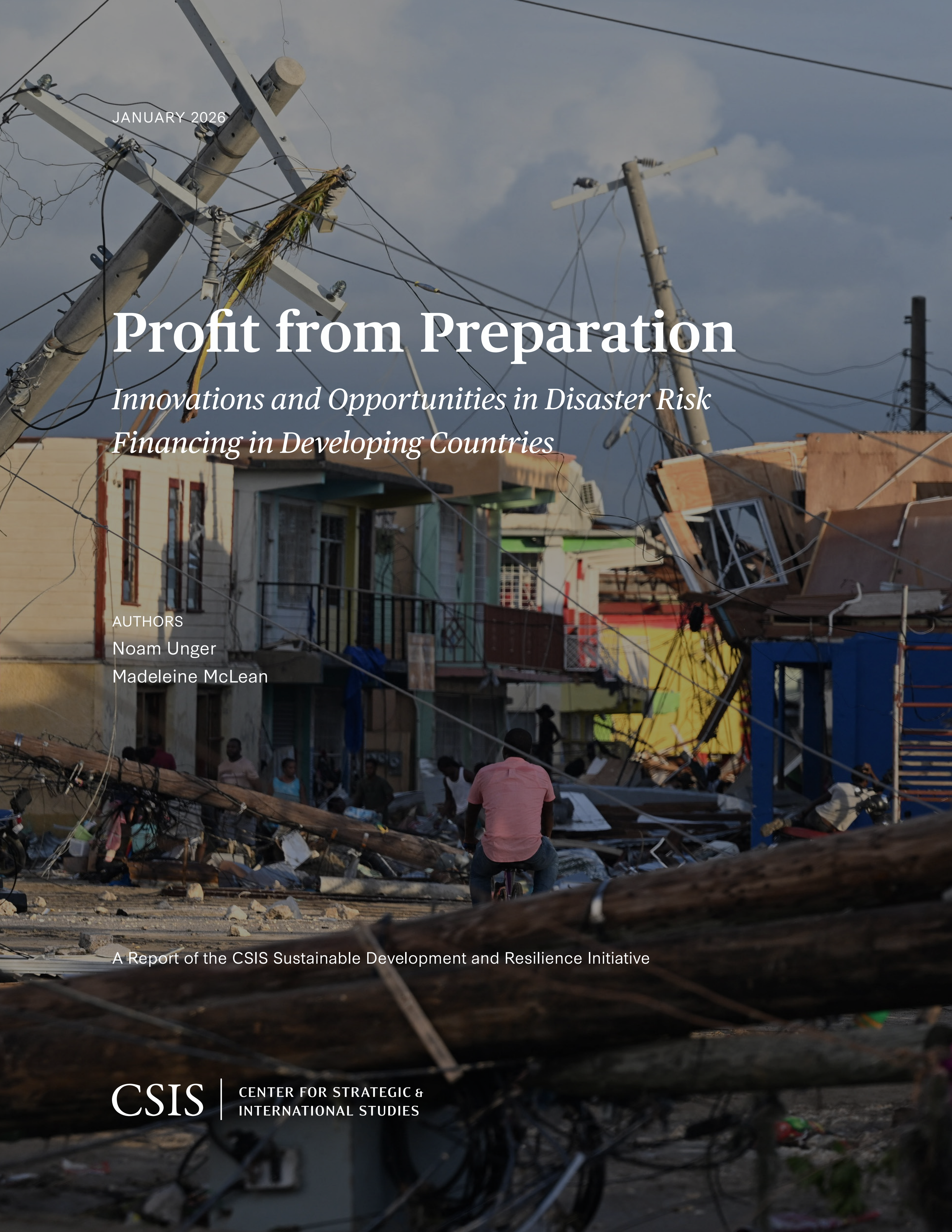

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Innovations and Opportunities in Disaster Risk Financing in Developing Countries

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A Report of the CSIS Sustainable Development and Resilience Initiative

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Acronyms and Abbreviations

ARC - African Risk Capacity

ASAP - Adaptation for Smallholder Agriculture Programme

ASEAN - Association of Southeast Asian Nations

BMZ - German Federal Ministry for Economic Cooperation and Development

CCRIF - Caribbean Catastrophe Risk Insurance Facility

CDP - Centre for Disaster Protection

CDRFI - Climate and disaster risk finance and insurance

COP - UN Conference of the Parties

DRF - Disaster risk finance

Global Shield - Global Shield Against Climate Risks

GSSP - Global Shield Solutions Platform

IDB - Inter-American Development Bank

IDF - Insurance Development Forum

IFAD - UN International Fund for Agricultural Development

INGOs - International nongovernmental organizations

INSURED - Insurance for Rural Resilience and Economic Development

IRC - International Rescue Committee

NADMO - National Disaster Management Organisation

NGO - Nongovernmental organization

OCHA - UN Office for the Coordination of Humanitarian Affairs

ODA - Official development assistance

PCRAFI - Pacific Catastrophe Risk Assessment and Financing Initiative

SEADRIF - Southeast Asia Disaster Risk Insurance Facility

UNDP - UN Development Programme

UNDP-IRFF - UNDP Insurance & Risk Finance Facility

V20 - Vulnerable 20

WFP - UN World Food Programme

Contents

Introduction

A combination of extreme weather impacts and cuts to aid budgets may mean the next few years will be ripe for the rapid development and further scaling up of anticipatory action measures and prearranged finance approaches to better manage mounting disaster risk. Overall, the global constellation of traditional aid programs, often numerically represented as official development assistance (ODA), is experiencing a decline—spurred in significant part by the U.S. government's retrenchment, but not exclusively so; other donor countries are also reducing their spending. Cuts to budgets and programs for long-standing development and humanitarian aid efforts are rippling across developing country communities and governments, as well as bilateral and multilateral donor agencies. As a result, policymakers in donor institutions will face pressure to use remaining and future funds differently and in ways that resonate with the crescendo of reform recommendations of the past few decades focused on cost effectiveness, partnership with the private sector, and leverage of capital markets.

These policy developments are occurring as businesses and communities across many developing countries are increasingly feeling the bite of their vulnerability to extreme weather events worsened by climate change, such as extreme heat, drought, floods, and cyclones. In recent years, a wide array of stakeholders have pioneered innovative efforts that seek to better anticipate crises and arrange for methodical liquidity and financing measures to respond to disasters more rapidly and effectively. These stakeholders have included multilateral financial institutions, affected governments, donor government agencies, and international nongovernmental organizations (INGOs). They have also included private sector businesses across the insurance industry that are actively seeking to expand their markets while modernizing their products. Advanced technology and data-driven approaches are making certain types of risks easier to model, and many firms with business lines across insurance, reinsurance, insurtech, and actuarial analysis have been refining their methods.

Considering the confluence of these trends, this report examines the landscape for prearranged, trigger-contingent programs for disaster risk finance, anticipation, and response that are relevant to developing countries and associated communities and businesses. It offers recommendations for developing-country governments, donor governments, multilateral institutions, the private sector, INGOs, and philanthropic foundations.

Understanding Anticipatory Action and Disaster Risk Finance

An array of approaches and terms connect to the broad category of prearranged finance mechanisms for anticipatory action and disaster risk financing. The convoluted terminology can be a hindrance to cross-sector learning and coordination.

The term "anticipatory action" is far more common in literature and discussions surrounding international humanitarian work than in broader economic development and disaster risk finance settings. It refers to preplanned interventions implemented immediately before a disaster unfolds. Anticipatory action encompasses more than financing and can include early warning, pre-positioning in-kind resources, and moving populations out of harm's way. Coordinated anticipatory actions are implemented based on forecasts and predictive analyses of when a hazard will occur, and have the objective of *proactively*, instead of reactively, addressing disaster impacts.[1]

"Prearranged finance" is funding that is committed or contractually agreed upon prior to a certain set of circumstances. In the case of preplanning for catastrophes, disaster risk finance (DRF), a subset of prearranged finance, allows for rapid disbursement of funds either immediately before or immediately after a shock occurs. Doing so improves recovery times while also mitigating long-term fiscal impacts. Such prearranged financial instruments and mechanisms are also sometimes referred to as climate and disaster risk finance and insurance (CDRFI).[2]

The research underlying this report examined a range of risk management efforts, including the financing aspects of anticipatory action programs. The purpose was to focus on disaster risk finance and insurance programs associated with pre-agreed thresholds and decisionmaking rules based on measurable, timely, and reliable information.

Risk Retention and Risk Transfer

Disaster risk financing involves risk retention, risk transfer, or some combination of these two solutions. **Risk retention** approaches to disaster management keep the costs as a part of an affected government's budget and involve advanced planning for the liquidity to rapidly fund anticipatory and recovery actions when a catastrophe occurs. Contingent credit lines are one example of risk retention, as they are financial instruments that allow countries to quickly borrow money. Clauses in loan agreements can serve as another example, if they are designed to pause or lower repayments without spurring debt default in cases of a disaster. Developing countries receiving economic support and seeking to manage catastrophic risks can also benefit from a third type of risk retention if an aid donor is willing to repurpose funds from a multiyear development program based on pre-agreed contingencies to contend with a dramatically changed context.

In contrast to risk retention, **risk transfer** involves shifting risks to global capital markets. Catastrophe bonds do that by attracting private investors and releasing debt-free rapid funding when a qualifying disaster occurs. Insurance can serve as another form of risk transfer; parametric insurance, in particular, has been associated with a high degree of innovation and experimentation in recent years in connection to extreme weather hazards. Parametric insurance pays out when trigger thresholds are exceeded. Such triggers are based on predefined objective criteria such as rainfall levels, wind speeds, heat, seismic activity, or forecasted drought conditions. Once triggered, parametric insurance policies are designed to rapidly disperse payouts, rather than relying on post-event damage assessments. In developing countries, these insurance products are often tied to **regional risk pools**, collaborative schemes that pool resources and transfer risk across countries and regions.

The landscape of prearranged disaster risk financing tools can be categorized across the macro, meso, and micro levels. Each of these functions at a different scale, serving different stakeholders. Macro-level financing operates at a national or regional scale and involves sovereign risk instruments. Meso-level solutions are designed for subnational groups and cooperatives, including industry leaders, local governments, and platforms that consolidate the distribution of microinsurance at scale. Micro-level solutions work directly with individual end beneficiaries, such as households, individuals, or small businesses. This report focuses on macro- and meso-level risk financing mechanisms.

Disasters also feature different levels of hazards, with varying intensity and frequency. As a result, effective risk management necessitates a combination of methods rather than reliance on a single instrument. A risk-layering approach, for example, allows countries to reserve the use of insurance for risks of extreme events that occur with lower frequency, while planning to use less expensive governmental reserves or risk retention strategies for risks related to recurring damages that are not as severe.[3]

Regardless of the exact terminology used—anticipatory action, DRF, or CDRFI—such approaches for better managing the costs of disasters can be applied across a broad range of perils including drought, flood, tropical cyclones, extreme heat, and earthquakes. The innovative tools associated with these approaches have the potential to save money, enable timelier and more reliable actions by prepared communities, and foster faster recovery from disasters relative to some more traditional and reactive approaches to aid. One study conducted by the UN World Food Programme (WFP), for example, found that early response in Mali resulted in up to 20 percent cost savings while limiting the impact of a crisis, as recipients were able to more efficiently purchase staple foods.[4]

Anticipatory action and disaster risk finance can provide predictability of funding that is often lacking in traditional humanitarian response, including for slow-onset disasters, such as famine, drought, or extreme heat, which usually do not garner the same international attention as higher-intensity events, such as cyclones or earthquakes. The preplanned nature of these mechanisms ideally also means they should be able to deliver timely resources that are not subject to political debates, bureaucratic delays, or diplomatic frictions.

Innovative tools . . . have the potential to save money, enable timelier and more reliable actions by prepared communities, and foster faster recovery from disasters relative to some more traditional and reactive approaches to aid.

Yet the total amount of prearranged finance for disasters is currently meager. An analysis by ODI Global and the Start Network that examined several years of UN humanitarian appeals funding observed that approximately one-fourth of those resources were "allocated to crises that [were] at least somewhat predictable."[5] The same analysis, however, found that of those allocations that addressed even the more predictable crises, less than 1 percent supported prearranged financing mechanisms that could leverage predictability into cost effectiveness. Another study by the Centre for Disaster Protection (CDP) found that the proportion of funding for prearranged disaster risk finance in recent years hovered between 1 and 3 percent of total official international spending on crises.[6] That share is even lower if compared to all ODA. Developing countries, aid donors, and multilateral organizations can do much more, including in partnership with the private sector, to prudently shift the amount of resources supporting disaster risk finance. To actually do so, however, requires greater awareness of the broad landscape of key actors advancing this agenda, the platforms and instruments they have been developing, and the ways in which those tools are being applied across humanitarian and development activities.

The Building Momentum for DRF

In 2015, an Organisation for Economic Co-operation and Development survey on disaster risk financing practices and challenges found that "the complexity of financial instruments, such as catastrophe bonds, and parametric insurance products, as well as constraints on access to international insurance and capital markets, have limited the broad use of risk transfer instruments by governments."[7] While this is still true, the world of 2026 is significantly different than that of 2015. Efforts that were new and untested a decade ago now have much longer track records as proof of concept. As the next section explains more fully, this is illustrated by examples such as the development and expansion of regional risk pools and the progression of nongovernmental organization (NGO) pilot projects into widely used DRF programs adopted by multilateral international organizations. Many more initiatives that have helped advance the uptake of DRF began within the past 10 years as well.

The broader political and policy contexts have also changed. Despite the fact that official negotiations at consecutive annual UN Conference of the Parties (COP) gatherings remain centered on mitigation efforts, international policy dialogues have shifted in recent years to include a greater focus on climate adaptation and resilience. As political progress on decarbonization has been dangerously slow, and damages linked to climate change in vulnerable countries have risen considerably, global policy dialogues have placed additional attention on the impacts, potential adaptations, and the need for development investments.[8]

Developing country governments are spearheading these conversations, especially in regions where the impacts of climate change disproportionately threaten their economic and physical security. Within the context of official international negotiations, this recent and growing wave of attention on adaptation and resilience arguably became more visible at COP27 in Sharm el-Sheikh, Egypt, in 2022, where the Fund for Responding to Loss and Damage was officially created following decades of negotiation, and governments also agreed to develop a framework for the Global Goal on Adaptation, an overshadowed component of the 2015 Paris Agreement. These efforts continued through COP28 in Dubai (2023) and COP29 in Baku, Azerbaijan (2024), where the loss and damage fund was further operationalized, and COP30 in Belém, Brazil (2025), widely touted as the "adaptation COP," where countries negotiated to determine indicators for the Global Goal on Adaptation while also agreeing to call for a tripling of adaptation finance by 2035.[9]

Surrounding the official negotiations at COPs and other relevant international conferences, a range of semiofficial and nongovernmental dialogues have also served to increase global focus on the adaptation and resilience agenda. A growing mix of industry leaders and civil society organizations are highlighting and contributing to solutions as part of an emerging resilience economy.[10] This was clear when, for example, businesses including Howden and Boston Consulting Group partnered with the UN Climate Change High-Level Champions to launch an initiative at COP29 in Baku on enabling climate insurance, and then the Enabling Insurance Breakthrough was featured again as part of the Climate Action Agenda at COP30, where there were more side events focused on resilience and insurance than ever before.[11]

A growing mix of industry leaders and civil society organizations are highlighting and contributing to solutions as part of an emerging resilience economy.

Foundations have also increased their focus on addressing climate change risks and impacts in recent years. For example, the Adaptation and Resilience Collaborative for Funders, a philanthropy group of more than 70 foundations coordinated by ClimateWorks Foundation, was established at COP28 in Dubai; in August of 2025, a subset of the group launched a $50 million adaptation and resilience fund.[12] Bill Gates, founder of the Gates Foundation, also recently drew attention for an essay he penned in advance of COP30 that advocated for placing climate adaptation and human development higher on the agenda. He argued that to prevent suffering across the planet's poorest people, now is the time to refocus on improving lives as "the metric that should count even more than emissions and temperature change."[13] While this is far from the first time that Gates, author of the book *How to Avoid a Climate Disaster*, has been vocal about adaptation, it matters when the leader of one of the world's largest philanthropic organizations, who has previously lamented not focusing enough on the issue, recommends that the world concentrate on building people's resilience to extreme weather.[14]

Outside of high-level policy circles, several newer actors (described more fully in the next section) have also made strides in recent years to innovate and implement DRF in practical ways. One example of this can be found in how the InsuResilience Global Partnership morphed into the more tangible and applied Global Shield Against Climate Risks (Global Shield).[15] Another, involving the private sector, has been the establishment of the Insurance Development Forum (IDF), which has evolved to design and build risk-transfer initiatives that result in innovative insurance products put out to market.[16] These examples, among others, illustrate public and private innovation in finance, risk modeling, policy partnerships, and regulatory frameworks that have created greater institutional capacity and political appetite to scale up DRF.

> *Public and private innovation in finance, risk modeling, policy partnerships, and regulatory frameworks . . . have created greater institutional capacity and political appetite to scale up DRF.*

Figure 1: A Timeline of Key Disaster Risk Financing and Anticipatory Action Milestones

2004
- Category 5 **Hurricane Ivan** devastates the Caribbean, with economic losses valued at approximately $6 billion across the region.

2007
- In response to Hurricane Ivan, the **Caribbean Catastrophe Risk Insurance Facility (CCRIF)** is launched with support from the World Bank.

2010
- The **Start Network** (formerly known as the Consortium of British Humanitarian Agencies) is launched.
- The World Bank establishes the **Disaster Risk Financing and Insurance Program** to help governments, business, and communities build better financial resilience to natural disasters.

2011
- The WFP and Oxfam America partner to create the **R4 Rural Resilience Initiative**, building on the 2007 Ethiopian HARITA pilot program.

2012
- The **African Risk Capacity (ARC)** is formed as a specialized agency of the African Union.

2014
- ARC launches **ARC Limited**, its insurance apparatus, which has since signed 62 policies with member states and resulted in a total of $720 million of insurance coverage.
- CCRIF is restructured into a segregated portfolio company.
- Start Network launches the **Global Start Fund** to respond to smaller-scale crises.

2015
- The WFP launches the **Anticipatory Action for Climate Shocks Programme** (formerly known as Forecast Based Financing).
- The **Insurance Development Forum** is formally launched at COP21.

2016

The **Pacific Catastrophe Risk Insurance Facility (PCRIC)** is created following the success of the 2013 World Bank Pacific Catastrophe Assessment and Financing Initiative.

Start Network launches the **Anticipation Window**, the first forecast-based humanitarian funding mechanism.

2017

Hurricane Maria hits Dominica, causing damage equivalent to over 200 percent of the country's GDP.

The **InsuResilience Global Partnership for Climate and Disaster Risk Finance and Insurance**, a joint G20 and Vulnerable 20 initiative, is launched at COP23.

2018

The **Southeast Asia Disaster Risk Insurance Facility (SEADRIF)** is formed with support from the World Bank.

The World Bank, in partnership with the governments of Germany and the United Kingdom, announces the launch of the **Global Risk Financing Facility (GRiF)**.

2019

Announced at the UN Secretary General's Climate Action Summit, the **Tripartite Agreement** brings together the IDF, UNDP, and the government of Germany to develop better climate risk financing and insurance mechanisms for developing countries.

CARE launches the **Multi-Actor-Partnerships** on Climate and Disaster Risk Finance and Insurance.

The UN Office for the Coordination of Humanitarian Affairs (OCHA) pilots its first anticipatory action framework for drought, following two years of technical planning, in Somalia.

Oxfam and Visa partner to create the **B-READY Initiative** in the Philippines.

The **Risk-Informed Early Action Partnership** is launched at the UN Climate Action Summit.

2020

The UN Capital Development Fund launches the **Pacific Insurance and Climate Adaptation Programme** to build Pacific Islanders' financial preparedness against extreme weather events.

2021

The Start Network launches **Start Ready**, forming the network's financing mechanism.

2022

Evolving from the InsuResilience Global Partnership, the **Global Shield Against Climate Risks** is launched at COP27.

2023

Ghana participates in the Global Shield process as a pathfinder country, resulting in the purchase of Ghana's first sovereign parametric drought insurance policy in 2024.

2024

The IDF and the Agence Française de Développement partner to launch the **Integrated Disaster Risk Management Alliance** to strengthen disaster risk management capabilities at the regional, national, and local level across the Global South.

2025

The WFP pilots a **macro-level parametric drought insurance policy for Syria**, covering three key growing regions between January and April 2025.

Source: Authors' analysis of organization websites and releases.

Key Actors

The past two decades have seen the emergence of innovative financing mechanisms, international initiatives, and specific pilot efforts developed by multilateral institutions, private sector leaders, countries, and nongovernmental organizations to bolster DRF and anticipatory action. In addition, a number of learning networks have sought to expand the knowledge base, technical expertise, and communication across these various efforts in support of future scaling.

The Regional Risk Pools

Countries looking to integrate sovereign parametric insurance schemes into their DRF portfolios have a variety of resources from which to draw technical expertise, funding, and support. Regional risk pools are one such example. They involve governance structures and mutual funds that enable members to pool financial risks associated with disasters and extreme weather events, enhancing access to parametric insurance products, and capital and reinsurance markets. There are four regional multi-country risk pools: the Caribbean Catastrophe Risk Insurance Facility (CCRIF); the African Risk Capacity (ARC); the Pacific Catastrophe Risk Insurance Company (PCRIC); and the Southeast Asia Disaster Risk Insurance Facility (SEADRIF).[17] Despite receiving funding from some donor governments and multilateral institutions for their initial capitalization or technical assistance, all four sovereign risk pools operate as regulated insurance companies rather than multi-donor trust funds.

CCRIF

CCRIF, the first multi-country risk pool, was founded in 2007 with technical assistance provided by the World Bank in response to the devastating impacts of Hurricane Ivan three years prior. Given the destruction and trauma Ivan caused (the wreckage in Grenada, for example, was roughly equivalent to 200 percent of the country's GDP in 2004), there was widespread buy-in across the region for a pooled fund that could help close this financing gap.[18] Due to increased demand, CCRIF restructured itself into a segregated portfolio company in 2014 and expanded to include four Central American countries, a variety of water and electric utility companies, and one tourist site. CCRIF offers six parametric insurance products (for disasters including cyclones, excess rainfall, and earthquakes, as well as for fisheries and the electric and water utility sectors) and is in the process of developing a seventh product (fluvial flooding) to be offered to select countries in the next few years. To date, CCRIF has facilitated the rapid disbursement of approximately $483 million through 82 payouts to member countries.[19]

Disaster Spotlight: Hurricane Beryl

Hurricane Beryl hit eight Caribbean island nations in late June 2024, causing hundreds of millions of dollars of damage. In Grenada, damage was estimated at roughly 17 percent of the country's GDP. Because Grenada had a cyclone policy through CCRIF, the government received a $55.5 million payout within two weeks of the disaster, allowing the country to quickly and efficiently disperse funding for its citizens and begin rebuilding damaged infrastructure. In total, CCRIF made approximately $84.5 million in payouts following Hurricane Beryl to affected member countries. While the funding did not cover the entire cost of damage, it did provide much-needed cash flow quickly to jump-start the recovery process.[20]

Disaster Spotlight: Hurricane Melissa

Hurricane Melissa tore through Jamaica in late October 2025. In total, the tropical cyclone caused $8.8 billion of damage across the country (approximately 41 percent of Jamaica's 2024 GDP). Over 146,000 structures were severely damaged, leading to 4.8 million tons of debris strewn across the country's roads and rivers, and at least 90,000 families have been critically impacted.[21] Prior to this disaster, Jamaica had procured a series of parametric insurance products and catastrophe bonds through CCRIF and the World Bank as part of its disaster risk financing portfolio. Through its tropical cyclone and excess rainfall parametric policies, Jamaica received $91.9 million within 14 days of the disaster; the cyclone payout, totaling $70.8 million, was the largest single payout CCRIF had ever made.[22] In addition, the government of Jamaica received a full payout of its $150 million International Bank for Recovery and Development 2024 catastrophe bond.[23] Historically, borrowing had been the primary way that the government raised the funds to rebuild after a disaster, but because of their DRF efforts, Jamaica was able to access financing quickly to support recovery efforts without further stressing their debt-to-GDP ratio.[24]

ARC

Unlike the other pools, ARC began not through World Bank support, but out of efforts by the WFP. The WFP had already been running parametric insurance pilots in some African countries but recognized the role that a larger pool, rooted within the African political system, could play in scaling parametric solutions across the continent. ARC was created as a specialized agency of the African Union in 2012 and provides technical assistance to strengthen the disaster risk management strategies of African Union members; ARC Limited was formed as the agency's mutual insurer in 2014, providing the actual parametric insurance products to member countries. Required as part of each policy, the policyholder had to design a contingency plan in the case of a payout, designating how the funds would be spent and monitored; this differed from the approach taken by CCRIF, which acts purely to inject liquidity into the policyholder's budget. As of 2024, ARC covered 17 countries, with modeled products for floods, droughts, tropical cyclones, and excessive rainfall.

PCRIC

With seed funding from the World Bank, similar to CCRIF, PCRIC was created in 2016. PCRIC developed out of the Pacific Catastrophe Risk Assessment and Financing Initiative (PCRAFI), a 2013 World Bank pilot program that sought to provide disaster risk management information and technical assistance to Pacific Island nations.[25] As the pilot program came to a close in 2015, PCRIC emerged as a platform to continue and expand PCRAFI's disaster risk reduction and financing work. It secured over $40 million in grants from G7 member states—Canada, Germany, Japan, the United Kingdom, and the United States—to start the multi-stakeholder trust fund. In 2024, six Pacific Island countries, one state-owned data company, and one foundation held a total of 17 policies that covered tropical cyclones, earthquakes, tsunamis, and excessive rainfall. Currently, the company is working to design a drought product with technical assistance provided by the insurance firm WTW and additional sub-sovereign products with funding from the Global Shield Solutions Platform.

SEADRIF

SEADRIF was established in 2018 to create a regional risk pool for vulnerable states in the Association of Southeast Asian Nations (ASEAN). The work originated with a World Bank project that explored a disaster insurance pool for specific Southeast Asian country governments that could build on the PCRIC and CCRIF models. The newest of the risk pools, SEADRIF received initial financial support from the government of Japan through the World Bank, and the government of Singapore. Japan was a key advocate for the institutionalization of SEADRIF as its own entity, outside of the World Bank. Any of the 11 ASEAN member states (Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, the Philippines, Singapore, Thailand, Timor Leste, and Vietnam), plus China, Japan, and South Korea (ASEAN+3), are eligible to join SEADRIF, which currently has eight members.[26]

While flood products were initially developed for Cambodia, Laos, and Myanmar, Cambodia decided not to purchase its policy, and funding for the product in Myanmar was discontinued due to the military coup there in 2021. Laos did procure a multiyear policy.[27] In 2025, with funding support from Global Shield Financing Facility, Laos renewed its procurement while also enhancing its policy to cover a range of perils, including floods, cyclones, earthquakes, and landslides, and incorporating an innovative impact-based trigger that uses the government's own disaster data to assess payouts.

The World Bank

For over two decades, the World Bank has served as a leading organization supporting countries developing their disaster risk reduction and DRF strategies. In addition to promoting a variety of initiatives, multi-donor trust funds, and innovative pilot programs, the World Bank's DRF portfolio includes the Global Facility for Disaster Reduction and Recovery, which seeks to strengthen risk reduction efforts in low- and middle-income countries through financial and technical assistance.[28] Building on this, the Disaster Risk Financing and Insurance Program leads the World Bank's efforts to provide tailored support to countries through market development, knowledge sharing, and sovereign capacity building for financial risk management and public-private partnerships.[29] There has been a significant uptick in interest for and participation in these strategies by donor and developing-country governments in recent years; this shift is reflected within the World Bank's prioritization of DRF. Today, the Crisis Preparedness and Response Toolkit, a comprehensive array of supports launched by World Bank President Ajay Banga in 2023, is being used by over 50 countries to gain access to prearranged contingent financing, as well as catastrophe bonds and sovereign insurance products.[30]

The UN World Food Programme

The WFP has been active for more than a decade in the anticipatory action and disaster risk financing spaces, approaching them as separate efforts with different histories, personnel, and prioritizations.[31] Initially referred to as "forecast-based financing" before being rebranded in 2019, the WFP anticipatory action portfolio covers 6.2 million people in 44 countries and works with local and national governments to develop better early warning systems and provide financial assistance in the run-up to drought, floods, and cyclones.[32] The anticipatory action portfolio has enjoyed greater political buy-in within the WFP and among its supporters than insurance-oriented DRF efforts, in part because anticipatory actions are more easily understood as crisis activities in line with the WFP's traditional programming and its humanitarian mission. Additionally, the WFP's anticipatory action work does not involve the payment of insurance premiums, from which private sector actors might profit. Despite these distinctions, the WFP has had in place long-standing micro- and macro-level DRF programming. At the micro level, building upon the 2007 Horn of Africa Risk Transfer for Adaptation pilot program in Ethiopia, the WFP, in partnership with Oxfam America, launched the R4 Rural Resilience Initiative in 2011 as a key component of its climate and disaster risk-financing portfolio.[33] The program expanded to cover approximately 550,000 households across 18 countries in 2024, supported by a broad coalition of UN agencies, national ministries, reinsurers, microfinance institutions, and bilateral donors. To provide support at the sovereign level, the WFP DRF portfolio supports a number of African nations' efforts to prearrange rapid disaster risk financing through ARC's parametric macro insurance coverage.[34] Most recently, the WFP has experimented with insuring its own disaster response in fragile contexts, successfully implementing a pilot initiative in Syria in 2025.[35]

Other Multilateral Organizations

In addition to the World Bank and the WFP, a range of multilateral organizations have advanced DRF innovations in recent years. These include the UN Development Programme (UNDP), the UN International Fund for Agricultural Development (IFAD), regional development banks such as the Inter-American Development Bank (IDB), and numerous other UN agencies and international organizations.

The UNDP Insurance & Risk Finance Facility (UNDP-IRFF), housed within the UNDP Sustainable Finance Hub, provides technical expertise and support to country offices to bolster DRF.[36] Over 20 UNDP country offices now support countries to strengthen financial resilience to risk through a combination of inclusive insurance market development and sovereign disaster risk financing, helping both households and governments better anticipate, absorb, and respond to shocks. Through a number of specific projects, the UNDP works with governments to close financial protection gaps, with smallholder farmers to better manage their financial risk, and with local organizations and partners to spur innovation. Additionally, the UNDP, IDF, and the German government partnered in 2019 through the InsuResilience Solutions Fund to form the Tripartite Agreement, which aims to advance disaster risk reduction efforts in developing countries. Currently active in over 23 countries, the initiative focuses on building enabling environments, strengthening institutional capacity, and designing tailored risk solutions. For example, in Pakistan, the Tripartite Agreement supports the country's disaster risk reduction and DRF strategies and is helping the government procure a parametric insurance solution for climate risks.[37] In Nigeria, the Tripartite Agreement is supporting Lagos State to strengthen financial preparedness for urban flooding through a parametric insurance solution, complemented by institutional capacity building and policy reforms that embed risk financing into disaster response systems and national climate and fiscal strategies.[38]

IFAD's Climate and Environment Action Area works to build resilience for smallholder farmers by increasing the share of climate finance within its program of loans and grants—this share rose 15 percentage points between 2019 and 2024—and through programs such as the Africa Rural Climate Adaptation Finance Mechanism, a blended finance mechanism that operates across four African countries to strengthen communities' ability to respond to climate shocks.[39] In addition, IFAD's Adaptation for Smallholder Agriculture Programme (ASAP) aims to provide innovative financing opportunities and technical assistance to smallholder farmers to increase their resilience; building on these efforts, ASAP+ seeks to mobilize approximately $500 million for mitigation and adaptation efforts.[40] The Insurance for Rural Resilience and Economic Development (INSURED) program, a $6 million IFAD initiative supported by the Platform for Agricultural Risk Management and the Swedish International Development Cooperation Agency, provides an insurance tool kit for rural households to help manage climate risks while increasing their overall resilience and assists farmers seeking to procure agricultural and climate risk insurance.[41] IFAD is also looking at incentivizing resilience by piloting a results-based loan that encourages sustainable practices through interest buy-down.[42]

The regional development banks have been active in this space as well. In the last five years, the IDB has provided approximately $1.5 billion in sovereign guaranteed loans through 19 projects focused on disaster risk management and DRF.[43] Its Ready and Resilient Americas initiative, for example, is geared toward improving resilient practices in Latin America and the Caribbean and aims to provide $10 million to countries in those regions between 2025 and 2030.[44] This nonreimbursable funding is focused on three key areas: data, response, and financing strategies. In July 2025, the IDB and IDB Invest announced that they intend to scale their DRF portfolio by $2 billion through contingent credit and innovative debt clauses. By increasing financing to its Contingent Credit Facility and Climate Resilience Debt Clauses, the IDB is able to expand country eligibility while strengthening risk-transfer mechanisms already in place.[45]

Donor Country Engagement

Donor countries have played a significant role in the development of DRF programming through seed funding, technical assistance, and other support. The German government has been especially active in the space, particularly as president of the G20 in 2017 and the G7 in 2022. Spearheaded by the German G20 presidency with support from the World Bank, the InsuResilience Global Partnership was launched at COP23 and brought together approximately 120 partners across government, civil society, and the private sector to advocate for better preparedness to climate risks in low-income and vulnerable countries.[46] Emerging from this initiative, the Global Shield sought to bring together the G7 and Vulnerable 20 (V20) countries to create a platform to apply DRF in practice.[47] It was designed to serve as a technical assistance and investment vehicle to create more actionable focus on prearranged financing for disaster risks in developing countries. With initial pledges of approximately $350 million, the Global Shield works directly with countries to build their capacity, identify specific parametric insurance solutions, and provide premium support through the Global Shield Solutions Platform (GSSP). Funding for the Global Shield and its entities, including GSSP, has come from the governments of Denmark, France, Germany, Japan, Luxembourg, the United Kingdom, and the United States (through its contributions to ARC).

The UK Foreign, Commonwealth, and Development Office has funded many of these initiatives alongside the German government, even as it has maintained a lower political profile on the issues. In addition, the UK government provided funding for the CDP—a London-based think tank focused on disaster risk reduction and DRF analysis—which opened in 2017 and has since become an established hub of knowledge.[48] The CDP has partnered with NGOs, including the International Rescue Committee (IRC), to build the case for greater anticipatory action and prearranged financing structures in developing country contexts.

The Japanese government has also been a key driver of DRF initiatives, providing financial support to CCRIF, PCRIC, and SEADRIF. An initial grant from the government of Japan, alongside technical assistance from the World Bank, led to the creation of CCRIF, and it was the Japanese government that advocated for and led the creation of SEADRIF as an entity independent from the World Bank. Eligible through its ASEAN+3 status, Japan is also a member of SEADRIF, not just a donor to it.

The Insurance Development Forum

Launched at COP21 in 2015 as an industry-led public-private partnership jointly coordinated with the World Bank and the UNDP, the IDF serves as a platform for leading insurance firms to share their expertise and strategically connect to emerging markets while strengthening resilience efforts in developing economies through partnerships with governments and private sector–led insurance solutions.[49] The IDF is governed by a steering committee that includes the chairmen and CEOs of many of the world's influential insurance industry companies. That steering committee is currently led by the chairman of Zurich Insurance Group, with the heads of the UNDP and the World Bank's Multilateral Investment Guarantee Agency serving as cochairs. An operating committee drives the implementation of much of the IDF's work through a set of working groups, and each component of the IDF structure is guided and coordinated by a secretariat. The IDF's working groups advance practical activities related to risk modeling, disaster risk reduction, sovereign and humanitarian solutions, legal and regulatory policies, financial inclusion, and infrastructure investments. For example, through the Sovereign and Humanitarian Solutions Working Group, IDF members provided financial and technical assistance to the WFP as it developed a drought insurance policy in Syria.[50] Through its members, the IDF has mobilized over $100 million to address financial protection gaps since 2020.[51]

The IDF has established itself as a hub of innovation, knowledge sharing, and expertise. One of the ways it has done so is through the Tripartite Agreement and associated efforts to design country- and region-specific insurance solutions.[52] For example, in 2022, the Tripartite Agreement announced a partnership with the government of Mexico to design a sovereign parametric insurance product for smallholder farmers; the product's development is being led by IDF members AXA, Guy Carpenter, Munich Re, and Swiss Re, as well as AGROASEMEX, a Mexican state-owned reinsurer.[53] For more in-depth illustrations of Tripartite Agreement efforts, see the Ghana and Syria case studies that accompany this report.[54]

The IDF has also actively explored ways to tap the investing power of the insurance industry while demonstrating the promise of resilient infrastructure projects in emerging markets and developing economies as an asset class for institutional investors. Launched in 2025 with a first close of $340 million, the IDF Infrastructure Resilience Development Fund was structured with support from Blackrock and is already backed by investments from AXA, Convex, Generali, SCOR, Swiss Re, Zurich and the World Bank Group's International Finance Corporation.[55] The IDF has also partnered with the Bridgetown Initiative to shape reforms of the international financial architecture. In June 2025, the groups released a report titled *From Risk to Resilience: How Insurance Can Mobilise Disaster Finance and Climate Investments in Vulnerable Economies*, which outlined four key leverage points to accelerate resilience through insurance solutions.[56] Alongside its year-round efforts, the IDF additionally hosts annual high-level summits that bring together the DRF and insurance communities.[57]

International Nongovernmental Organizations

In the period since Oxfam America partnered with Swiss Re and others in Ethiopia to pilot the R4 Rural Resilience Initiative, other INGOs have also looked at innovative ways to provide timely resources to fund disaster risk management, particularly in the anticipatory action space. The IRC, for example, has worked since 2021 to build its anticipatory action portfolio. With funding from the Trafigura Foundation, it developed a "follow the forecast" model to streamline and strengthen the organization's humanitarian response in Guatemala.[58] The IRC plans to replicate this rapid contingency planning and cash transfer approach, a form of DRF that does not involve insurance.[59]

With a focus on building resilience to extreme heat through parametric microinsurance, the NGO Climate Resilience for All recently launched the Women's Climate Shock Insurance and Livelihoods Initiative, which provides support directly to women in India operating in the informal sector during extreme heat.[60] The insurance was provided by ICICI Lombard, a local Indian insurer, and underwritten by Swiss Re. In partnership with the Self-Employed Women's Association, the initiative provided cash transfers to 50,000 women during India's 2024 heat season.

Another example is One Acre Fund, an East African nonprofit that provides agricultural support including resilient seeds and flexible loan options for subsistence farmers in nine sub-Saharan African countries. The nonprofit launched One Acre Fund Re in December 2023 to build an additional safety net for smallholder agriculturalists across Africa.[61] One Acre Fund aims to provide an additional 4 million smallholder farmers with a variety of insurance products by 2030, backed by reinsurance through One Acre Fund Re. With support from the International Finance Corporation, the U.S. Development Finance Corporation, and ARC, the products underwritten by One Acre Fund Re will facilitate direct payments to the farmers, providing tailored resilience support at the individual level.[62]

While IRC, Climate Resilience for All, and One Acre Fund Re work directly with impacted households and individuals, CARE partners with civil society organizations, private sector representatives, and local and national leaders across 11 countries to map out participating countries' CDRFI capacity while strengthening public-private partnerships. With funding from the German Federal Ministry for Economic Cooperation and Development (BMZ), these multi-actor partnerships foster a coordinated approach for DRF and have "contributed to putting loss and damage on the agenda of national debates on climate change."[63] The program started in 2019 and CARE is working to get approval through the BMZ to extend it through 2029.

At the broader sector level, the Start Network was founded approximately 15 years ago to leverage the financial, technical, and knowledge base of the UK-based NGO system to build better preparedness across humanitarian NGOs worldwide.[64] The organization's Start Fund, initiated in 2014 with support from the United Kingdom, Ireland, and the Netherlands, was created to provide rapid funding, often within 72 hours, for small- and medium-scale crises that garner less attention within the humanitarian aid system.[65] Any of the 134 Start Network members, ranging from large multilateral organizations to local NGOs, can request funding, either before or immediately after a crisis, and it is through member consensus that funds are dispersed. Building on this, the Start

Ready program was launched in 2021 to pre-position crisis funding for participating members, in an approach for NGOs somewhat similar to the regional risk pool model for countries. This is the first fund to pool risks in this way within the humanitarian NGO sector.[66] The Start Network has also participated in a replica program through ARC to unlock additional capital for crisis response in Somalia.

Country Spotlight: Somalia

In Somalia, the Start Network has built up a layered disaster risk financing approach to provide aid in the case of severe weather events.[67] Through these efforts, the Start Network has enabled the distribution of over €21 million since 2014 to conflict-affected communities struggling with epidemics and extreme weather events such as drought, floods, and cyclones. Its layered approach includes three "stages": smaller crises trigger the Start Fund, medium-level disasters that meet the requirements of a pre-agreed contingency plan can trigger Start Ready, and extreme drought triggers a replica layer of insurance, which the Start Network established in partnership with the government of Somalia and the WFP. While larger crises can trigger both Start Ready and the replica layer simultaneously, for smaller crises, only the Start Fund is activated, illustrating how the different risk layers respond to disasters according to severity levels. In fragile contexts, governments often lack the ability to adequately respond to disasters when they hit, meaning their populations are left without support, and traditional humanitarian aid responses can be too slow. Disaster risk financing approaches, like Start Network's program in Somalia, work to close this gap to help developing countries quickly and efficiently respond to crises.

Learning Networks

As applications of DRF have evolved over the last two decades, multiple formal and informal learning networks have developed. Organizations including the IDF, the Risk-Informed Early Action Partnership, and the Global Asia Insurance Partnership bring members and stakeholders together to share challenges, innovations, and modeling approaches.[68] The annual IDF summit, for example, is designed to dovetail with a multiday learning session that the World Bank supports; together, these conferences provide opportunities to build cross-sectoral connections and partnerships through peer-to-peer exchanges and high-level global dialogues involving insurance industry leaders, policymakers, multilateral officials, and other stakeholders and researchers.[69] At the country level, the UNDP also organizes workshops, facilitates knowledge sharing between its offices, and builds in-country capacity. Through its online knowledge hub, the Global Shield Solutions Platform also offers learning materials for local-level stakeholders and insurance supervisors and regulators. The Start Network, with more than 130 NGO members collaborating on reform of the humanitarian system, curates a learning platform that includes significant focus on anticipatory action and DRF as well.

Several additional forums offer knowledge sharing in the field. The Anticipation Hub, which operates with support from the German government and in close partnership with the Red Cross and Red Crescent movement, promotes learning within and beyond the humanitarian system to expand anticipatory action.[70] One of the ways the Adaptation and Resilience Collaborative for Funders helps philanthropic organizations is through its shared learning agenda, which includes a focus on prearranged finance and insurance.[71] The Global Resilience Partnership, another network that fosters dialogue, information exchange, and catalytic programs, often connects with DRF through its focus on mobilizing business for resilience.[72] The Global Resilience Partnership additionally collaborates with the Atlantic Council's Climate Resilience Center and others to advance international policy dialogues and manage the Resilience Hub, a platform that has consistently included a focus on DRF.[73] Other think tank initiatives, like the CDP in London and the relatively new CSIS Sustainable Development and Resilience Initiative in Washington also contribute research to the broader community of stakeholders while informing policymakers about DRF approaches.[74]

This list is not exhaustive. The number of initiatives associated with knowledge exchange about DRF has grown and is poised to expand further as demand for effective and efficient management of disaster risks increases.

Ghana Case Study

Disaster Risk Financing in Real Time

Against the backdrop of shrinking foreign assistance budgets and increasing extreme weather events, the government of Ghana has taken strides to incorporate parametric insurance products into its disaster risk management portfolio. These efforts have been informed by a confluence of Ghanaian and international actors, who have worked to build the enabling environment for insurance penetration, strengthen the technical capabilities required to design and implement parametric insurance policies, and increase the government's appetite for such policies. Ghana's National Disaster Management Organisation (NADMO) and the National Insurance Commission, as well as the president's office and the Ministry of Finance, have been instrumental in shaping both the sovereign and sub-sovereign products.[75]

The Parametric Drought Insurance Policy

In consultation with the V20 and the Climate Vulnerable Forum, Ghana became the first country to start the Global Shield's In-Country Process in 2022. Following two years of stakeholder engagement, capacity analysis, and technical workshops, Ghana purchased its first sovereign parametric drought insurance policy in 2024 through ARC. The Global Shield Solutions Platform and the German Federal Ministry for Economic Cooperation and Development provided premium support financed through KfW.

The drought triggers were met twice during the coverage, and Ghana received two payouts totaling approximately $3 million in January and April 2025. Per the contingency plan, the payouts were to be used to cover food and seed costs, in addition to educational efforts on resilience practices and insurance solutions.

With a $1 million premium, the government unlocked three times that amount to fund its response to the drought. However, the payouts met several hurdles, including significant delays in transferring funds from Ghana's Ministry of Finance to NADMO, the distributing agency outlined in the contingency plan.

The Parametric Flood Insurance Products

The government of Ghana partnered through the Tripartite Agreement between the UNDP, the IDF, and the BMZ, with support from the InsuResilience Solutions Fund, to design two urban parametric flood insurance products for the greater Accra region.

Using satellite-based flood detection and demographic mapping, these products were designed to be a proof of concept that could then be applied to other urban district assemblies to insure the most vulnerable communities against flood. The contingency plan identifies NADMO as the distributor and specifies that the payout funds will be used for emergency food and cash assistance, aid distribution, and infrastructure maintenance.

Finalized in early 2025, the technical agencies submitted the proposed policies to the Ministry of Finance so they could then go to market; in June 2025, representatives knowledgeable on the subject expressed hope that the ministry would soon unveil the products.[76] However, the products were not approved until September 2025. As with the disbursement of payout funds from the sovereign drought insurance policy, the January 2025 presidential transition significantly slowed down the approval process. Because the rainy season in Accra lasts from late spring through the end of summer, these products needed to be in effect earlier to make sense for the 2025 calendar year. Looking toward the 2026 rainy season, the government of Ghana has included the premium cost in its current national budget and expects the products to be placed on the market in the coming months.[77]

Looking Ahead

The sovereign parametric drought insurance policy and the urban parametric flood insurance products illustrate Ghana's growing insurance appetite. While both the implementation of the drought policy and the approval of the flood products faced challenges, key leaders inside and outside the government have pushed for these test cases to succeed and are looking to expand Ghana's parametric insurance portfolio in the future.

For a complete analysis, please refer to the authors' long-form case study.[78]

Syria Case Study

Disaster Risk Financing in Fragile Contexts

Recognizing the need for better disaster risk management in fragile states and the limited ability of those governments to derisk themselves, the WFP partnered with the Global Shield Financing Facility, Humanity Insured, and the IDF's Sovereign and Humanitarian Solutions Working Group to create a pilot macro-level parametric drought insurance policy in Syria. The policy covered a period between January and mid-April 2025 and resulted in a $7.9 million payout in May 2025 following a one-in-fifty-year drought that took place in Syria's north, northeast, and southern regions.

The Product and Its Payout

During the consultation process, the WFP country office identified drought as posing the most risk to Syria's food security. Donor-funded organizations such as the WFP often face challenges financing drought response in fragile contexts, as a lack of data makes drought hard to track, and international attention and capital are often pulled toward "flashier" crises. Precisely because of these challenges, the WFP determined that drought would be the ideal risk to cover in the pilot. IDF member Swiss Re designed the product, which used the normalized difference vegetation index, satellite imagery, and on-the-ground monitoring to determine drought conditions.

Paid for by a consortium of funders including the UK Foreign, Commonwealth, and Development Office, the BMZ, and Humanity Insured, the $1.25 million policy covered 240,000 people and had the potential to unlock up to $9.25 million for the WFP's disaster response.[79]

While the season started with normal rainfall levels, a one-in-fifty-year drought developed throughout the spring, resulting in a $7.9 million payout.[80] The payout took the form of $100 monthly cash transfers to approximately 117,000 people for two to three months, depending on the severity of drought in a given region, which were expected to begin in August 2025.

The product succeeded in giving the WFP access to nearly $8 million to fund its disaster response and provide vulnerable communities with cash transfers to pay for staple foods, emergency supplies, and other necessities; however, the hard cash shortage in the country has meant that the WFP has struggled to disperse the funds.[81] In October 2025, the WFP was able to begin the cash distribution, and is expected to finish by the end of January 2026.[82]

Looking Ahead

While the pilot has faced challenges, it succeeded in its primary goal: providing a proof of concept illustrating that the WFP can insure their response in fragile contexts and that insurance can work as a budget stabilizer while unlocking additional capital to fund disaster response. With some modification, this product can be scaled up to cover different regions.

For a complete analysis, please refer to the authors' long-form case study.[83]

Considerations, Challenges, and Opportunities

The various initiatives and leading governments, multilateral institutions, businesses, NGOs, and foundations described in this report do not constitute an exhaustive list of disaster risk financing efforts. Even so, they provide a sense of the growing relevance and applications of DRF. Around the world, crises that are somewhat predictable are increasing, but so too are the capabilities to anticipate and plan for them. While the concept of disaster risk financing is not entirely new, this approach has yet to be truly mainstreamed relative to more reactive crisis response programs that are built into official systems for international cooperation. Those systems are currently in flux, under financial and political pressures to change to be more efficient, effective, and market oriented.[84] Within this context, prearranged trigger-contingent programs for disaster risk finance, anticipation, and response in developing countries present a particularly valuable opportunity.

Tailored DRF mechanisms take time to develop, require technical capabilities and capacity building, and rely upon sustained political will and understanding. Additionally, investments in DRF and anticipatory action can be particularly challenging in the contexts where they are arguably needed most: fragile states. Innovations of various kinds, however, have made DRF approaches more promising.

Timing

Timing is an important factor in DRF planning. On the front end, as financing mechanisms are developed, detailed risk modeling and analysis are necessary. If a country already has comprehensive data and analysis of its risk profile with regard to hazards, the process of establishing a new financing mechanism may be faster. In many cases, however, the quality of data and analytics at the country or subnational administrative level is uneven and in need of improvement. Additionally, it can take time to coordinate the wide array of stakeholders required, often spanning international partners and domestic governmental offices across varying levels and agencies. Recognizing these factors, initiatives like the Global Shield and the Tripartite Agreement have intentionally incorporated technical assistance and capacity building as components of their pilot approaches. As illustrated in the Ghana case study, for example, the processes for developing a sovereign parametric drought insurance policy and urban flood insurance products each involved roughly two years of preparation.[85]

Once threshold-contingent programs for disaster risk finance, anticipation, and response are developed, formally established, and then triggered, timing is also key to their effectiveness. In the case of the WFP's assistance to Syrian farming communities facing drought, prearranged finance yielded rapid access to funding that the organization will ostensibly use to provide lifesaving cash assistance, once it is able to navigate the country's unanticipated hard currency shortage.[86] In the case of covered drought in Ghana, the government received a payout through ARC relatively quickly, but the ensuing benefits were not disbursed quickly, likely impinging on their effectiveness.[87] Hazards such as droughts, floods, extreme temperatures, and cyclones are often seasonal, making the timing of protection policies particularly important. In the event of a catastrophe, the timing of anticipatory actions or funding from risk retention and risk transfer strategies can also make a difference for recovery or preparation for the next growing season.

The Global Shield refers to its efforts to strengthen prearranged finance implementation in countries including Costa Rica, Ghana, Malawi, Pakistan, and Senegal as "pathfinding," because those partnerships are shaping new models and approaches that can hopefully lead the way for others.[88] To date, insurance products supported through the Global Shield have only resulted in one pathfinder country receiving a payout. That is likely to change over time. As more countries and regions derive resilience-building lessons from their experiences with DRF, a greater number of models will be available, potentially making development and delivery of such financing faster, even though context-specific, specialized approaches will continue to be essential.

Politics and Political Will

Another lesson, derived in particular from the Ghana case study, is that continuous political will and understanding are important for the success of DRF.[89] Support for DRF plans should ideally persist across leadership transitions and political parties. In Ghana, the political leadership that oversaw the establishment of a new set of catastrophe insurance policies was voted out of office. The newly elected administration, distrustful of the policies of its predecessor, needed time to understand the prearranged finance approaches that had been developed for drought and flooding. As a result, the flood insurance products progressed only after another rainy season had passed. The political pressure to ensure that such policies are consensus approaches could have been stronger, but understanding of disaster risk management mechanisms and the value of prearranged finance was also underdeveloped across the community and civil society levels, which could have reinforced sustained political will.

Politics can also affect governmental support for specific DRF efforts even after they have met with apparent success. In Nicaragua, for example, the WFP helped the government buy additional coverage to expand a macro-insurance cyclone policy through CCRIF. After Hurricane Julia hit Nicaragua in October 2022, affecting roughly 60 percent of the country's population, the WFP's augmentation of the policy resulted in the organization receiving nearly $640,000 of the almost $9 million payout to complement the disaster response through its programs to improve food security. By late 2023, however, the government directed the WFP to suspend its micro- and macro-insurance programs even as Nicaragua maintained its membership within CCRIF.[90]

Tough Environments

Oftentimes, the most climate-vulnerable nations are also the most affected by conflict, exacerbating already strained humanitarian support systems. In fact, when disasters strike fragile contexts, the mortality rate is approximately 34 percent higher than in non-fragile countries.[91] With roughly 30 percent of the V20's member base classified as fragile or conflict affected, it is imperative that DRF does not exclude countries that have a more challenging time accessing international insurance and reinsurance markets.[92] As governments in fragile contexts are more likely to lack the technical capacity and budget to insure themselves, international organizations can play a role in closing the gap. For example, the pilot effort to leverage insurance to enhance the WFP's drought response capacity in Syria was intentionally designed to focus on liquidity for disaster recovery in fragile contexts. This was the first time that the WFP insured its own response in a fragile context and provides a helpful road map for others looking to replicate its efforts. The Start Network is another good example of layering DRF strategies, and especially anticipatory action that includes insurance and noninsurance solutions, across fragile regions. In 2025, the Global Start Fund received anticipatory action alerts for extreme weather events in Chad, the Democratic Republic of the Congo, Somalia, Sudan, and Venezuela, which all resulted in payouts.[93]

Innovation

The initiatives and DRF mechanisms highlighted in this report were all created over the past two decades, and many within just the past ten or even five years. This innovation continues to speed up. It includes technological innovation that enables greater accuracy and use of meteorological data. Digital infrastructure and connectivity are progressing at a rapid pace across emerging markets and developing economies, leading to more accurate extreme weather models and better early warning and anticipatory action.[94] Other types of innovation abound, as well. Policy innovations such as the regional risk pools have created new multilateral and multistakeholder platforms that provide an interface for governments, international organizations, and private sector reinsurance firms. Product innovations, such as those through the Tripartite Agreement and the contributions of insurance industry businesses through the IDF, are forging new ground.

Recent interest among crisis response organizations in insuring their own funding is just one example of promising innovation. Aon, an international insurance and risk management firm, and the CDP advised the IFRC to insure its Disaster Response Emergency Fund, which the IFRC uses to distribute emergency allocations to its national entities in countries around the world for anticipatory action and disaster response.[95] This has effectively added a contingency financing layer that expands the capacity of the fund by leveraging commercial natural catastrophe reinsurance markets. Relatedly, the Start Network, with support from Aon, has pioneered the use of reinsurance mechanisms to insure its anticipatory action pooled funds, enabling the network to pre-position nearly two times the amount of funding available. If the Start Network spends down the entirety of its funding within a given time period, it will receive an insurance payout allowing the organization to meet all pre-positioned funding expectations.[96] Similarly, additional organizations, including the WFP and OCHA, are also experimenting with insuring their own funding streams. OCHA, for example, is actively working with Gallegher Re to design a product that will bring together 20–25 of their anticipatory action frameworks under a single policy that will pay out depending on the number of anticipatory actions that occur within the covered period, not the total amount of money spent. This product is expected to be finalized in mid-spring 2026.[97]

Recommendations

Looking forward, there are several recommendations that developing countries, donor governments, the private sector, NGOs, and philanthropic organizations should consider to bolster resilience at the national and regional levels.

National Governments in Developing Countries

Developing country governments, especially those that are highly vulnerable to mounting physical risks, can take many steps to improve their resilience through better preparation and prearranged risk finance. These include elevating the priority of understanding a country's risk profile. Countries should direct investments toward comprehensive data and analytics at the national level and across subnational administrative entities. Improved risk information should inform anticipatory action plans and more accurate pricing for insurance premiums. Finance ministries, central banks, and other key nodes for economic decisionmaking should be equipped with a high level of awareness about the fiscal impacts of disasters and the positive outcomes associated with DRF and resilience investments.

To further raise awareness and ensure continuity of policymaker support for disaster risk financing, leaders must also foster cooperation across many levels and departments of government. In Ghana's case, for example, national and district-level leaders all had to work closely together. The need for cooperation additionally extended to many other parts of government, including the Ministry of Finance and, following the start of a newly elected administration, a new cabinet-level strategic coordination body for climate change policies.

As national adaptation plans grow in number and prominence in accordance with international pressure and a rise in severe impacts from extreme weather, a constellation of advocates and policy experts are increasingly calling for such plans to serve as "investable resilience strategies" to effectively channel finance.[98] For national action plans to serve as practical resilience investment strategies aligned with country priorities, countries should make sure they fully incorporate DRF policies and goals.

In taking these steps to bolster resilience through DRF, countries should seek out the support offered through regional risk pools and multistakeholder initiatives including Global Shield, the Tripartite Agreement, and others. Partnerships such as these can spur innovation and inject some additional initial resources to move in the direction of enhanced protection. Ultimately, following initial piloting and implementation of new approaches, the aim is for broader uptake that builds upon, or goes beyond, the investments of external donors. Zambia's experience with the WFP's R4 Rural Resilience Initiative, for example, enabled that country to assess the effectiveness of the program, adapt it, and use its own budgeted resources to expand it to new regions.[99]

Donor Governments and Multilateral Institutions

Following two decades of experimentation and pilot projects focused on implementing DRF for developing country contexts, donor governments should work both independently and together to significantly ramp up focus on supporting readiness, in contrast to the historic emphasis of aid on reactively responding to disasters. This opportunity to step up can apply to groups of global development donors that have increased in prominence more recently, such as the Gulf states. It can also serve as a natural next step for more traditional donors such as the G7 countries. Building on past G7 initiatives, including the Global Shield and the push during Italy's 2024 G7 presidency to support "public-private insurance programmes against natural hazards," G7 countries and allies could find common ground to focus on scaling up prearranged crisis finance even as other forms of crisis finance are receding.[100] The framing would be important; to gain U.S. support, for example, such an effort would have to have a genuine focus on protecting and spurring supply chains and investments amid an era of geostrategic competition, as opposed to using climate change as a justification. At present, there is so much downward pressure on ODA that G7 countries may see a shared benefit in having one aspect of development finance serve as a growth area, especially one that is cost effective and supports risk transfer to global markets while expanding insurance.

Multilateral institutions should expand and mainstream their DRF efforts, and leading member states and shareholders should support this strategic direction. The World Bank should continue to integrate and elevate the approaches it has synthesized through its Crisis Preparedness and Response Toolkit. The WFP should capitalize on the fact that its DRF and anticipatory action workstreams are funded through extra-budgetary, donor-supported trust funds managed by the World Bank, which means that such work could be relatively less impacted by current cuts to the WFP's core budget.[101] The organization should continue to test and expand replica schemes that dovetail with policies crafted through regional risk pools while also building on its experience with the Syria drought insurance to leverage such risk transfer approaches in additional fragile states.

Other multilateral institutions that have begun to incorporate prearranged mechanisms for disaster risk finance, anticipation, and response have even more runway to grow their approaches. IFAD's INSURED program is relatively small, for example, and given the extent of its agricultural programs combined with the financial innovation leanings of the institution's leadership, it could layer in insurance more systemically.

Private Sector Businesses

Private insurers and reinsurers should double down on opportunities to collectively partner with governments and public international organizations to tackle protection gaps and issues of insurance affordability in developing countries while accelerating the design of products, tools, and approaches that further incentivize resilience investments.[102] The IDF provides a particularly helpful platform for this, for example, and more firms should maximize their engagement through such forums to develop new models and build market opportunities for the future.

Beyond the insurance industry, businesses more broadly are increasingly focusing their attention on resilience, not just for protection benefits but for growth opportunities as well. The impacts of physical risks and extreme weather on companies' operations, workforces, and prospects can be significant. A corporate survey by the MSCI Institute on resilience and physical risk found that "more than 80% of companies say their operations, including supply chains, have been impacted by extreme weather events," and more than two-thirds report that "investments in resilience have boosted their access to capital or lowered their insurance bill."[103] As companies increasingly assess how extreme weather risks impact their business and take steps to reduce their risk exposure, they should also recognize the ways that local and national DRF policies can affect their supply chains and employees.

Nongovernmental Organizations

Given the significant and growing proportion of crises that are at least somewhat predictable, humanitarian NGOs should expand and prioritize anticipatory action work. While the INGOs referenced in this report have pioneered and adopted approaches that focus on prearranged finance and readiness, many others have not. Additionally, even organizations that already incorporate some degree of anticipatory action into their programming should seek ways to build in more connections with broader DRF and insurance efforts. This can happen through replica initiatives like ARC's, by informing or borrowing from experimental approaches taken up by close multilateral partners including the WFP, OCHA, and UNDP, or by actively learning from the cutting-edge efforts being developed by the Start Network, Resilience for All, One Acre Fund, and others. Civil society organizations at the international and national levels alike can also play a critical role in building and sustaining the political will necessary for effective DRF through public institutions.

Philanthropic Institutions

Foundations should invest in further learning and analysis as they continue to shift some of their strategic areas of focus toward adaptation and resilience. Support for on-the-ground pilots and applications of DRF plays an indispensable role. A prime example of such support is the collective effort by the ClimateWorks Foundation, Howden Foundation, Laudes Foundation, Quadrature Climate Foundation, and Rockefeller Foundation to fund solutions, including "innovative finance for urban resilience," related to extreme heat across South Asia, Southeast Asia, and sub-Saharan Africa.[104] Given the striking moment of inflection currently facing the global development and humanitarian landscape, the next few years represent a unique window to shape the policies of institutions—including the U.S. government, UN systems, and other traditional donor governments—that will change considerably but continue to have outsized impact.[105] To do so will require further research and meaningful dialogues that connect DRF practice with high-level policy decisions affecting international investments at scale.

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