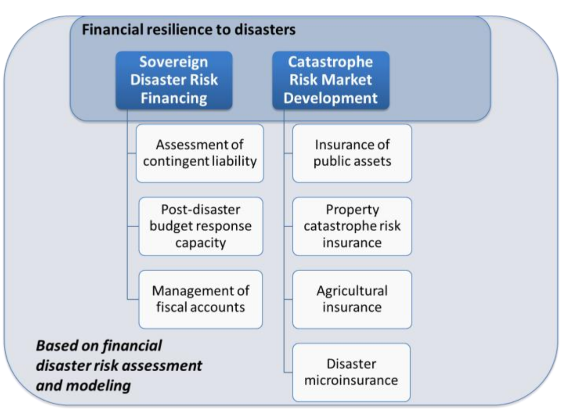
Disaster Risk Financing and Insurance Program

In the past 10 years, disaster losses worldwide have increased from less than US$50 billion to over US$350 billion. 2011 saw record losses from disasters with estimated costs of up to US$380 billion. This upward trend is exacerbated by growing urbanization, environmental degradation, and an increase in the frequency and severity of hydro-meteorological events due to climate change. Developing countries are particularly vulnerable to natural disasters and do not have adequate resources to dedicate to reducing asset exposure or to effectively respond to an emergency. As a result, natural disasters place a significant fiscal burden on governments of developing countries.

The Disaster Risk Financing and Insurance (DRFI) Program is a joint partnership between the World Bank and the Global Facility for Disaster Reduction and Recovery (GFDRR). The DRFI Program aims to increase governments' financial response capacity to natural disasters. DRFI is one of the five pillars of the WB-GFDRR's comprehensive Disaster Risk Management (DRM) framework which promotes the mainstreaming of disaster risk reduction and climate change adaptation in a broader country development agenda. This is in line with the implementation of Priority Action Number Four of the Hyogo Framework for Action (HFA) – to reduce disaster risk by addressing underlying key factors. Additionally, the G20 and Sendai Report have advanced DRM as a crucial area of focus.

The DRFI Framework

Figure 1: The DRFI Framework



The development objective of the DRFI Program is to assist countries increase their financial and fiscal resilience to natural disasters by institutionalizing sustainable and cost-effective risk financing strategies. The Program focuses on 31 GFDRR Priority Countries with high vulnerability to natural hazards and low economic resilience to cope with disaster impacts, including anticipated climate impacts. The DRFI Program promotes financial strategies and tools against natural disasters for governments, homeowners, small and medium enterprises, agricultural producers, and low-income populations. These innovative financial solutions help governments shift from post-disaster assistance to proactive ex ante budget planning. By ensuring access to post-disaster financing before an event strikes, DRFI tools provide immediate liquidity in the aftermath of a natural disaster. For governments, these funds enable an effective response effort by providing crucial bridge financing while other post-disaster funding sources are being mobilized.

DRFI can be broadly defined as the tools and strategies to increase financial resilience against natural disasters. GFDRR supports developing countries in incorporating DRFI as part of their national DRM strategies by providing capacity building and technical assistance for the design and implementation of affordable and cost-effective DRFI programs. There are two components to the DRFI Framework: (i) sovereign disaster risk financing, and (ii) catastrophe risk market development.

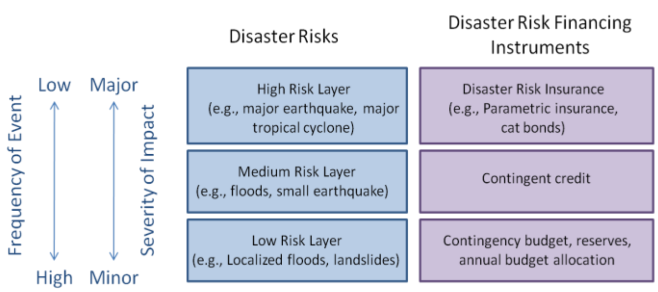
(I) Sovereign Disaster Risk Financing

Developing countries rely heavily on post-disaster financing. Developing countries generally do not have previous financial arrangements or explicit allocation of resources. Thus, they utilize ex post sources of funding and rely heavily on post-disaster financing, including donor assistance. Though some of these financial instruments can be relatively inexpensive, they can take a long time to negotiate, can be highly variable, and the costs of transactions, coordination, and compliance to donor facilities can become quite large and burdensome.

Relying solely on ex post financing mechanisms to manage sovereign disaster risk entails volatile and open-ended fiscal exposure. Post-disaster assistance may be neither sustainable nor sufficient in the long term as they can potentially endanger development programs. Systematic analyses of contingent liabilities arising from natural disasters and establishing an ex ante budget planning system are necessary elements for effective financial protection strategies.

Sovereign disaster risk financing increases the financial response capacity of governments in the aftermath of natural disasters, while protecting their long-term fiscal balances. Governments of developing countries have successfully implemented sovereign disaster risk financing strategies based on ex ante budget planning that involves an optimal combination of ex ante and ex post financial instruments. Sovereign disaster risk financing improves financial management of disasters at the national, provincial, and municipal levels of government.

The DRFI Framework to achieve financial resilience builds upon a risk-layering, bottom-up approach. The layered approach moves through lower, intermediate, and higher layers of risk that correspond to varying degrees of disaster frequency and severity. The financial mechanisms include a combination of retention instruments such as reserves and contingency budgets to finance lower layers consisting of recurrent losses; budget reallocation and contingent credit for the intermediate layers; and a combination of retention and risk transfer mechanisms to cede higher layers to reinsurance and capital markets.



The base layer of the bottom-up approach is best financed through risk retention instruments such as domestic reserves and annual budget allocations. These high-probability events include small recurrent losses from high-frequency, low-impact disasters such as localized floods, storms, or landslides. This lower layer is most effectively managed by the government and, accordingly, risk retention instruments should be put in place first in order to enable effective response.

- **Budget allocations have relatively low upfront costs and can be disbursed rapidly following a disaster.** For example, Mexico retains up to the first US$1 billion of losses through an annual budget allocation of US$800 million to its National Fund for Natural Disasters (Fondo Nacional de Desastres Naturales, FONDEN), and if required, a US$200 million exceptional federal budget allocation. Madagascar is in the process of establishing its Contingency Fund for Natural Disaster Risk Management.

The intermediate layers of risk can be addressed through liquidity mechanisms such as lines of contingent credit, or budget reallocation. In the aftermath of less frequent but more severe events, contingent credit lines provide governments with immediate access to funds to enable a more rapid and efficient response. Integrating a contingent emergency response component, such as a rapid disbursement facility, attached to standard investment projects can help address recurrent financing gaps for post-disaster reconstruction.

- **Contingent credit with associated risk management framework reforms provides immediate liquidity following a natural disaster.** Contingent credit is designed to enhance the capacity of governments to manage the impacts of natural disasters and is available through various multilateral development banks and international financial institutions. For example, Development Policy Loans (DPL) with Catastrophe Deferred Drawdown Option (CAT-DDO) is a type of contingent loan provided by the World Bank. GFDRR Priority Countries such as Costa Rica, Colombia, Guatemala, and the Philippines have benefitted from DPLs with Cat-DDOs.

Governments can better manage budget volatility by transferring higher risk layers. After governments have first utilized their own resources through emergency reserves and contingent credit for the base and intermediate layers of risk, they may choose to cede the remaining higher risk layers to financial markets. Risk transfer instruments include traditional insurance, parametric insurance and ART mechanisms (CAT-Bonds in particular). Properly designed and tailored risk transfer instruments can provide governments with enough breathing space to access other sources of funding that cannot be mobilized as quickly.

(II) Catastrophe Risk Market Development

The DRFI Program promotes catastrophe risk insurance market development to increase the share of disaster losses borne by the private sector. Promoting insurance penetration in the private sector offsets the fiscal burden that would otherwise be borne entirely by the government. Relying on public-private partnerships to assist countries with the development of their catastrophe risk insurance markets can help middle-class households be better protected against natural disasters. Furthermore, this reduces the impact of disasters on the government budget; allows governments to focus post-disaster spending on the most vulnerable segments of society; and increases the overall resilience of the economy.

Market-based catastrophe risk insurance can be classified into four broad categories: insurance of public assets, property catastrophe risk insurance, agricultural insurance, and disaster micro-insurance.

- **Insurance of public assets:** Develop specialized risk transfer vehicles for public assets (e.g. buildings and infrastructure), enabling governments to pool risk exposure of public assets to lower costs of insurance and standardize insurance policies. The DRFI Program provides technical assistance dedicated to the provision of property catastrophe insurance specifically for public assets.

- **Property catastrophe risk insurance:** Develop competitive and sustainable catastrophe insurance markets and increase property catastrophe insurance penetration among households and small- and medium-enterprises. The DRFI Program provides technical assistance to deepen the domestic property catastrophe risk insurance markets through the development of risk market infrastructure (e.g. data collection, product design and pricing, legal and regulatory framework) and the establishment of national or regional insurance pools.
- **Agricultural insurance:** Develop cost-effective, sustainable and affordable agricultural insurance programs for farmers, herders, and agricultural financing institutions to increase their financial resilience against extreme climactic conditions. The DRFI Program provides technical assistance to develop Index-based agricultural insurance, traditional indemnity-based insurance programs, and agricultural insurance pools.
- **Disaster micro-insurance:** Facilitate access to disaster insurance products to protect the livelihood of the poor against natural disasters and extreme weather events, and to promote disaster risk reduction (DRR) in conjunction with social programs in order to protect against loss of livelihood and wealth.

DRFI Program Service Lines

Since its establishment in 2006, the GFDRR has co-financed 21 technical assistance projects on disaster risk financing and insurance. 36 developing countries spanning all six World Bank regions have benefitted from GFDRR-funded DRFI projects. Projects include: catastrophe bond issuance for the Mexican Government; property catastrophe risk insurance pool in South Eastern Europe; agricultural insurance in India; feasibility study for a Pan African Drought Risk Pool; insurance of public assets in Colombia, and the Pacific Catastrophe Risk Assessment and Financing Initiative for Pacific Island Countries. Five of the 21 projects are regional, enabling countries with similar natural hazard exposures to benefit from knowledge-sharing and/or risk-pooling.

The DRFI Program sets a consistent strategy to mainstream disaster risk financing and insurance into national DRM strategies based on three Service Lines: Technical Assistance and Operations; Policy Advising, Knowledge Management, and Capacity Building; and Product Development.

- **Technical Assistance and Operations:** Promote DRFI through increased support to GFDRR Priority Country DRM Programs and engagement of Ministries of Finance in developing countries.
- **Policy Advising, Knowledge Management, and Capacity Building:** Engage in high-level policy advising to international leaders on leveraging DRFI to increase fiscal and financial resilience to disasters. Build DRFI Capacity among countries and donor partners through knowledge-sharing activities including dissemination materials and workshops. Develop a network on DRFI with academic, public, and private partners.
- **Product Development:** Support the development of innovative DRFI solutions to meet the needs of country clients, such as actuarial toolkits for financial decision-making or methodology for financial and fiscal disaster risk assessment. Possible products include contingent credit facilities and risk transfer instruments such as parametric insurance or catastrophe bonds.

Case I: Sovereign Disaster Risk Financing in Colombia

The estimated annual expected contingent liability arising from natural disasters in Colombia is US$490 million per year. Natural disasters represent an important challenge to the stability and sustainability of Colombia's fiscal accounts, as the country has the highest rate of recurrent disasters triggered by natural events in Latin America. Since 2004, the Government of Colombia has worked on increasing financial resilience through innovative financial solutions.

The Ministry of Finance has worked with the DRFI Program to deepen its efforts on sovereign DRFI. The government is advancing on its DRFI strategy to (i) enhance catastrophe risk insurance of public assets; and (ii) improve budget management of disaster events. The DRFI Program is assisting the government to implement a centralized approach to the insurance of public assets and to strengthen catastrophe insurance requirements for public-private partnerships. In order to improve budget management, the government recently secured a US$250 million contingent credit line from the World Bank (the Catastrophe Deferred Drawdown Option, Cat-DDO) and is analyzing the implementation of risk transfer products for higher risk layers.

Case 2: Ag Insurance Market Development in India

India's National Agricultural Insurance Scheme (NAIS) is the largest crop insurance program in the world with 29.4 million farmers insured and a premium volume of US$656 million in 2011-12. Since 2005, the Government of India has been working with the DRFI Program to implement wide ranging reforms and pilot two potential successors to the NAIS. The Weather-Based Crop Insurance Scheme (WBCIS) has been piloted for 11 growing seasons since 2007, with 11.6 million farmers and US$370 million covered in the most recent season; and the modified NAIS has been conducted for four growing seasons since 2010, with greater than 1.1 million farmers and US$67 million covered in the most recent season.

The DRFI Program has been working with the Government of India to strengthen the data that underlies the insurance products using a suite of technological and statistical innovations including: investments in GPS-enabled mobile phones with video recording capabilities; mobile phone software; and use of weather and remote sensing data to better target crop cutting experiments (CCEs).

As a result, the modified NAIS has (i) increased reliability of insurance products for farmers; (ii) reduced the total cost for the government through remote sensing and weather data; (iii) increased the speed of claim settlement for farmers; and (iv) introduced checks and balances into yield indices to enable private (re)insurers to take on risk previously retained by government at reasonable prices.

Partnerships

The DRFI Program leverages the partnership with GFDRR through additional programs. The DRFI Program partners with the State Secretariat for Economic Affairs of Switzerland (SECO), the Government of Japan, and the Ministry of Foreign Affairs of the Netherlands.

- **The partnership with SECO focuses on advancing sovereign DRFI for 9 middle-income countries.** Engagement in middle-income countries frequently leads to successful engagement in developing DRFI strategies in low-income countries.
- **The partnership with the Government of Japan supports the Pacific DRFI (PDRFI) Program.** The PDRFI Program provides the Pacific Island Countries (PICs) with tailor-made advisory services and financial instruments for (i) national DRFI strategies; and (ii) catastrophe risk insurance market development. It includes the Pacific Catastrophe Risk Insurance Pilot, which aims to test the viability of market-based catastrophe risk insurance solutions in the Pacific. This program is part of the Pacific Catastrophe Risk Assessment and Financing Initiative (PCRAFI).
- **The Agricultural Insurance Development Program (AIDP) is a partnership with the Ministry of Foreign Affairs of the Netherlands to advance a joint program on agricultural insurance.** The program focuses on the development of risk market infrastructure for agricultural insurance.

Further Information

https://www.gfdrr.org/gfdrr/DRFI

www.worldbank.org/fpd/DRFI

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GFDRR is able to help developing countries reduce their vulnerability to natural disasters and adapt to climate change, thanks to the continued support of our partners: ACP Secretariat, Arab Academy of Science, Technology and Maritime Transport, Australia, Austria, Bangladesh, Belgium, Brazil, Canada, China, Colombia, Denmark, Egypt, European Commission, Finland, France, Germany, Haiti, India, Indonesia, IFRC, Ireland, Islamic Development Bank, Italy, Japan, Luxembourg, Malawi, Malaysia, Mexico, the Netherlands, New Zealand, Nigeria, Norway, Portugal, Saudi Arabia, Senegal, Solomon Islands, South Africa, South Korea, Spain, Sweden, Switzerland, Togo, Turkey, United Kingdom, UNDP, UNISDR, United States, Vietnam, the World Bank, Yemen.