Program Review (2017-2022)

Sovereign Disaster Risk Finance and Insurance in Middle-Income Countries

July 2022

A partnership between the World Bank's Crisis and Disaster Risk Finance team and the Swiss State Secretariat for Economic Affairs (SECO)

Disaster Risk Financing & Insurance Program

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FOREWORD

Draft foreword from Jean Pesme, Global Director of Finance in the Finance, Competitiveness & Innovation (FCI) Global Practice, World Bank

The past two years have been a test of adversity for people going about their daily lives and for the global economy. A range of compounding events—the COVID-19 pandemic, natural disasters, including a typhoon in the Philippines and floods in Europe, as well as the war in Ukraine—have caused multifaceted trauma. The result has been growing poverty, inflation and shortages of energy and food, among other consequences. In this turbulent era, partnerships are critical for building resilience.

Disaster-risk finance helps countries, their citizens and their economies better withstand and recover from major shocks and adapt to changing climate. Resilience to climate shocks, disasters and other crises is a World Bank priority, reflected in the WBG Climate Change Action Plan (2021-2025),[1] and the Green, Resilience and Inclusive Development approach to COVID-19 recovery.[2] It is also part of a new World Bank core diagnostic tool - the Country Climate and Development Report (CCDR). [3]

This year marks the 10th anniversary of the Sovereign Disaster Risk Finance and Insurance in Middle-Income Countries program, a partnership between the World Bank and the Swiss State Secretariat for Economic Affairs (SECO). From the very beginning, the Program has promoted financial resilience through a set of policy reforms and innovative (market-based) financial solutions across 11 vulnerable countries. Implemented by the World Bank, it has delivered much-needed analytical and advisory services to vulnerable countries, informed policy and institutional reforms and helped mobilize private capital to finance disaster costs through the development of market-based financial solutions.[4]

This report summarizes this program's achievements from 2017–2022. It presents innovations and success stories, but also discusses challenges overcome and lessons learned. This report also offers an opportunity to learn from other countries about how to be better prepared for disasters. Highlights include:

1 *https://openknowledge.worldbank.org/bitstream/handle/10986/35799/CCAP-2021-25.pdf?sequence=2&isAllowed=y*

2 *https://openknowledge.worldbank.org/handle/10986/36322*

3 *https://www.worldbank.org/en/news/press-release/2021/06/22/world-bank-group-increases-support-for-climate-action-in-developing-countries*

4 Albania, Colombia, Georgia, Indonesia, Morocco, Nepal, Peru, Serbia, South Africa, Tunisia, Vietnam

- Colombia and Peru accessed a regional CAT (catastrophe) bond that protected them against earthquakes, with coverage of US$400 million and US$200 million respectively. Peru received a payout of US$60 million in 2019.
- Indonesia secured US$2.5 billion of coverage for more than 5,000 buildings belonging to over 70 government agencies through its insurance program of public assets led by domestic insurers.
- Morocco has built its dual catastrophe insurance system – this includes a private insurance solution and a compensation scheme (Solidarity Fund - FSEC) that covers nearly 95% of the population including around 6 million people living in poverty. For 2020 -2023, this solidarity fund is protected by reinsurance against earthquakes and soon against floods.
- Nepal developed is first Disaster Risk Finance Strategy. Colombia and Vietnam have developed such strategies at local government levels.

These are all significant achievements, but more remains to be done, so I look forward to continuation of the World Bank–SECO partnership on disaster risk finance and insurance into the future. We are now moving into Phase III of World Bank–SECO program. This new phase will focus on: strengthening pre-arranged financial resources; mobilizing and enabling private risk capital through financial markets; and improving financial disbursement mechanisms across multiple sectors.

Our objective is to help vulnerable countries reduce poverty and build shared prosperity – for this, we will do our best to help countries more resilient to this turbulent world.

Dominique Paravicini, Ambassador and Head of Economic Cooperation, SECO

Along with accelerating climate change, natural catastrophes are becoming more frequent and severe. According to the International Panel on Climate Change, "human-induced climate change, including more frequent and intense extreme events, has caused widespread adverse impacts and related losses and damages to nature and people".

Our Partnership with the World Bank on improving Sovereign Disaster Risk Finance and Insurance in Middle-Income Countries successfully supported countries in better protecting themselves against catastrophe risks. As compared to 10 years ago, when the Partnership started, Program countries now have a much better understanding of their exposure to natural catastrophes. More importantly, with support of the Program, countries have implemented concrete steps to reduce their exposures. They developed strategies to address vulnerabilities in a comprehensive and coordinated manner; expanded insurance protection of citizens; built financial buffers; introduced processes to respond more effectively when disaster strikes; established reserve funds to provide a lifeline for the poorest segments of society affected by disaster, or; implemented risk-transfers to lower risk exposure.

The COVID-19 pandemic was a stark reminder that shocks and crisis come in many forms. The pandemic led to the worst economic recession since the Second World War. The fiscal resilience measures supported by this Program over the last 10 years helped to shield Program countries from some of the negative impacts of the pandemic. However, the pandemic also revealed gaps and limitations of existing fiscal protection arrangements – as do the current climate and humanitarian crisis.

Against this background, it is clear for us at SECO that we will support a new phase of this Program and continue the fruitful collaboration with the World Bank and Partner Countries to build the latter's financial resilience. And much work remains to be done. Existing disaster risk finance and insurance measures need to be expanded. Moreover, existing modalities need to be strengthened to offer better protection against pandemics. In addition, disbursement processes will be improved to ensure that financing is available where and when it is needed most.

I want to conclude by expressing our appreciation to all Partnership stakeholders. To the World Bank for successfully driving this agenda with cutting-edge expertise and significant downstream financing; and to Program countries for their commitment and resolve to boosting climate and crisis resilience.

ACKNOWLEDGMENTS

This report was prepared by task team leaders and program managers including (in alphabetic order) Luis Alton, Roberto Dario Bacchini, Dorra Berraies, Gracelin Christina Baskaran, Antoine Bavandi, Samantha Cook, Cinthya Daniela Aramayo Reyna Farje, Cynthia Clarita R. Kusharto, Peijing Li, Barry Maher, Benedikt Signer, Tatiana Skalon, Ana Maria Torres, Jose Angel Villalobos, and Hang Thu Vu. The report was edited by Anne Himmelfarb and designed by Cubedifference.

The report benefited from the review by Stephan Eggli, Program Manager at the Swiss State Secretariat for Economic Affairs (SECO). It was prepared under the guidance from Olivier Mahul, Practice Manager of the World Bank Crisis and Disaster Risk Finance global unit.

This report was developed to review the progress made and consolidate lessons learned over the lifetime of Phase II of the World Bank–SECO Sovereign Disaster Risk Finance and Insurance in Middle-Income Countries Program (2017–2022).

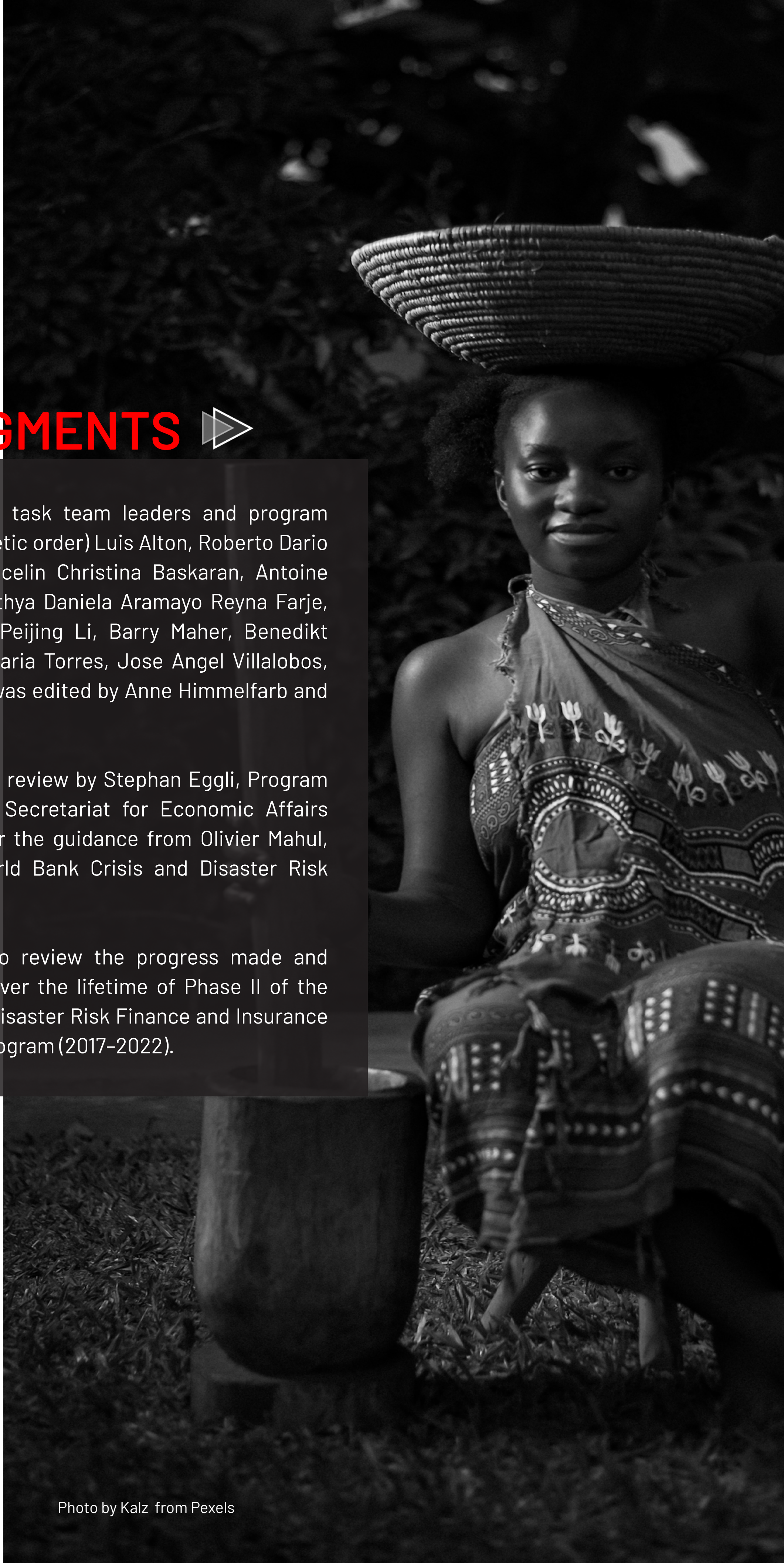


Photo by Kalz from Pexels

ABBREVIATIONS

ABMN	State Assets Insurance (Indonesia)
ASEAN	Association of Southeast Asian Nations
CAT bond	Catastrophe Bond
CAT DDO	Catastrophe Deferred Drawdown Option (World Bank contingency loan instrument)
CCRIF SPC	Caribbean Catastrophe Risk Insurance Facility Segregated Portfolio Company
CGA	General Insurance Committee (Tunisia)
CISMID	Peruvian-Japanese Center for Seismic Research and Disaster Mitigation
DALRRD	Department of Agriculture, Land Reform and Rural Development (South Africa)
DJKN	Directorate General of State Assets (Indonesia)
DRF	Disaster Risk Finance
DRFIP	Disaster Risk Financing and Insurance Program
FSEC	Fonds de Solidarité Contre les Evénements Catastrophiques (Morocco)
GDP	Gross Domestic Product
GRiF	Global Risk Financing Facility
IMF	International Monetary Fund
MSMEs	Micro, Small, and Medium Enterprises
OECD	Organisation for Economic Co-operation and Development
PFB	Pooling Fund for Disasters (Indonesia)
PforR	Program-for-Results
RETF	Recipient-Executed Trust Fund
SEADRIF	Southeast Asia Disaster Risk Insurance Facility
SBS	Superintendency of Banking, Insurance and Pension Funds (Peru)
SECO	State Secretariat for Economic Affairs
SMEs	Small and Medium Enterprises

EXECUTIVE SUMMARY

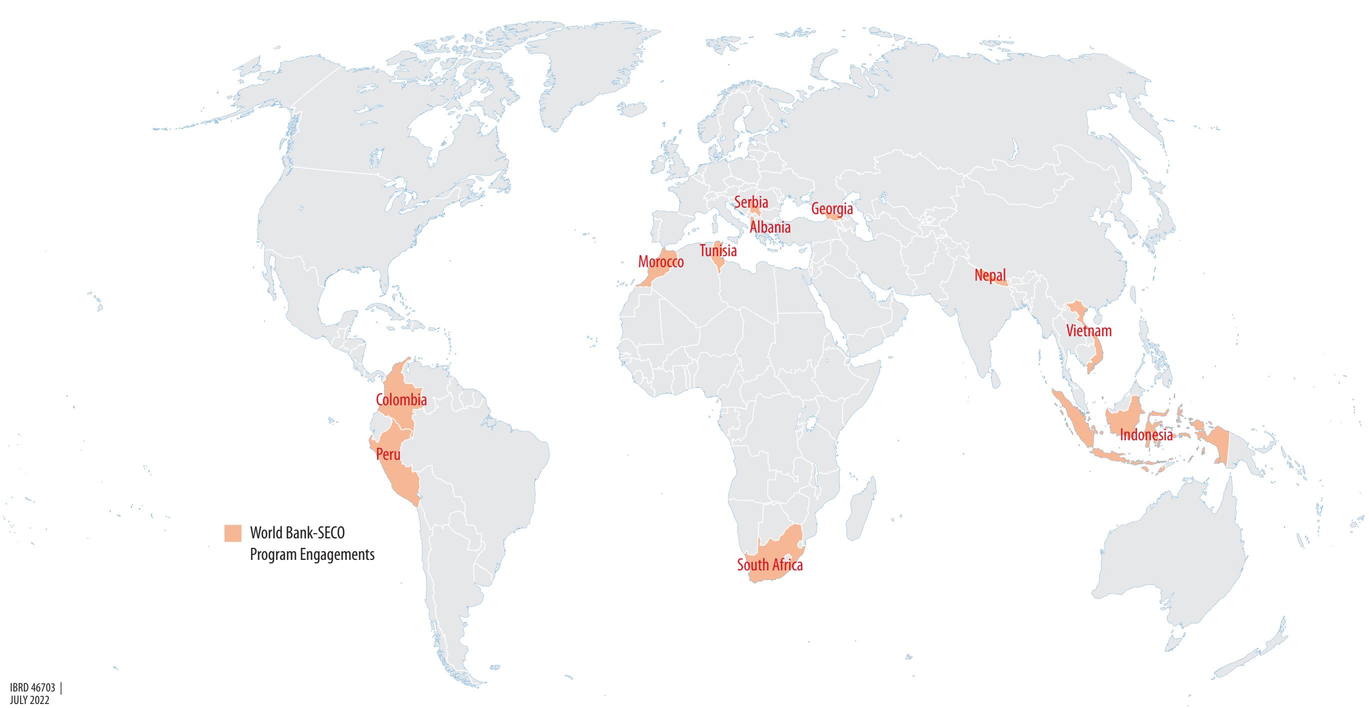
This report marks 10 years of successful collaboration between the Swiss State Secretariat for Economic Affairs (SECO) and the World Bank through the Sovereign Disaster Risk Finance and Insurance in Middle-Income Countries Program. The Program was established in 2012 and is implemented by the World Bank Crisis and Disaster Risk Finance team under the Finance, Competitiveness and Innovation Global Practice, and its Disaster Risk Financing and Insurance Program (DRFIP). This report highlights achievements and lessons learned from Phase II of the Sovereign Disaster Risk Finance and Insurance in Middle-Income Countries Program (2017–2022).

During Phase II, the Program expanded to provide technical assistance to 11 countries. The Program has expanded to include Albania (which joined after the country was hit by a major earthquake in November 2019), Georgia, Nepal, South Africa and Tunisia. They joined the six countries included in Phase I: Colombia, Indonesia, Morocco, Peru, Serbia, and Vietnam. A summary of what these countries achieved during the previous phase is available in the Phase I program review (World Bank DRFIP 2016).

Key Highlights

Over the past five years, the Program has achieved impactful results on financial resilience in 11 countries (shown in figure 1). Some of the key highlights for countries—and for knowledge management under the Program more generally—are described below.

Figure 1. World Bank–SECO Sovereign Disaster Risk Finance and Insurance Engagements in Middle-Income Countries



Source: World Bank

ALBANIA

The Program introduced the government to financial preparedness to disasters and supported Albania in understanding and assessing disaster impacts on firms, government budget, households, and the poorest and most vulnerable people. The Program helped develop an innovative five-step methodology to identify and estimate the size and impact of COVID-19-related budget cuts. This made it possible to identify the opportunity cost of substantial budget cuts and to propose a framework for resilience budgeting in Albania.

Photo by Abenteuer Albanien from Unsplash

COLOMBIA

Colombia improved strategic planning for disasters at all government levels: (i) at subnational level, the country adopted disaster risk finance strategies in Aburrá Valley Metropolitan Area, Department of Cundinamarca, Archipelago Department of San Andres, Providencia and Santa Catalina, Putumayo Department and Huila Department; (ii) at a sectoral level, such a strategy is being finalized by the Ministry of Transport; (iii) at national level, the government updated its disaster risk finance strategy in response to the pandemic. The government also increased financing available after disasters. It put in place a US$300 million Catastrophe Deferred Drawdown Option (CAT DDO) (the third one for the country) for immediate budget support; a US$400 million catastrophe (CAT) bond to protect against major earthquakes; and US$40 billion in indemnity-insurance cover for highways built through public-private partnerships.

Photo by Ricardo Gomez Angel from Unsplash

Photo by Ahmed Eiweida from World Bank Flickr

GEORGIA

Georgia is among the new engagements of the Program. In 2021, the government of Georgia quantified disaster-related fiscal risks and contingent liabilities and disclosed them in the fiscal risk statement. Georgia also benefited from a series of analytical training sessions delivered by the Program on assessment of economic and financial impacts of disasters.

INDONESIA

In 2018, Indonesia adopted its first National Disaster Risk Financing and Insurance Strategy during the Sendai Symposium for Disaster Risk Reduction and the Future. In 2021, as part of the operationalization of this strategy, the government established the Pooling Fund for Disasters as a dedicated disaster reserve fund, supported by a US$500 million investment loan from the World Bank. This fund provides Indonesia with access to rapid financing after disasters. The government established a national program for insurance of public assets. The program insured over 5,000 public assets of more than 70 line ministries for a total sum insured of US$2.5 billion.

Photo by Ruben Hutabarat from Unsplash

Photo by Adam B. from Pexels

MOROCCO

Morocco has established a dual catastrophe protection scheme that consists of insurance for higher-income households and a solidarity fund for low-income households. The government is exploring a CAT bond for flood risk to help protect this scheme. This would complement the US$270 million parametric reinsurance coverage against earthquakes successfully subscribed in 2020 for three years. The Program has also helped the Central Bank of Morocco develop an innovative methodology for assessing physical climate risks, including compound risks, and their impact on Morocco's economy and the financial sector.

NEPAL

Nepal adopted the National Disaster Risk Financing Strategy in 2021 and developed the implementation plan the following year. The strategy defines how to strengthen the management of disaster-related contingent liabilities, which were quantified under the Program and which on average amount to about 2–3 percent of the annual government budget each year. To manage these liabilities, the government is now exploring a sovereign (parametric) risk transfer instrument, public asset insurance, and a dedicated reserve fund.

Photo by Mehmet Turgut Kirkgoz from Pexels

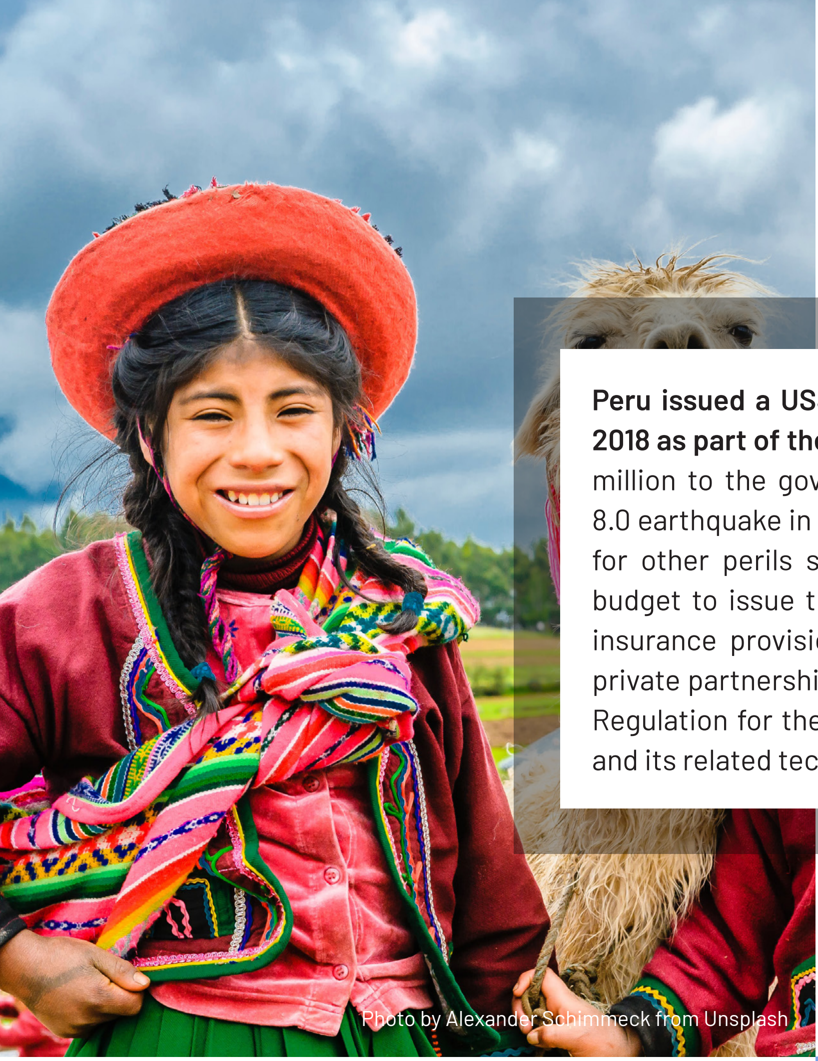


Photo by Alexander Schimmeck from Unsplash

PERU

Peru issued a US$200 million CAT bond against earthquakes in 2018 as part of the Pacific Alliance. The CAT bond paid out US$60 million to the government after the occurrence of a magnitude 8.0 earthquake in 2019. Peru is exploring risk transfer instruments for other perils such as floods. The government has allocated budget to issue the next seismic CAT bond, and it has included insurance provisions in its guidelines for the design of public-private partnership contracts. In 2021, the government issued the Regulation for the Constitution of the Catastrophic Risk Reserve and its related technical note.

SERBIA

The government of Serbia established the fiscal risk unit under the Ministry of Finance in 2019. With support of the Program, the unit has developed a methodology to analyze how disaster risks translate into fiscal impacts, and it has collected data on post-disaster spending to support its next fiscal risk statement. Serbia has also advanced in establishing a whole-of-government public asset registry, based on an ArcGIS solution. The government is now armed with strategic issues to consider when scaling up such a registry, and it has information about data needs for public asset insurance.

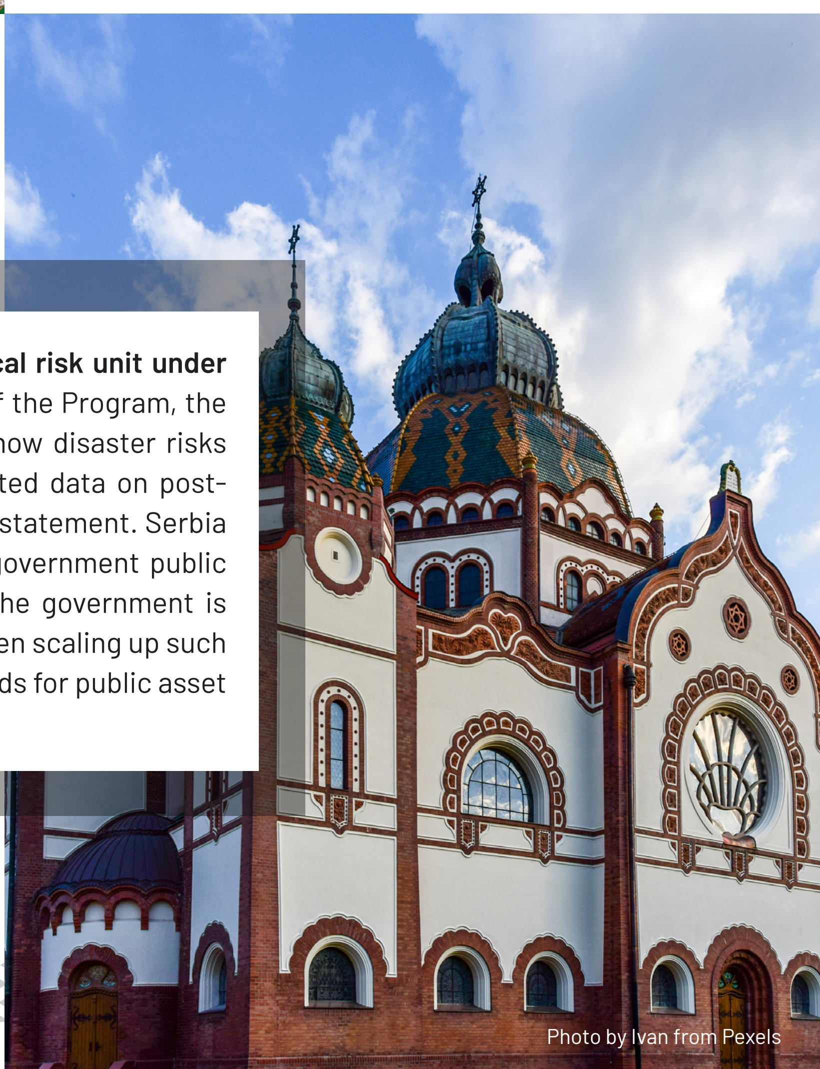


Photo by Ivan from Pexels

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SOUTH AFRICA

South Africa has identified the reforms needed to implement an agriculture insurance program targeting small- and medium-scale farmers, and a proposal for a pilot is being prepared. The Program developed a disaster risk finance diagnostic to help improve the government's preparedness to disasters such as the April 2022 floods, identified as the worst in South African history.

TUNISIA

The government of Tunisia has developed its first financial exposure database using earth observation technology and analytics, with the assistance of the Program. This database aims to inform a national disaster risk finance strategy and an actuarial model for catastrophe insurance in Tunisia. The Program provided capacity-building on disaster risk finance tools and analytics. The technical support of the Program is complemented with a US$100 million joint World Bank–AFD (Agence Francaise de Developpement) lending operation, which includes a component on disaster risk finance.

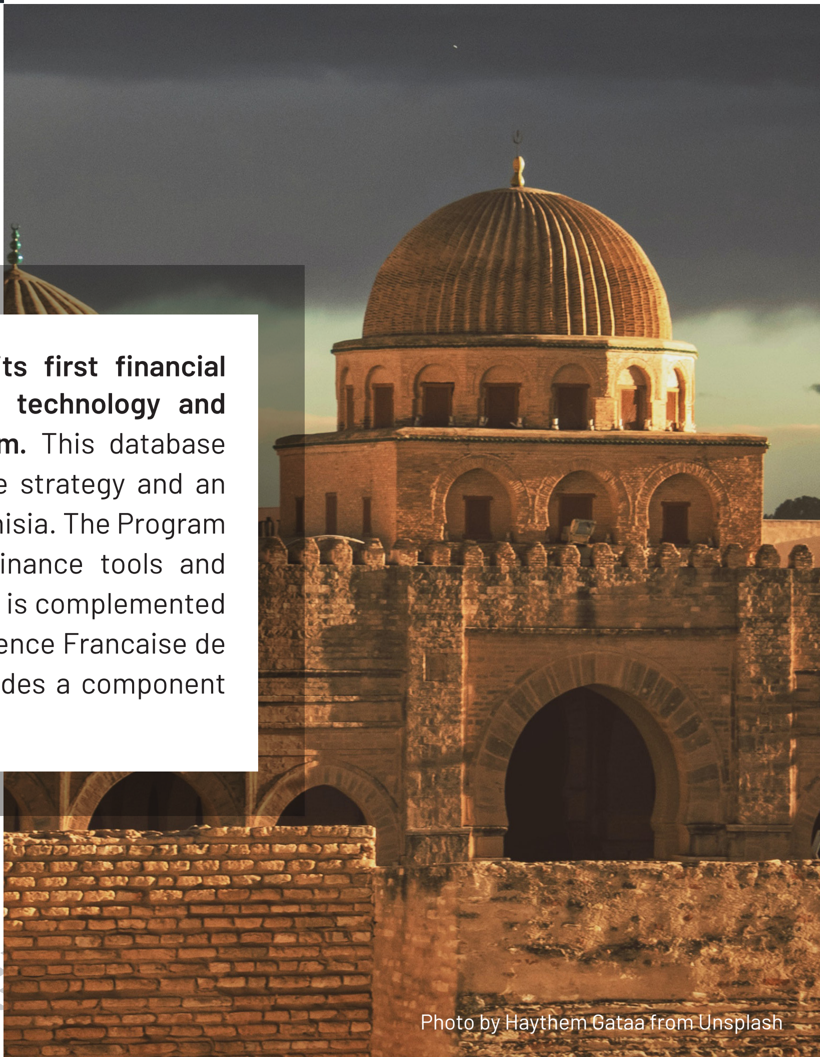

Photo by Haythem Gataa from Unsplash

Photo by Hai Tran from Unsplash

VIETNAM

In 2021, Vietnam adopted a financial protection strategy against disasters and pandemics for the City of Da Nang. The government is also exploring public asset insurance: for this purpose, the Program helped putting in place a technical and legal foundation. Subsequently, the government issued a decree providing for financial risk management of public assets, in part through insurance. Vietnam signed a Memorandum of Understanding to join the SEADRIF, a regional platform aimed at strengthening financial resilience of Association of Southeast Asian Nations (ASEAN) countries. The Program prepared a feasibility and impact assessment of the country's access to SEADRIF in 2019.

KNOWLEDGE MANAGEMENT

The Program designed and rolled out a year-long knowledge exchange series, which featured speakers from across the globe and attracted over 1,000 participants representing 125 countries. The series featured eight virtual sessions with seven complementary fact sheets. The Program supported preparation of Impacts of Disaster Risk on Sovereign Asset and Liability Management (World Bank 2021d), a global study that takes a fresh perspective on how disasters can impact a government's balance sheet. The Program also funded the preparation of Insuring Nature's Survival: The Role of Insurance in Meeting the Financial Need to Preserve Biodiversity report (World Bank 2022b).

Photo by Brandon Payne from World Bank Flickr

LESSONS LEARNED

Over the course of its implementation, the Program learned many lessons:

- **Immediate post-disaster financial needs are often met with government budget, so strong public financial management of disasters is critical.** To fight the COVID-19 pandemic, most countries had to rely on budget cuts and borrowing. This approach is similar to the response to major disasters but at a much larger scale. It is essential to strengthen public financial management of disasters and improve the use of budgetary instruments such as reserve funds. But it is also necessary to improve ex post funding sources such as budget reallocations to maximize their effectiveness. This effort should be systematic and address the whole budget cycle, from strategic planning to allocation to reporting (such as by disclosing disaster costs in annual fiscal risk statements to inform budget planning).
- **Public funds might be insufficient or slow and could be too expensive to use on their own; they should be complemented by funds received through risk transfer.** Private capital is critical for improving financial protection against climate shocks and disasters, but a challenge is to design solutions that are cost-efficient and attractive to the private sector and bring value to their end beneficiaries. A regional approach to risk financing, for example, can generate savings. Colombia and Peru saved on preparatory technical work and modeling through participation in the Pacific Alliance CAT bond. The development and/or deepening of domestic financial markets, including the insurance sector, is key to leveraging private capital at competitive costs and offering cost-effective financial solutions to governments, businesses, and households.
- **Disaster risk finance strategies at national level are the right starting point for building financial preparedness to shocks; developing such strategies at all government levels makes it possible to design tailored risk financing solutions.** Aligning disaster risk finance strategies at different levels of the government and within economic sectors is effective (such as in Colombia, where each strategy provides a unique and context-specific set of priorities). Disaster risk finance strategies should be carefully designed to (i) capture the local context; (ii) be flexible enough to respond to changing demands and challenges, like pandemics; (iii) clearly delineate responsibilities; (iv) not only create new but also strengthen existing risk finance instruments; and (v) rely on accurate and granular information (both to design cost-effective risk financing instruments and to build stakeholder awareness about the impact of such instruments).
- **Countries face many risks beyond natural disasters and climate shocks and their compounding impact can be substantial; disaster risk finance can benefit from a multi-risk approach.** Over Phase II of the Program, the world faced the COVID-19 pandemic, which coincided with disaster events in many countries—e.g., floods in Nepal and South Africa. Countries also faced crises such as the war in Ukraine. Such events rapidly increase the demand for financial resilience and affect the nature of challenges to be addressed (for example, by narrowing fiscal space). Disaster risk finance can adopt a multi-risk approach, while also offering principles and instruments that help beyond natural disasters.

INTRODUCTION

World Bank–SECO Program: Why Focus on Disaster Risk Finance?

Over the past 20 years, disasters have caused over US$76 billion in losses and affected over 125 million people in the 11 countries supported through the World Bank–SECO Sovereign Disaster Risk Finance and Insurance in Middle-Income Countries Program.[5] Disaster losses are on the rise because of the growing number of exposed assets, a trend of population growth and climate change. The latter is increasing the severity and/or frequency of weather-related disasters such as floods and storms. It is also making historical data a less reliable source for disaster planning because it changes the patterns of disasters. In 2021, Swiss Re reported that while insurance coverage had increased since 1970, most disaster losses remained uninsured (Swiss Re Institute 2021).

A key part of disaster risk finance (DRF) is financial planning for how to meet the cost of disasters in a timely and cost-effective manner. For governments, DRF enables an early response to disasters, ensuring faster and more complete recovery. The number of countries adopting DRF strategies is growing as governments recognize the importance of such planning and attempt to change their reactive approach to major shocks. The reactive approach delays response, recovery, and reconstruction, augmenting secondary disaster impacts and disproportionally affecting poor and vulnerable people, who have limited savings and assets (Hallegatte et al. 2017). Having rapid access to resources to meet surge demand for disaster response generates cost efficiencies through early procurement and response. Evidence from multiple impact evaluations demonstrates that rapid assistance for shock-affected households reduces the reliance of such households on negative coping mechanisms, which have detrimental long-term consequences.[6] Disaster risk finance is also a critical element of green, resilient, and inclusive development (World Bank Group Development Committee 2021).

The importance of financial planning for disasters and major shocks has become even clearer following the lessons learned during the COVID-19 pandemic and in the face of other crises, such as the war in Ukraine. The pandemic spotlighted the importance of timely response and uncovered gaps in (financial) planning of governments. Many central finance agencies and line ministries had to reallocate budgets and forgo long-term debt sustainability targets because of additional borrowing. Worldwide government debt now greatly exceeds pre-pandemic levels. [7] While these steps were necessary for saving lives, protecting economies, and slowing the spread of the virus, they have had the unavoidable consequence of reducing other priority spending, including for service delivery and capital investment. Countries have less capacity to respond in part because people have become poorer: the global poverty level reached 9.1 percent in 2021, compared to the 7.8 percent that had been projected (World Bank Blogs 2021).

5 Based on data for 2001–2022 from the EM-DAT database, EM-DAT, CRED / UCLouvain, Brussels, Belgium, www.emdat.be.

6 See Cabot Venton and Sida (2017); FAO (2018); USAID (2018); Wiseman, Hess, Robertson (2007).

7 For example, see IMF (2021).

With increasing inflation stemming from higher energy and food prices as a result of the war in Ukraine, additional fiscal burden is being imposed on already constrained budgets. The war in Ukraine, beyond taking lives and harming livelihoods, has further deepened economic and fiscal constraints across the world. Because of this and many other crises, there are now 100 million displaced people across the globe—the largest number ever (UN News 2022). Between March and April 2022, energy prices rose by 20 percent and agricultural commodity prices by 7 percent; global inflation increased as well (World Bank 2022a). The need for financial planning for such crises and other shocks is more obvious than ever.

Without financial planning, governments usually rely on ex post sources of funding in the event of a disaster. For example, they draw down on a contingency budget or reserve fund, accumulate debt, or reallocate the budget (by shifting resources away from their original purpose, toward financing of disaster response).[8] Domestic public finance (both ex ante finance such as reserve funds and ex post finance such as budget reallocations) is an important source of money in the absence of risk transfer options, or even with such options available, because it can usually be operationalized quickly and is directly within the government's control. Governments also rely on donor aid, but this type of funding is unpredictable and may arrive late (as it may be based on evidence of extensive need). Further, it may not come in the form of direct budgetary support, reducing the government's ability to decide on the most efficient allocation of additional funds. Overreliance on ex post sources of funding could be expensive and slow; this approach might leave countries with large unfunded needs.

Disaster risk finance includes building a cost-effective risk-layering strategy (figure 2). It recognizes that no single instrument can address all post-disaster costs, and that combining different funding sources allows cheaper funds to be used first, for recurring, less severe disaster events. DRF also relies on the principle that targeting of money is as important as where money comes from; proper disbursement channels, effective processes for post-disaster decision-making and fund allocation, and improved procurement and reporting are (among others) critical focus areas for managing post-disaster costs. Targeted risk financing solutions for populations, businesses, and farmers can increase the amount and effectiveness of funding available. Any risk financing solution must be designed relying on best available data and analytics.

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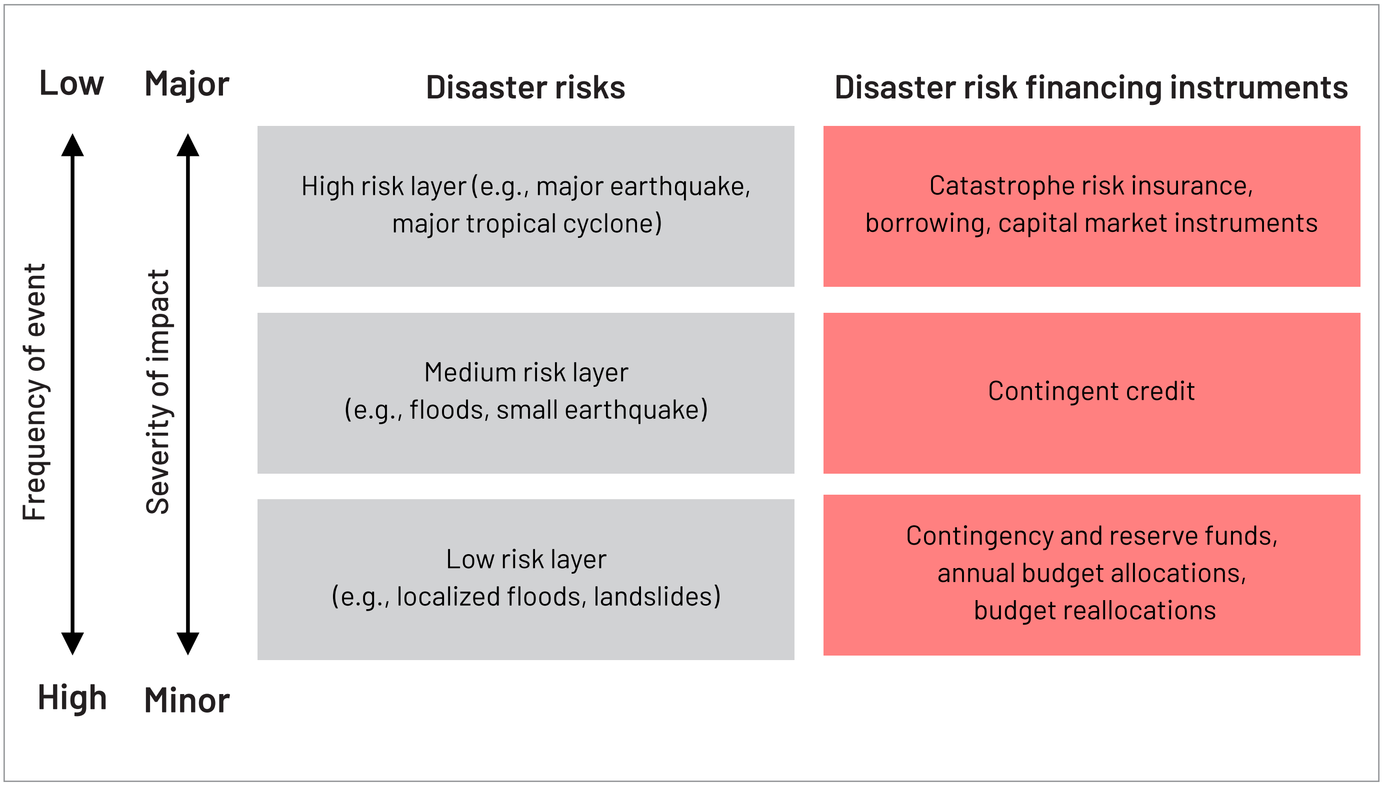
8 Reallocation can be done through either virements or normative (supplementary) budgets. Virement includes moving funds between budget lines in a way that does not substantially overhaul the nature of public expenditure; supplementary budgets are required for more substantive changes to the budget, including changes that affect the overall budget envelope and fiscal deficit.

Figure 2. Three-Tiered Risk-Layering Strategy for Governments



Source: World Bank and GFDRR 2014.

Disaster risk finance is high on the agenda of many international forums. DRF is on the agenda of the G7 Foreign and Development Ministers (EEAS 2021) and the V20 Climate Vulnerable's Finance Summit (V20 2021). It is also part of global agreements such as the 2015 Paris Agreement, Sustainable Development Goals (SDGs), and Sendai Framework for Disaster Risk Reduction 2015–2030.

Program Overview and Way Forward

The World Bank–SECO Program has been helping governments advance financial planning for disasters for the past 10 years. The two completed phases of the Program have provided tailor-made advisory services to 11 countries: Albania, Colombia, Georgia, Indonesia, Morocco, Nepal, Peru, Serbia, South Africa, Tunisia, and Vietnam. The Program acted along the entire DRF process, from starting a dialogue, to raising awareness and conducting analytics, to planning for risk-layering strategies, to designing and implementing risk financing solutions of various levels of complexity.

Phase II of the Program covered an extremely turbulent period that included the COVID-19 pandemic along with other crises (the ongoing war in Ukraine, other conflicts, and many natural disasters). Nonetheless, the independent external evaluation of the Program, commissioned by SECO and conducted in 2021, concluded with highly satisfactory assessments for Phase II. Survey results attest that the Program was well aligned with country priorities, developed strong evidence for decision-making, effectively built institutional and human capacity, and strengthened countries' financial resilience. There is strong agreement that services provided for institutional strengthening and technical capacity development will continue after the Program ends. Findings also clearly showed a correlation between a country's number of years in the Program and the depth of impact it achieves; this finding suggests that achieving impact in disaster risk finance is a long-term endeavour.

Following the completion of Phase II, the partnership between the World Bank and SECO is now transitioning into Phase III, a phase with the unique characteristics of a continuing crisis combined with the COVID-19 recovery. This phase has the same overarching objective as the previous two phases: to increase the financial resilience of middle-income countries against natural disasters and support their capacity to meet post-disaster funding needs through the provision of neutral, independent advisory services. However, Phase III also aims to deepen the dialogue, to help countries achieve a green, resilient, and inclusive recovery, and to explore other topics (such as digitalization and biodiversity) relevant to financial planning in a post-crisis period.

Phase III will continue addressing lessons learned from Phases I and II. These lessons emphasize (i) targeting to achieve strong government ownership; (ii) building relationships with stakeholders at technical level to maintain continuity through political changes; (iii) designing programs based on clearly identified priorities and challenges; (iv) ensuring timely delivery; (v) regularly interacting with counterparts; and (vi) maintaining a balance between technical and policy solutions to ensure the sustainability of both.

Drawing on these lessons, the third phase of the Program will work on achieving its objectives by focusing on the following:

- **Strengthening prearranged financial resources to respond to climate shocks, disasters, and crises.** This focus entails supporting governments' public financial management of disasters—by building budgetary risk financing instruments, processes, and procedures, and by quantifying contingent liabilities, improving expenditure tracking, and helping governments put in place comprehensive DRF strategies.
- **Developing financial markets for risk finance.** This includes making financial systems more resilient to shocks; helping design and implement market-based solutions for households, farmers, and small and medium enterprises (SMEs); improving the enabling environment for such solutions; and conducting analytics.
- **Strengthening financial disbursement mechanisms across sectors.** This includes supporting disaster risk finance solutions for economic sectors such as transport, water, agriculture or energy. It also includes building mechanisms to disburse financing to beneficiaries, and ensuring that disbursement is targeted, transparent, and cost-effective, with adequate reporting and monitoring.
- **Prioritizing cross-cutting themes.** These include knowledge management and capacity-building, gender, cross-cutting diagnostic reports, and global studies.

DETAILED EVALUATION OF COUNTRY PROGRESS

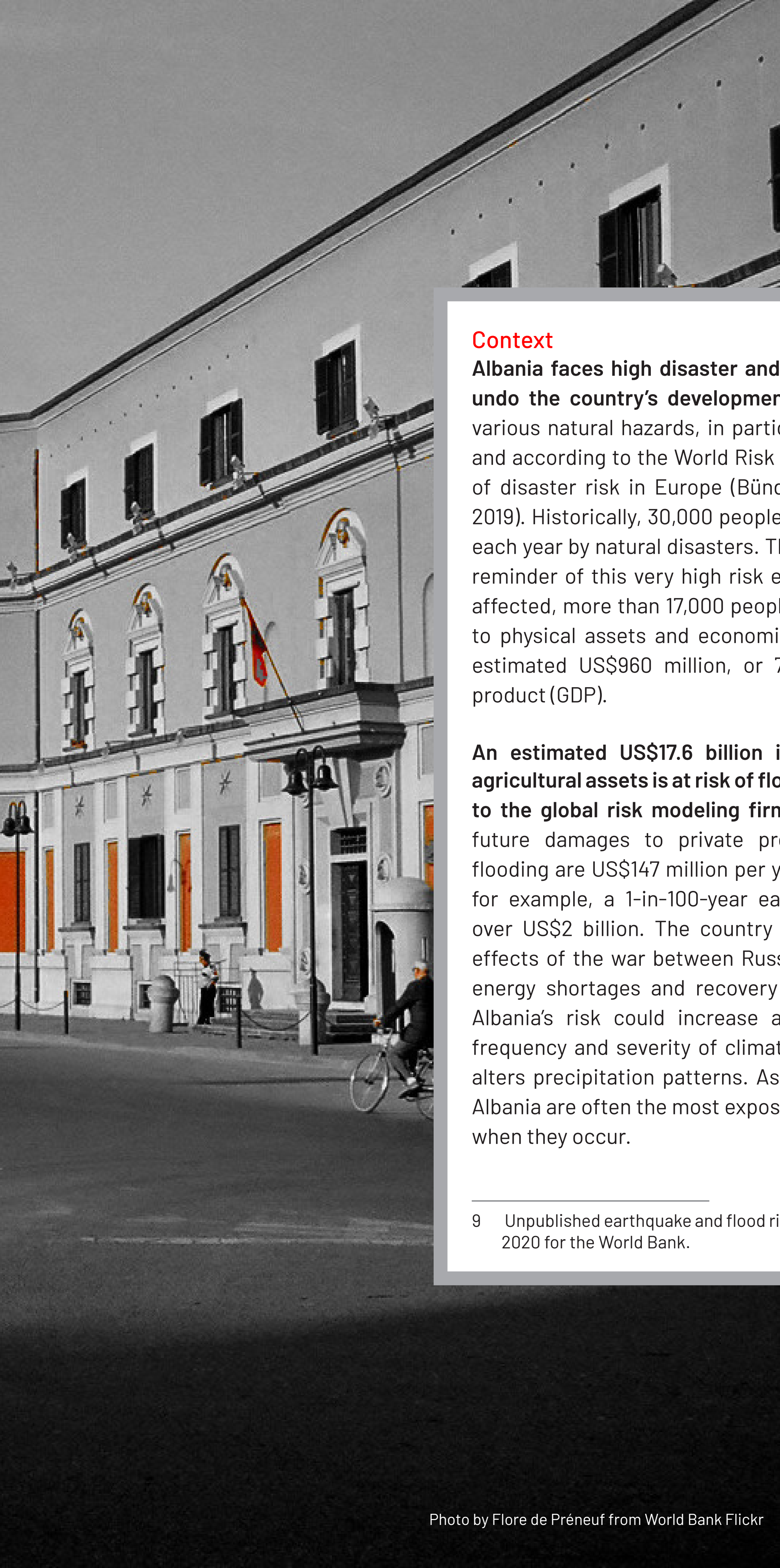


Photo by Flore de Préneuf from World Bank Flickr

ALBANIA

Context

Albania faces high disaster and crisis risks; major shocks can undo the country's development gains. Albania is exposed to various natural hazards, in particular flooding and earthquakes, and according to the World Risk Index 2019 has the highest level of disaster risk in Europe (Bündnis Entwicklung Hilft and RUB 2019). Historically, 30,000 people on average have been affected each year by natural disasters. The 2019 earthquake was a tragic reminder of this very high risk exposure; 11 municipalities were affected, more than 17,000 people were displaced, and damages to physical assets and economic losses were equivalent to an estimated US$960 million, or 7.5 percent of gross domestic product (GDP).

An estimated US$17.6 billion in commercial, industrial, and agricultural assets is at risk of floods and earthquakes according to the global risk modeling firm AIR Worldwide.[9] On average future damages to private property from earthquakes and flooding are US$147 million per year, with a catastrophic event—for example, a 1-in-100-year earthquake—causing damages of over US$2 billion. The country is also dealing with the ripple effects of the war between Russia and Ukraine, as well as with energy shortages and recovery after the COVID-19 pandemic. Albania's risk could increase as climate change affects the frequency and severity of climate-related disasters and further alters precipitation patterns. As in other countries, the poor in Albania are often the most exposed to shocks and are hardest hit when they occur.

9 Unpublished earthquake and flood risk profile produced by AIR Worldwide in 2020 for the World Bank.

Overview of progress

The World Bank–SECO Program began supporting Albania following the devastating 2019 earthquake at the request of the Ministry of Finance and Economy. The first years of engagement focused on deepening DRF analytics to identify priority areas for further engagement. During this period, the World Bank completed a series of analytics, including on the size and impact of COVID-19-related budget reallocations and on the impact of disasters and pandemics on firms; it assessed social protection and its adaptability as well as fiscal impacts of disasters; and it supported efforts to advance the discussion on adopting an earthquake insurance law. The Program also supported capacity building of the government.

Analysis has found that firms in Albania are vulnerable to disasters and major shocks, and in the absence of government help they risk their capacity to remain in business. For example, compound shocks could triple the number of firms that are unable to cover short-term debt in Albania, reducing corporate income tax revenue by more than 60 percent (World Bank 2021a). Households are mainly uninsured and wait for the government to help them recover; currently, only two to three individual houses out of 100 have private catastrophe property insurance coverage, and this coverage is driven to a large extent by mortgage loans (World Bank 2020a). The poorer households—33.8 percent of Albanians live on less than US$5.5 per day—are especially at risk of losing their livelihoods and have few shock-responsive support mechanisms available to them.

Public budget is vulnerable to major shocks; the government is responsible for most of the post-disaster and post-crisis costs and relies mainly on ex post financing (i.e., budget cuts and borrowing) and donor aid. For fighting the COVID-19 pandemic, the government had to introduce substantial borrowing and budget cuts. While much needed, budget cuts were not free: in 2020, more than half of the budget cuts made by the government incurred an opportunity cost with an estimated value loss of 0.76 percent of GDP. The government continued to use budget reallocations in 2021–2022. The process of reallocating budgets is ad hoc and allows decisions to be taken fast, but this speed often comes at the cost of coordination and targeting (World Bank 2021c). A major earthquake—such as a 1-in-50-year event—could increase the debt-to-GDP ratio by 5 percent unless corrective action is taken; corrective actions might require budget cuts of around lek 12,500 million over eight years.[10]

The reactive approach of the government can delay response and recovery after major shocks, making them more expensive and increasing their impacts on people and the economy.

With support of the Program, the government is seeking to strengthen its social protection systems and build the resilience of poor and vulnerable households to disasters by investing in their capacity to prepare for, cope with, and adapt to shocks. The World Bank carried out a review of how Albania's social protection system responded to the COVID-19 pandemic; the goal was to identify options for making the system more responsive to future shocks (World Bank Group and SECO, n.d.). The analysis also informed the Albania Country Economic Memorandum (World Bank 2021f). A more in-depth analysis was carried out for the Ndihma Ekonomike social protection program to help the Ministry of Health and Social Protection better understand how people learn about this program, apply and are enrolled, and receive their payments during both "normal times" and shocks. The analysis also identified practical steps that could improve access to the program. In response to this analysis, the ministry has recognized the need to be prepared before the next shock so that the country's social protection systems can more rapidly support people in need.

10 According to an unpublished assessment of fiscal impacts of disasters in Albania produced by the UK Government Actuary's Department.

Lessons learned

Domestic public finance is a critical source of funding after disasters. Budget reallocations, for example, are directly within government control and in Albania were mobilized fast. However, the use of such instruments comes with a cost, which is not immediately clear to decision-makers. Even with prearranged financing in place, this source of funding will likely be used for future disasters, so it is important to ensure that governments are aware of the associated costs and use ex post financing efficiently.

Next steps

The World Bank will continue supporting Albania during Phase III, focusing specifically on setting priorities for addressing major shocks caused by disasters and crises through a dedicated risk financing program. This support will focus on (i) improving financial resilience of individuals, farmers, and businesses, (ii) mobilizing private sector solutions through insurance and risk sharing, (iii) managing budget for contingent liabilities due to disasters, with a focus on timeliness and cost-effectiveness, and (iv) building risk financing capacity and knowledge in the private sector and in central and local government institutions.

COLOMBIA

Context

Colombia is one of the most disaster-prone countries in the Latin America and Caribbean region, and its situation could worsen as climate change increases the frequency and severity of weather-related disasters.[11] Floods, earthquakes, and landslides are the most prevalent hazards, followed by volcanic activity, tsunamis, and hurricanes. Around 84 percent of Colombia's population and 86 percent of its assets are exposed to two or more natural hazards (DNP 2014). An overwhelming majority (86 percent) of Colombia's population is exposed to high or medium seismic hazard (UNGRD 2018), almost one-third (31 percent) to high or medium landslide hazard (IDIGER 2015), and 28 percent to high flooding hazard (World Bank 2011). As a result of climate change, the levels of exposure are expected to increase in the coming decades. Colombia's tropical climate, affected by the La Niña and El Niño climatic phenomena, is subject to both heavy and frequent rains (due to the former) and dry periods (due to the latter).[12] In 2010–2011, the La Niña event caused estimated damages of US$6 billion and economic losses of US$1.1 billion (BID and CEPAL 2021). The latest El Niño event, in 2015, recorded historic maximum temperatures and was the longest since 1950, with a 17-month duration and economic impacts of about 0.6 percent of GDP (DNP, MADS, and UNGRD 2018).

Natural disasters and climate risks represent Colombia's largest contingent liability by far, with an estimated potential impact of up to 4.36 percent of GDP (Ministry of Finance and Public Credit 2021). In the last 40 years, six disasters have exacted economic impacts exceeding US$1 billion. Some sectors have been—and will continue to be—more affected by disaster risk than others. One heavily affected sector is transport; during La Niña 2010–2011, closures and diversions of roads caused losses of approximately US$222 million (World Bank 2021e). Another heavily affected sector is housing; according to historical disaster records (1914–2018), floods accounted for the largest share of homes destroyed (41 percent) and damaged (70 percent) in the country (World Bank 2021e).

11 As of 2019, Colombia ranked fourth in the region in disaster risk. European Commission Disaster Risk Management Knowledge Centre, INFORM Risk Index, *https://drmkc.jrc.ec.europa.eu/inform-index/INFORM-Risk.*

12 Hydrometeorological phenomena are the most recurrent hazards, causing 85 percent of disasters registered between 1998 and 2018. In 2010–2011 alone, the La Niña rainy season affected approximately 3.5 million people and caused unprecedented economic losses and damages (UNGRD 2018).

Photo by Nick Wehrli from Pexels

Overview of progress

Colombia has been supported by the World Bank–SECO Program since the inception of Phase I. Over Phase II, the country continued strengthening financial preparedness to disasters throughout the different government levels—that is, at national, subnational, and sectoral level.

Disaster risk finance is firmly integrated into government fiscal and policy planning at the national level. From 2017 to 2021, each medium-term fiscal framework included a section on DRF, which helped the government plan for its debt sustainability and other macro-fiscal health aspects. The government also strengthened its policy frameworks following the pandemic; in 2021, it updated the National Strategy for Financial Protection against the Risk of Disasters, Epidemics, and Pandemics. The National Development Plan 2010–2014 and subsequent editions make DRF a responsibility of the Ministry of Finance, ensuring that disaster resilience is rooted in the government budget and macroeconomic planning.

Supported by the Program, the government secured better financial protection against disasters through innovative risk transfer products. As part of the Pacific Alliance, Colombia participated in placing the first multi-country catastrophe (CAT) bond against earthquakes, securing for the government US$400 million in protection lasting from 2018 to 2021. In 2021, the government and the World Bank signed a US$300 million Catastrophe Deferred Drawdown Option (CAT DDO). The government is now working on designing a flood risk transfer instrument (again within the Pacific Alliance framework) and is exploring a subnational CAT DDO. In addition, the government now has a web system for registering property insurance policies and recording data on asset characteristics (still to be populated).

Colombia has also implemented important measures at subnational level and is the first country worldwide to enact DRF strategies at this level. The subnational strategies are aligned with the national strategy but tailored to the risks and economic characteristics of each territory. These strategies were introduced by Aburrá Valley Metropolitan Area (territorial associative scheme of 10 municipalities of Antioquia Department, including Medellin City) and the Department of Cundinamarca. In addition, Bogotá's disaster risk management plan includes commitments related to DRF. The Program supported these efforts through capacity building, including a regional disaster risk finance workshop (May 2019) with almost 120 participants from different territorial units of Colombia. Regional governments are demanding more capacity building and support on DRF, as reflected in additional disaster risk finance strategies developed by Archipelago Department of San Andres, Providencia and Santa Catalina (2019); Putumayo Department (2020); and Huila Department (2021).[13] To strengthen the capacity building at the subnational level, a DRF strategy development technical note at subnational level was elaborated with the Ministry of Finance and the Association of Departments. In addition, the government of Colombia is evaluating whether to join the Caribbean Catastrophe Risk Insurance Facility Segregated Portfolio Company (CCRIF SPC), since doing so would allow Archipelago Department to acquire parametric insurance products offered by CCRIF SPC (earthquake, tropical cyclone and excess of rain).

Colombia is also exploring innovations at sectoral level. The work is underway to elaborate a DRF strategy for the transport sector (led by the Ministry of Transport), and the dialogue has started on such strategies for agriculture and for energy and mining. Supported by the Program, an improved insurance cover of US$40 billion was procured for highways constructed as part of the first wave of fourth generation (4G) road concessions (World Bank 2021b). The Program is also analyzing potential parametric insurance proposals for the transport and environment sectors.

13 DRF strategies are under preparation for Antioquia, Bogotá DC, Medellin, and Tolima.

Finally, many of the products generated by the World Bank–SECO Program for Colombia have been used by other countries (both those supported by the Program and others) to learn about disaster risk finance. Generation of knowledge is among the high-priority tasks of the Program.

Lessons learned

The Program's engagement in Colombia is long-standing. Over the years of working on DRF there, it became clear that financial resilience should cut across the public sector (at national, subnational, and sectoral levels) and the private sector (at national and international levels). Such broad financial resilience creates a comprehensive financial protection fabric that covers people, the economy, and the national budget.

DRF strategies are powerful tools for reducing fiscal vulnerability to disasters, but they have to be carefully designed. First, their implementation may last for generations, so operational plans should be flexible and regularly reviewed. Strategies must be updated to account for new risks and challenges, and their implementation must be accompanied by capacity building. Second, to harmonize risk finance efforts across a country's fabric, it is important to clearly identify who is responsible for what within such strategies. Third, DRF strategies can focus both on creating new risk financing mechanisms and on strengthening existing mechanisms (such as insurance of public buildings and concessions for public-private partnerships). Fourth, such strategies should be adopted at all levels of the government (national, subnational, and sectoral) and ideally align with one another, even considering different needs and characteristics of various levels. Finally, while adopting disaster risk finance strategies is important, it is equally (if not more) important to use them to build capacity and strengthen coordination between the government and public and private entities.

Robust data and information are fundamental for making decisions on managing contingent liabilities but also for designing risk transfer and other risk financing instruments. These instruments often require sustainable information systems that must be regularly updated. Depending on the risk they cover, these instruments also need relevant risk assessments and support from national technical-scientific entities. In addition to studies of their costs and benefits, evaluations of their legal environment and institutional capacity are needed. Quantifying disaster impacts and how these translate into government contingent liabilities is critical for being able to make decisions on risk financing. Only knowledge of how much disasters cost allows governments to determine the benefits of risk financing (but also of risk reduction and preparedness).

A regional approach to risk financing, such as the joint placement of the CAT bond by Pacific Alliance countries, could generate further savings.

Next steps

Colombia is preparing for the new administration starting in August 2022. These are the likely next steps:

- The Program will support the government with studies and technical notes and will help in development of roadmaps for further implementation of subnational strategies (for example, evaluating the parametric insurance products that CCRIF SPC could offer to Archipelago Department). In addition, it will support the elaboration of other DRF strategies at subnational level.
- The Program will support the elaboration of DRF strategies at sectoral level (for agriculture and mining and energy, as well as for transport).
- In the longer term, potential next steps will be raised with the new administration to explore further implementation of innovative risk financing solutions, such as a subnational CAT DDO, seismic or

flood or multi-hazard CAT bond, implementation of the web system for registering information on public assets and property insurance policies or other supporting measures, and solutions at subnational and sectoral levels (considering links/networks between subnational and sectorial levels).

There is also a plan to design the exit strategy to ensure that disaster risk finance achievements to date at all levels of the government are sustainable and continue well into the future. This is one of the Program's most important future challenges in Colombia.

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GEORGIA

Context

Georgia is exposed to disaster risks such as earthquakes, floods, mudflows, landslides, avalanches, and droughts. The country is situated in one of the world's most seismically active regions, where earthquakes have caused significant damages in the past and floods occur quite regularly. According to the Georgian National Environmental Agency, more than 70 percent of the country's territory lies in geological disaster risk zones (RECC 2013). Data from EM-DAT show that nearly 1 million people were affected by natural disasters in Georgia between 2000 and 2020, with total damage estimated at around US$700 million.[14]

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14 EM-DAT database, EM-DAT, CRED / UCLouvain, Brussels, Belgium, *www.emdat.be.*

Overview of progress

The Program started engaging with the government of Georgia in August 2020 amidst the relentless COVID-19 pandemic. During nearly two years of virtual engagement, the Program helped the government of Georgia improve its understanding of the financial impacts of disasters. It provided training on fiscal and financial disaster risk assessments, including the use of key analytical tools for quantification of disaster risks.

The World Bank–SECO Program, in collaboration with the International Monetary Fund (IMF), assisted Georgia's Ministry of Finance in preparing the 2021 fiscal risk statement with a dedicated section on disaster and climate risk. The fiscal risk statement discussed disaster-related fiscal risks and how disaster impacts translate into government contingent liabilities. This was the first fiscal risk statement for Georgia to quantify disaster risk while also disclosing government contingent liabilities.

The Program is also preparing an update to the country's disaster risk finance diagnostic. The emerging findings are being used to inform the dialogue with the government on strengthening financial preparedness to disasters. They are also informing the discussion of a series of potential development policy lending operations for green, resilient, and inclusive development following the COVID-19 pandemic, which include DRF policy reform actions. In addition, an assessment of firms' financial vulnerabilities to compound disaster and pandemic shocks is currently underway, with the first set of firm data collected.

Lessons learned

Flexibility and local representation are critical for starting and advancing a new engagement in the context of an unfolding crisis. Faced with restrictions on traveling to meet counterparts during the pandemic, the team adopted a different approach and provided hands-on support through digital platforms and videoconferencing. However, even with frequent communication, the engagement relied on local team members for support; their presence helped offset some of the challenges of virtual communication and lack of face-to-face interaction.

Exploiting synergies with different engagements and other institutions helps advance the dialogue. DRF overlaps with many sectors of work within the World Bank and other institutions. For example, it closely relates to macro-fiscal management, financial sector development, and disaster risk management—and all these sectors have ongoing engagements in Georgia. Collaboration with global and regional institutions such as the IMF helps provide more comprehensive technical support to the country and builds on the comparative advantage of each institution.

Next steps

The government requested World Bank support to improve understanding of disaster-related fiscal risks and strengthen financial decision-making through better data management. The government is committed to strengthening data management for better quantification of disaster-related risk and contingent liabilities. The World Bank will also assist the government in developing a DRF framework and potentially adopting a risk finance instrument to improve financial resilience, such as agriculture insurance or public asset insurance. These activities might be supported by the proposed development policy lending to the government of Georgia.

INDONESIA


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Context

Home to approximately 265 million people living on over 6,000 islands, Indonesia is one of the most disaster-prone countries in the world. The country is located in the Pacific Ring of Fire and has 127 active volcanoes. In recent years, it has experienced frequent earthquakes and tsunamis, as well as intermittent volcanic eruptions, floods, and landslides.

Over the last 20 years, Indonesia has emerged as a middle-income economy, and it aspires to become an upper-middle-income economy by 2025 and the fifth largest economy in the world by 2030. Disasters threaten these plans by imposing a heavy economic and financial burden for response and recovery. Between 2014 and 2018, the national government spent between US$90 million and US$500 million annually on disaster response and recovery, while subnational governments spent an estimated US$250 million annually. On average, this is equal to between 1.4 percent and 1.9 percent of total national government spending (World Bank, forthcoming, a). For Indonesia as for other countries, financial preparedness to meet disaster costs is fundamental to protecting development gains and achieving desired objectives.

Overview of progress

Indonesia was part of the World Bank–SECO Program throughout both phases. Over the last phase, the government accelerated disaster risk financing reforms, targeting multiple areas such as strengthening response funding and putting risk financing instruments in place for longer-term reconstruction. The Program produced just-in-time analytics and provided hands-on advisory assistance to the government.

For example, the Program worked with the Directorate General of State Assets Management (DJKN) team in the Ministry of Finance to roll out and scale up the State Assets Insurance (ABMN) program. More specifically, it provided the ABMN program with international expertise, technical guidance, mentorship, capacity building, and handbooks and e-learnings. The World Bank just recently helped DJKN implement a stress-test exercise for the ABMN claims management process—a critical element of catastrophe insurance, which can face hundreds and thousands of claims. The Program helped scale up the coverage of the ABMN program, so that by December 2021, the government was able to place insurance protection for 5,272 buildings belonging to 73 (out of 81) line ministries; the total sum insured is US$2.5 billion. It is expected that by the end of 2022, the ABMN program will cover all the ministries and will be scaled up to protect other assets. The World Bank–SECO Program has made it possible to mobilize other donors to support this work, including the UK Foreign, Commonwealth and Development Office (FCDO) and the Southeast Asia Disaster Risk Insurance Facility (SEADRIF).

The Program has assisted the government in creating a dedicated disaster reserve fund, the Pooling Fund for Disasters (PFB). It supported the preparation and adoption of the National Disaster Risk Financing and Insurance Strategy in 2018, which was launched during the World Bank–IMF Annual Meetings. The series of gaps identified by the strategy are targeted by the Program. For example, the Program helped prepare a US$500 million World Bank lending operation with the government of Indonesia, a project aimed at helping to establish a disaster reserve fund. It helped mobilize a grant from the Global Risk Financing Facility (GRiF) for inclusion in the lending operation to finance start-up and operating costs for the pooling fund. The loan and grant agreements were signed by the government in March 2021, and the PFB was legalized by a presidential regulation in August 2021.

Lessons learned

Progress in disaster risk finance depends strongly on external factors. Over the four years of the engagement, the Program experienced several challenges with implementation, including the presidential and parliamentary elections, rotation of key government staff (both at the high and technical levels), and the COVID-19 pandemic.

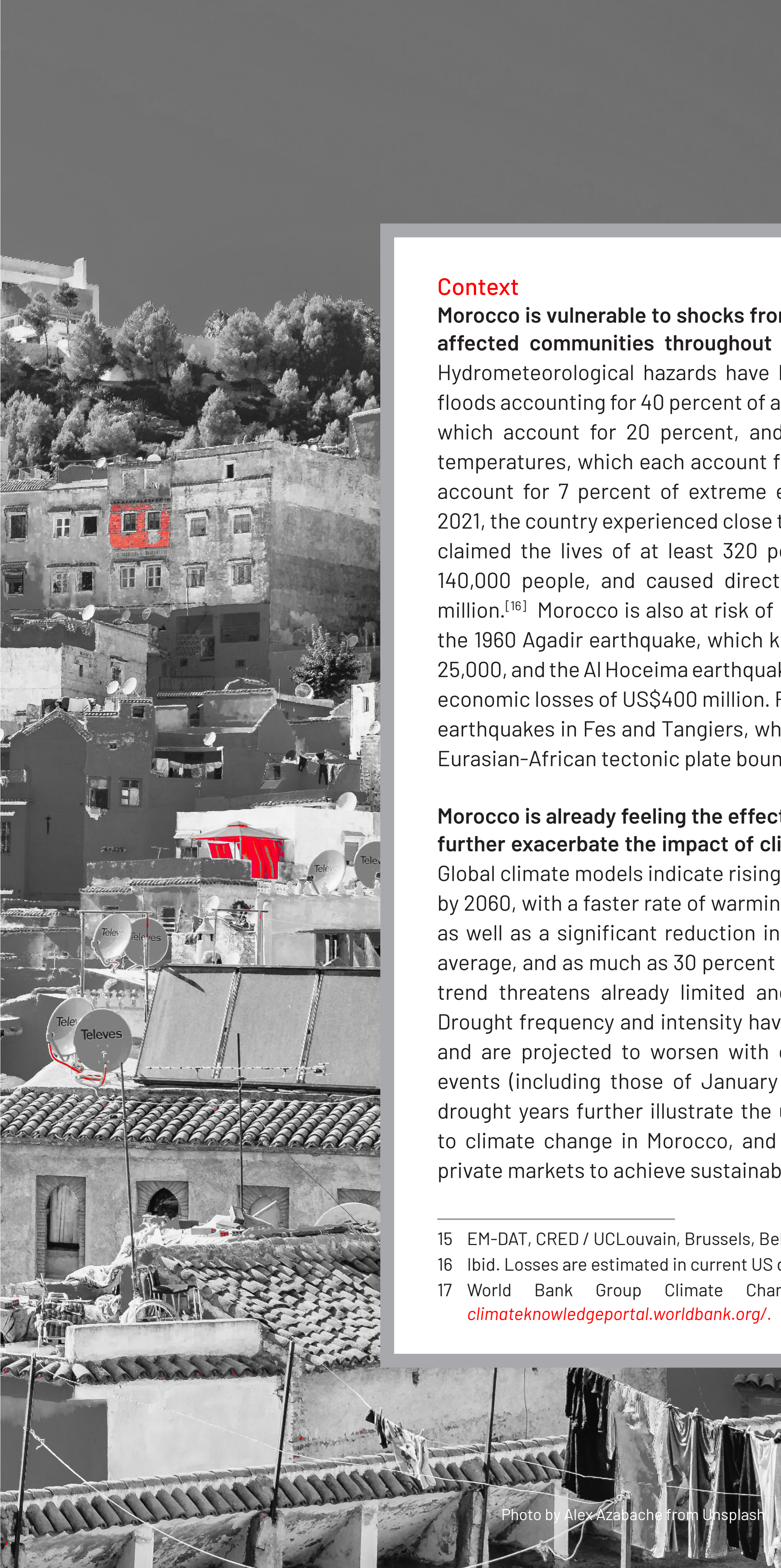
Some lessons have emerged from challenges that the Program experienced:

- It is critical to have a champion in place when preparing and implementing any major reform.
- Building strong government ownership is a must for implementing DRF reforms; this ownership should cut across institutions and cover both the technical and decision-maker levels.
- World Bank technical assistance is best implemented through a strong regional and global collaboration; strong ties between teams facilitate the most relevant and timely support to the government.
- Regular communication with stakeholders is important to keep the project on the track.

Next steps

The Program will remain on track in implementing and coordinating other sources of donor funding, each aiming at specific deliverables. The US$1 million SEADRIF grant will help in scaling up the ABMN program to include buildings of all ministries and in expanding insurance beyond buildings to other assets such as public infrastructure like dams. It will support building the technical capacity of the government staff and provide further investment in data quality and analytic capability. The US$14 million GRiF grant will assist in further operationalizing the PFB and in achieving performance-based conditions included in the World Bank lending.

The World Bank–SECO Program will focus on the implementation of the National Disaster Risk Finance and Insurance Strategy with indicative objectives to support stakeholder engagement and technical assistance for rolling out the strategy. It will prepare a stock take of disaster risk finance in the agricultural sector for households and SMEs. The analytics will focus on understanding government objectives in each area to then propose a set of tailored reforms. The Program will assist in preparing risk analytics and modeling for future sovereign risk transfer instruments and also assist with knowledge sharing, capacity building, and training.



Context

Morocco is vulnerable to shocks from natural hazards, which have affected communities throughout the country in recent years. Hydrometeorological hazards have been the most frequent, with floods accounting for 40 percent of all events, followed by droughts, which account for 20 percent, and thunderstorms and extreme temperatures, which each account for 9 percent. Locust invasions account for 7 percent of extreme events.[15] Between 2000 and 2021, the country experienced close to 20 major flood events, which claimed the lives of at least 320 people, affected approximately 140,000 people, and caused direct material damage of US$325 million.[16] Morocco is also at risk of massive acute events, such as the 1960 Agadir earthquake, which killed 12,000 people and injured 25,000, and the Al Hoceima earthquake in 2004, which caused direct economic losses of US$400 million. Potential exists for much larger earthquakes in Fes and Tangiers, which are situated on or near the Eurasian-African tectonic plate boundary.

Morocco is already feeling the effect of climate change, which will further exacerbate the impact of climate-related disaster events. Global climate models indicate rising temperatures of 1.0°C to 3.7°C by 2060, with a faster rate of warming in the interior of the country, as well as a significant reduction in annual rainfall—15 percent on average, and as much as 30 percent for the Saharan region.[17] This trend threatens already limited and dwindling water resources. Drought frequency and intensity have increased in recent decades and are projected to worsen with climate change. Recent flood events (including those of January 2021) as well as consecutive drought years further illustrate the urgency of financial resilience to climate change in Morocco, and the importance of leveraging private markets to achieve sustainable, at-scale solutions.

15 EM-DAT, CRED / UCLouvain, Brussels, Belgium – *www.emdat.be.*

16 Ibid. Losses are estimated in current US dollar values.

17 World Bank Group Climate Change Knowledge Portal, *https://climateknowledgeportal.worldbank.org/.*

Photo by Alex Azabache from Unsplash

Overview of progress

Among the most impactful achievements supported by the Program are the design and implementation of the dual catastrophe insurance system. The Program helped establish a mandatory multi-risk, fixed-rate coverage extension for all private insurance policies and for the Fonds de Solidarité Contre les Evénements Catastrophiques (FSEC), which provides basic compensation for the uninsured (nearly 95 percent of the population, including nearly 6 million people living in poverty). The financing of both mechanisms was supported by advanced risk modeling and financial analytics, including exposure data collection, contingent liability modeling, and cost-benefit analysis of various financing instruments. The result is a highly cost-effective use of budgetary and market-based mechanisms that quickly draws from various sources and directs them where they can be used most efficiently. In addition to the structuring exercise, the Program directly supported the Ministry of Finance in designing the 1 percent parafiscal tagging tax (1 percent to be applied to all non-life policies in Morocco), which generates an annual cash flow to FSEC of about US$20 million, ensuring sustainability of the structure over the years.

One of the Program's recent achievements was helping prepare Morocco's first Recipient-Executed Trust Fund (RETF) on DRF with US$5 million in financing from GRiF. The World Bank, working with the Ministry of Finance, has identified strong counterparts to contribute to this grant, whose implementation is expected to begin in the third quarter of 2022. RETF grants are World Bank grants that differ from more traditional technical assistance because they are implemented by governments. Such a modality allows governments to own the technical assistance results and knowledge products beyond the core implementing teams; for Morocco this is the Department of Treasury and External Finance in the Ministry of Finance, the FSEC, and this also includes private sector, such as insurance markets. This modality also makes it possible to expand current risk analytics to broader risks, including climate/hydrometeorological risks and specifically urban floods, given their significant economic disruption impact (as evidenced by a few events in recent history).

This RETF will assist in preparing a flood CAT bond; if implemented, this will be the first large-scale sovereign flood bond on the continent. This instrument has several requirements:

- Advanced risk modeling and monitoring of urban flooding, which will serve as the basis of the derivative bond product.
- Full operationalization of the FSEC to ensure funds flow in a rapid, well-targeted, and efficient manner (from international markets all the way to beneficiaries on the ground). This in turn requires the following:
  - » A reliable risk information system fully integrated with other decision-making platforms (for example, benefiting from and feeding into Ministry of Interior/Civil Protection Agency/ Met Office information platforms)
  - » Improved claims management process and post-event performance monitoring and evaluation

Transaction costs for placing the CAT bond will be borne by the RETF funding, complementing the Program's efforts on DRF and its strategic technical assistance. This flood CAT bond builds on the first flood model for Morocco, recently developed by CCR (a French reinsurer and modeling firm) with support from the World Bank. It will complement the earthquake derivative product placed in January 2020. The RETF funding will in addition pursue the efforts made by the Program to strengthen the knowledge of domestic experts and partners. These include the national reinsurer SCR (Société Centrale de Réassurance) but also academia and specifically the Mohammed VI Polytechnic University (UM6P)—the Rabat-based international university recently created by

Mohammed VI, which has a specific research mandate around resilience and hydrometeorological modeling capacity.

Through the Program and in collaboration with the Organisation for Economic Co-operation and Development (OECD), the World Bank is finalizing the climate and compound risk assessment. This assessment studies the entire Moroccan economy from a systemic risk analysis perspective, aiming to highlight the most vulnerable socioeconomic sectors using a number of climate disaster scenario projections. For the macroeconomic modeling, it is informed by inputs from the University of Venice as well as from the World Bank macroeconomic modeling team. The work began in early 2021 and is about to conclude with preliminary findings. These include highlights of the geographies and sectors most vulnerable to future climate events, indicative estimates of values at risk and of potential direct and indirect economic losses, and characterization of shocks' key transmission channels through economic agents and sectors. The findings already feed into the World Bank Country Climate and Development Report (CCDR) for Morocco, which includes a specific deep-dive section on financial resilience. The results will inform future steps on climate adaptation and help various ministries make decisions on risk materiality and prioritization of investments around the critical resilience–water–agriculture nexus. The assessment will help articulate the critical contribution of the insurance industry and the private sector to disaster resilience.

Lessons learned

The five years of Phase II engagement make clear that countries can greatly benefit from engagements across multiple related fronts—regulatory, technical, financial, and fiscal. Continuous, comprehensive, and iterative technical assistance is critical to achieve this. Each of these areas is complex. Financial resilience requires a good understanding of risk and its financing. The unpredictability of Morocco's climate and scale of emerging risk events required a systemic understanding and comprehensive risk financing and insurance solutions (e.g., for business interruptions of SMEs).

Institutional fragmentation across ministries and lack of transparent communication during and after disasters are among the biggest challenges to effective disaster risk financing. Morocco achieved encouraging improvements in both these areas with active leadership from the Ministry of Finance and Treasury, which coordinated regularly with the Ministry of Interior, Ministry of Agriculture, and other line ministries. The World Bank teams, including those working on adjacent areas (urban resilience, environment, agriculture, water) also played a role in strengthening this coordination. The joint involvement of the World Bank Country Office with global experts is critical for the success of any engagement.

Prioritizing and anticipating the most pressing needs is critical, especially in situations where the demand for high-quality and in-depth technical assistance is high. Morocco's engagement through the Program is accelerating fast with multiple demands on financial resilience. Prioritization of such demands to the extent possible is critical to ensure that both technical teams and counterparts are not overwhelmed and that they can deliver high-quality and in-depth assistance.

Next steps

The Program has the important task of addressing the growing demand for sophisticated DRF assistance in Morocco. The World Bank will assist the government with risk analytics, specifically for urban floods, drought/agricultural risks, and compounding risks, in light of climate change effects.

The Program is discussing an update of the national DRF strategy to account for new risks and increased areas of coverage (e.g., vulnerable farmers and critical assets). It can also assist the authorities in developing a disaster risk financing and insurance program for public assets, including critical infrastructure, that could leverage private capital. Access to private capital is critical to manage the associated contingent liabilities and their impact on the budget, and to ensure access to rapid, reliable, effective, and cost-efficient finance for recovery and reconstruction.

Over the medium term, the Program will also aim to increase the catastrophe insurance penetration rate (including through support to Morocco's insurance federation and regulator). It can help by including drought risk insurance in policy dialogue with the Ministry of Agriculture or Ministry of Finance.

NEPAL

Context

Nepal is one of the most disaster-prone countries in the world. Approximately 80 percent of the country is vulnerable to multiple natural hazards, including floods, glacial lake outbursts, landslides, fires, storms, droughts, and earthquakes. Every few generations, Nepal experiences significant earthquakes. The most recent high-magnitude earthquake happened in 2015; it caused 9,000 fatalities, destroyed over 600,000 homes, and injured 22,000 people. The largest river in Nepal, the Kosi River, is prone to frequent flooding. While earthquake risk is the largest driver of historical losses, flooding happens often, affecting around 200,000 people every year (Wendelbo et al. 2016).

Photo by Prem Babu Moktan from Unsplash

Overview of progress

In June 2021, the National Disaster Risk Financing Strategy was developed by the National Disaster Risk Reduction Management Agency and Ministry of Finance and endorsed by the Executive Committee for Disaster Management. This strategy outlines government priorities for DRF. Following its endorsement, the government also developed the implementation plan for this strategy (endorsed by the Executive Committee in January 2022). It outlines steps for putting in place market-based instruments. The Program provided support to this reform.

The Program also supported disaster analytics. For example, the World Bank analyzed disaster-related contingent liabilities in Nepal and found that on average, the government of Nepal experiences annual explicit contingent liabilities attributable to natural disasters of about 2–3 percent of its annual budget. Most of this is related to losses from floods and earthquakes. This analysis was shared with the government of Nepal in November 2021. The findings informed discussions of which financial instruments can be leveraged to help manage disaster-related contingent liabilities. The government is exploring a risk transfer instrument for earthquake loss.

The Program provided capacity-building support. This included a series of workshops to present key concepts of disaster risk finance, public asset insurance, and sovereign risk transfer. Nepal also has been an active participant in the SECO knowledge-exchange events and shared its experience in developing and implementing disaster reserve funds.

The Program helps implement the World Bank's Finance for Growth Development Policy Credit. This Development Policy Credit series aims to support the government of Nepal in its efforts to strengthen financial sector stability, diversify financial solutions, and increase access to financial services. The Program supports two pillars: (i) management of contingent liabilities from natural disasters, and (ii) market development.

Lessons learned

Virtual interaction with the government is critical to support project progress, but it does not facilitate the same rapid and impactful interactions as face-to-face discussions. Travel to Nepal was suspended during the COVID-19 pandemic, which also delayed some key policy decisions, including decisions relating to the DRF strategy. The project progress slowed down, and "Zoom fatigue" soon became notable. The situation changed once mission travel resumed; the deliverables were prepared faster. This experience suggests that while virtual meetings can help keep a finger on the pulse, they cannot replace in-person interactions.

Before discussing the specifics of different risk financing instruments, it is important to build understanding of the size of government contingent liabilities due to disasters. This is a good starting point to help governments understand the financial impacts of disasters and should be pursued before undertaking more complex technical or modeling work. It will secure a basic understanding of key concepts and risks.

Next steps

The Program helped build understanding of disaster-related contingent liabilities faced by the government to inform the development of the DRF strategy; next steps will focus on implementation of the adopted strategy and in particular on market development. The key next steps include (i) development of a valuation methodology for the public asset registry; (ii) structuring and placement of a sovereign risk transfer product for earthquake; and (iii) preliminary analysis of the feasibility of a risk retention facility in government to assist with the insurance of key public assets (to focus first on schools and hospitals).

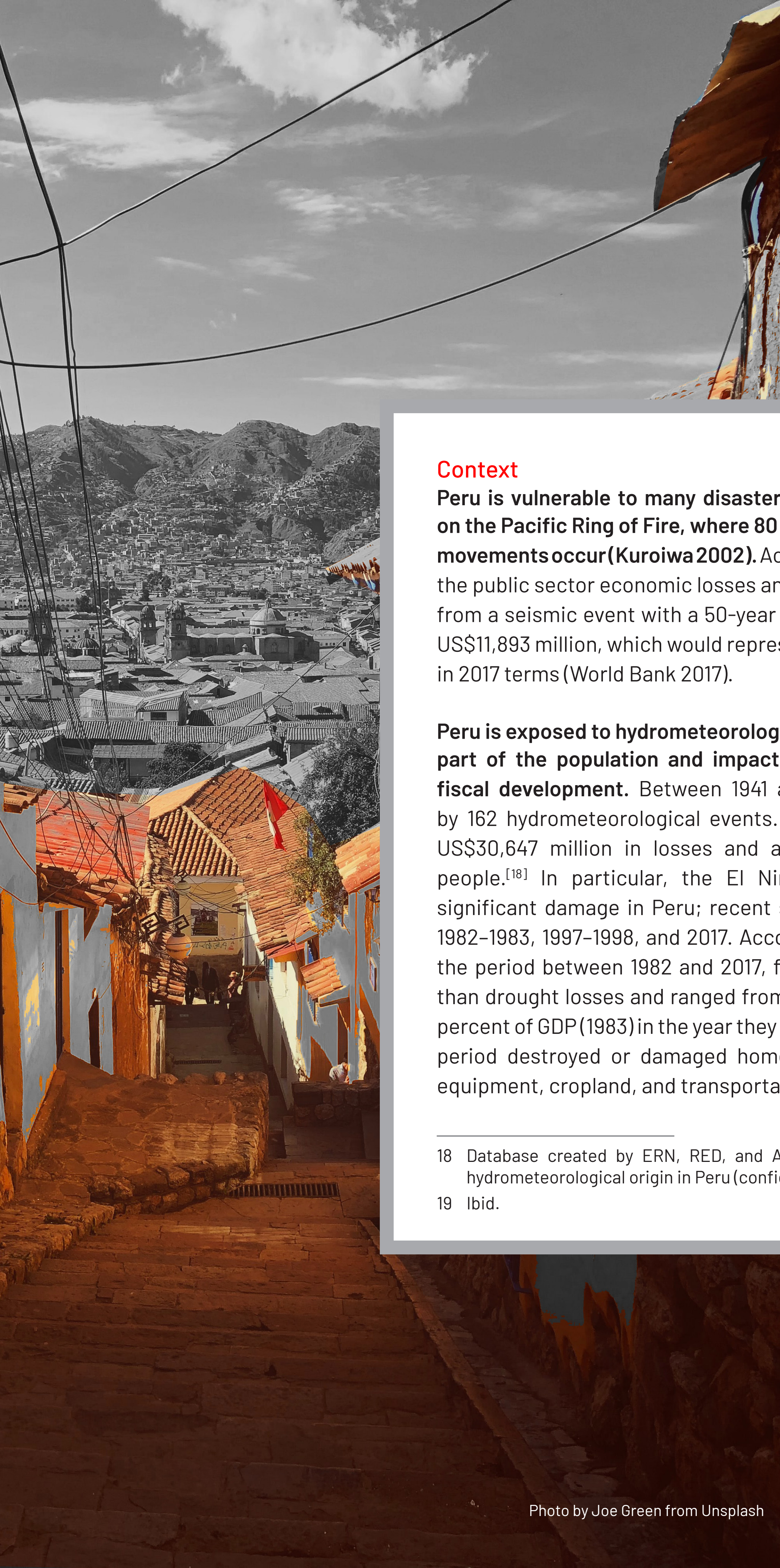


Photo by Joe Green from Unsplash

PERU

Context

Peru is vulnerable to many disaster risks. The country is located on the Pacific Ring of Fire, where 80 percent of the world's seismic movements occur (Kuroiwa 2002). According to World Bank analysis, the public sector economic losses and emergency expenses arising from a seismic event with a 50-year return period could amount to US$11,893 million, which would represent around 5.5 percent of GDP in 2017 terms (World Bank 2017).

Peru is exposed to hydrometeorological hazards that affect a large part of the population and impact the country's economic and fiscal development. Between 1941 and 2019, Peru was impacted by 162 hydrometeorological events. These disasters caused over US$30,647 million in losses and affected more that 16 million people.[18] In particular, the El Niño phenomenon has caused significant damage in Peru; recent significant events occurred in 1982–1983, 1997–1998, and 2017. According to historical records for the period between 1982 and 2017, flood losses were more severe than drought losses and ranged from 1.6 percent of GDP (2017) to 7 percent of GDP (1983) in the year they occurred.[19] Floods during this period destroyed or damaged homes, infrastructure, production equipment, cropland, and transportation stock, among others.

18 Database created by ERN, RED, and Akua Capital on historical events of hydrometeorological origin in Peru (confidential).

19 Ibid.

Overview of progress

The Program continued supporting Peru throughout a period of high political uncertainty and the challenges posed by accumulated economic and fiscal effects of the COVID-19 pandemic. Despite slowdowns and uncertainties, the government achieved several important milestones. Peru joined the issuance of the seismic CAT bond as part of the Pacific Alliance, securing protection of US$200 million for 2018–2021. In 2019, Peru received a US$60 million payout. The Program is supporting Peru in analyzing the potential issuance of a hydrometeorological risk transfer instrument through the Pacific Alliance. It mobilized a consortium of specialized consultants to identify the full range of hydrometeorological perils for each Pacific Alliance country and then, based on the results, to model specific perils selected by each government. Peru selected the El Niño phenomenon and consequent flooding as the risk to be modeled. Peru is also exploring the possibility of issuing a second seismic CAT bond and has allocated budget for the payment of the premium. These instruments will complement the existing risk-layering strategy in Peru.

The Program supported Peru's efforts to strengthen financial protection against disasters for public-private partnerships. In 2019, the Ministry of Finance, based on the Program's recommendations, included an insurance chapter in its guidelines for designing public-private partnership contracts. The Program also assisted in strengthening the exposure and insurance databases for Peru and other Pacific Alliance countries (e.g., Colombia).

In addition, the Program helped the Superintendency of Banking, Insurance and Pension Funds (SBS) in strengthening insurance regulatory frameworks. Building on synergies with other SECO initiatives, the Program helped issue the Regulation for the Constitution of the Catastrophic Risk Reserve and the related technical note in December 2021. It also supported the SBS and International Institute of Seismology and Earthquake Engineering (IISEE) Building Research Institute in developing software used in calculating the risk reserve. The Program provided capacity building—for example, in 2020, it delivered actuarial training to the SBS—and also provided inputs to the risk-based capital model for insurance companies in Peru, specifically for the capital requirements pillar.

Lessons learned

High political uncertainty combined with severe shock impacts (such as those of the COVID-19 pandemic) can slow down the implementation of DRF reforms and, in rarer cases, reverse progress. Fighting the pandemic required reprioritizing needs, but political changes might have a similar result. To avoid such a scenario, technical assistance could be extended to more entities. For example, in the case of Peru, the work with SBS has not slowed down. It is also important to keep track of changing priorities, since the associated support may likewise need to change (for example, pandemic risk could be added for consideration as part of DRF strategies).

Maintaining active engagement from the government, which helps maintain government interest and ownership, is a key factor in progress. Despite political uncertainty, the government issued a seismic CAT bond, and the SBS updated the Regulation for the Constitution of the Catastrophic Risk Reserve and related technical note (December 2021) to strengthen its supervisory capacities.

Global, national, and local partnerships can help leverage appropriate expertise, which can speed up progress. This was seen clearly in the issuance of the seismic CAT bond in 2018 within the regional partnership of the Pacific Alliance framework.

Regional instruments like the seismic CAT bond can generate savings on the analysis of hydrometeorological/multiperil risk transfer instruments, among others.

Next steps

In the context of a slightly lower pandemic threat, the Ministry of Finance and the World Bank are drafting an updated work plan to agree and accelerate progress on the next steps. The plan focuses on several key activities related to implementing the DRF strategy and its update, including evaluation of a potential issuance of a seismic CAT bond or hydrometeorological risk transfer instrument (or a multiperil risk transfer instrument), strengthening of public asset insurance, and continued support for strengthening the supervisory capacity of the SBS. All the activities will be accompanied by capacity building.

SERBIA

Context

Disasters—including floods, earthquakes, and droughts, among others—take a serious toll on Serbia. In 2014, the country was devastated by floods that affected an estimated 1.6 million people and caused damages and losses amounting to €1.7 billion, equivalent to 4.8 percent of the country's GDP. As a result of the floods, the Serbian economy contracted by 1.8 percent in 2014 (Government of Serbia et al. 2014). According to estimates by AIR Worldwide, floods in Serbia could be expected to cause on average US$300 million in losses each year. Serbia also experiences frequent earthquakes, which cause on average US$76 million in losses. In any given year, there is a 1 percent chance that Serbia will face earthquake and flood losses of US$2.8 billion.[20] Droughts are also a major threat. In 2012, extreme heat caused losses of agricultural production of more than 1 million ha and damages of over US$141 million.[21] In addition, an estimated 30 percent of the country is at risk of landslides (World Bank 2016).

Following the 2014 floods, the government of Serbia began an ambitious transformation of its disaster management system, shifting from response to prevention and mitigation. Even with a robust approach to disaster risk management, however, the country will remain exposed to budget shocks caused by major natural disasters.

20 Unpublished results of AIR Worldwide modeling of earthquake and flood risk in Serbia.

21 World Bank Group Climate Change Knowledge Portal, "Serbia," *https://climateknowledgeportal.worldbank.org/country/serbia/vulnerability.*

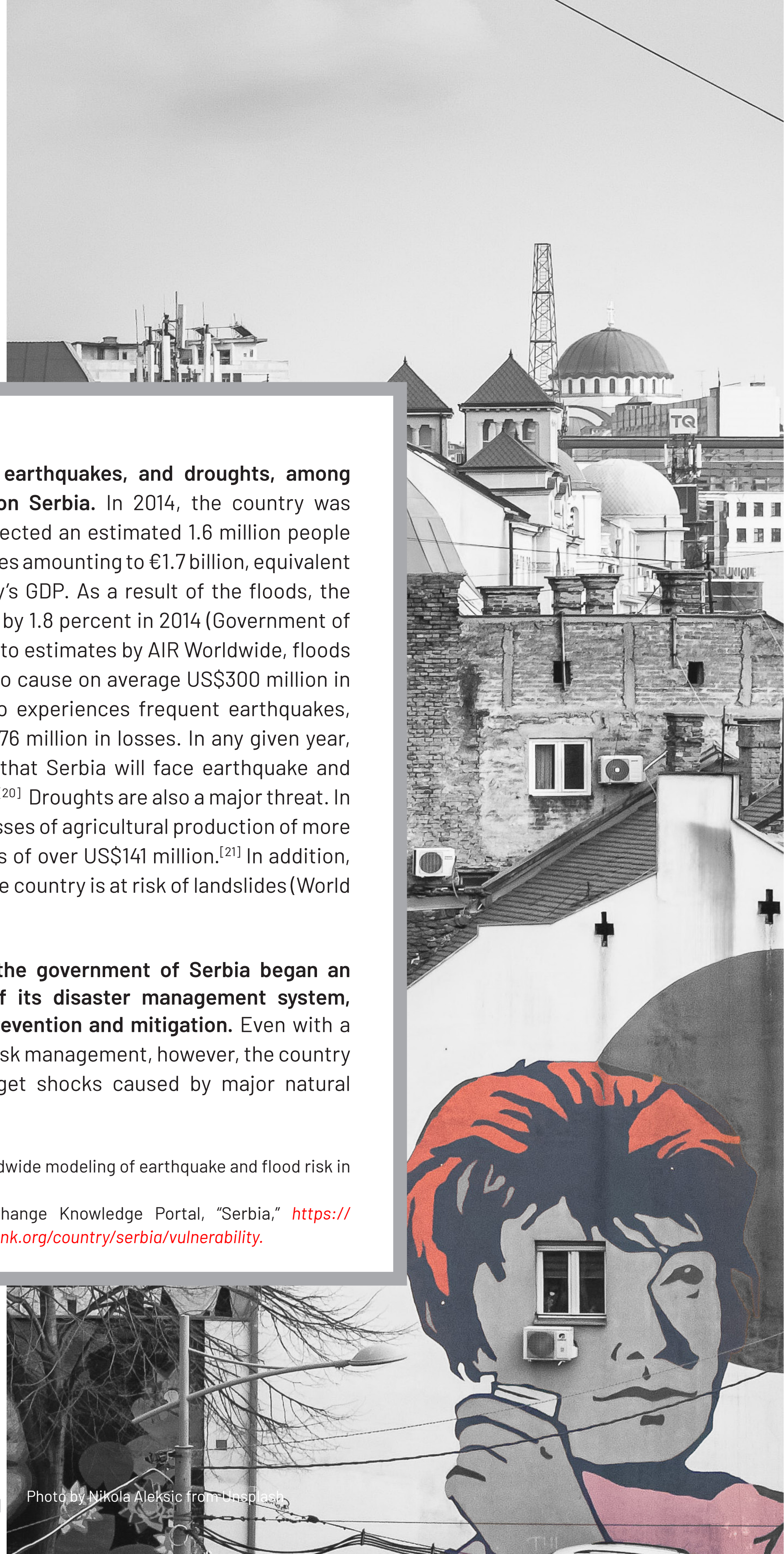


Photo by Nikola Aleksic from Unsplash

Overview of progress

Over the past four years, the Program has provided advisory assistance and high-quality analytics to the government of Serbia across three work streams. First, it assisted in disaster-related fiscal risk management by supporting the government of Serbia in setting up and operationalizing its fiscal risk unit within the Ministry of Finance (established in 2019) and by working with the new unit to quantify disaster-related contingent liabilities of government (developing an Excel-based tool). The government plans to integrate the results into Serbia's official fiscal risk statement. The Program also helped collect and collate data on disaster-related expenditures to clarify how much the government spends on disasters and to feed into the fiscal risk statement. As part of this effort, the team developed templates for the data requests—one for the central government budget and one for state-owned enterprises—that can be used to update the analysis in future years. Finally, the Program helped prepare three DRF plans for local governments.

Because of the government's interest in public asset insurance, the Program assisted the government in building a public asset registry. This assistance included a series of advisory notes on strategic design of such a registry; considerations of data needs for preparation, design, placement, and renewal of public asset insurance; a high-level assessment of asset data quality to guide data improvement considerations; and a stakeholder business needs analysis. The Program shared best practices on building such registries from the UK and elsewhere. Although the government faced pandemic-related budget constraints in building the registry, work has advanced, and the government has procured and set up an ArcGIS solution as a basis for the registry.

Lessons learned

The government needs to invest in building IT solutions, but this process should begin with identifying strategic business needs to ensure that these solutions are sustainable. Good practices show that while designing or buying an IT solution is easy, maintaining it is difficult if it does not reflect the needs of its users. This is a particularly acute concern for asset registries because these are complex systems, and the quality of data that feed into the registry will determine the quality of the decisions that are based on the registry.

When changes in government (staff) occur, the work may slow, and the Program may have to re-engage with decision-makers and repeat capacity-building activities. In Serbia, changes in government have at times created a leadership vacuum, posing a challenge to the implementation and ownership of DRF solutions. Under the circumstances it was important to re-engage with the new management, which in some cases meant repeating capacity-building programs.

Next steps

The Program will continue exploring options for scaling up the public asset registry and will seek to determine if substantial support can be provided for building the IT solution; it will also continue building the capacity of the fiscal risk unit to manage disaster-related fiscal risks. Regarding the former, a potential option is incorporating these efforts in a World Bank operation or financing them with assistance from other donors. Regarding the latter, the World Bank will assist on a just-in-time basis with the integration of disaster risks in the fiscal risk unit's analyses and outputs (e.g., fiscal risk statement), in close collaboration and coordination with the Strengthening Institutional Capacity for Fiscal Risk Monitoring and Management project.

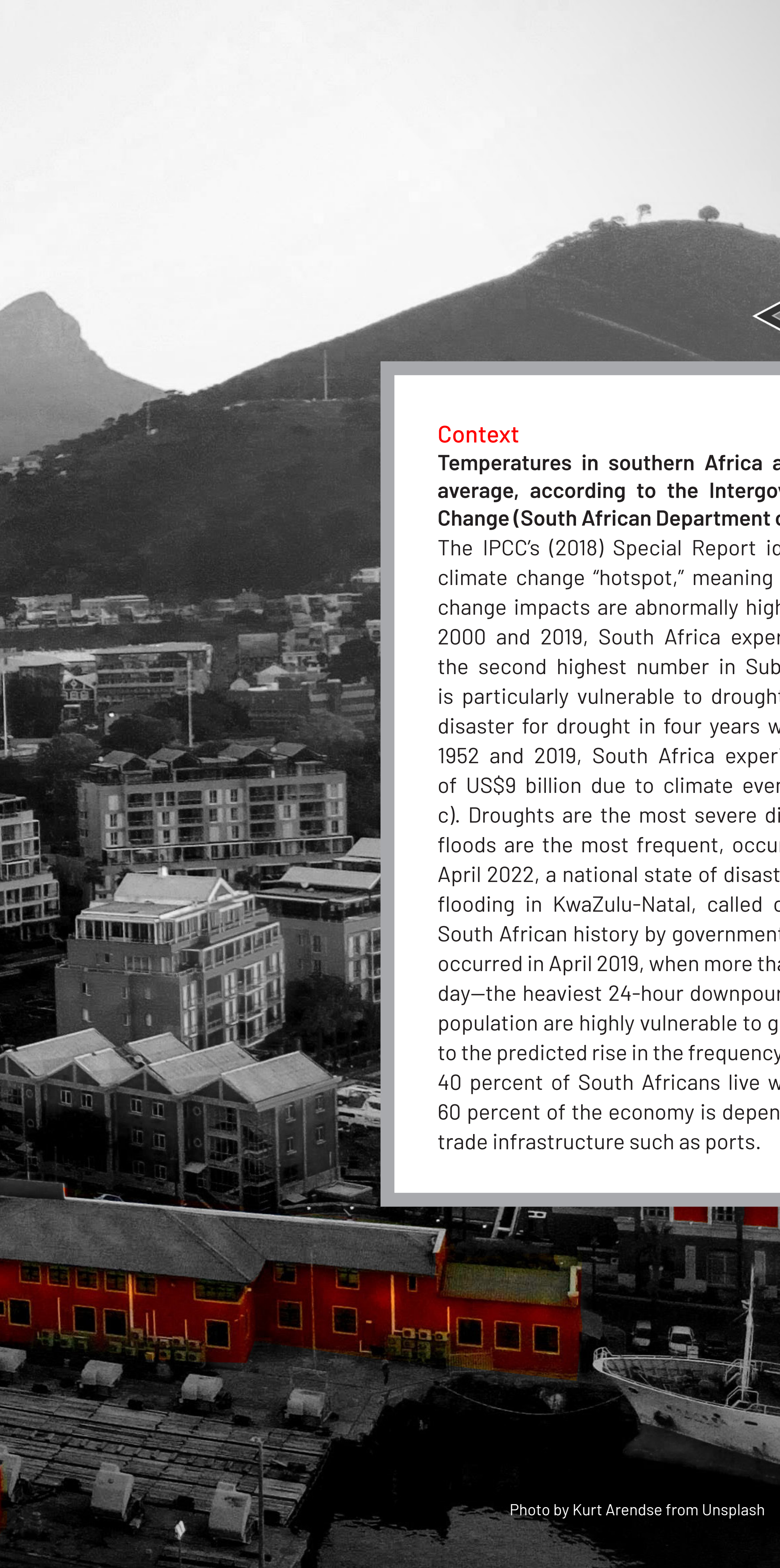


Photo by Kurt Arendse from Unsplash

SOUTH AFRICA

Context

Temperatures in southern Africa are rising at twice the global average, according to the Intergovernmental Panel on Climate Change (South African Department of Environmental Affairs 2018). The IPCC's (2018) Special Report identifies southern Africa as a climate change "hotspot," meaning it is a location where climate change impacts are abnormally high in a global context. Between 2000 and 2019, South Africa experienced 56 natural disasters—the second highest number in Sub-Saharan Africa. The country is particularly vulnerable to droughts. The third national state of disaster for drought in four years was declared in 2021. Between 1952 and 2019, South Africa experienced total economic losses of US$9 billion due to climate events (World Bank, forthcoming, c). Droughts are the most severe disaster in terms of cost, while floods are the most frequent, occurring once every two years. In April 2022, a national state of disaster was declared for the severe flooding in KwaZulu-Natal, called one of the worst disasters in South African history by government officials. Another major flood occurred in April 2019, when more than 165 mm of rain fell in a single day—the heaviest 24-hour downpour since 1985. The economy and population are highly vulnerable to global warming, and specifically to the predicted rise in the frequency and severity of coastal floods: 40 percent of South Africans live within 60 km of the coast, and 60 percent of the economy is dependent on coastal resources and trade infrastructure such as ports.

Overview of progress

The Program has accelerated the engagement with South Africa during Phase II. The World Bank prepared a policy note on the potential role of the government of South Africa in supporting the implementation of an agriculture insurance program targeting small- and medium-scale farmers. The findings were discussed with multiple stakeholders in government, including the National Treasury and the Department of Agriculture, Land Reform and Rural Development (DALRRD), as well as key actors in the private sector, including the South African Insurance Association and insurance companies. In 2022, DALRRD developed a proposal to launch a pilot program, which has been approved by its management. The final step is approval from the DALRRD Executive Committee, which will be presented with the pilot proposal in July and make a final decision.

The Program also assisted with analytics on broader disaster risk finance to support the dialogue with the government. The World Bank completed the disaster risk financing diagnostic report, whose findings were presented to key stakeholders from the National Treasury, the National Disaster Management Centre, and eThekwini and Cape Town municipalities, among others. The second presentation, which followed technical peer review of the diagnostic, was delivered after the April 2022 floods in KwaZulu-Natal—the worst floods in South African history.

Lessons learned

Governments need to understand how much disasters cost if they are to undertake risk financing, which usually has a positive impact on the budget balance despite some initial costs. South Africa's government has a strong commitment to debt consolidation. In 2021/2022, the government received large windfalls from a surge in commodity prices. The National Treasury pledged in its midterm budget to use these funds to cut the deficit and curb debt, rather than committing to new long-term spending. This means that the government may be hesitant to undertake risk financing activities, and future dialogues with the government must be sensitive to the country's fiscal considerations. While risk finance investments have a positive impact on the budget balance, they do incur initial outlays from the budget (payment of insurance premiums, locking up of funds in contingency funds for disaster response). To address this issue, the team is seeking to ensure that stakeholders understand the fiscal impacts of risk financing investments.

It is important to recognize that the nature of risk financing engagements can change rapidly and that countries are facing increasing impacts from compound shocks. Since the start of the Program's dialogue with the government on the DRF diagnostic, South Africa has experienced the COVID-19 pandemic, riots, and severe flooding events. Indeed, it was the most recent flood—the April 2022 event in KwaZulu-Natal that took over 450 lives and displaced over 40,000—that further motivated the National Treasury to assess the recommendations from the diagnostic and agree on a way forward with the World Bank.

Next steps

The Program plans to provide support to the government in two key areas: (i) the development of a DRF strategy based on the findings of the diagnostic, with support for implementing the strategic recommendations; and (ii) the implementation of an agriculture insurance pilot.

TUNISIA

Context

Tunisia is at risk from a range of natural hazards, both climate-related events (e.g., floods and droughts) and geophysical events (e.g., earthquakes). Historically droughts have happened more frequently, representing over half (54 percent) of disaster events in the period 1957–2018. Floods were most costly, in both economic and human terms: during that period, floods were responsible for over half (60 percent) of disaster-related economic losses, and they affected more people—around 560,000—than any other type of hazard (World Bank 2021g). A World Bank study indicates that annual average flood losses could amount to around 0.1 percent of Tunisia's 2018 GDP, and that in any given year there is a 0.01 percent probability of losses exceeding 1.9 percent of Tunisia's 2018 GDP (World Bank 2020b). Earthquakes are also a threat; given the vulnerability of Tunisia's building stock and the concentration of assets in areas with high seismic exposure (the north and northeast coasts), a severe earthquake could lead to losses of at least 0.7 percent of 2018 GDP (World Bank, forthcoming, b).

Over the past few years (and particularly since the 2018 Nabeul flash floods), DRF has been gaining significant momentum in Tunisia. Despite the current political instability, Tunisia is becoming increasingly aware of its exposure as climate change becomes more pronounced in the region. Of particular concern are hydrometeorological events, which are adversely affecting government budgets due to the country's (growing) financial exposure and the increasing impacts of climate change.

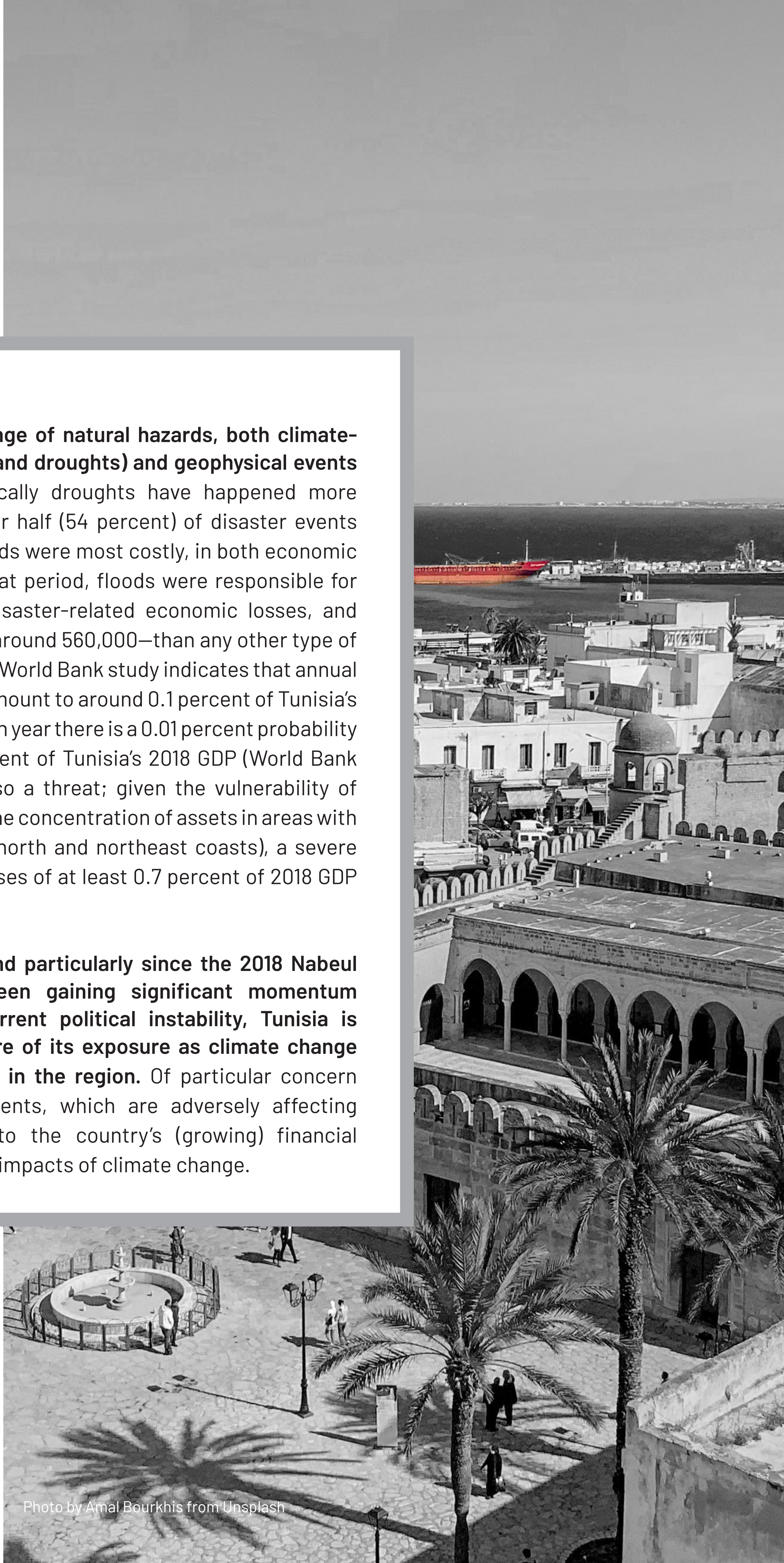


Photo by Amal Bourkhis from Unsplash

Overview of progress

The Program started the dialogue with the government of Tunisia during Phase II. During this phase, the World Bank prepared a comprehensive diagnostic focused on existing financial response mechanisms along with roles and responsibilities of DRF stakeholders; this also helped set priorities for technical assistance activities. A key priority is support for the Ministry of Finance and the insurance regulator (General Insurance Committee, CGA) in developing and implementing a comprehensive disaster risk finance and insurance strategy to increase the financial resilience of Tunisia against natural disasters. These steps paved the way for the preparation and adoption of Tunisia's integrated disaster resilience Program-for-Results (PforR), a US$100 million lending program jointly supported by the World Bank and AFD (Agence Francaise de Developpement). This program is also intended to support the government of Tunisia in improving its financial preparedness to disaster shocks.

The government has established a dedicated public-private steering committee to develop a DRF strategy; this action reaffirms the government's commitment to supporting development of private insurance solutions. The committee comprises staff from the Ministry of Finance budget and debt directorates, as well as from the insurance regulator and the federation of insurance companies. The World Bank–SECO Program assisted Tunisia in (i) building the capacity of the main stakeholders (increasing risk awareness and understanding; sharing the findings of the diagnostic); (ii) finalizing and operationalizing a database on financial assets and exposures; (iii) scoping for the actuarial models for the insurance authority; and (iv) developing and finalizing preliminary analysis and scenarios of disaster risk finance strategies (as a prerequisite to the strategy development work). Finally, a multidimensional risk assessment was conducted and finalized with the OECD on direct and indirect economic losses, such as business interruption for future climate, and new and emerging risks. This is expected to feed into the design of the national DRF strategy.

Lessons learned

Complex political context requires investing in long-term and reliable technical champions. These champions can be strategically identified within ministries and should include staff and teams who are likely to become the institutional memory of the government on specialized topics and to continue engagements beyond and despite political changes. Ongoing lending operations could also help in securing continuity. In Tunisia, for example, the PforR lending operation, supported by the Program, was able to ensure long-term commitment from authorities on the resilience agenda.

The disaster risk landscape is multidimensional and fragmented; a clear definition of roles is critical. Because of inherit interconnections and complexities in the risk landscape as well as fragmentation of responsibility within various government and nongovernment bodies, it is important to ensure clarity in roles, mandates, and the overarching legal and policy framework covering all disaster resilience dimensions (related to both finance and management). Reforms and policy actions will be faster to implement if technical assistance is targeted toward decision-makers with a clear mandate and role in the process.

Risk understanding is critical for establishing confidence and buy-in from clients in a country that has been affected by many past flood events and may be hesitant to trust external risk models and data sources. The importance of risk awareness and understanding was particularly evident when engaging with technical clients; they had developed their own understanding of risk and financial exposure, and iterative work and openness to being challenged were required in order to reach consensus—particularly concerning complex, new risk modeling and future climate event projections.

Engaging with the private sector is necessary but requires a neutral advisor perspective to avoid biased discussions and improper use of insurance. While insurance and reinsurance markets understand climate and disaster risks, their willingness to push for the implementation of mandatory large-scale insurance products makes them a biased partner. It requires time and work to ensure government clients understand the bigger picture and the most efficient role of insurance products and perquisites for the development of catastrophe insurance. This is the case in Tunisia, where the private sector is active in anticipating new demands and approaching the government.

Next steps

The Program aims to reconnect with the government now that most COVID-19 restrictions are lifted. This is to accelerate the development of a national disaster risk finance strategy, one building on prior work and technical assistance (i.e., exposure database). This work will be done in parallel with the presentation of the future climate events impact assessment, which will provide information on the most affected geographies, sectors, and populations.

The work will also continue to support the implementation of the PforR on Integrated Disaster Risk Management and Resilience and specifically work under Component 3, "Strengthening Financial Protection." This lending operation includes support to (i) the establishment of a public compensation mechanism for a vulnerable population; (ii) the design and implementation of an actuarial model for climate and disaster risks for the insurance regulator CGA; and (iii) the design of a legal framework for natural catastrophe risk insurance coverage.

Photo by Đoàn Xuân Phương from Unsplash

VIETNAM

Context

With a coastline of over 3,200 km, Vietnam is susceptible to many natural hazards—not only coastal hazards like tropical cyclones and floods but also landslides, droughts, and earthquakes. Of these hazards, tropical cyclones and floods occur most frequently and cause the most damage in monetary terms. According to EM-DAT, from 1990 to 2021, natural disasters in Vietnam affected in total almost 60 million people and caused almost US$30 billion in damages. Climate change is expected to substantially increase the frequency and severity of disasters. A World Bank study estimates that 33 percent of Vietnam's population is currently vulnerable to flooding with a 25-year return period; by 2100, this will increase to 38 percent under a less extreme climate change scenario or to 46 percent under a more extreme scenario (World Bank and ADB 2021).

Overview of progress

In Vietnam, the Program supported the creation of the enabling environment for public asset insurance. Following the issuance of the law on public asset management, the Program supported the government in issuing Decree 151, which provides for financial risk management of public assets, in part through insurance. It provided analytical training and information to help the government formulate a draft prime minister's decision on the public assets to be insured and to develop the roadmap for implementing such insurance. The draft decision was prepared by an inter-ministerial working group in consultation with members of the government and the local insurance industry. The government in 2021 decided to postpone the issuance of this decision until 2025 to allow for more preparatory work (such as further assessments), legislative preparation, and increased readiness of public asset owners/managers to buy insurance. The World Bank and Ministry of Finance are exploring a potential pilot for the insurance of public assets at the subnational level, possibly in the City of Da Nang.

In 2021, the City of Da Nang adopted a financial protection strategy against disasters and pandemic. The Program provided the city with technical support for preparing and adopting this strategy. This included a series of analytical products such as a diagnostic report, an assessment of firms' vulnerabilities to disaster and pandemic shocks, and capacity building.

Vietnam has signaled its intention to join SEADRIF, a regional platform aimed at strengthening financial resilience of Association of Southeast Asian Nations (ASEAN) countries. The Program helped the government on this path by providing analytical and advisory support; the World Bank prepared a feasibility and impact assessment of the country's access to SEADRIF in 2019. In February 2022, the government of Vietnam signed a Memorandum of Understanding to join SEADRIF as its eighth member.

Lessons learned

It is critical to build synergies to overcome fragmentation and lack of coordination in implementing DRF reforms. The Program faced delays in implementing public asset insurance because of limited coordination within government. To make progress on DRF, the engagement had to leverage various policy dialogues, sometimes at senior management level, both in Vietnam and through regional forums, including SEADRIF/ASEAN and APEC (Asia-Pacific Economic Cooperation).

Next steps

The government is interested in making progress on disaster risk finance in three areas: (i) financial risk management of public assets; (ii) agricultural risk financing; and (iii) financial resilience in the City of Da Nang.

On financial risk management of public assets, the World Bank agreed to support the Ministry of Finance in developing and implementing a pilot public asset insurance program for selected assets in some provinces and cities, including the City of Da Nang. This effort includes seeking issuance of the prime minister's decision on the list of at-risk assets for public asset insurance, developing a roadmap for implementation (building on the pilot program implementation), and building capacity in the financial protection of public assets.

On agriculture risk financing, the World Bank will work with the government to review the implementation of the first National Agricultural Insurance Pilot Program (NAIPP) between 2011 and 2013 and the ongoing agriculture insurance program started in 2020. This step aims to provide some proposals for reforms to establish a sustainable agricultural insurance program.

KNOWLEDGE MANAGEMENT

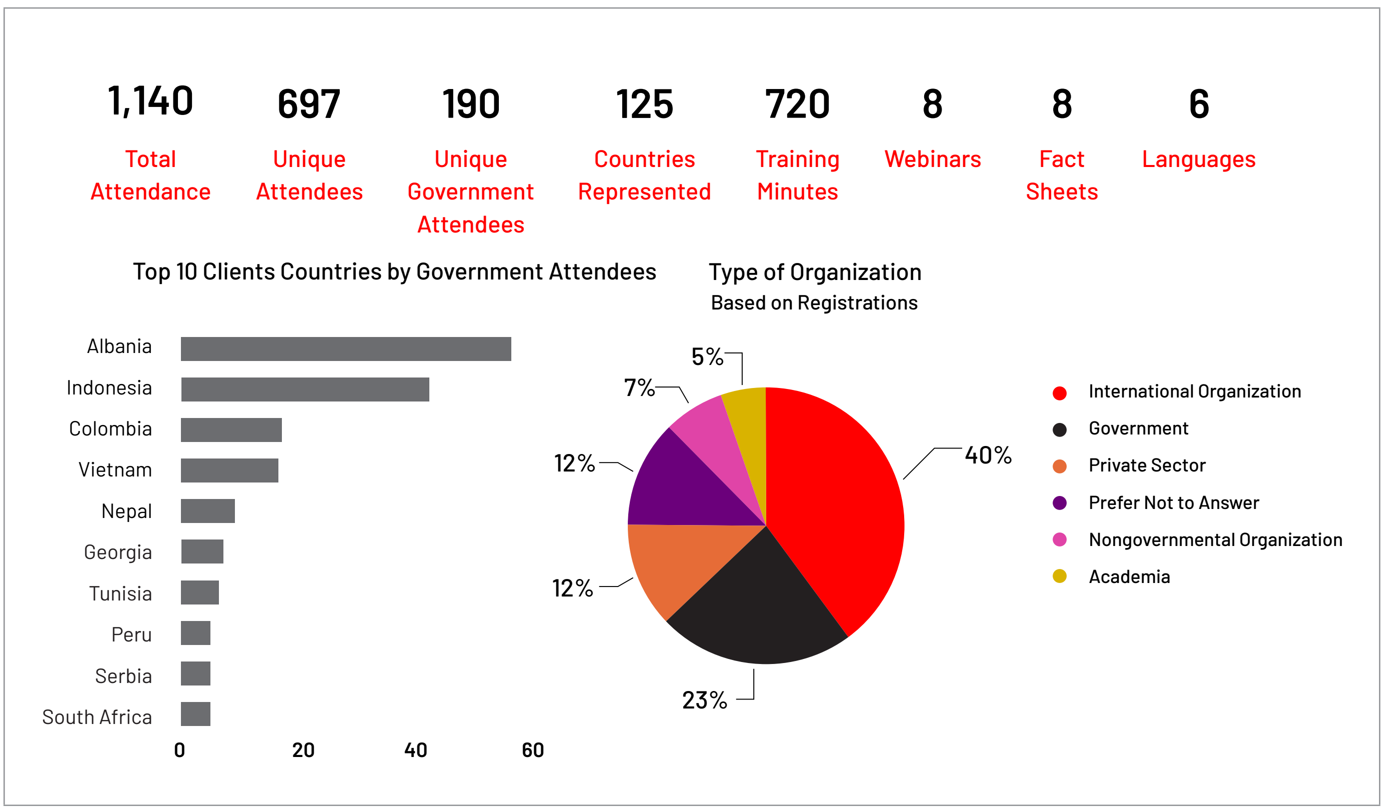
Over both phases of the World Bank–SECO Program, knowledge has been delivered mainly through country activities, and complemented through broader knowledge sharing between countries. This broader knowledge sharing includes preparing global studies that are relevant to the supported countries, but that take a global view rather than focusing on a specific country. For example, the Program financed the preparation of Impacts of Disaster Risk on Sovereign Asset and Liability Management (World Bank 2021d). This report explores applying the sovereign asset and liability management (SALM) framework as a new and comprehensive way of looking at the potential impacts of a disaster on the public sector balance sheet through assets and liabilities. The report introduces a theoretical framework to understand the potential impact of natural disasters on a country's economy and public finances. To evaluate this impact, the report discusses existing alternatives for modeling and stress-testing, as well as the challenges that arise from lack of data. The theoretical framework is applied in three case studies—focused on Peru, Serbia, and New Zealand—to derive lessons about the potential impact of natural disasters on the sovereign balance sheet and highlight the importance of accounting for disaster impacts across public sector balance sheets.

Dominic Chavez from World Bank Flickr

The Program also funded the preparation of Insuring Nature's Survival: The Role of Insurance in Meeting the Financial Need to Preserve Biodiversity (World Bank 2022b). This report explores how and to what extent insurance can play a role in meeting the increasing financial need to protect biodiversity. It outlines how the insurance sector, as underwriters, may impact and protect against biodiversity risks, leveraging approaches to climate change and catastrophe risk to highlight key opportunities and challenges that exist for insurance-based solutions for biodiversity.

Global knowledge-sharing activities, supported by the Program, also include capacity building. Starting in February 2021, the World Bank rolled out a year-long knowledge-exchange series, Building Sovereign Financial Resilience in Middle-Income Countries. This was initially planned as a series of face-to-face events, but because of the COVID-19 pandemic it was offered virtually instead. The series brought together over 1,000 participants representing 125 countries (see figure 3) and featured eight virtual sessions with seven complementary fact sheets. Each session was promoted with a teaser video and included simultaneous interpretation services in several languages (World Bank, n.d.). The series provided an opportunity to learn from achievements of the countries supported by the Program and beyond. It also aimed to empower countries to increase their financial resilience against natural disasters and their capacity to meet post-disaster funding needs. Both are key to better managing contingent liabilities related to natural disasters and to becoming more effective risk managers.

Figure 3. Results of the Knowledge Exchange Series: Building Sovereign Financial Resilience in Middle-Income Countries



Source: World Bank

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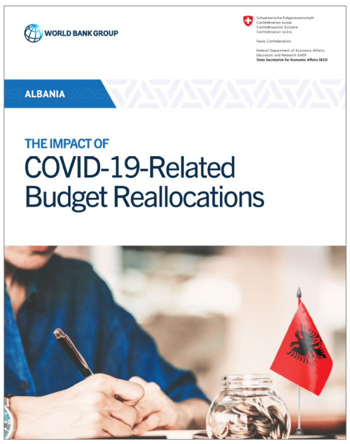
ANNEX. SELECT PROJECT-RELATED PUBLICATIONS

The table below includes publications produced as part of the work under or with support from the World Bank–SECO Program.

Albania



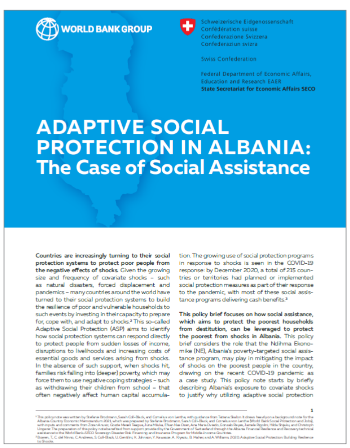
Title: "The Impact of COVID-19-Related Budget Reallocations: Albania"

Date Published: November 2021

Over View: The COVID-19 expenditure analysis for Albania (i) supports decision-making on how to finance future emergencies, including how to minimize unintended negative consequences from delayed or canceled expenditures; (ii) assesses existing budgetary instruments for managing the fiscal costs of disaster and provides options for how to strengthen them; and (iii) suggests policies to prepare financially for future emergencies.

https://www.financialprotectionforum.org/publication/the-impact-of-covid-19-related-budget-reallocations

Albania

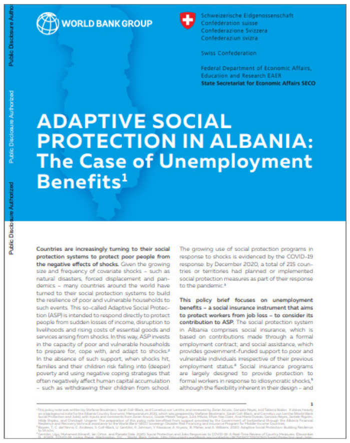


Title: "Adaptive Social Protection in Albania:The Case of Unemployment Benefits"

Date Published: June 2022

Overview: These notes summarize the results of two analyses focused on:
unemployment benefits– a social insurance instrument that was designed to protect workers from job loss; social assistance, which looks at how social assistance can be leveraged to protect the poorest from shocks in Albania.

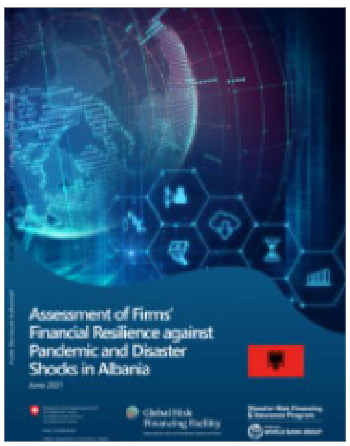
https://www.financialprotectionforum.org/publication/adaptive-social-protection-in-albania-the-case-of-unemployment-benefits



Title: “Adaptive SocialProtection in Albania: The Case of Social Assistance”

https://www.financialprotectionforum.org/publication/adaptive-social-protection-in-albania-the-case-of-social-assistance

Albania



Title: “Assessment of Firms’ Financial Resilience against Pandemic and Disaster Shocks in Albania”

Date Published: July 2021

Overview: This paper analyzes firms’ financial vulnerability by examining the impact of pandemic and disaster shocks on firms and their financial capacity to withstand external shocks. It quantifies firms’ debt at risk and variability in earnings to establish, from which a relationship can be established to understand that sheds light on employment at risk and government tax revenue at risk. Firms’ liquidity shortfall is quantified, and the cost of different financial support packages by the government is also estimated. This analysis helps inform the government’s financial planning for potential external shocks to firms.

https://openknowledge.worldbank.org/handle/10986/37258

Colombia

Title: English version: “Strategy for Disaster Risk Finance and Insurance Management: Cundinamarca Department”

http://www.urf.gov.co/webcenter/ShowProperty?nodeId=%2FConexionContent%2FWCC_CLUSTER-121510%2F%2FidcPrimaryFile&revision=latestreleased

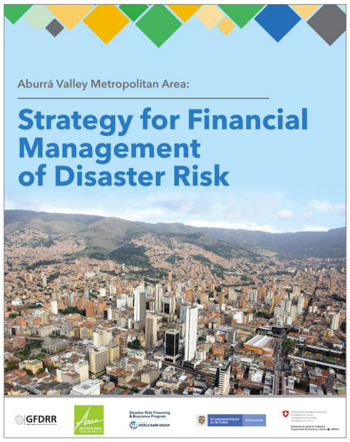
Spanish version: “Estrategia de Gestión Financiera y Aseguramiento para la Gestión del Riesgo de Desastres - Departamento de Cundinamarca”

http://www.urf.gov.co/webcenter/ShowProperty?nodeId=%2FConexionContent%2FWCC_CLUSTER-099300%2F%2FidcPrimaryFile&revision=latestreleased

Date Published: May 2019

Overview: The paper outlines the (subnational level) DRF strategy for Cundinamarca. This strategy is aligned with the objectives of the national DRF strategy but also includes as a priority the insurance of private assets and agriculture insurance.

Colombia



Title: English version: "Aburrá Valley Metropolitan Area: Strategy for Financial Management of Disaster Risk"

https://www.urf.gov.co/webcenter/ShowProperty?nodeId=%2FConexionContent%2FWCC_CLUSTER-121509%2F%2FidcPrimaryFile&revision=latestreleased

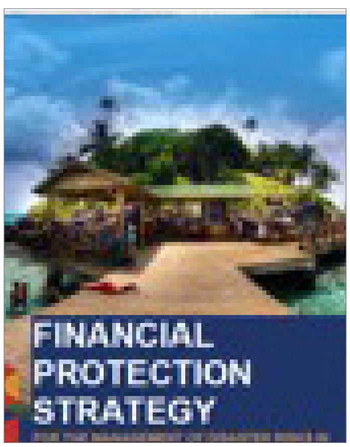
Title: Spanish version: "Área Metropolitana del Valle de Aburrá - Estrategia de Gestión Financiera ante el Riesgo de Desastres"

http://www.urf.gov.co/webcenter/ShowProperty?nodeId=%2FConexionContent%2FWCC_CLUSTER-099302%2F%2FidcPrimaryFile&revision=latestreleased

Date Published: May 2019

Overview: The paper outlines the (subnational level) DRF strategy for Aburrá Valley Metropolitan Area. This strategy is aligned with the objectives of the national DRF strategy but includes as a priority the insurance of private assets.

Colombia



Title: English version: "Financial Protection Strategy for the Management of Disaster Risk in the Archipelago Department of San Andrés, Providencia and Santa Catalina"

https://www.minhacienda.gov.co/webcenter/ShowProperty?nodeId=%2FConexionContent%2FWCC_CLUSTER-160189%2F%2FidcPrimaryFile&revision=latestreleased

Title: Spanish version: "Estrategia de Protección Financiera para la Gestión del Riesgo de Desastres para el Departamento Archipiélago de San Andrés, Providencia y Santa Catalina"

https://www.urf.gov.co/webcenter/ShowProperty?nodeId=%2FConexionContent%2FWCC_CLUSTER-121508%2F%2FidcPrimaryFile&revision=latestreleased

Date Published: December 2019

Overview: The paper outlines the (subnational level) DRF strategy for the Archipelago Department. This strategy is aligned with the objectives of the national DRF strategy but includes as a priority the insurance of private assets, sectoral assets, and assets of MSMEs (micro, small, and medium enterprises), hotels, and agriculture and fisheries (subsistence).

Colombia

Title: English version: “Financial Protection Strategy for the Management of Disaster Risk in the Putumayo Department”

https://www.minhacienda.gov.co/webcenter/ShowProperty?nodeId=%2FConexionContent%2FWCC_CLUSTER-160190%2F%2FidcPrimaryFile&revision=latestreleased

Title: Spanish version: “Estrategia de Protección Financiera para la Gestión del Riesgo de Desastres en el Departamento de Putumayo”

https://www.urf.gov.co/webcenter/ShowProperty?nodeId=%2FConexionContent%2FWCC_CLUSTER-130181%2F%2FidcPrimaryFile&revision=latestreleased

Date Published: April 2020

Overview: The paper outlines the (subnational level) DRF strategy for Putumayo Department, which is aligned with the objectives of the national DRF strategy but includes as a priority the insurance of private assets, sectoral assets, and assets of agroforestry and MSMEs.

Colombia

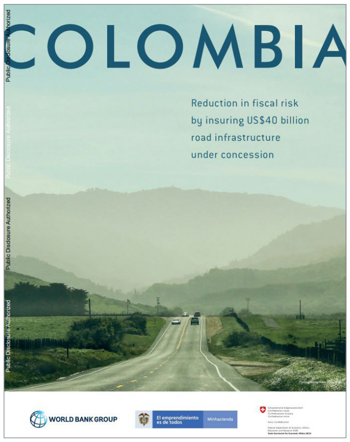
Title: “Nota Técnica, Estrategias de Protección Financiera de Riesgo de Desastres (EFPRD), a nivel nacional y territorial” [Technical note, disaster risk financial protection strategies (EFPRD), at the national and territorial level]

Date Published: August 2020

Overview: The paper provides information on developing DRF strategies at subnational level.

https://www.urf.gov.co/webcenter/ShowProperty?nodeId=%2FConexionContent%2FWCC_CLUSTER-141436%2F%2FidcPrimaryFile&revision=latestreleased

Colombia



Title: English version: "Colombia: Reduction in Fiscal Risk by Insuring US$40 Billion Road Infrastructure under Concession"

http://documents1.worldbank.org/curated/en/235241614150261707/pdf/Colombia-Reduction-in-Fiscal-Risk-by-Insuring-40-Billion-Dollars-Road-Infrastructure-under-Concession.pdf

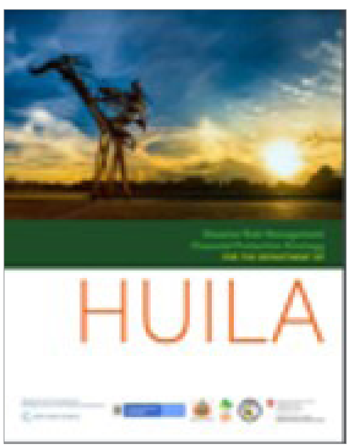
Title: Spanish version: "Colombia, Reducción Directa del Riesgo Fiscal al Asegurar Infraestructura Vial concesionada por US$ 40,000 millones"

https://documents1.worldbank.org/curated/en/224851614150967750/pdf/Colombia-Reduction-in-Fiscal-Risk-by-Insuring-40-Billion-Dollars-Road-Infrastructure-under-Concession.pdf

Date Published: March 2021

Overview: The paper describes an interinstitutional process that uses best international market practices to insure over US$40 billion of road infrastructure built through public-private partnerships for fourth generation (4G) road concessions.

Colombia



Title: English version: "Disaster Risk Management Financial Protection Strategy for the Department of Huila"

https://www.minhacienda.gov.co/webcenter/ShowProperty?nodeId=%2FConexionContent%2FWCC_CLUSTER-180347%2F%2FidcPrimaryFile&revision=latestreleased

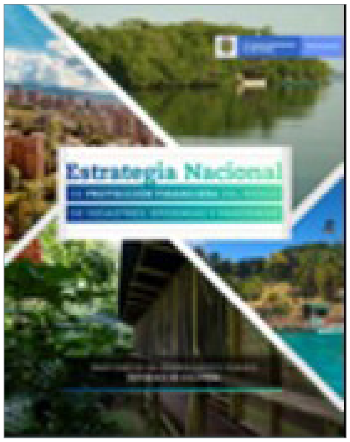
Title: Spanish version: "Estrategia de Protección Financiera para la Gestión del Riesgo de Desastres del Departamento del Huila"

https://www.minhacienda.gov.co/webcenter/ShowProperty?nodeId=%2FConexionContent%2FWCC_CLUSTER-180346%2F%2FidcPrimaryFile&revision=latestreleased

Date Published: October 2021

Overview: The paper outlines the (subnational level) DRF strategy for Huila Department, which is aligned with the objectives of the national DRF strategy but includes as a priority insurance of private assets, sectoral assets (electricity and transport sectors), agricultural and fishery assets, and assets of MSMEs.

Colombia



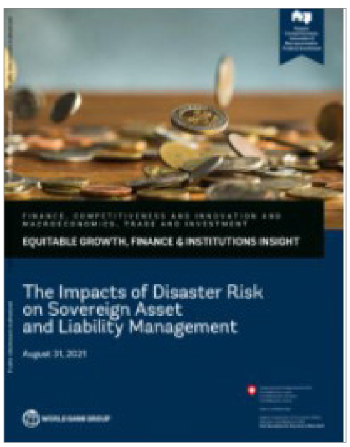
Title: "Estrategia Nacional de Protección Financiera del Riesgo de Desastres, Epidemias y Pandemias"

Date Published: October 2021

Overview: Issued by the Ministry of Finance through External Circular 030 of the General Directorate of Public Credit and National Treasury, this document presents the new National Strategy for Financial Protection from the Risk of Disasters, Epidemics and Pandemics, issued through External Circular 030 of the General Directorate of Public Credit and National Treasury. The strategy establishes a guiding framework for financial risks arising from the occurrence of natural disasters, epidemics, and pandemics, including climate change considerations.

https://www.minhacienda.gov.co/webcenter/ShowProperty?nodeId=%2FConexionContent%2FWCC_CLUSTER-180375%2F%2FidcPrimaryFile&revision=latestreleased

Global



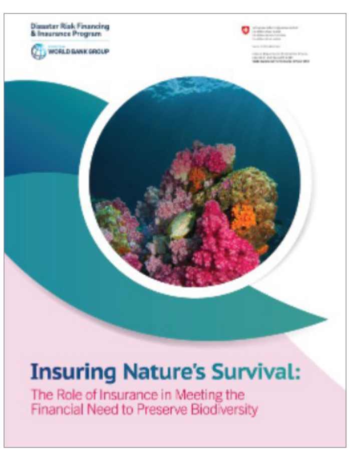
Title: "The Impacts of Disaster Risk on Sovereign Asset and Liability Management"

Date Published: 2021

Overview: Drawing on the Sovereign Asset and Liability Management (SALM) framework, which is a new and comprehensive way of looking at the potential impact of a disaster on the public sector balance sheet through assets and liabilities, this paper introduces a framework that identifies three channels through which natural disaster will impact SALM. This framework is applied in three case studies, which highlight the importance of accounting for disaster impacts across public sector balance sheets.

https://www.financialprotectionforum.org/publication/the-impacts-of-disaster-risk-on-sovereign-asset-and-liability-management

Global



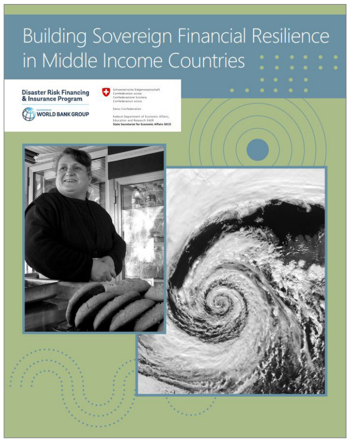
Title: "Insuring Nature's Survival: The Role of Insurance in Meeting the Financial Need to Preserve Biodiversity"

Date Published: 2022

Overview: This paper explores how and to what extent insurance can play a role in meeting the increasing financial needs to protect biodiversity. It outlines how the insurance sector, as underwriters, may impact and protect against biodiversity risks, leveraging approaches to climate change and catastrophe risk to highlight key opportunities and challenges that exist for insurance-based solutions for biodiversity.

https://www.financialprotectionforum.org/publication/insuring-natures-survival-the-role-of-insurance-in-meeting-the-financial-need-to

Global



Title: Fact sheets 1 to 7 published within Knowledge Exchange Series: Building Sovereign Financial Resilience in Middle Income Countries

Date Published: 2021 - 2022

Overview: These seven fact sheets were produced as part of the Knowledge Exchange Series on Building Sovereign Financial Resilience in Middle-Income Countries. They address the following topics: (i) managing disaster-related contingent liabilities; (ii) fiscal and financial resilience for subnational governments; (iii) managing disaster funds for response and recovery; (iv) sovereign disaster risk insurance; (v) development of catastrophe bonds for sovereign disaster risk transfer; (vi) catastrophe risk insurance market development; and (vii) data and information for sovereign disaster risk financing.

https://www.financialprotectionforum.org/knowledge-exchange-series-building-sovereign-financial-resilience-in-middle-income-countries-mics

Indonesia

Title: "Indonesia: Disaster Risk Financing and Insurance Strategy"

Date Published: December 2018

Overview: This disaster risk financing and insurance strategy was formulated by the government of Indonesia to improve Indonesia's resilience against disasters, ensure sustainable development programs, and protect public finance. It describes the current risk financing regulatory framework and scheme, estimates past and expected future disaster losses, and provides a roadmap for implementing the strategy.

https://fiskal.kemenkeu.go.id/publikasi/pembiayaan-dan-asuransi-risiko-bencana

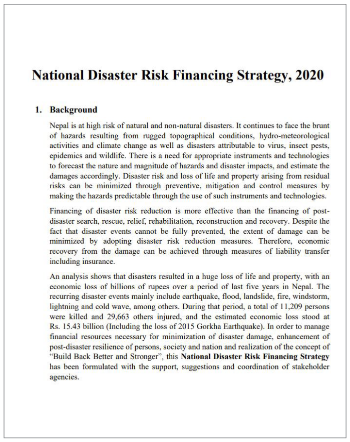
Nepal

Title: "Assessment of Contingent Liabilities from Natural Disasters in Nepal"

Date Published: 2021

Overview: This report identifies and estimates the Nepalese government's contingent liabilities from natural disasters. It provides an overview of the current risk landscape; and identifies challenges in managing disaster risks; and offers options on how to strengthen the management of disaster-related contingent liabilities. Expenditures made in response to disasters are referred to as disaster-related contingent liabilities (OECD 2017) and arise only if a disaster happens. This report uses two methodologies to estimate the value of the government's contingent liabilities from natural disasters: direct estimation, using historical expenditure data, and indirect estimation, using probabilistic modeling.

Nepal



National Disaster Risk Financing Strategy, 2020

1. Background

Nepal is at high risk of natural and non-natural disasters. It continues to face the brunt of hazards resulting from rugged topographical conditions, hydro-meteorological activities and climate change as well as disasters attributable to virus, insect pests, epidemics and wildlife. There is a need for appropriate instruments and technologies to forecast the nature and magnitude of hazards and disaster impacts, and estimate the damages accordingly. Disaster risk and loss of life and property arising from residual risks can be minimized through preventive, mitigation and control measures by making the hazards predictable through the use of such instruments and technologies.

Financing of disaster risk reduction is more effective than the financing of post-disaster search, rescue, relief, rehabilitation, reconstruction and recovery. Despite the fact that disaster events cannot be fully prevented, the extent of damage can be minimized by adopting disaster risk reduction measures. Therefore, economic recovery from the damage can be achieved through measures of liability transfer including insurance.

An analysis shows that disasters resulted in a huge loss of life and property, with an economic loss of billions of rupees over a period of last five years in Nepal. The recurring disaster events mainly include earthquake, flood, landslide, fire, windstorm, lightning and cold wave, among others. During that period, a total of 11,209 persons were killed and 29,663 others injured, and the estimated economic loss stood at Rs. 15.43 billion (Including the loss of 2015 Gorkha Earthquake). In order to manage financial resources necessary for minimization of disaster damage, enhancement of post-disaster resilience of persons, society and nation and realization of the concept of "Build Back Better and Stronger", this **National Disaster Risk Financing Strategy** has been formulated with the support, suggestions and coordination of stakeholder agencies.

Title: "National Disaster Risk Financing Strategy, 2020"

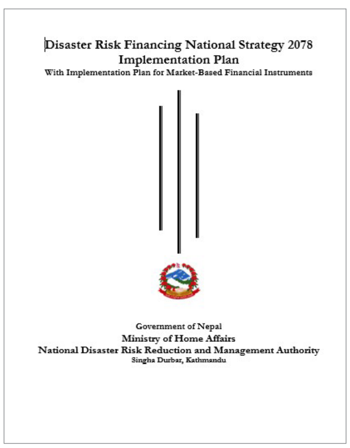
Date Published: 2020

Overview: Nepal is at high risk of natural and non-natural disasters resulting from its rugged topographical conditions, hydro-meteorological activities and climate change, as well as its exposure disasters attributable to viruses, insect pests, epidemics, and wildlife. There is a need for appropriate instruments and technologies to forecast the nature and magnitude of hazards and disaster impacts and estimate the damages accordingly.

This National Disaster Risk Financing Strategy was formulated with the input of stakeholder agencies and supports Nepal in managing financial resources necessary to minimize disaster damage, support resilience of individuals, society, and the nation. It includes the concept of "Build Back Better".

https://www.preventionweb.net/publication/nepal-national-disaster-risk-financing-strategy

Nepal



Disaster Risk Financing National Strategy 2078
Implementation Plan
With Implementation Plan for Market-Based Financial Instruments

Government of Nepal
Ministry of Home Affairs
National Disaster Risk Reduction and Management Authority
Singha Durbar, Kathmandu

Title: "Disaster Risk Financing Strategy Implementation Plan for Market-Based Instruments: National Strategic Plan of Action, 2078"

Date Published: 2021

Overview: This implementation plan is intended to be reviewed/amended periodically. It incorporates short, medium and long-term plans of actions to arrange the financial resources to minimize the disaster risks by the government of Nepal.

Peru


PERÚ Ministerio de Economía y Finanzas

LINEAMIENTOS PARA EL DISEÑO DE CONTRATOS DE ASOCIACIÓN PÚBLICO PRIVADA

2019

Title: "Lineamientos para el Diseño de contrataciones de asociaciones público privadas – incluye régimen de seguros" [Guidelines for the design of contracts for public-private partnerships – includes insurance regime]

Date Published: May 2019

Overview: This document presents guidelines for the implementation of public-private partnership projects based on best national and international practices. It includes recommendations for the insurance regime.

https://www.mef.gob.pe/contenidos/archivos-descarga/Lineamientos_disenno_contratos_APP.pdf

Peru

Title: "Reglamento para la Constitución de la Reserva de Riesgos Catastróficos y de Siniestralidad Incierta" [Regulation for the constitution of catastrophic risks reserve and uncertain claims and its technical note]

Date Published: 2019

Overview: The document, developed by SBS and CISMID (Peruvian-Japanese Center for Seismic Research and Disaster Mitigation), deals with the technical basis for estimating earthquake and tsunami losses for insurance purposes regulation established the new procedure for calculating the catastrophe risks provision as well provides the Technical Note.

Peru


Grupo de Trabajo de Manejo de Riesgos Catastróficos de la Alianza del Pacífico profundiza análisis sobre riesgos hidrometeorológicos

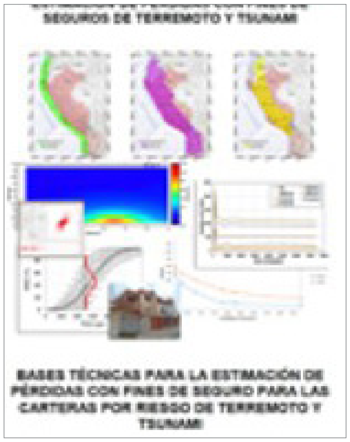
Title: "Grupo de Trabajo de Manejo de Riesgos Catastróficos de la Alianza del Pacífico profundiza análisis sobre riesgos hidrometeorológicos" [The Pacific Alliance Catastrophic Risk Management Working Group deepens analysis on hydrometeorological risks]

Date Published: December 2020

Overview: This press release describes advances by the Pacific Alliance in the analysis and modeling of hydrometeorological risks, and the possible issuance of a risk transfer instrument.

https://www.mef.gob.pe/index.php/?option=com_content&view=article&id=6816&Itemid=101108&lang=es

Peru



Title: "Bases Técnicas para la estimación de Pérdidas con fines de seguro para las carteras por riesgo de terremoto y tsunami" [Technical note for estimating losses for insurance for earthquake and tsunami risk portfolios]

Date Published: 2020-2021

Overview: The document, developed by SBS and CISMID, deals with the technical basis for estimating earthquake and tsunami losses for insurance purposes.

Vietnam

Title: "City of Da Nang: Strategy for Financial Management of Disaster and Pandemic Shocks"

Date Published: December 2020

Overview: The City of Da Nang is vulnerable to climate and disaster risks such as typhoons and floods. The COVID-19 pandemic further increased the City's susceptibility to these risks. Supported by analytics delivered through the Program (including a disaster risk finance diagnostic and tools for assessing the financial impact of disasters on governments and firms), the City prepared a strategy for sustainable management of disasters and pandemics for the period 2021-2025. This strategy set out financial and non-financial solutions to help the City's government, households and businesses become more financially resilient to the impact of disaster and pandemic shocks.

Disaster Risk Financing & Insurance Program

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