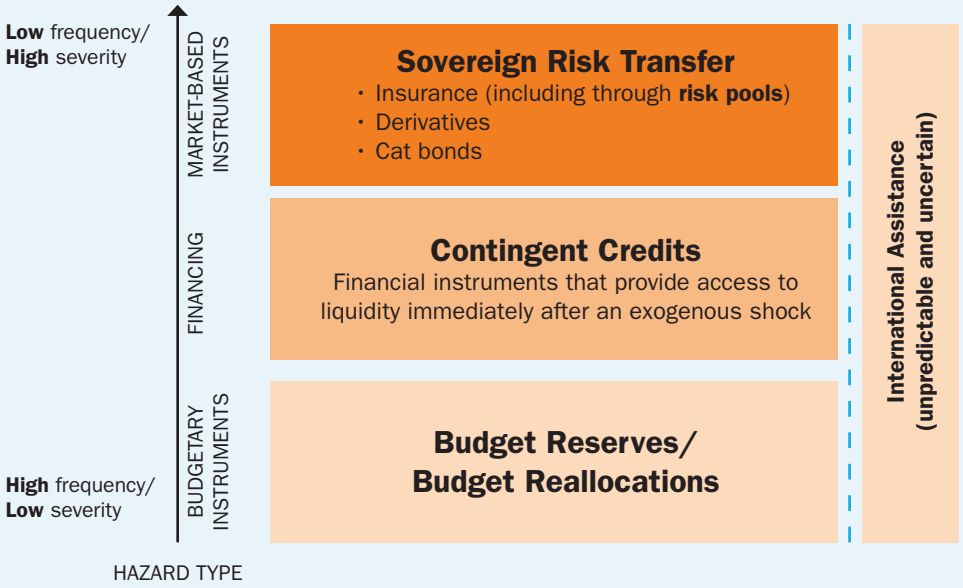
8. POOLS ARE PART OF A COMPREHENSIVE FINANCIAL PROTECTION STRATEGY

...are part of a comprehensive financial protection strategy

The parametric insurance products offered by risk pools provide rapid (but limited) liquidity in the immediate aftermath of infrequent and severe disasters. Other financial instruments, such as contingency funds and contingent loans, can be used to finance recovery and reconstruction efforts, as well as the cost of more frequent disasters.

Governments can strengthen financial resilience by combining financial instruments that address different needs and have different cost implications. For example, insurance may provide cost-effective cover against severe events, while budget reserves or contingent credits may be more cost-effective for addressing more frequent and less severe events. Since climate change may over time affect a country's risk profile by potentially increasing the frequency and intensity of such hazards, the combination of financial instruments used to address disaster impacts will also need to evolve to account for changes in risk and other considerations beyond pure financial aspects.

A LAYERED APPROACH TO FINANCIAL PROTECTION



Not all instruments serve the same purpose and governments can take a **layered approach to financial protection by combining instruments** with different characteristics.

Such risk layering ensures that cheaper sources of money are used first, with the most expensive instruments used only in exceptional circumstances

9. POOLS REQUIRE UP-FRONT PAYMENT OF AN INSURANCE PREMIUM, FACILITATING A SHIFT TOWARD PROACTIVE RISK MANAGEMENT

Catastrophe risk pools require participating countries to pay up front an insurance premium that reflects actual risk exposure in exchange for the insurance coverage, thereby shifting payment so it takes place in predictable installments before disaster strikes. It may be challenging for countries that previously relied on donor support to start paying for climate and disaster risks with national resources through an insurance premium. However, moving in this direction, even partially, can provide the right incentives for proactive planning and risk-informed investments in risk reduction.

...require up-front payment of an insurance premium, facilitating a shift toward proactive risk management

10. POOLS CAN BE SUSTAINABLE ONLY WITH MORE FORMAL AND PREDICTABLE APPROACHES TO PREMIUM FINANCING

One of the main challenges affecting the sustainability of sovereign catastrophe risk pools is a lack of certainty about payment of insurance premiums from year to year. By definition, insurance premiums present an up-front cost, which may not produce a financial return in the near (or even medium) term. Governments can face public and political pressure where payments for premiums on high-profile sovereign insurance do not yield a payout in the event of a disaster that does not meet the pre-agreed criteria for a payout. At the country level, allocating budget for the payment of premiums is generally not a permanent part of budgetary processes and the expenditure is still treated as atypical.

...can be sustainable only with more formal and predictable approaches to premium financing

Concessional insurance (through targeted premium subsidies or concessional loans) can help countries secure premium financing for several years while they progressively include premiums as a budget item in their national budget. In addition, building the capacity and awareness of decision makers on the benefits of risk management for financial and humanitarian resilience can help increase ownership and commitment.

PROPOSED PRIORITIES FOR G20 ACTION

Building on the lessons learned about political commitment, financial sustainability, and operational design of sovereign catastrophe risk pools, the G20 could promote a set of priority action areas designed to reduce the protection gap in vulnerable developing countries. These actions would advance financial protection against climate and disaster risks, in part by encouraging the scale-up of catastrophe risk pools at the supranational, national, and subnational levels. Specifically, the G20 could promote activities that support the following priority action areas:

- **Facilitate the adoption of financial protection strategies that include a mix of financial instruments against disaster and climate risks,** such as budgetary instruments, contingent credit, and catastrophe risk transfer, to increase the ownership, impact, and cost-efficiency of disaster response financing.

  Activities under this action area could include

  - » Technical assistance to support the development of financial protection strategies, including diagnostic reviews of countries' approach to financial protection, and identification of policy options for strengthened financial resilience
  - » Technical assistance and investments to support the implementation of national financial protection strategies, including for specific line ministries or sectors

- **Support the development of pre-agreed disaster response plans** backed by financial protection strategies to help poor and vulnerable households and protect key lifeline infrastructure. Such plans can help raise awareness of the benefits of risk reduction and financial protection by engaging a wide range of stakeholders, including members of civil society.

  Activities under this action area could include

  - » Knowledge exchange to learn from experience and consolidate good practices in disaster response planning
  - » Technical assistance and investments to develop shock-responsive scalability mechanisms for existing social safety nets to protect the poor and vulnerable
  - » Technical assistance and investments to identify, prioritize, and protect critical infrastructure at risk, both ex ante (by mainstreaming disaster risk reduction in investment planning) and ex post (by developing pre-agreed financial plans for post-disaster reconstruction).

- **Promote institutional and legal frameworks that enable the implementation of financial protection strategies.** This includes creating the legal base that enables governments to establish disaster risk management funds, pay insurance premiums, manage insurance proceeds, and join supranational financial entities such as catastrophe risk pools.

  Activities under this action area could include

  » Knowledge exchange among countries to learn from experience in public financial management of climate and disaster risks
  » Technical assistance to incorporate climate and disaster risks into public finance frameworks

- **Develop new concessional financing for catastrophe risk transfer** instruments to incentivize vulnerable developing countries to develop and adopt sustainable financial protection strategies.

  Activities under this action area could include

  » Cofinancing of capitalization and operating costs of catastrophe risk pools
  » Cofinancing of premiums for insurance solutions (designed to incentivize countries to progressively increase their contributions over time)

To achieve the overarching objective of reducing the protection gap in vulnerable developing countries, and to catalyze action around these priority areas and activities, the G20 could promote the creation of a **Global Partnership for Climate and Disaster Risk Finance and Insurance Solutions.**

The Global Partnership could **bring together relevant partners** from developing and developed countries, international organizations, the private sector, and civil society. To achieve maximum impact, the Global Partnership would leverage the comparative advantages of all partners and build on the work of existing platforms and initiatives. In particular, it would leverage the technical expertise and capacity of the private insurance and reinsurance industry.

The G20 could **develop a work program** structured around the four priority action areas identified above to specify how countries would support specific activities. Such efforts would not only promote financial protection and help close the protection gap, but would also support the broader disaster and climate resilience agenda.