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Proceedings of the National Consultation on Disaster Risk Finance Workshop

Dubai, United Arab Emirates, July 3–5, 2019

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Background

The World Bank with support from the United Kingdom's Department for International Development (DFiD) is working with the Government of Pakistan (GoP) to strengthen the country's financial resilience to natural disasters. This effort includes working with the GoP to identify priority actions to feed into a comprehensive Disaster Risk Financing Strategy for Pakistan, to be prepared by the National Disaster Risk Management Fund (NDRMF). The National Consultation on Disaster Risk Finance workshop was co-convened by the World Bank with the Ministry of Finance (MoF), National Disaster Management Authority (NDMA), and NDRMF to discuss priorities

Olivier Mahul, Global Lead and Practice Manager, Disaster Risk Financing and Insurance Program, World Bank

Lt. Gen. Muhammad Afzal, Chairman, NDMA

with government stakeholders, the private sector, and development partners and thus inform the development of the Disaster Risk Financing Strategy.

More specifically, the objectives of the workshop were to (i) discuss the financial challenges that Pakistan faces after natural disasters and its current efforts in disaster risk management; (ii) discuss options to address these challenges and agree on the way forward; and (iii) inform the development of a Disaster Risk Financing Strategy for the Government of Pakistan. A full list of participants can be found in annex 1.

Aamir Nazir Gondal, Joint Secretary, External Finance, MoF

Khurram Khaliq Khan, General Manager, NDRMF

Key Outcomes

The participants of the workshop AGREED to

* ***Identify the funding gap*** for natural disasters by identifying and quantifying the associated amount of fiscal risk
* ***Improve the speed of disbursement*** to intended beneficiaries by improving financial preparedness to natural disasters across the administrative levels
* ***Establish a risk retention and risk transfer strategy*** to build financial resilience of the government and population against natural disasters
* ***Invest in resilient infrastructure*** via increased financial protection of assets (social, agriculture, infrastructure) to better protect citizens

The participants also NOTED a number of disaster risk finance challenges facing the GoP:

Data are limited:

* Address limited availability of data on budgetary impacts of natural disasters through the introduction of central repositories and data disclosure policies.
* There is a need to develop integrated risk assessment tools to improve credibility of risk models.
* Develop an inventory of public assets to include their net present value, georeferenced location, structural characteristics, or insurance status.

Improving understanding of risk is difficult:

* Establish a system to track post-disaster expenditures.
* Use digital decision-making tools to help the government assess the economic implications of disasters and make budget allocations.
* Introduce reporting and monitoring systems to assess the viability of current disaster risk financing initiatives.
* Invest in improving understanding of the size of the GoP's contingent liabilities due to disasters' impact on public assets.

Fiscal and macroeconomic impact of disasters is unnecessarily high:

* Ensure the federal and provincial governments budget for contingent liabilities arising from natural disasters.
* Increase availability of risk transfer options for the GoP to decrease a risk retention on the government budget books.
* Provide incentives for increasing absorption capacity of domestic insurance sector exploring options to increase the uptake of disaster insurance for residential property and agriculture, as well as public assets.
* Build capacity on understanding innovative instruments such as catastrophe bonds, sovereign risk pools, and parametric insurance.
* Establish a common platform or forum for working on or addressing the existing challenges.

Pakistan faces governance challenges:

* Clarify roles and responsibilities of federal, provincial, and district management authorities to reduce overlap.
* Clearly define the roles of various stakeholders—including private insurance companies, the MoF, and the Pakistan Meteorological Department, among others.
* Prevent conflicting statements on disaster insurance through clear guidelines for regulatory authorities such as the State Bank of Pakistan, Securities and Exchange Commission of Pakistan, and Competition Commission of Pakistan.
* Build the financial capacity of national and provincial disaster management authorities to address availability of resources for disasters.
* Increase transparency in calamity declaration to help encourage parametric insurance schemes.

Summary of Proceedings

The changing global risk landscape poses major challenges for socioeconomic development, particularly in South Asia. As extreme weather events such as floods, droughts, and hurricanes become more frequent and severe, governments may be forced to divert critical development funds to finance disaster response and recovery.

In Pakistan, a variety of extreme natural events, including floods, earthquakes, droughts, cyclones, and tsunamis, directly threaten socioeconomic development. This threat is compounded by urbanization and population growth. Moreover, climate change is expected to have a sizable impact on the country and will likely increase the frequency and severity of weather-related disasters. Experience shows that disaster-related economic losses not only disrupt human livelihoods but also push people into poverty.

The scale of disaster impacts in Pakistan is estimated at US$18 billion in damage and loss over the past decade. Floods in Pakistan cause an estimated annual economic impact of 3–4 percent of the federal budget, or 0.5–0.8 percent of national gross domestic product (GDP), while a major flood could cause losses in excess of US$15.5 billion (about 7 percent of GDP or 40 percent of the federal budget).[1] Seismic risk in Pakistan is also significant. The 2005 earthquake caused a devastating economic loss, estimated at 2.6 percent of GDP. According to the World Bank's probabilistic seismic risk assessment, the same event occurring in the present day would result in total economic loss to residential properties of approximately US$2.8 billion (about twice the 2005 losses).[2]

To address the losses triggered by natural disasters, the GoP has sought to improve its disaster-related financial planning. For example, to improve response after disasters, it established dedicated federal and provincial funds for disaster risk management under the National Disaster Management Act of 2010. To support the poor and most vulnerable, it launched a number of social protection programs, including Benazir Income Support Program (BISP), and it is currently working to improve programs' coordination and oversight. To better understand disaster risks, it has mandated development of a Multi-Hazard and Vulnerability Risk Assessment Atlas to inform financial planning. The Pakistan Space and Upper Atmosphere Research Commission (SUPARCO) was commissioned by NDRMF to develop the natural catastrophe risk modeling for Pakistan. To protect the population and ensure continuation of public services, several agricultural insurance programs have been piloted, and public asset insurance is offered as well.

> **"We cannot afford to continue the practice of diverting development budgets to relief and reconstruction efforts in post-disaster scenarios."**
>
> **Lt. General Muhammad Afzal,**
> *Chair, National Disaster Management Authority*

1 World Bank Group and Global Facility for Disaster Reduction and Recovery, *Fiscal Disaster Risk Assessment Options for Consideration: Pakistan* (Washington, DC: World Bank, 2015).
2 Ibid.

Participants of the workshop

Zahid Parvez Director, Relief, Operations and Coordination, PDMA, KP; **Syed Salman Shah,** Director General, PDMA, Sindh; and **Raja Khurram Shehzad Umar,** Director General, PDMA, Punjab

Despite this progress, gaps remain:

* ***Information about disasters is limited.*** While the GoP is working on improving its understanding of disaster risks, limited disaster risk information is available, and there is no clarity about contingent liabilities and spending on disasters. The risk information that is available is scattered among different ministries and institutions. In addition, while disasters are increasing in frequency, post-disaster expenditures are not systematically recorded or disaggregated by response, recovery, and reconstruction costs. It is therefore not clear how disasters of different frequencies and severities impact the government budget.

* ***Response can be delayed, and coordination between the government authorities requires improvement***. For example, while provincial funds have been established, their operationalization is still a concern; when immediate liquidity is not available, there can be delays in disaster response. Despite a strong governance structure established over years, there is a lack of coordination—and overlapping roles—among federal, provincial, and district disaster management authorities, which could lead to inefficiency and hinder coordination. Disaster risk management is not explicitly listed as a federal responsibility, which further complicates coordination on financial preparedness.

* ***Pakistan has limited access to risk transfer both at sovereign and household levels***. After the 2010 floods, economic loss to the country was about US$10 billion, whereas the insured losses were not more than 1 percent. Uptake of both property disaster insurance and insurance for agriculture is limited. Given low insurance penetration and the country's increasing vulnerability to extreme weather events, it is especially urgent to develop cost-effective disaster risk financing instruments for managing the country's fiscal balance.

* ***Resilience of public assets requires a stronger focus***. Public asset insurance in Pakistan is mandatory, but currently no more than 30 percent of all public assets are insured, and then only during the construction phase.[3] Limited financial capacity translates to delayed reconstruction and rehabilitation in the event of a disaster. In addition, the GoP has to retain most of the disaster risk on its budget books. This arrangement augments the fiscal impact of disasters and impedes the progress of long-term development goals.

> **"Coverage is available, insurance culture is the issue. The government does not budget for premiums for public asset insurance, which is why public infrastructure remains uninsured."**
>
> **Mahmood Lotia,**
> *Chair, Insurance Association of Pakistan*

3 Asian Development Bank, "The Enabling Environment for Disaster Risk Financing in Pakistan: Country Diagnostics Assessment," January 2019, https://www.adb.org/publications/pakistan-environment-disaster-risk-financing.

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Lessons Learned from International Experience in Disaster Risk Financing

PROCEEDINGS OF THE NATIONAL CONSULTATION ON DISASTER RISK FINANCE WORKSHOP

Disaster risk financing worldwide is seeing innovations and developments that originate from governments, donors and development partners, and the private sector. To cite only a few examples: the Philippines has developed a disaster risk financing strategy and has built risk financing instruments around it; Mexico is improving risk retention through an efficient reserve fund; Turkey is developing catastrophe insurance; the Start Network is building a fund to provide speeder humanitarian support after a disaster; the Insurance Development Forum is supporting domestic insurance development; and the World Bank has developed a tool to help governments make more informed risk financing decisions. At the National Consultation on Disaster Risk Finance workshop, presenters shared information on these new tools and approaches, as summarized below.

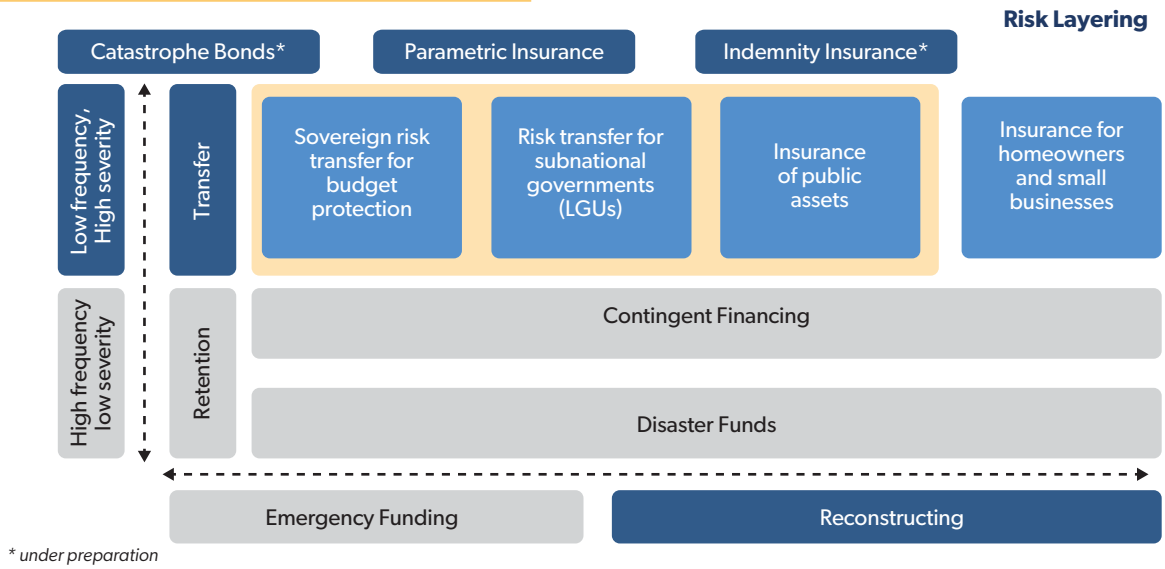
Strategic Approach to Disaster Risk Financing Leads to Innovations

In 2015, the Government of the Philippines developed and adopted a disaster risk financing and insurance strategy with several objectives:

* ***At national level:*** To maintain the national government's fiscal health, necessary to support long-term rehabilitation and reconstruction needs
* ***At local level:*** To develop sustainable financing mechanisms for local government units, necessary to provide immediate liquidity at the onset of a disaster
* ***At individual level:*** To reduce the impact on the poorest and most vulnerable and prevent them from falling into a cycle of poverty, while also shielding the near-poor from slipping back into poverty.

The strategy has led the government to adopt a comprehensive approach to public financial management of natural disasters. The approach is based on risk layering, which addresses disasters of different frequencies and severities with different instruments (illustrated in figure 1). For instance, more frequent, smaller risks are retained through reserve funds and contingent financing, while rarer, larger risks are transferred via parametric insurance. Indemnity insurance for public buildings and a catastrophe bond are also currently under preparation.

Figure 1. Risk layering in the Philippines



* under preparation

Source: Workshop presentation by Philippine Bureau of Treasury. Note: LGUs = local government units.

Javed Iqbal Khan, Joint Secretary, Budget Implementation, MoF

Syed Nayyar Hussain, Director, Market Development and Policy, Securities and Exchange Commission of Pakistan

Building Efficient Disaster Reserve Funds Helps Improve the Disaster Risk Financing Landscape and Contributes to Improved Risk Management

Every year, Mexico experiences more than 90 earthquakes with an average magnitude of 4.0 or above. To address its high seismic risk and support disaster relief and reconstruction, Mexico established the Natural Disaster Fund (FONDEN). FONDEN not only provides budgetary support but also funds the implementation of disaster prevention measures. The success of FONDEN can be attributed to the transparency and efficiency of its operations. For instance, in the event of a disaster, the funds flow directly to service providers appointed by the local or federal agencies and not first through the agencies themselves. This arrangement reduces the political pressure to which the process is exposed and ensures greater transparency.

FONDEN also provides a sound technical basis for Mexico's financial strategy by investing in the development of an elaborate inventory consisting of hazard, asset, and infrastructure information. To further enhance the credibility and accuracy of existing risk models in Mexico, FONDEN works closely with the national university in analyzing loss and vulnerability models, which in turn strengthen the financial strategy.

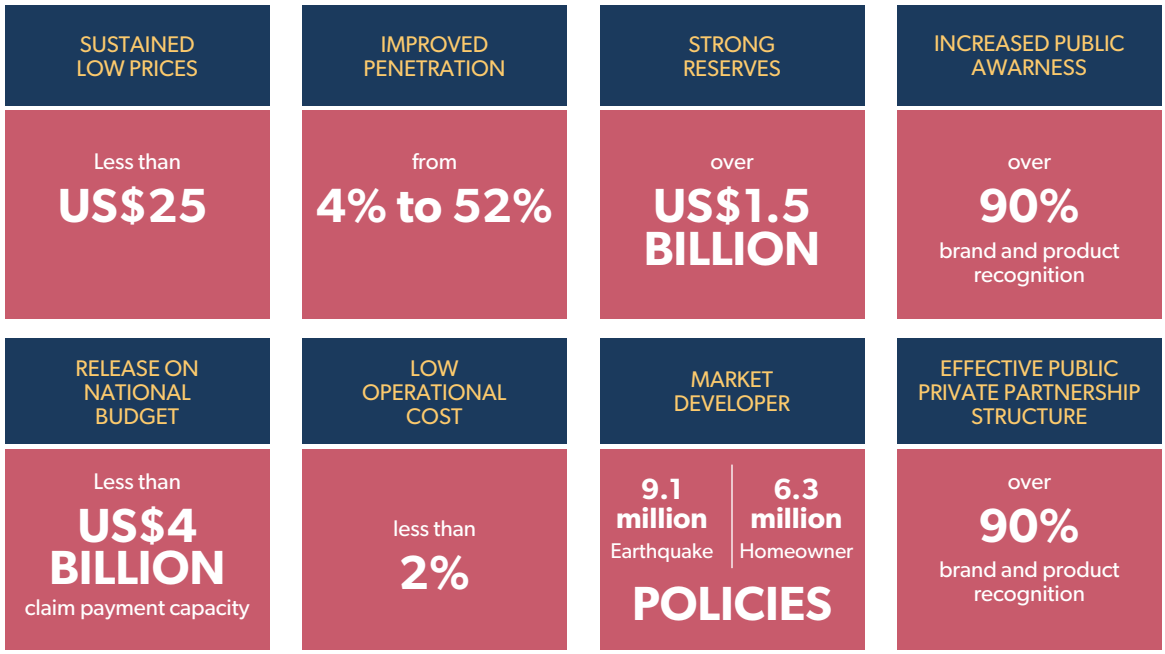
> **"No one size fits all. It is critical to understand your country's vulnerabilities, strategize, and take one step at a time. But of all considerations, political will is the most important."**
>
> **Eduardo Anthony**
> *Director, Bureau of Treasury, the Philippines*

Establishment and Enforcement of Catastrophe Property Insurance Leads to Efficiency and Takes a Significant Share of Disaster Impact from the Government Budget

In 1999, at the time of the Marmara earthquake, insurance penetration in Turkey was only 1.0 percent of GDP (4 percent of households were insured against earthquakes), and insurance spending per capita was at US$44. The earthquake caused US$20 billion in losses and led to an economic contraction (from a -3.4 percent projected decline in 1999 to a -5.7 percent decline in 2001). Only US$800 million in losses was paid out by the insurance companies; the government and the people bore the remaining burden.

Soon after the Marmara earthquake, the government introduced a mandatory earthquake insurance product and established the Turkish Catastrophe Insurance Pool (TCIP) to manage it. In addition to offering potential support to the population at an affordable price, the insurance significantly limits the government's exposure to natural disasters, allows catastrophe reserves to build up over time, and improves the country's overall risk culture. The government continues to support the earthquake insurance; for instance, it has introduced a series of checkpoints at which purchase of the insurance policy is verified (such as when consumers seek to access utility services or take out a mortgage).

Figure 2. Achievements of the TCIP.



Source: Workshop presentation by the TCIP.

Today TCIP insures over 50 percent of Turkish households. Since 2000, it has provided over US$100 million in payouts following 527 damaging earthquakes. An important innovation of Turkey was to have a competitively selected private company manage the TCIP (leaving a small board of directors to supervise its work). This solution reduced TCIP's operational costs to 2 percent of annual written premium (figure 2).

To introduce further improvements, the TCIP is now moving toward an innovative Mobile Loss Assessment Application for rapid claim assessment, and it is also integrating GIS tools to further model and estimate economic implications and adjustments in the event of an earthquake.

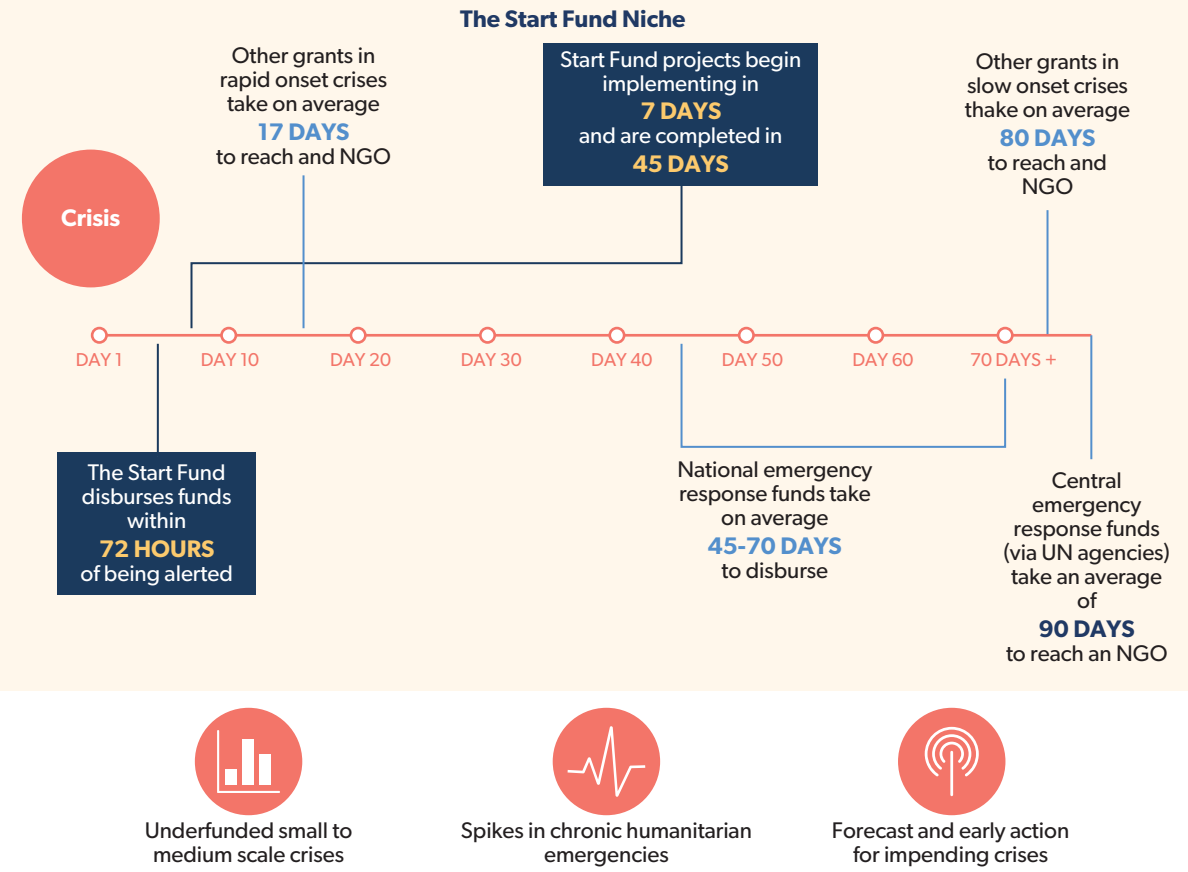
Civil Society Organizations Support Governments by Channeling Aid for Rapid and Efficient Disbursement

Civil society actors implement over half of the humanitarian crisis relief on the ground. While governments are increasingly willing to manage their national risks through disaster risk financing approaches, not all international development and humanitarian funding will be directly delivered by sovereigns. In many areas of the world, and particularly in fragile states, nongovernmental organizations (NGOs) are well positioned and agile enough to reach the most vulnerable and marginalized populations in a way that meets humanitarian principles. Hence significant funding for response to climate shocks flows through nongovernmental channels, especially in countries where government systems are already weak—for example, due to conflict or other compounding crises. This is the case in many of the poorest

countries that are most vulnerable to climate change. Reforms and mechanisms to help NGOs access resources for disaster response in a more predictable and timely manner will ultimately support the delivery of more cost-effective and accountable humanitarian programming for the most vulnerable and marginalized populations affected by crises.

The Start Network is a single entry point to a network of international and national aid agencies. It delivers aggregated services to donors, including through the Start Fund, a global contingency fund through which resources can be rapidly and efficiently channeled to the best-positioned aid agencies, for small- to medium-scale crises, in any part of the world (figure 3). In parallel, the Start Network has started piloting disaster risk financing instruments, such as the Drought Financing Facility.[4] The Start Network is evolving toward a more localized structure and toward functioning as a "network of networks." National hubs are in the process of being set up with the capabilities to (i) put in place locally appropriate risk financing and contingency funding based on collective decision making, to respond to shifts in risk; (ii) manage programs to improve joint responses, preparedness, and capacity strengthening; and (iii) implement tools to enable lighter decision making and more systematic innovation, adaptation, and learning.

Figure 3. Conceptual framework of the Start Fund.



Source: Workshop presentation by Start Network.

The purpose of these developments is to ensure that the humanitarian world moves from a reactive to a proactive approach, one that allows forecasting of impact and early action to save lives while also reducing costs through a better-coordinated response. This shift is already taking place—for instance, in Pakistan, in May 2018, the early alert of a heatwave activated funds for delivery to Sindh by Muslim Aid, ACF, ACTED, and Trocaire.

4 Start Network, "Start Network's Drought Financing Facility," https://www.youtube.com/watch?v=qwLr7A26TRM.

Mahmood Lotia, Chairman, Insurance Association

Identifying priorities in disaster risk financing

Insurance Markets Worldwide are Working toward Delivering New Products to Countries

Risk transfer can be structured in several ways: (i) through domestic insurers; (ii) directly to international (re)insurers; (iii) through international capital markets; and (iv) through risk pools. Each of these options has advantages and disadvantages; governments will choose different products depending on the expertise required, the capacity of the insurance markets, the potential for strengthening local insurance market capacity, the entities assuming the costs and retaining the profits, and political preferences and legal requirements.

To aid in the risk transfer transaction, governments can address the markets directly, go through a broker, or request assistance from development partners. The Insurance Development Forum (IDF) is among potential institutions that could support Pakistan in developing risk transfer solutions. The IDF aims to provide access to the knowledge and expertise of the world's leading (re)insurance companies, to optimize and extend the use of insurance, and to help attract international subsidies for future premium payments, while also enabling the local insurance industry.

In Pakistan, strengthening insurance is important given the country's available risk financing options. While there is no single solution to all the risks Pakistan (or any country) faces, insurance has key advantages: it can provide access to immediate liquidity, will not add to financial debt, will not require repayment, and can provide large sums. Available insurance instruments can be broadly divided between indemnity and parametric solutions. The use of the latter is growing, despite the basis risks associated with it.[5] IDF has recommended that Pakistan explore parametric sovereign insurance for earthquakes and floods to gain access to the quick liquidity needed to support government response to disasters.

Innovative Tools Can Help Governments' Decision Making with the Right Information

Global best practices point to the need to develop data-driven risk and economic models to manage ex ante funds. To help meet this need, the World Bank has developed a decision-making tool that allows policy makers to view funding gaps based on the input of key variables such as return period of disasters, budget allocations, and emergency cost per person affected. The effectiveness of this tool depends on the availability and accuracy of data; therefore, it is incumbent upon governments

5 Basis risk occurs when a parameter or index does not match the actual loss.

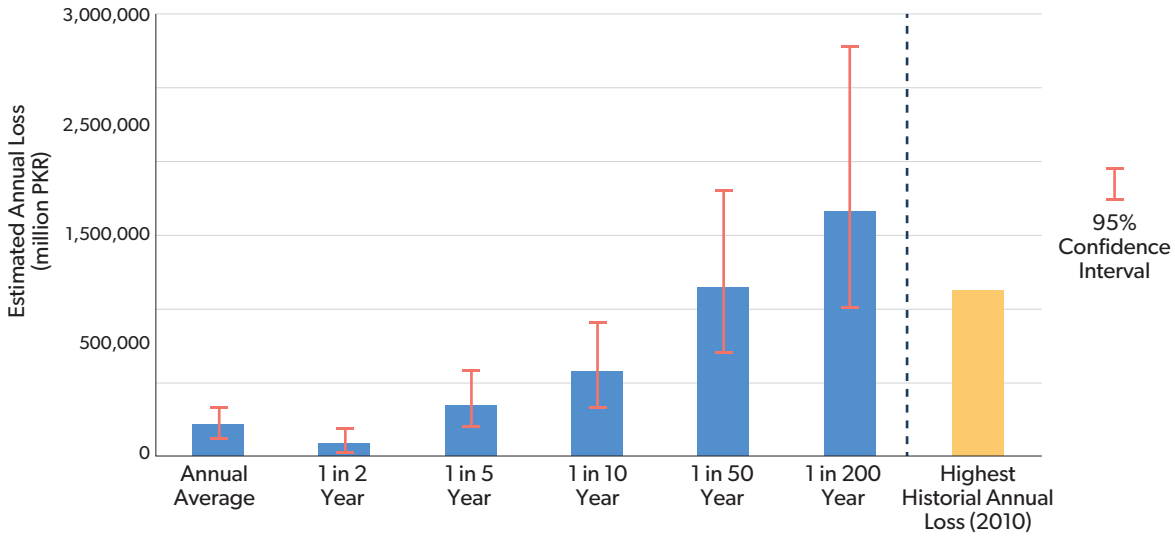
to establish a robust risk information registry to assess the viability of different financial tools against each risk layer.

The tool was applied for Pakistan based on data from the GoP and DesInventar, as compiled by Grant Thornton. The data were limited, however, so the estimation includes significant uncertainty (see figure 4).

The tool estimates potential financial impact of disasters but can also consider impact of introducing different risk finance instruments, such as reserve funds, insurance, contingent credit, or budget reallocation. Based on the information about amount of financing, the tool can estimate a funding gap. This gap would either remain unfunded, causing potentially acute negative impacts on the population as well as on economic growth and wealth; or it would require expensive ex post borrowing at prevailing rates of interest.

To improve outputs of this tool, the GoP could consider improving data collection, warehousing, and maintenance. This enhanced data could be used alongside sophisticated risk modeling techniques to increase the understanding of risk in the country and therefore enable more effective risk management and financial planning.

Figure 4. Use of the decision-making tool for Pakistan.



Note: Analysis shows projected losses under increasingly severe possible events and combines two components: (i) the projected number of people affected by natural disasters based on historical GoP data; and (ii) assumption on cost per person impacted (PKR50,000; based on NDMA estimation). Note there is high uncertainty due to data limitations.

Annex 1. Participants

Name	Position	Organization
Lt. Gen. Muhammad Afzal	Chairman	National Disaster Management Authority (NDMA)
Kamal Ahmed	Deputy Manager	National Disaster Risk Management Fund (NDRMF)
Benjamin Antwi-Boasiako	Senior Project Manager	Allianz Climate Solutions
Arup Chatterjee	Principal Financial Sector Specialist	Asian Development Bank
Shannen Chua	Treasury Operations Officer	Government of Philippines
Samantha Cook	Senior Financial Sector Specialist	World Bank
Sophie Evans	Head of Country Programmes	Centre for Disaster Protection
Ditte Fallesen	Senior Operations Officer	World Bank
Shoaib Ahmed Gola	Secretary, Disaster Risk Management	Government of Balochistan
Aamir Nazir Gondal	Joint Secretary, External Finance	Ministry of Finance (MoF)
Syed Nayyar Hussain	Director, Market Development and Policy	Securities and Exchange Commission of Pakistan
Muhammad Idrees	Member, Disaster Risk Reduction	NDMA
Tania Imran	Young Professional Officer	LEAD Pakistan
Aisha Jamshed	Acting Country Director	Welthungerhilfe Pakistan
Bilal Khalid	DRM Analyst	World Bank
Javed Iqbal Khan	Joint Secretary, Budget Implementation	MoF
Khurram Khaliq Khan	General Manager	NDRMF

Name	Position	Organization
Hina Lotia	Director of Programmes	LEAD Pakistan
Mahmood Lotia	Chairman	Insurance Association of Pakistan
Olivier Mahul	Global Lead and Practice Manager, Disaster Risk Financing and Insurance Program	World Bank
Eduardo Anthony Mariño	Director, Bureau of Treasury	Government of Philippines
Emily Montier	Start Labs Manager	Start Network
Zahid Parvez	Director, Relief, Operations and Coordination	PDMA, Khyber Pakhtunkhwa (KP)
Salvador Perez	Consultant	World Bank
Nasreen Rashid	Disaster Risk Financing Consultant	World Bank
Syed Salman Shah	Director General	PDMA, Sindh
Ali Tauqeer Sheikh	CEO	LEAD Pakistan
Sinen Sivasliaglu	Ministry of Treasury and Finance	Government of Turkey
Tatiana Skalon	Disaster Risk Finance Consultant	World Bank
Ahsan Tehsin	Disaster Risk Management (DRM) Specialist	World Bank
Asif Turangzai	DRM Specialist	Asian Development Bank
Bilal Turkmen	Deputy Secretary General	Turkish Catastrophe Insurance Pool
Raja Khurram Shehzad Umar	Director General	Punjab Provincial Disaster Management Authority (PDMA)

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