Global Facility
for Disaster Reduction
and Recovery

ANNUAL REPORT

'23

GFDRR

BRINGING RESILIENCE TO SCALE

Türkiye earthquake. Photo: © Jorge Villalpando/World Bank.

Bringing resilience to scale

1818 H Street, N.W., Washington, D.C., 20433, U.S.A.

Notes: Fiscal year (FY) runs from July 1 to June 30; the financial contributions and expenditures reported are reflected up to June 30, 2023; all dollar amounts are in U.S. dollars ($) unless otherwise indicated.

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GFDRR MEMBERS

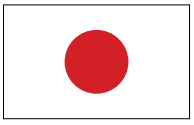

AUSTRALIA


AUSTRIA


CANADA


GERMANY

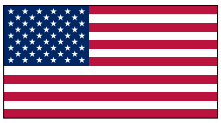

ITALY


JAPAN


NORWAY


SWEDEN


SWITZERLAND


UNITED STATES


EUROPEAN UNION

GFDRR
Global Facility for Disaster Reduction and Recovery

Administered by
THE WORLD BANK
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Table of Contents

The Ping River broke its banks flooding areas of Muang district, Thailand. Photo: © Will Langston.

Foreword

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Global Director, Urban,
Disaster Risk Management,
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Global Practice

Since its inception in 2006, the Global Facility for Disaster Reduction and Recovery (GFDRR) has been the most effective technical assistance partner for supporting countries and communities in understanding, managing, and mitigating their disaster risks. Committed to going beyond building back better, GFDRR has championed the importance of "building better before," blunting the catastrophic impact of disasters by prioritizing the development of resilient physical and social infrastructure. These efforts align closely with—and contribute significantly to—broader global objectives that aim to combat climate change.

GFDRR supports countries in implementing the Sendai Framework for Disaster Risk Reduction, the 2030 Agenda for Sustainable Development, and the Paris Agreement—a commitment that is reflected in its dynamic presence in global forums, where its robust role in shaping disaster risk management strategies is highlighted. During the reporting period for this annual report, in November 2022, GFDRR participated at the United Nations (UN) Climate Change Conference (COP27) held in Sharm el-Sheikh, Egypt, where it unpacked key issues behind the financing shortage for investments in nature-based solutions and convened local leaders and civil society to discuss urban resilience. At the High-Level Meeting of the General Assembly on the Midterm Review of the Sendai Framework for Disaster Risk Reduction 2015-2030 in May 2023, GFDRR was a panelist in two significant discussions about the vital role of risk-informed local strategies in resilient urban development and the ongoing challenges in implementing gender-responsive disaster risk reduction. The Midterm Review of the Sendai Framework clearly indicates that countries need to speed up their implementation of action to reduce and better manage disaster risk to achieve the Sendai targets: a reminder that GFDRR's mission today is more relevant and maybe more important than ever.

GFDRR influences the global discourse, but its role is almost entirely devoted to contributing to the implementation of the disaster risk management objectives defined by the global community. And as evidenced by the outputs, outcomes, and impact documented in this annual report, GFDRR is in a unique position to help countries around the world strive for greater impact in this effort and to help them do it in an inclusive way and in challenging governance contexts such as those of the most fragile and conflict-affected countries.

While GFDRR has made significant strides—since FY15, GFDRR grants have influenced over $42 billion of financing from the World Bank—it is in a position to do much more with more grant resources. Through its technical assistance, knowledge development, and knowledge sharing initiatives, as well as its efforts to engage a wide range of partners, GFDRR has solidified its status as a key player in disaster risk management. It generates and disseminates expertise on disaster-resilient development and provides technical assistance and capacity building that enables decision-makers at local and national levels to inform policy and investment decisions that are financed by countries, sometimes with development finance. The impact of GFDRR's contribution this year has been possible because of the continued support it gets from partners who believe in its mission.

GFDRR will continue to improve how it tracks and communicates its impacts and continues to learn how to become even more efficient in influencing disaster risk management at a time when the world needs it more than ever. With even stronger partner support GFDRR could amplify its collective impact, driving forward innovative, inclusive, and powerful solutions for disaster resilience.

Learning about the weather and weather stations. Photo: © SolStock.

How GFDRR Works

GFDRR's vision is a world where communities and countries are more resilient to natural hazards, climate risks, and other shocks, and where the human and economic costs of disasters are reduced.

MISSION

GFDRR helps communities and countries reduce risk and prepare for, and recover from, disasters by integrating disaster risk management and climate change adaptation into development strategies and programs. Through these actions, GFDRR supports countries to implement the Sendai Framework for Disaster Risk Reduction, the 2030 Agenda for Sustainable Development, and the Paris Agreement.

OPERATING PRINCIPLES

GFDRR supports activities and prioritizes resources based on the following operating principles:

1. *Activities are demand driven*. Funded activities respond to specific requests from national and subnational authorities that are informed by the needs and priorities of communities, ensuring the necessary ownership needed to achieve positive results.
2. *Activities are socially inclusive*. GFDRR is committed to ensuring inclusive and equitable interventions; supporting community-driven development and capacity building; and engaging all people, regardless of their gender, race, religion, ethnicity, age, sexual orientation, or ability.
3. *Activities are results focused*. GFDRR will continue to assess all activities prior to funding for links to advance its cross-cutting themes of social inclusion; gender equality; and fragility, conflict, and violence; as well as its potential to mobilize additional financing. It will also monitor and evaluate implementation of this strategy to improve portfolio performance, increase learning and knowledge exchange, strengthen accountability, and inform decision-making.

IN-COUNTRY ENGAGEMENTS

GFDRR channels funding to in-country engagements that help strengthen local capacity and awards grant resources based on criteria aligned with its operating principles. Core to GFDRR's vision is helping countries bring resilience to scale. As such, many of the activities target interventions that mobilize larger development programs. GFDRR operates across six regions: Africa, East Asia and Pacific, Europe and Central Asia, Latin America and the Caribbean, Middle East and North Africa, and South Asia.

IMPLEMENTATION

GFDRR's funding of upstream analytical, advisory, and technical assistance work provides the basis for countries to pursue the institutional and policy reform needed for strengthening disaster risk management. Its expertise and innovative tools also inform the design and implementation of investments in risk reduction, risk financing, emergency preparedness, and disaster recovery through the World Bank and development partners. Together, GFDRR's funding of technical assistance and its own best available global expertise collectively contributes toward the mainstreaming of disaster risk management and climate resilience in national policy development, budgeting, and planning.

UMBRELLA PROGRAM

GFDRR is an Umbrella Program comprised of one anchor Multi-Donor Trust Fund (MDTF) and four Associated Trust Funds (ATFs), with the potential to expand to include additional ATFs over time. Together, these five trust funds are working across GFDRR's four priority areas and two cross-cutting priority areas, which have been delineated in the 2021-2025 GFDRR Strategy that seeks to achieve GFDRR's strategic objectives.

PRIORITY AREAS

GFDRR supports inclusive disaster and climate resilience globally, according to four priority areas and two cross-cutting priority areas, as outlined in its Strategy.

Priority 1
Risk-informed decision-making

Priority 2
Reducing risk and mainstreaming disaster risk management

Priority 3
Financial preparedness to manage disaster and climate shocks

Priority 4
Disaster preparedness and resilient recovery

Cross-Cutting Priority Area
Scaling Inclusive disaster risk management and gender equality

Cross-Cutting Priority Area
Addressing the disaster–fragility, conflict, and violence (FCV)

Overview

The impacts of natural hazards and climate change are on the rise globally, affecting people, assets, and economic growth and causing detrimental setbacks to development gains, especially in lower-income countries and fragility, conflict, and violence (FCV)-affected states. To address this challenge, the Global Facility for Disaster Reduction and Recovery (GFDRR) has helped tackle this challenge by assisting communities and countries reduce risk and prepare for, and recover from, disasters by integrating disaster risk management (DRM) and climate change adaptation into development strategies and programs. GFDRR also plays a key role in implementing the World Bank Group's comprehensive toolkit for crisis preparedness, response, and recovery, especially by linking crisis preparedness with financing, particularly in lower-income countries eligible for International Development Association (IDA) financing.

GFDRR continues to pioneer new horizons in DRM by utilizing innovative technology and tools such as digital Earth, artificial intelligence, and social media to better understand disaster risks. It employs creative approaches for climate adaptation, including the use of nature-based solutions alongside established methodologies for resilient infrastructure. Vulnerable populations—such as women, disabled individuals, and those in fragile or conflict-ridden situations—are affected by disasters more severely and often require specific strategies to become more resilient. Thus, GFDRR prioritizes the inclusion of marginalized and vulnerable groups in disaster risk reduction efforts and addresses the interconnections between disasters and conflict to foster resilience in fragile and conflict-affected contexts.

GFDRR aligns its activities with key international frameworks to enhance global resilience and sustainability. Its initiatives resonate with the Sendai Framework for Disaster Risk Reduction, focusing on reducing disaster damage and enhancing preparedness. GFDRR's projects contribute to achieving the goals of the Paris Agreement on climate change adaptation, underscoring the importance of sustainable environmental practices. Furthermore, these efforts are linked to the Sustainable Development Goals (SDGs), contributing significantly to goals such as sustainable cities, climate action, and reducing inequalities, thereby encapsulating a holistic approach to sustainable development and resilience.

GFDRR strategically funds activities that mobilize greater development financing and utilizes its technical expertise to advise governments and World Bank teams in managing multiple and simultaneous risks. It also contributes to the global knowledge pool on DRM through cutting-edge research, ensuring practical application and developing findings into innovative tools for in-country projects.

GFDRR's partnerships—including donor countries, technological partners, international organizations, and multilateral development banks, as well as civil society groups, academia, and the private sector—are crucial in this endeavor. As the World Bank evolves to meet new challenges, GFDRR remains integral to this transformation, continuing to be at the heart of World Bank's work on crisis preparedness and resilience-building for countries and communities.

About the *Annual Report*

Established in 2006, GFDRR is a global partnership that helps low- and middle-income countries better understand and reduce their vulnerability to natural hazards and climate change. GFDRR has been instrumental in assisting the World Bank emerge as the largest multilateral funder of climate investment and the global leader in DRM.

In FY22, GFDRR transitioned into an umbrella trust fund structure. The umbrella started with one anchor Multi-Donor Trust Fund (MDTF) and two Associated Trust Funds (ATFs), which expanded to four in FY23.[1] Together, these five trust funds work across GFDRR's four priority areas and two cross-cutting priority areas, which have been delineated in the 2021-2025 GFDRR Strategy.

While mainly highlighting the Umbrella Program–funded activities (see the figure on page xiv), some narratives about GFDRR's impact might include projects initially financed by standalone trust funds that will eventually join the Umbrella because the grant funding predated the Umbrella Program's establishment.

GFDRR achieves its impact through World Bank operations across 14 thematic areas. These areas align with the strategic priorities of Sendai Framework and are structured in accordance with the priorities and cross-cutting areas of GFDRR's 2021-2025 Strategy.[2] The implementation and monitoring of this strategy are steered by GFDRR's Theory of Change (see page xv), which encompasses four Strategic Objectives. Each of these objectives contributes to one or more of the Sendai Framework's four Priorities for Action. Resilience to climate change is addressed in all thematic areas.

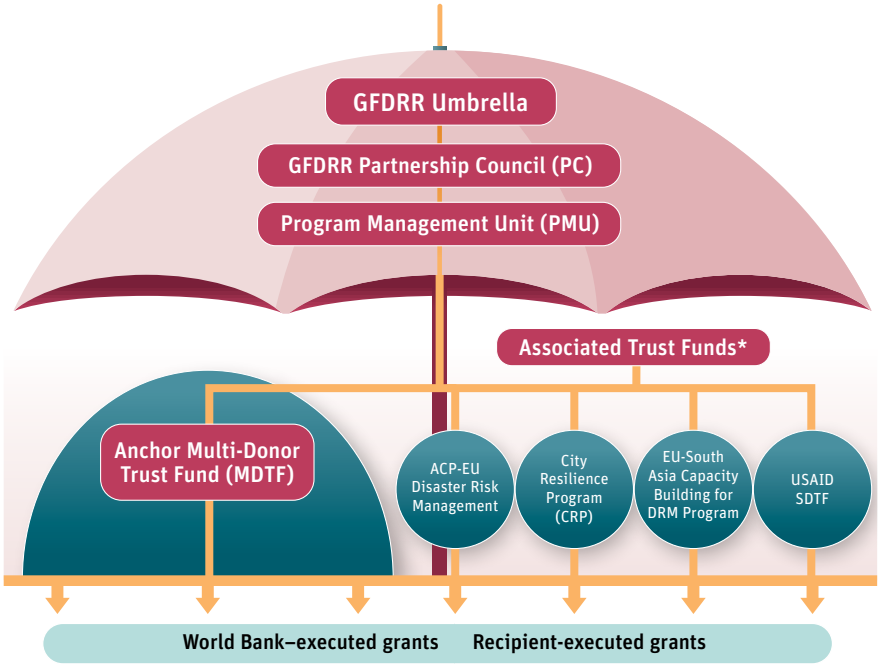
[1] Under the new structure, GFDRR's third Multi-Donor Trust Fund (MDTF III) is the anchor trust fund. The United States Agency for International Assistance (USAID's) Single-Donor Trust Fund for Mainstreaming Disaster Risk Management in Developing Countries; the Multi-Donor Trust Fund for the City Resilience Program (CRP); the Africa, Caribbean and Pacific - European Union Disaster Risk Management (ACP-EU DRM) Program; and the EU-South Asia Capacity Building for Disaster Risk Management Program (EU-SAR DRM) are the four ATFs.

[2] The 14 thematic areas often contribute to more than one priority and cross-cutting area, but these have been grouped according to the priority to which the thematic area contributes to the most.

GFDRR's Strategic Objectives, Priorities, and Thematic Areas

GFDRR's Strategic Objective	Priority/Cross-Cutting Priority Area	Thematic Areas
Objective 1: Evidence and knowledge on effective disaster and climate resilience approaches are generated and shared for improved policy and practice.	**PRIORITY 1** Risk-Informed Decision-Making	1. Digital Earth 2. Disaster Risk Analytics
Objective 2: Risk-informed development is adopted at national, subnational, and community level, using integrated, inclusive, and participatory approaches.	**PRIORITY 2** Reducing Risk and Mainstreaming Disaster Risk Management	3. Building Regulations for Resilience 4. City Resilience 5. Climate and Disaster Risk Management for Health Systems 6. Nature-Based Solutions (NBS) 7. Resilient Housing 8. Resilient Infrastructure 9. Safer Schools
Objective 3: Governments in vulnerable countries have access to additional investments for scaling up disaster and climate resilience building.	**PRIORITY 3** Financial Preparedness to Manage Disaster and Climate Shocks	10. Disaster Risk Finance
Objective 4: Disaster preparedness and resilient recovery capacity are increased at national, sub-national, and community levels.	**PRIORITY 4** Disaster Preparedness and Resilient Recovery	11. Emergency Preparedness and Response (EP&R) 12. Hydromet Services and Early Warning Systems
	CROSS-CUTTING PRIORITY AREA Addressing the Disaster–Fragility, Conflict, and Violence (FCV) Nexus	13. Disaster-FCV Nexus
	CROSS-CUTTING PRIORITY AREA Scaling Inclusive Disaster Risk Management and Gender Equality	14. Inclusive DRM and Gender Equality

Schematic of GFDRR-Managed Trust Funds in FY23



Trust Funds outside of the GFDRR Umbrella Program

- Canada-Caribbean Resilience Facility (CRF)

European Union (EU)

- Caribbean Regional Resilience Building Facility (CRRBF)
- Strengthening Financial Resilience and Accelerating Risk Reduction in Central Asia

- Japan–World Bank Program for Mainstreaming Disaster Risk Management in Developing Countries (Japan Program Phase II)

Note: ACP-EU = Africa, Caribbean and Pacific - European Union; ATF = Associated Trust Fund; SDTF = Single-Donor Trust Fund; USAID = United States Agency for International Development.

* The GFDRR Japan–World Bank Program for Mainstreaming Disaster Risk Management in Developing Countries for Global Resilience - Phase 3 became effective as a new ATF under the GFDRR Umbrella Program on June 29, 2023. Hence it is not included in FY23's annual progress reporting.

Looking Forward

Ongoing global efforts continue to make progress toward the priorities laid out in the Sendai Framework. As GFDRR moves on to FY24, it recognizes that, despite important advances, progress across countries remains uneven, as described by the Midterm Review of the Sendai Framework. For example, access to comprehensive disaster risk data and preventive infrastructure, including early warning systems, is still lacking in many countries and regions. These unequal developments signal a need for both targeted technical support and more concerted action.

The escalating economic costs of disasters also highlight a critical gap in financing for disaster risk reduction and underscore the importance of enhancing the quality of planning and infrastructure design. Quantifying risk-informed financing within public and private investments remains a challenge and requires dedicated attention to embed resilience more effectively. Meanwhile, the rising demand for DRM support spans both protracted crisis zones and countries recovering from recent disasters.

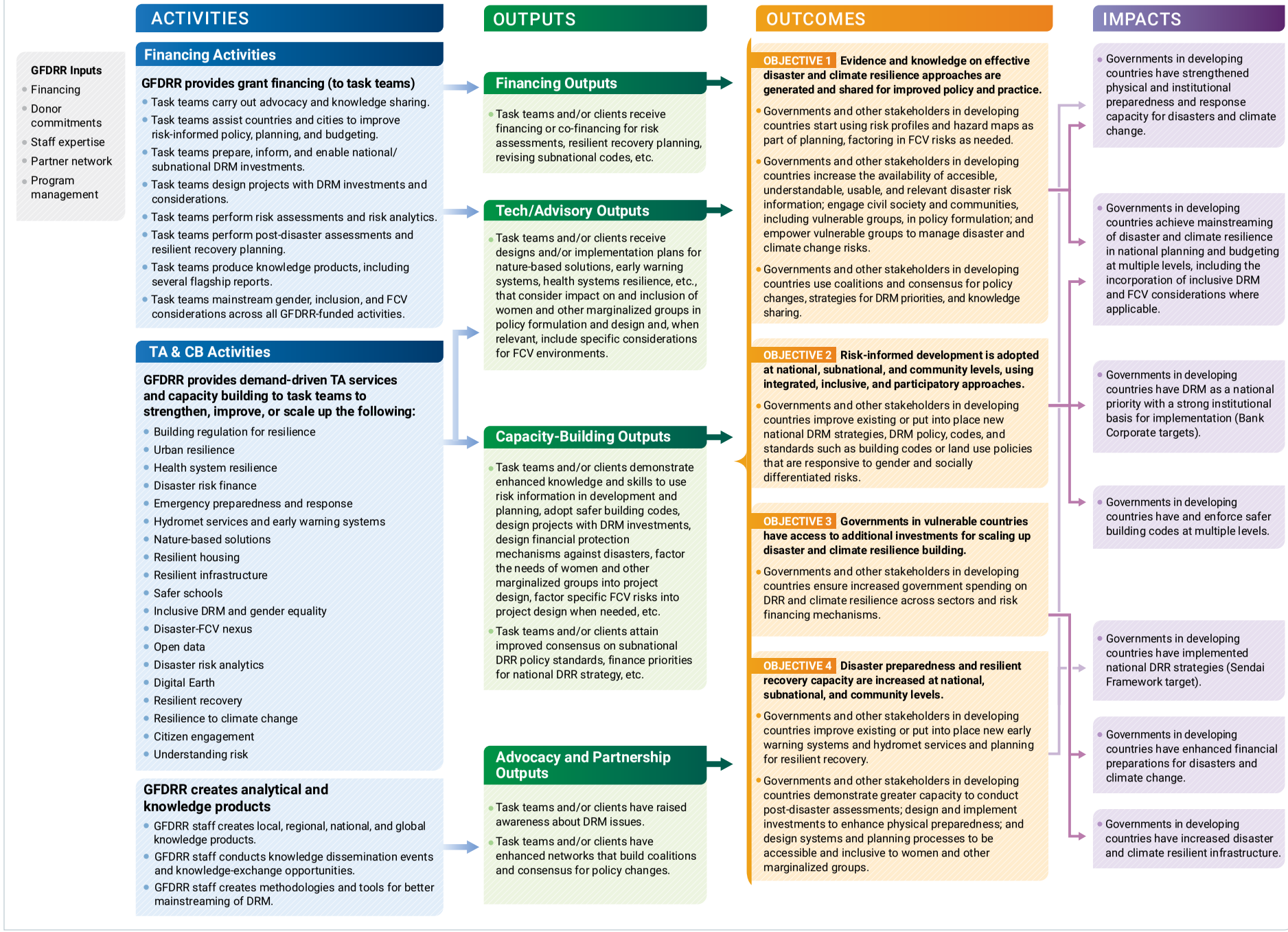
Key areas of focus for GFDRR assistance in FY24 will include, but will not be limited to, refining building codes, promoting nature-based solutions, strengthening emergency preparedness and response, utilizing advanced risk analytics tools, promoting the application of new technologies in DRM and nature-based solutions, and enhanced support for fragile and conflict-affected contexts. Understanding the interconnectedness of multiple crises (and their multidemensional effects) as contributors to global challenges also demands an urgent exploration of the disaster-FCV nexus[3] for more emphasis on preparedness and robust recovery and reconstruction.

Mobilizing additional development financing will remain one of the key impact indicators for GFDRR. With heightened demand from countries to support the development of disaster risk financing strategies, GFDRR will continue to develop analytics to highlight the rationale and policy matrices for Catastrophe Deferred Drawdown Options (Cat DDOs), including a focus on gender and inclusion. It will also continue to boost regional disaster risk insurance pools, implement inclusive and efficient disaster risk financing systems for adaptive social protection, and enhance capacity in risk-based asset management.

To further amplify its impact, GFDRR will sustain existing partnerships and forge new ones. By fostering such partnerships, GFDRR aims to influence development finance mobilization, build capacities for disaster risk reduction, and contribute to the advancement of DRM worldwide.

[3] Fragility, conflict, and violence (FCV)-affected countries mentioned throughout the report are highlighted in orange.

GFDRR Theory of Change



Note: CB = capacity building; DRM = disaster risk management; DRR = disaster risk reduction; FCV = fragility, conflict, and violence; TA = technical assistance.

FY23 IN NUMBERS: BRINGING RESILIENCE TO SCALE

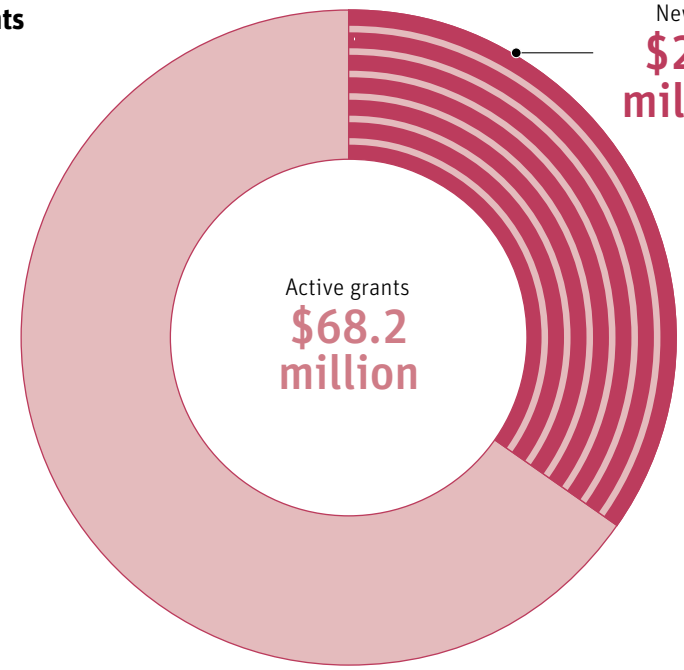
GFDRR's portfolio continued to grow globally during FY23. Highlights of the portfolio's progress and contributions to resilience are shown below.

Closed grants aligned with the Sendai Framework **100%**

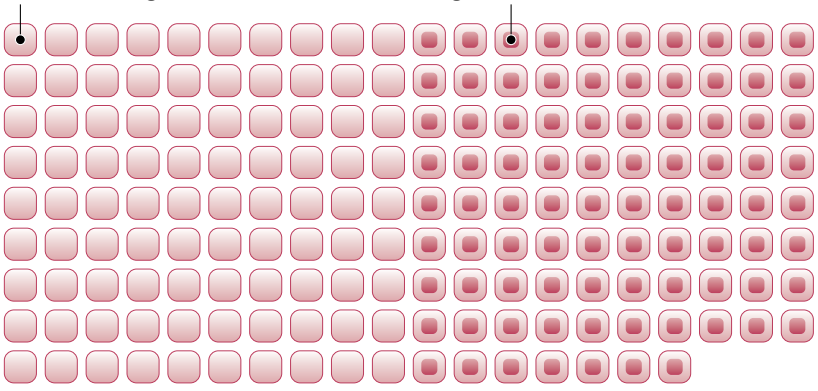
Newly approved grants that are gender informed **94%**

Closed grants that supported resilience to climate change **86%**

All grants



177 **active grants**, of which **87** are **new grants***



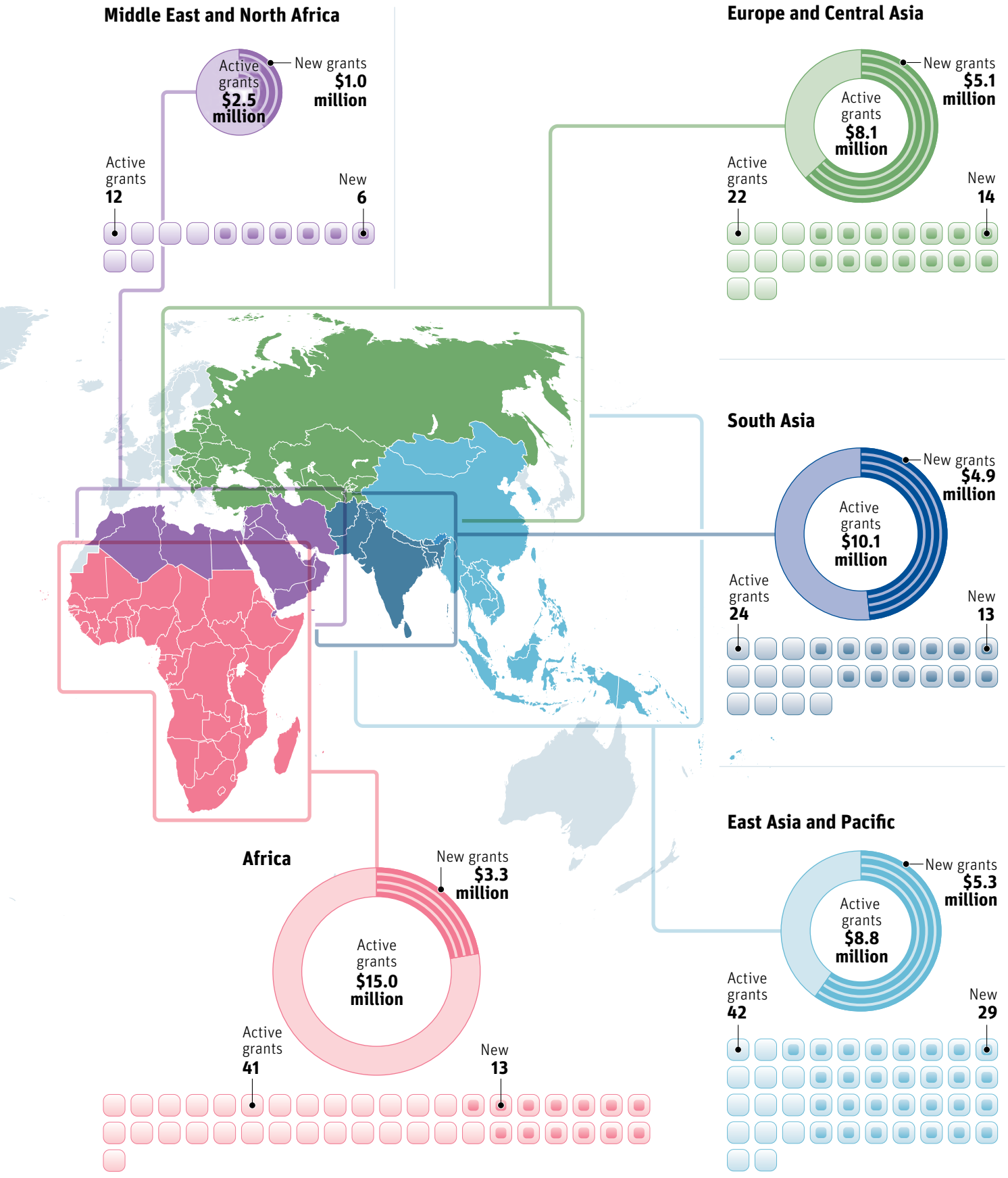
Latin America & the Caribbean

Active grants **16**

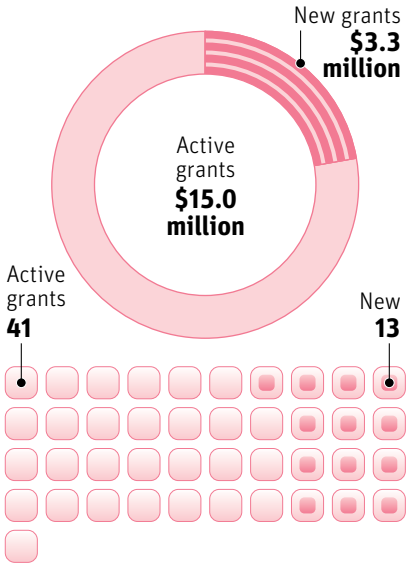
New **7**

Data include active grants as of June 30, 2023 under the GFDRR Umbrella.

*In FY23, there were a total of 201 grants of which 177 remained active for the entire fiscal year, while 34 closed sometime during the period. These 34 closed grants are still within their disbursement grace period and are therefore classified as active in the World Bank operations system.


Middle East and North Africa
Active grants $2.5 million
New grants $1.0 million
Active grants 12
New 6
Europe and Central Asia
New grants $5.1 million
Active grants $8.1 million
Active grants 22
New 14
South Asia
New grants $4.9 million
Active grants $10.1 million
Active grants 24
New 13
East Asia and Pacific
New grants $5.3 million
Active grants $8.8 million
Active grants 42
New 29
Africa
New grants $3.3 million
Active grants $15.0 million
Active grants 41
New 13

Africa



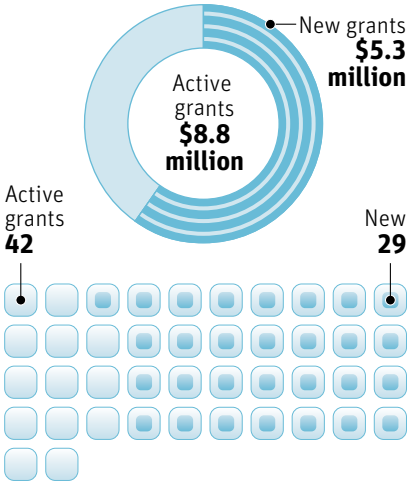
Sub-Saharan Africa is one of the continents that is the most vulnerable to climate change, according to the Intergovernmental Panel on Climate Change. In FY23, drought continued to affect the Sahel region and many other parts of Africa. Floods hit several countries, including the Democratic Republic of Congo (DRC) and Rwanda. The West and Central Africa region suffered major damage and losses during the rainy season. In Nigeria, floods affected close to 5 million people, with total direct economic damages estimated by the World Bank at $6.68 billion. Other hazards, including landslides, also impacted Cameroon, DRC, and Uganda. In addition, Southern African countries were hit by severe Tropical Cyclone Freddy, leaving behind heavy damages in Madagascar, Malawi, Mozambique, and Zimbabwe.

GFDRR's support in FY23 focused on addressing countries' emergency preparedness and response as well as promoting holistic approaches to strengthen DRM and climate change–related institutional systems, policies, and regulations. GFDRR also responded to great demand from cities to address urban climate and disaster risks in the form of rapid disaster risk assessments, urban mobility, and risk-sensitive urban planning as well as investments in urban resilient infrastructure. Technical assistance was also provided for disaster risk financing, along with guidance on the use of various financial instruments to help mobilize resources following a disaster and improve the efficiency and transparency of post-disaster expenditures.

In **Tanzania**, a grant was launched to improve the capacity for risk-informed urban planning and strengthen the resilience of urban infrastructure. This included the introduction of nature-based solutions as a cost-effective alternative to traditional drainage investments. This initiative aims to improve the overall resilience of Tanzanian cities and enhance their ability to withstand climate-related challenges. In **Ghana**, GFDRR provided technical support to the government for the review and revision of the country's National Urban Policy. This support was combined with capacity-building activities, culminating in the organization of the Ghana Urban Forum in October 2022. The forum brought together over 300 participants, including representatives from national and local government, academia, and the media. The event facilitated constructive consultations and led to the creation of a dedicated technical working group to support the policy revision process. This collaborative approach ensures that the policy reflects the needs and aspirations of both local and national stakeholders.

Fetching water from the public well in Entebbe, Uganda. Photo: © Dennis Diatel Photography.

East Asia and Pacific



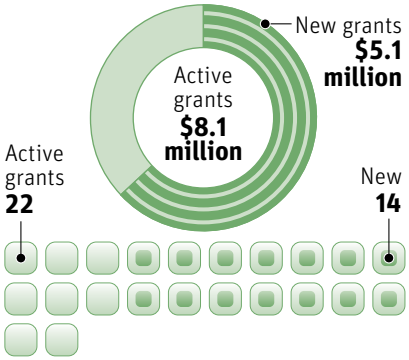
The East Asia and Pacific region is highly susceptible to a wide array of natural and climate-induced hazards such as typhoons, cyclones, earthquakes, volcanic eruptions, floods, landslides, droughts, tsunamis, and wildfires. In March 2023, Vanuatu was battered by twin Category 4 cyclones, Judy and Kevin, which struck within an extraordinary 48-hour period—the second and third major storms of the season. The Philippines, which encounters an average of 20 typhoons each year, ranks among the nations that are most susceptible to these severe storms, exposing it as particularly prone to the harsh impacts of these storms.

GFDRR grants have played a pivotal role in advancing a strategic and unified response to enhance disaster and climate resilience. These funds have been directed toward strengthening infrastructure, improving early warning systems, advancing risk assessment and planning, building capacity, investigating innovative financial mechanisms, and facilitating the sharing of expertise. These comprehensive initiatives strive to lessen disaster impacts and promote sustainable, resilient development across the region, aiming to make it more livable.

For example, in **Tonga**, GFDRR grant resources were instrumental in supporting the development of Tonga's National DRM Policy. This policy serves as a crucial framework for proactive DRM in Tonga. It outlines 25 policy objectives that guide the overall DRM process and promotes a comprehensive, strategically focused approach to building resilience across the nation. The grant activity is also supporting a multi-hazard risk assessment for Vava'u Island. This assessment aims to identify the specific risks faced by the island, prioritize policy and investment needs, and devise strategies for risk financing. This policy is a key policy reform under the Tonga Second Resilience Development Policy Operation with a Catastrophe Deferred Drawdown Option (Cat DDO). The approval of Tonga's DRM Policy represents a significant achievement and demonstrates how GFDRR can leverage grant financing to inform important national-level reforms in resilience building. These efforts have led to the development of critical policies, plans, and assessments, all of which are poised to enhance the country's resilience against natural and climate-related hazards. Furthermore, they have influenced important decisions and investments, ensuring that Tonga is better prepared to face future challenges.

Nuku'alofa, Tongatapu island, Tonga: Civil defense tsunami evacuation sign. Photo: © mtcurado.

Eastern Europe and Central Asia



The region in 2023 experienced a series of unprecedented disasters and crises, such as earthquakes in Türkiye and floods in Tajikistan and Kosovo, as well as severe drought, wildfires, landslides, and extreme heat throughout the region. Most of the infrastructure in this area is old, poorly maintained, and lacks resilience to disasters. It also fails to meet modern building codes, functionality, and energy requirements. Additionally, Russia's ongoing invasion of Ukraine has led to the displacement of populations, inflationary pressures, and a heightened emphasis on energy and civil security in the region.

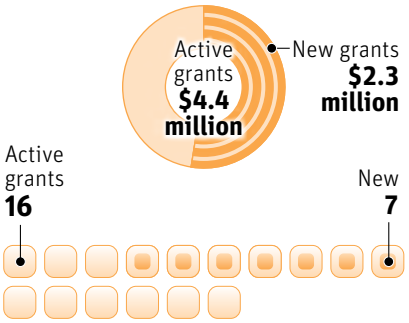
Emergency response and civil protection services are struggling to cope with the increasing frequency and severity of disasters. These events expose significant gaps in early warning systems, public awareness, emergency preparedness, and financing. There is a substantial lack of investment in prioritizing and implementing measures to reduce risks for vulnerable buildings and critical infrastructure. This includes incorporating mitigation and adaptation principles, such as integrating green and blue measures in urban planning and establishing cooling centers for the most at-risk individuals. Furthermore, regulatory and institutional reforms are often not effectively enforced. This synopsis of the situation underscores the need for comprehensive investment in DRM to mitigate the region's array of disaster and climate risks.

GFDRR is supporting holistic DRM in countries such as **Albania**, where a grant strengthened disaster resilience by developing a Good Practice Guidance for Municipal DRM—a versatile toolbox and training program for integrating DRM into municipal planning and budgeting. Additionally, it produced three comprehensive volumes of technical reports, offering about 40 recommendations to enhance the accuracy and effectiveness of disaster loss data. The outputs are already being used by Albania's government and the United Nations Development Programme (UNDP) to support the completion of national risk assessments, and also by an expert team supporting a World Bank project on bridge resilience.

GFDRR support resulted in four key outcomes in Albania: (1) improved decentralization for better preparedness and response, (2) increased risk identification to inform decision-making, (3) enhanced financial protection against disaster costs, and (4) improved post-disaster assessment methodologies for national and local stakeholders. These outcomes have led to early discussions for a new DRM investment project in Albania.

Street life in Tirana, Albania. Photo: © Alexander Farnsworth.

Latin America and the Caribbean



The Latin America and the Caribbean region is highly exposed and vulnerable to increasing hazards caused by climate change. In FY23, Brazil, the Dominican Republic, and Peru experienced heavy storms, resulting in floods and landslides that caused significant economic damages and loss of life. Southern Ecuador was also affected by a magnitude 6.8 earthquake, leading to 14 casualties and impacting tens of thousands of people. The current phase of El Niño has already caused extreme weather events and is expected to have severe economic impacts and increase the risk of vector-borne diseases in the region.

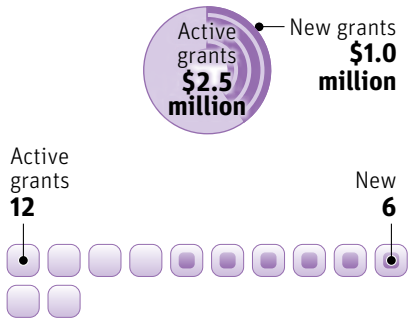
Latin America and the Caribbean faces unique challenges in DRM from high levels of inequality, persistent poverty, volatile political economies, limited economic and fiscal resources, and the presence of small island developing states (SIDS). These factors create a complex operational environment, often overwhelming local authorities and hindering their ability to respond effectively to immediate challenges and plan for future contingencies.

In this demanding context, GFDRR plays a crucial role by providing financial and technical assistance spanning multiple aspects of national development sectors, including integrating resilience considerations, implementing policy reforms, promoting innovative approaches, strengthening financial safeguards, improving infrastructure planning, and enhancing urban resilience.

For example, a GFDRR grant had a significant impact on **Costa Rica** by supporting the government in adopting global best practices in basin flood risk management, including implementing green infrastructure and strengthening early warning systems in vulnerable regions. The grant also helped to carry out a rapid analysis of the emergency preparedness and response (EP&R) systems at the national and local levels that encompassed the roles of community centers, a budget for local prevention measures, and an investment plan. Additionally, the grant continues to provide assistance to the soon to be implemented Costa Rica Climate Resilient Recovery and Territorial Development Project. Overall, the grant is expected to have a positive impact on Costa Rica's ability to manage flood risks and enhance its climate resilience. For more details, turn to page 105.

Firefighter in San José, Costa Rica. Photo: © Salvador-Aznar.

Middle East and North Africa



The region is vulnerable to disasters such as floods, earthquakes, storms, and droughts. Political instability and conflicts—notably in Iraq, the West Bank and Gaza, Lebanon, Syria, and Yemen—exacerbate challenges to stability and peace. Internal and external strife, power struggles, and social unrest hinder progress. Moreover, the surge in refugees and internally displaced populations strains these nations, especially in disaster preparedness and response.

Despite this, the Middle East and North Africa region offers significant opportunities for GFDRR to promote inclusive DRM and the integration of disaster response with conflict and violence considerations. Progress in leveraging GFDRR's funds and expertise has been made, yet much remains to advance the disaster-FCV nexus.

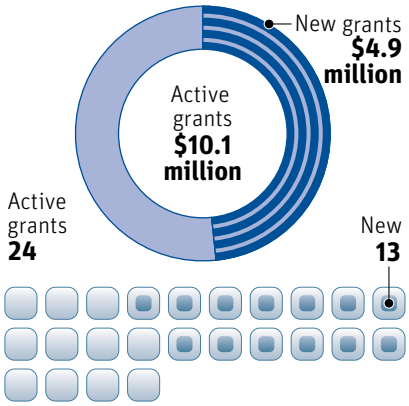
In FY23, the project Enhancing Regional Disaster Risk Preparedness through Strengthening Hydromet and Early Warning Services was successfully completed. This initiative played a pivotal role in advancing regional dialogues on the significance of hydrometeorological (hydromet) services modernization for countries in the region. A comprehensive scoping assessment was carried out to evaluate the state of National Meteorological and Hydrological Services (NMHS) systems, and the insights gained from this assessment culminated in the creation of a regional atlas, offering detailed information on the NMHS systems across the area.

In selected countries—namely, **Algeria**, **Djibouti**, and **Tunisia**—tailored roadmap documents were developed to modernize their national systems. These roadmaps not only outline a list of priority investments but also encapsulate best practices for addressing regional challenges. They serve as valuable resources for development agencies, governments, and related bodies, aiding them in understanding the current state of hydromet systems and facilitating informed discussions as the demand for these services escalates.

Furthermore, the outputs from this regional endeavor significantly contributed to the formulation of the Tunisia Integrated Disaster Resilience Program, which was approved by the World Bank Board.

A Djiboutian tour guide demonstrates the heat of a thermal hot spring at Lake Assa. Photo: © Joshua McDonough.

South Asia



South Asia is increasingly vulnerable to the impacts of climate change and disasters, exacerbated by rapid urbanization, burgeoning populations, and environmental decline. Strains from these factors, alongside transboundary hazards, amplify the region's crisis susceptibility. In response, governments have pivoted from reactive disaster response to proactive risk reduction, implementing disaster-adaptive social safety nets and financial strategies for risk management.

The World Bank and GFDRR are pivotal in steering DRM in South Asia with financial, technical, and policy support to enhance resilience and adapt to climate change. The evolution in development finance underscores the critical role of DRM in sustainable growth and the synergy between development, climate robustness, and risk mitigation. This transition is mirrored in GFDRR's grant portfolio, where demand is in step with shifting disaster risk landscapes and the capacity of governments and institutions to enact effective risk reduction measures.

In the summer of 2022, **Pakistan** faced an unprecedented disaster caused by torrential rains and flooding, which affected 33 million people and claimed over 1,700 lives. GFDRR supported the critical first steps to inform the country's recovery efforts through the financing of the government of Pakistan's Post-Disaster Needs Assessment (PDNA) and its Resilient Recovery, Rehabilitation, and Reconstruction Framework (4RF). The PDNA, released in October 2022, provided an initial overview of the scale and scope of the damage and identified specific recovery and reconstruction needs. The 4RF further outlined priorities, policies, financing strategy, and implementation arrangements for resilient recovery, rehabilitation, and reconstruction.

The World Bank collaborated with other development partners to conduct the PDNA, which highlighted the Sindh province as the most affected. Based on the PDNA and the 4RF, the World Bank prepared three emergency response and recovery projects totaling $1.3 billion, focusing on addressing critical issues in Sindh.

Road washed out after heavy floods submerged the Bahrain bazaar in Swat, Pakistan. Photo: © Bilal photos.

NATURAL HAZARDS AND PRIORITY AREAS*

NATURAL HAZARDS

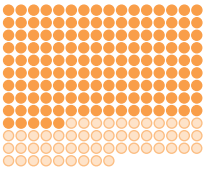
The portfolio targeted the hazards posing the greatest risk to vulnerable countries. Most of the 201 grants continued to address more than one natural hazard, such as meterological and hydrological hazards and geohazards.

Total number of grants	201
Total amount	$71.5M

Urban flooding

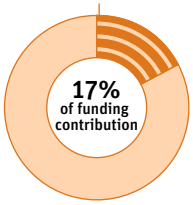
GRANT CONTRIBUTION

149 of 201 74%



FUNDING CONTRIBUTION

$12.37 million

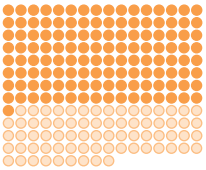


70 countries

River flooding

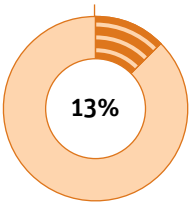
GRANT CONTRIBUTION

129 of 201 64%



FUNDING CONTRIBUTION

$9.04 million

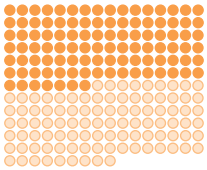


57 countries

Coastal flooding

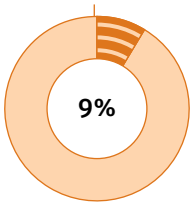
GRANT CONTRIBUTION

103 of 201 51%



FUNDING CONTRIBUTION

$6.21 million

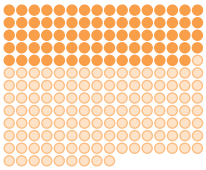


43 countries

Cyclone

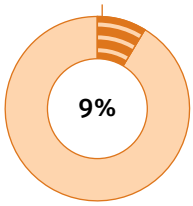
GRANT CONTRIBUTION

79 of 201 39%



FUNDING CONTRIBUTION

$6.21 million

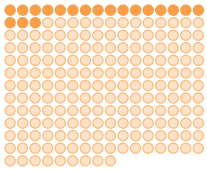


30 countries

Drought

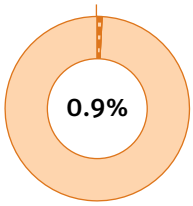
GRANT CONTRIBUTION

19 of 201 9%



FUNDING CONTRIBUTION

$0.63 million

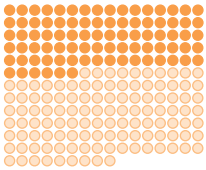


31 countries

Earthquake

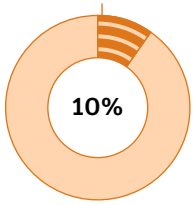
GRANT CONTRIBUTION

86 of 201 43%



FUNDING CONTRIBUTION

$7.11 million

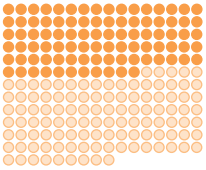


43 countries

Landslide

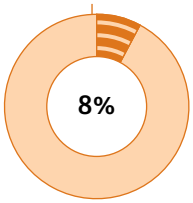
GRANT CONTRIBUTION

91 of 201 45%



FUNDING CONTRIBUTION

$5.73 million

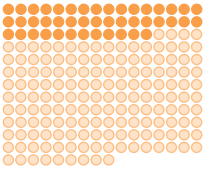


50 countries

Tsunami

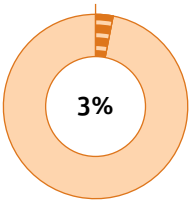
GRANT CONTRIBUTION

44 of 201 22%



FUNDING CONTRIBUTION

$2.31 million

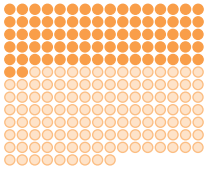


20 countries

Extreme heat

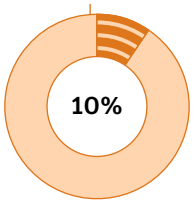
GRANT CONTRIBUTION

82 of 201 41%



FUNDING CONTRIBUTION

$6.93 million

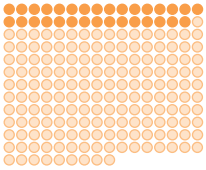


43 countries

Volcano

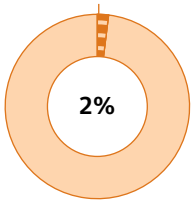
GRANT CONTRIBUTION

31 of 201 15%



FUNDING CONTRIBUTION

$1.56 million

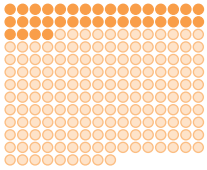


13 countries

Wildfire

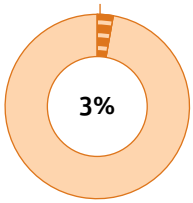
GRANT CONTRIBUTION

36 of 201 18%



FUNDING CONTRIBUTION

$2.16 million



26 countries

* As most of the grants cover more than one natural hazard, priority, and cross-cutting area, the number of grants and countries may overlap, and the classification total will exceed 100% of the grant amount.

The portfolio in FY23 also addressed four priority areas and two cross-cutting priority areas. Most grants also contributed to one or more of these areas.

PRIORITY AREAS

	GRANT CONTRIBUTION	FUNDING CONTRIBUTION	
PRIORITY 1 Risk-Informed Decision-Making	50 of 201 — 25%	19% — $13.46 million	27 countries
PRIORITY 2 Reducing Risk and Mainstreaming DRM	93 of 201 — 46%	34% — $24.24 million	61 countries
PRIORITY 3 Financial Preparedness to Manage Disaster and Climate Shocks	22 of 201 — 11%	9% — $6.78 million	14 countries, 3 regional and 1 global grants
PRIORITY 4 Disaster Preparedness and Resilient Recovery	52 of 201 — 26%	16% — $11.40 million	31 countries

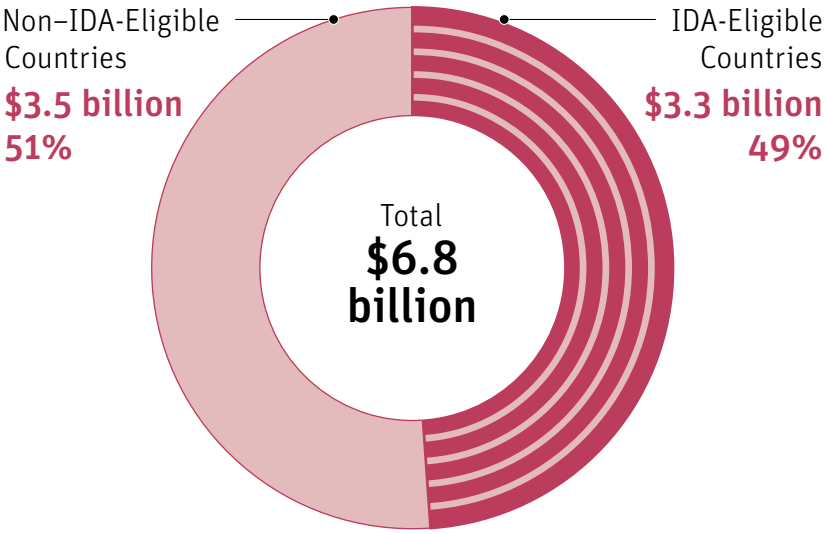
CROSS-CUTTING PRIORITY AREAS

Inclusive Disaster Risk Management and Gender Equality	183 of 201 — 91%	95% — $67.80 million	60 countries
Addressing the Disaster-Conflict Nexus	42 of 201 — 21%	21% — $11.89 million	17 countries and 2 regional grants

DEVELOPMENT FINANCING INFORMED BY GFDRR IN FY23

One important impact-generating pathway deployed by GFDRR in supporting client countries in implementing the Sendai Framework is the informing of development finance. GFDRR's analytical work and technical assistance are used in designing, preparing, and/or implementing new or existing World Bank lending operations, and this alignment has helped increase investments in disaster risk reduction. In FY23, GFDRR informed a total of $6.8 billion in development financing, of which $6.3 billion is from the International Bank for Reconstruction and Development (IBRD) and the International Development Association (IDA); the remainder is from government counterparts and third parties. For more information on development financing in FY23, see page 89.

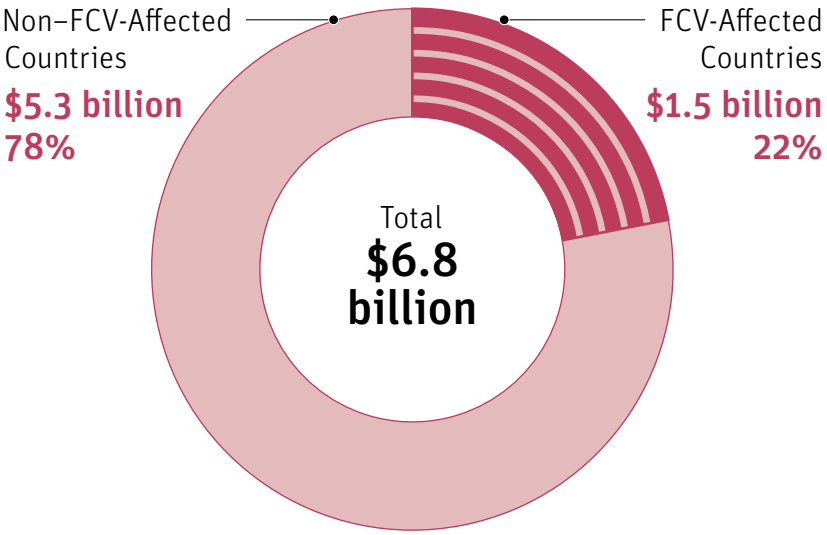
FY23 GFDRR-INFORMED DEVELOPMENT FINANCING IN IDA-ELIGIBLE COUNTRIES



Beneficiary Countries

Cabo Verde
Chad
Comoros
Congo, Dem. Rep.
Gambia, The
Ghana
Guinea-Bissau
Kenya
Lao PDR
Madagascar
Mali
Mozambique
Pakistan
Samoa
South Sudan
Tanzania
Yemen

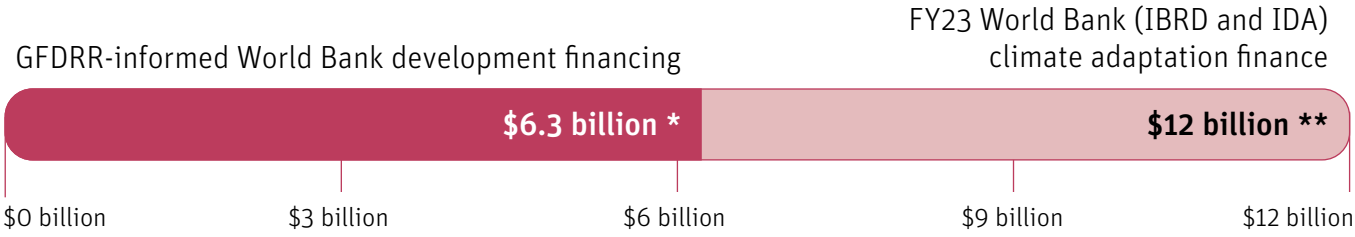
FY23 GFDRR-INFORMED DEVELOPMENT FINANCING IN FCV-AFFECTED COUNTRIES



Beneficiary Countries

Chad
Comoros
Congo, Dem. Rep.
Guinea-Bissau
Mali
Mozambique
South Sudan
Ukraine
Yemen

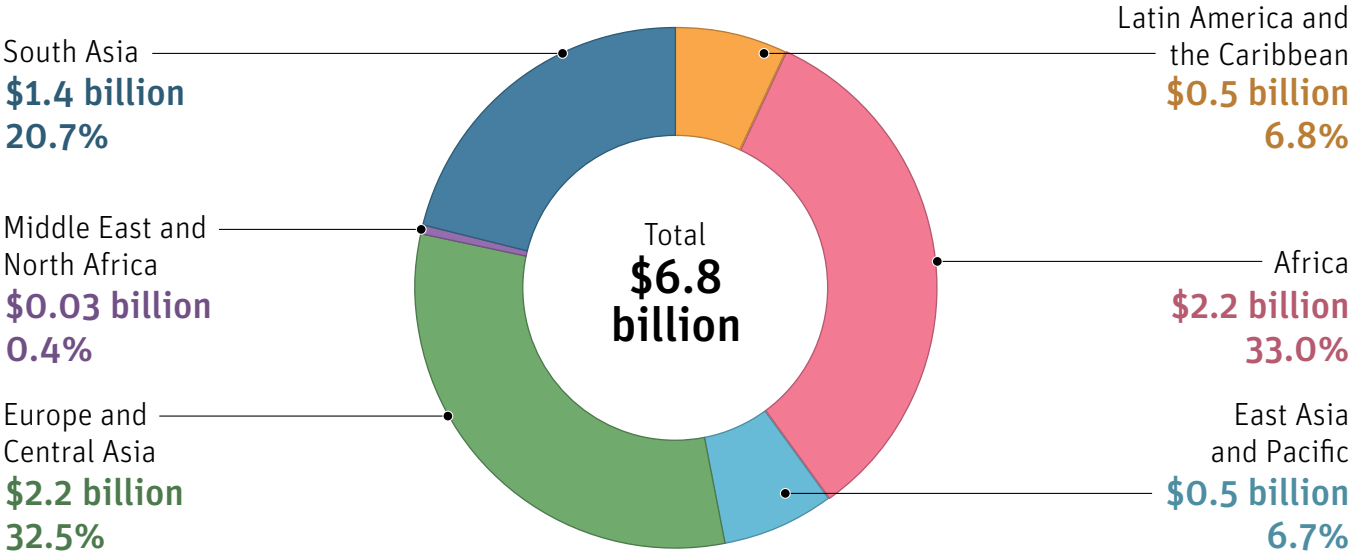
FY23 GFDRR-INFORMED DEVELOPMENT FINANCING IN RELATION TO WORLD BANK CLIMATE ADAPTATION FINANCE



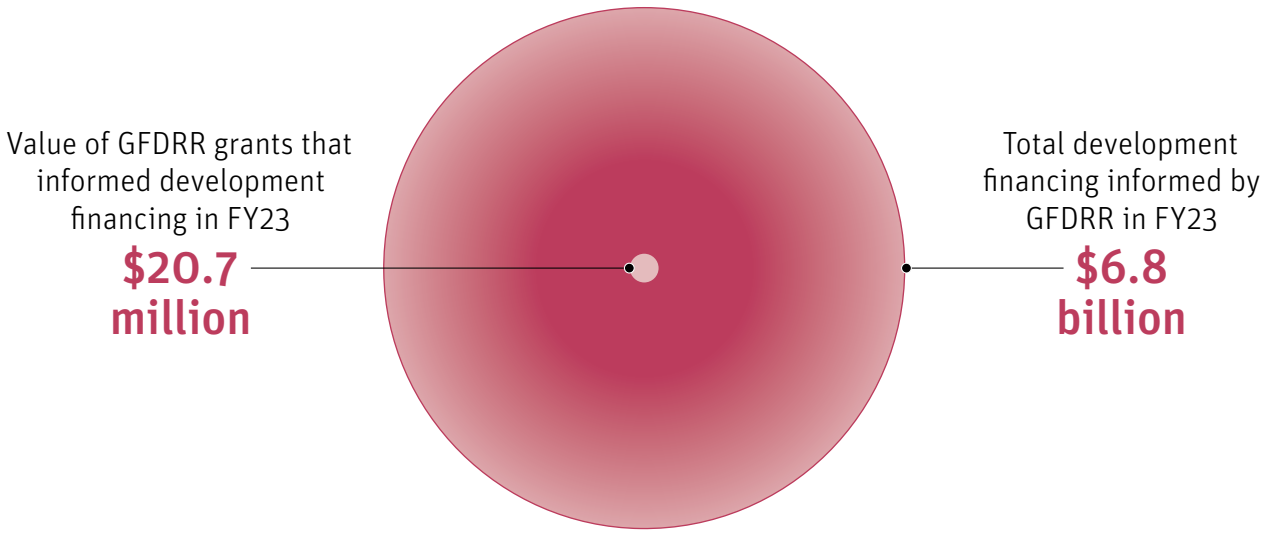
* World Bank (IBRD and IDA) development financing net of contributions by government counterparts and third parties.

** https://www.worldbank.org/en/news/factsheet/2023/10/10/climate-finance-update

FY23 GFDRR-INFORMED DEVELOPMENT FINANCING, BY REGION



GFDRR GRANTS AMOUNT IN RELATION TO GFDRR-INFORMED DEVELOPMENT FINANCING



Antakya, Hatay, Turkey—First responders looking for survivors after the May 2023 earthquake. Photo: © Jasminko Ibrakovic.

FY23 Spotlight

A closer look at how GFDRR's partnership with Türkiye has laid the groundwork for a more resilient future for its people.

GFDRR, the World Bank, and Türkiye: A Partnership Built to Last

Kahramanmaraş, Türkiye, elderly couple waiting in front of their destroyed house. © Photo: Eymen Uzunkok.

Following the devastating earthquakes that struck Türkiye in February 2023, the World Bank, supported by GFDRR, mounted a rapid response and initiated an assessment to determine the immediate direct damage costs of the disaster. Leveraging the Global Rapid Post-Disaster Damage Estimation (GRADE) methodology—which employs a wide array of data sources, including historical damage records, satellite imagery, expert insights, government data, and social media inputs—GFDRR produced a preliminary estimate of the direct physical damage. Both the findings and the quick turnaround—the assessment was completed in just two weeks—played a crucial role in supporting the response and recovery initiatives of both the World Bank and Türkiye's government.

The assessment found that beyond the tragic loss of life—around 46,000 people lost their lives—the earthquakes incurred a staggering financial toll: direct physical damages exceeded $34.2 billion. While the findings of the GRADE report were grim, they paved the path forward for the urgent tasks of recovery and reconstruction.

According to Humberto López, the World Bank Country Director for Türkiye, the assessment was valuable not only because it evaluated the approximate cost of the physical destruction wrought by the earthquakes but also because it determined which areas bore the brunt of the damage. "Was it in private sector housing, in public sector buildings, basic public infrastructure such as roads?" he said at the GFDRR 2023 Partnership Days. "For us, that was extremely helpful."

He added that this nimble response—which also included support for emergency response and a reallocation of existing projects in the country to aid resilient recovery—further boosted the credibility of the World Bank and GFDRR as reliable partners committed to advancing disaster resilience in Türkiye.

The GRADE report also had a multiplier effect: together with a $1 million grant mobilized from GFDRR through the United States Agency for International Development (USAID), it provided a foundation for the World Bank–financed $1 billion Türkiye Earthquake Reconstruction and Recovery Project, which will facilitate the restoration of critical municipal and health services as well as the reconstruction of resilient rural housing in the regions affected by the earthquakes. Guided by building-back-better principles, the project will enhance Türkiye's resilience in the face of future seismic and climate-related hazards.

Building the foundation for disaster resilience

Even before the deadly earthquakes struck, GFDRR and the World Bank had been establishing the groundwork for bolstering disaster resilience in Türkiye.

Lying atop one of the world's most active earthquake zones, with several major fault lines running beneath its surface, Türkiye has an urgent need to fortify its built environment against seismic risks. To put this vulnerability into perspective, an earthquake of a magnitude typical for a 200-year event striking around Istanbul has the potential to plunge 500,000 people into poverty.

GFDRR's Japan-World Bank Program for Mainstreaming Disaster Risk Management in Developing Countries (Japan-World Bank DRM Program) has contributed to the preparation of the World Bank–financed $266 million Seismic Resilience and Energy Efficiency in Public Buildings Project, which aims to improve seismic and disaster

resilience and increase energy efficiency in public buildings. At the same time, the project aims to reinforce the policy framework and institutional capabilities necessary for constructing, financing, and implementing resilient and sustainable public buildings in the country. In the days and weeks following the 2023 earthquakes, the project played a crucial role in mobilizing essential equipment to support the deployment of over 7,000 experts to assess the damage, meticulously evaluating each building.

GFDRR is supporting this project to identify innovative engineering approaches for upgrading the structural integrity and energy efficiency of existing buildings and optimizing the design of new structures. This work will also emphasize knowledge transfer of new engineering techniques and will explore global best practices for conducting swift and cost-effective engineering assessments of buildings.

GFDRR's Japan-World Bank DRM Program has also been providing technical support to promote earthquake-proof, climate-resilient, and environmentally sustainable buildings in Türkiye. It is also facilitating the development of a seismic- and climate-resilient, green, and inclusive urban built environment in the country. This technical assistance is informing the preparation of the World Bank–financed Green and Future Cities Project by supporting broader policy discussions and studies focusing on the use of nature-based solutions for urban resilience.

GFDRR has also played a key role in the preparation of the World Bank–financed $512 million Climate and Disaster Resilient Cities Project, which aims to expand access to earthquake- and climate-resilient housing and strengthen municipal infrastructure and services within designated provinces in the country. In addition to GFDRR's technical assistance support, a grant from the GFDRR-managed Japan-World Bank DRM Program advanced analytics on housing, social engagement, and gender, among other areas, to ensure that the project's efforts are socially inclusive and environmentally sustainable.

Meanwhile, GFDRR's City Resilience Program helped to evaluate area-based urban transformation initiatives across different project cities. This multifaceted support underscores GFDRR's comprehensive approach to strengthening resilience—the same approach that was recognized in September 2023, when the Climate and Disaster Resilient Cities Project won in the innovation in risk management category at the Innovative Lawyers Awards (Europe) 2023 organized by the Financial Times.

GFDRR has also contributed to generate knowledge that can serve as guidance for Türkiye in the development of national-level strategies and policies focused on building up climate resilience and adaptation—with a view toward inclusion, economic growth, and risk management. Through its involvement, GFDRR has played a significant role in advancing the understanding of the interconnections between climate change, disaster risk, and poverty in the country. It has also provided valuable insights into estimating the macro-fiscal repercussions of natural

Evacuees waiting for assistance and news. Photo: © Jorge Villalpando/World Bank.

disasters and climate-related impacts. These insights, which are based on modeling of the country's exposure to seismic and fiscal risks, informed the Türkiye Country Climate and Development Report.

Education infrastructure for resilience: A commitment to uphold

Since 2017, the Ministry of National Education in Türkiye, in close partnership with the World Bank, GFDRR, and the European Commission, has constructed 62 schools comprising over 1,600 classrooms across the country—structures that were designed with disaster resilience in mind. In a remarkable testament to their robustness against disasters, all 24 schools situated in regions affected by the earthquakes remained intact and sustained minimal, if any, damage.

"Most of the parents came to look at the school. They saw that there is not even the smallest crack or plaster crack in our school," said Murat Çiçekdal, School Manager for the Martyr Ercan Sanca Primary School, in a video presented at the GFDRR 2023 Partnership Days to demonstrate the impact of GFDRR's work. "We continue our educational activities seamlessly where we left before the earthquake."

Within the realm of the World Bank–financed Education Infrastructure for Resilience Project and the Disaster Risk Management in Schools Project, GFDRR played a pivotal role in bridging knowledge and expertise between the Turkish government and international specialists. This collaboration facilitated the establishment of a seismic risk reduction program and the expansion of disaster-resilient educational infrastructure. These collective efforts—driven by a deep commitment to the safety and well-being of students and school staff—have also brought about a transformation in Kahramanmaraş Province. Four schools temporarily transcended their roles as educational institutions as they became life-saving sanctuaries. Serving as makeshift shelters and central hubs, they played an indispensable role in coordinating essential services, providing support, and uplifting affected communities in the aftermath of the disaster. Soon after, these schools reopened their doors to students so they could immediately resume their studies. Following the 2023 earthquakes, the project will extend its coverage to reconstruct schools in the affected regions and enhance resilience in vulnerable schools in other high seismic risk areas.

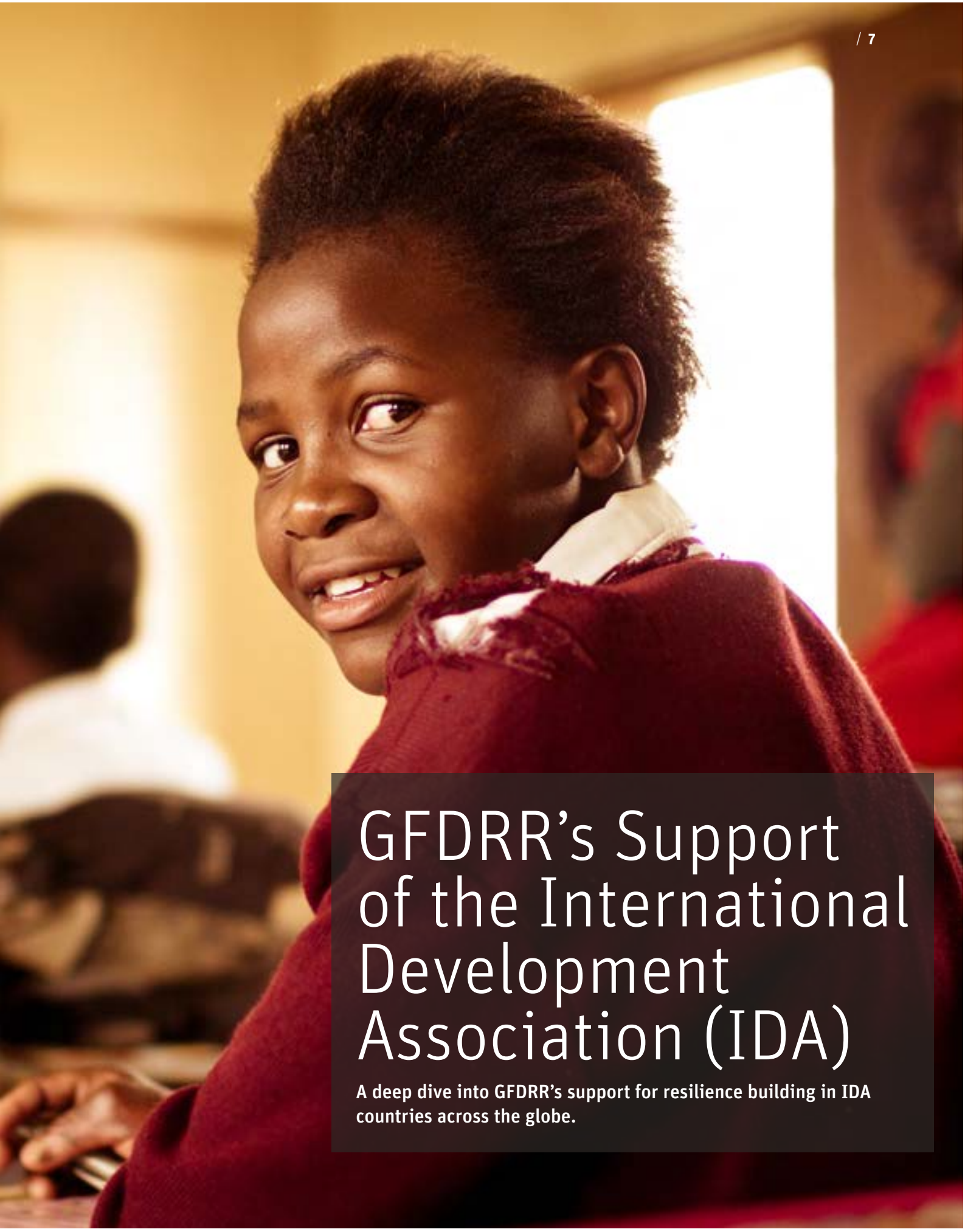
Schools in Türkiye were designed with resilience in mind. Photo: © World Bank.

In the same video presented at the GFDRR 2023 Partnership Days, a young boy—galvanized by the sight of his school still standing after the earthquakes—shared his dream of becoming an engineer. "When I grow up, I am going to be an engineer. I am going to build schools and houses," he said. "Because the houses were destroyed in the earthquake, but I am going to build them like this school."

It was a touching moment that showed how the full impact of disaster risk management can go beyond the primary aim of protecting people and physical assets: by showing what is possible through proactive planning, disaster risk management has the profound power to reshape the course of countless lives for the better. As Türkiye confronts the multiple challenges ahead, the boy's expression of his dream is also a fitting reminder that the country is not alone in the long and difficult journey of recovery and reconstruction. As has been shown over the years, GFDRR and the World Bank stand with Türkiye in building resilience and safeguarding lives through its steadfast support—before, during, and after disasters.

June 2023 repairs of slightly damaged buildings in Adana, Turkey. Photo: © mustafaoncul.

South African girl (from the Xhosa tribe) in the Transkei region of rural South Africa. Photo: © epicurean.



GFDRR's Support of the International Development Association (IDA)

A deep dive into GFDRR's support for resilience building in IDA countries across the globe.

GFDRR's Support of the International Development Association (IDA)

Grappling with their fair share of development challenges, countries supported by the International Development Association (IDA) are also highly vulnerable to the impacts of a changing climate and intensifying disaster risk. Disasters impact the economies of least developed countries (LDCs) around 10 times worse than the economies of the richest countries as a share of their GDP.

In addition, a stark majority of LDCs suffer from both high disaster risk and fragility and/or conflict, making safeguarding development gains intrinsically linked to building the resilience of disaster systems. Of the top 20 countries most vulnerable to climate change according to the Notre Dame Global Adaptation Initiative (ND-GAIN)'s Country Index, 14 are on the World Bank Group's FY24 list of countries affected by fragile and conflict-affected situations.

GFDRR, in close collaboration with the World Bank, has been instrumental in supporting the resilience-building efforts of IDA-eligible countries globally. GFDRR has provided valuable technical expertise and funding to support World Bank teams to prepare and expand the pipeline of projects for IDA operations to enhance disaster risk management and climate resilience. Those IDA activities are aimed to ensure IDA-eligible countries have adequate tools and data to inform their risk reduction investments and programs and to build back better and stronger following a disaster.

Miniature construction used for practical engineering classes. Photo: © Ivan Bruno.

NATURE-BASED SOLUTIONS IN IDA

In Focus Promoting Nature-Based Solutions in N'Djamena, **Chad**

Chad's capital and largest city, N'Djamena, is highly vulnerable to a range of natural hazards that range from pluvial and riverine flooding to wind erosion and desertification. These vulnerabilities are further compounded by biodiversity loss, including loss of forest cover, and by weak infrastructure, including infrastructure that is insufficient with regard to flood risk management and flood protection, as well as the fragile and conflict-affected situation in the country.

With support from GFDRR, a team utilized the Nature-Based Solutions Opportunity Scan—a tool used to assess potential NBS to be explored in targeted areas—to identify the areas in which nature-based solutions (NBS) could reduce pluvial and fluvial flood risks and address the issue of urban heat in N'Djamena. Different types of NBS were considered in order to assess which would yield the most benefit to the outlined challenges. The scan identified large areas on the outskirts of existing natural features that could be protected as well as specific areas within the city that were suitable for either the enhancement or the creation of NBS. Benefit modeling then highlighted which type of NBS could mitigate flooding, runoff, and heat. The creation or restoration of urban green spaces, including green corridors along roads and waterbodies; the use of rain gardens and bioswales; the rehabilitation and maintenance of urban wetlands and/or retention basins; and the development of agro-sylvo-pastoral systems along dikes and drainage areas were determined to be the NBS types with the highest potential for reducing risks from flooding and stormwater runoff.

The team's technical experts also supported a mission to N'Djamena that took place in May 2023. The mission included a workshop with the relevant authorities to present NBS opportunities for N'Djamena, aiming to create a common understanding around NBS and their applicability to the specific context of that city. The team also conducted a series of field visits in which NBS such as urban forests, restoration of water courses, urban agriculture, and green corridors were discussed. Additionally, informal discussions were held with citizens working in initiatives that could be further strengthened and supported through NBS, such as composting and urban agriculture cooperatives.

GFDRR and World Bank engagement on NBS in N'Djamena has been undertaken in the context of the N'Djamena Urban Resilience Project, a $150 million project supported by the World Bank's International Development Association (IDA). The project aims to improve flood protection and drainage infrastructure and strengthen climate-resilient urban planning and community investments in N'Djamena.

The project remains in its early stages, with plans to implement activities through 2029. GFDRR will remain engaged in this initiative to assess the potential to incorporate several NBS—including green corridors and floodplains as flood mitigation measures—as part of a hybrid solution for flood protection. At the same time, the project will aim to expand and consolidate a virtuous cycle for the resilience of green local initiatives already present in the city; these include urban agriculture, local food markets, production organic composting, and tree nurseries.

Furthermore, GFDRR engagement enabled the project design to include a Project Development Objective (PDO) indicator that specifically measures the proximity of populations to an implemented NBS. World Bank projects rarely have PDO indicators that specifically measure NBS activities, especially at the outcome level. As one of the first World Bank projects to have such an NBS PDO indicator, this project can offer lessons for other projects on ways to measure the outcomes of NBS activities, which will further promote their use, including in fragile and conflict-affected situations such as **Chad**.

Urban agriculture in N'Djamena, Chad, can support urban resilience and livelihoods. Photo: © World Bank.

GFDRR SUPPORT IN IDA

In FY23, GFDRR had active grants in 40 IDA-eligible countries (see infographic). During this period, GFDRR approved 87 new grants. Of these, 24 grants, totaling $5.5 million, supported 18 IDA-eligible countries. The largest shares of these grants were in the Eastern Africa, and East Asia and the Pacific regions, with 33 percent and 25 percent respectively. Additionally, GFDRR grants informed a total of $3.3 billion in IDA financing for FY23.

Since FY15, GFDRR grants have generated over $18 billion in IDA financing, representing 53 percent of the total development finance from World Bank sources through these grants. These funds have supported a range of activities in IDA-eligible countries, including Post-Disaster Needs Assessments (PDNA), multi-hazard risk assessments, capacity-building, and knowledge creation and dissemination.

Latin America & the Caribbean

1 Honduras [4]
2 Nicaragua [4]

1 Inactive countries: No active IDA financing because of protracted non-accrual status.
2 Blend countries: IDA-eligible but also creditworthy for some International Bank of Reconstruction and Development (IBRD) borrowing.
3 Borrowing on small economy terms, when applicable.
4 Borrowing on blend credit terms.

Note: There are 75 IDA-eligible countries: 60 are IDA-eligible only and 15 are blend countries (eligible also for some IBRD borrowing).
Last updated: July 24, 2023.

Middle East and North Africa

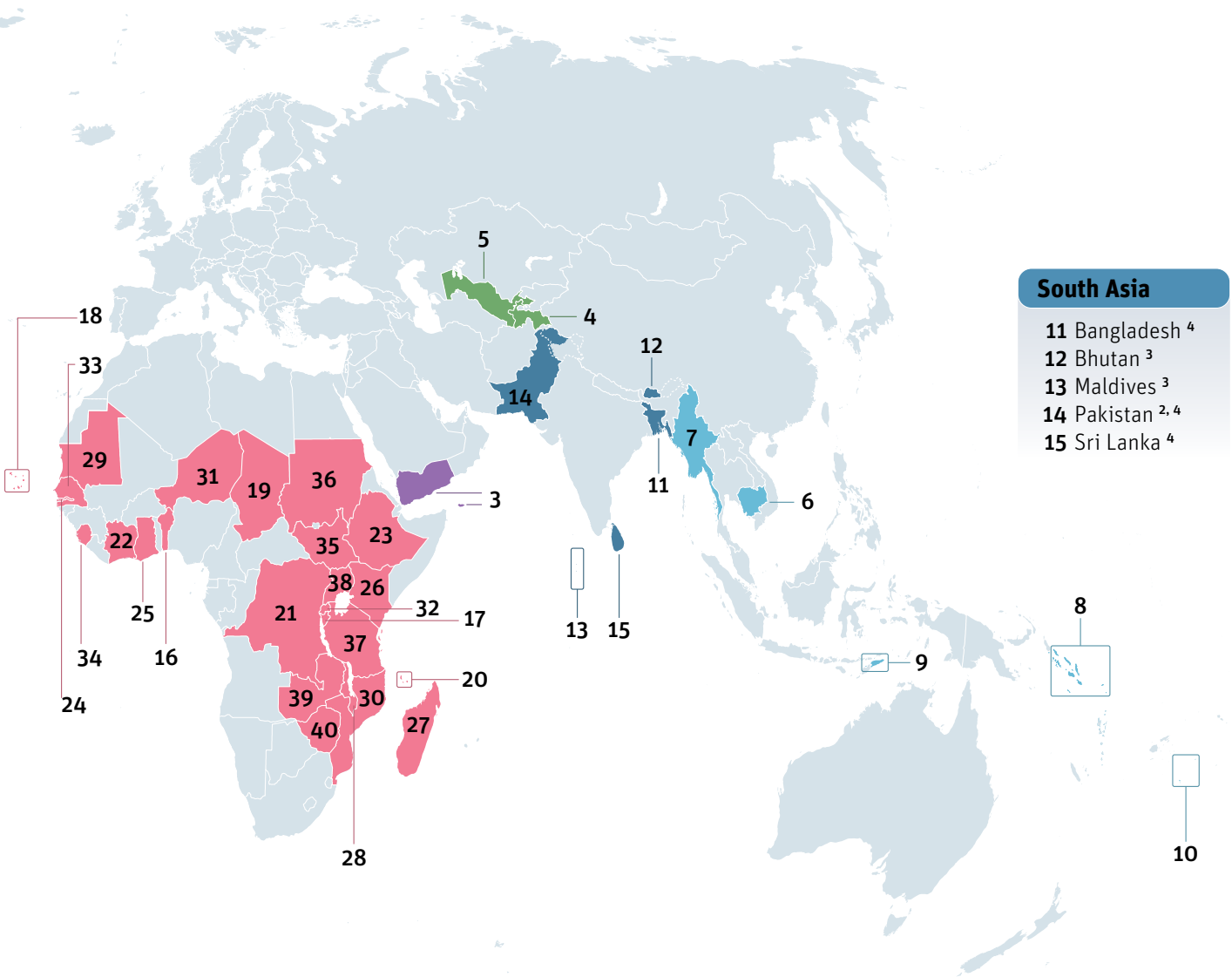
3 Yemen

Europe and Central Asia

4 Tajikistan
5 Uzbekistan [2, 4]

East Asia and Pacific

6 Cambodia [4]
7 Myanmar [4]
8 Solomon Islands [3]
9 Timor-Leste [2, 3]
10 Tonga [3]



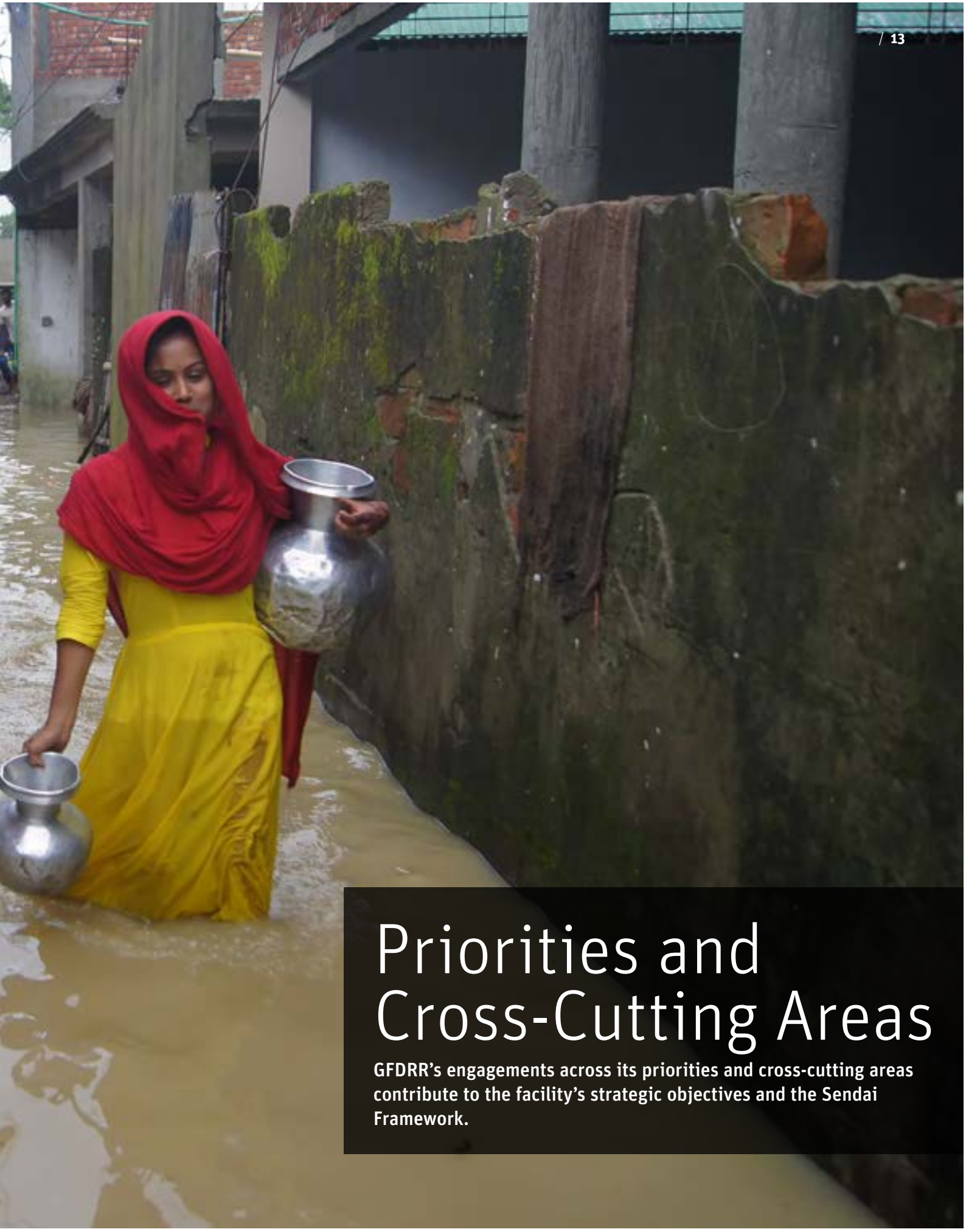
South Asia

11 Bangladesh [4]
12 Bhutan [3]
13 Maldives [3]
14 Pakistan [2, 4]
15 Sri Lanka [4]

Africa

16 Benin
17 Burundi
18 Cabo Verde [2, 3]
19 Chad
20 Comoros [3]
21 Congo, Democratic Republic of
22 Côte d'Ivoire [4]
23 Ethiopia
24 Gambia, The
25 Ghana [4]
26 Kenya [2, 4]
27 Madagascar
28 Malawi
29 Mauritania [4]
30 Mozambique
31 Niger
32 Rwanda
33 Senegal [4]
34 Sierra Leone
35 South Sudan
36 Sudan
37 Tanzania
38 Uganda
39 Zambia
40 Zimbabwe [1, 2]

Flooding in the lower part of Sylhet in Bangladesh. Photo: © H M Shahidul Islam.



Priorities and Cross-Cutting Areas

GFDRR's engagements across its priorities and cross-cutting areas contribute to the facility's strategic objectives and the Sendai Framework.

PRIORITY 1

Risk-Informed Decision-Making

Sierra Leone river estuary. Photo: © NASA.

The objective of this priority area is to ensure that countries and communities have access to the information they need to make informed decisions, to shift from understanding risk to managing risk, and to promote and improve policies for effective decision-making in disaster risk management (DRM) and climate change adaptation. This process requires increasing the availability of risk information and also ensuring that it remains accessible and actionable over time. In turn, there is a need to consider the risk data as a life cycle—with provision for local capacity to conduct updates and replicate risk evaluations that are both appropriate and affordable.

Introduction

Data and analytics serve as the cornerstone of effective risk management, offering crucial insights that guide decision-making processes to mitigate the adverse impacts of disasters. By harnessing data on hazards, exposure, and vulnerability and using analytics to understand those data, policy makers and practitioners can predict potential impacts of hazards, assess vulnerabilities, and allocate resources more efficiently to make evidence-based decisions for DRM and climate adaptation. GFDRR has a long record of investing in cutting-edge technology, analytics, and economic analysis, which has contributed to its position as a global leader in disaster risk assessment and management. However, lower-income countries often face significant challenges in this data-driven approach, including limited access to high-quality and timely data, inadequate technological infrastructure to process and analyze large data sets, and a scarcity of skilled personnel to interpret data for informed decision-making.

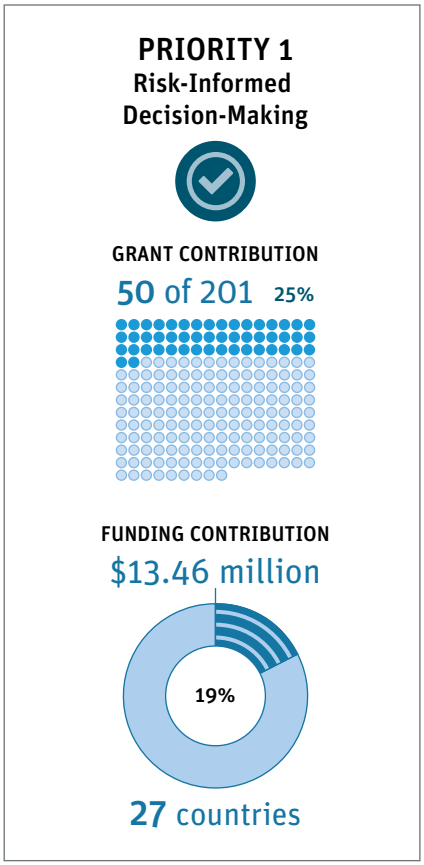
GFDRR is actively working to address these challenges by focusing on enhancing data accessibility and quality through open access initiatives, creating global public goods, bolstering technological infrastructure for better data collection and analysis, and building local capacity through training and knowledge sharing. The facility is also pioneering efforts to integrate cutting-edge technology—such as satellite imagery, artificial intelligence (AI) and machine learning, analytics, and economic analysis—to offer counterparts advanced, yet usable, risk assessment capabilities. Moreover, GFDRR's collaboration with international partners seeks to leverage technical expertise and financial support to enable the scaling up of its support. Below is a summary of impacts and key activities on disaster risk analytics and digital Earth that have been supported in FY23.

Major Outcomes and Impacts

Applying Analytics, Tools, and Data

GFDRR focuses on developing analytical tools and insights to understand risks better, enhancing disaster risk governance, and efficiently investing in disaster risk reduction for resilience, preparedness, and response. This is consistent with the action to promote the Sendai Framework for Disaster Risk Reduction.

In FY23, GFDRR continued to expand the Global Rapid Post-Disaster Damage Estimation (GRADE) assessments supporting countries and World Bank teams in quantifying damage, developing disaster response plans, and accessing financial resources such as the International Development Association (IDA) Crisis Response Window (CRW). GRADE assessments were conducted in 12 countries, including high-profile cases where the World Bank responded to catastrophic events such as floods (**Kosovo**, **Niger**, **Pakistan**, **South Sudan**, **Yemen**), earthquakes (**Syria**, **Türkiye**), tropical cyclones (**Dominican Republic**, **Mozambique**, **Myanmar**, **Vanuatu**), and dam breaks (**Ukraine**). For example, in **Mozambique**, the cyclone-related IDA CRW alone amounted to $200 million. In Türkiye, the GRADE assessment estimated initial direct physical damage at $34.2 billion, equivalent to 4 percent of Türkiye's 2021 GDP. This assessment also identified recovery and reconstruction needs totaling $81.5 billion. The results from these assessments played a crucial role in informing the design of a $1 billion Recovery and Reconstruction Project, as well as the planning, prioritization, and implementation of post-disaster reconstruction investments.[1]



[1] In addition to GRADE's contribution to disaster risk analytics, the assessment contributes to a country's disaster response and recovery planning; it can trigger additional funding through crisis response mechanisms and also influence a national DRM policy through its support for contingent financing. Thus, GRADE is explained in various parts of this *Annual Report*.

In **Syria**, immediately following the earthquake of February 6, 2023, GFDRR conducted a remote, desk-based assessment using the GRADE methodology to gauge physical damage. The assessment estimated direct damages of between $2.7 and $7.9 billion. Published on March 3, 2023, the GRADE summary report included an analysis of damage and its distribution across broad building and infrastructure categories as well as across geographical and administrative boundaries, and an analysis of the protracted conflict's impacts on the disaster effects. This assessment complemented the **Syria** Rapid Damage and Needs Assessment (RDNA), which will assist the World Bank and the international community to identify, prioritize, and plan key recovery interventions. These efforts will inform the allocation and management of resources for recovery and reconstruction.

Furthermore, a new methodology developed by GFDRR is transforming urban transport accessibility analyses. This methodology estimates the distribution of jobs in urban areas using only publicly available data, filling a significant void in the field. By providing a key data set, it enables the estimation of the impacts of urban transport investments in terms of improved access to jobs and services. There was a strong demand for this proxy employment layer from eight countries (**Argentina, Egypt, Indonesia**, **Jordan, Lebanon**, **Mexico**, **Pakistan**, and **Peru**) and 23 cities. The production of the employment proxy layers facilitated the creation of accessibility analyses; these are mandatory for World Bank investment projects but are also crucial to understanding the benefits and trade-offs linked to certain transport investments and land regulations, including as they pertain to disaster risk management, and helping improve the design of projects. Well-designed transport projects have a keen eye on whether they will benefit many or few, mostly the well-off or the poorer, and whether they come at the expense of heightened vulnerability to disasters or not. Such a methodology enables this type of assessment and is a solid building block toward impactful project design. Notably, it has played a pivotal role in projects such as the Smart and Inclusive Mobility project in Jordan and the Indonesia Mass Transit Project.

And the Unbreakable model, launched as an online tool in FY22, is being tailored for four country-specific applications in FY23. In **Dominica**, **Fiji, St. Lucia**, and **Timor-Leste**, the Unbreakable Resilience Indicator Toolbox is being used to estimate the impacts of disasters on well-being and the potential benefits of adaptive social protection (ASP) programs. Unbreakable tools also support better targeting of ASP systems from a DRM perspective, and they have fostered dialogue and discussions with other development partners such as the World Food Programme.

In **India's** Country Climate and Development Report (CCDR), the Unbreakable Resilience Indicator Toolbox is being used to estimate socioeconomic resilience in the face of disasters. Increasing demand from teams in Europe and Central Asia and DRM engagements in **Dominica** demonstrate how the Unbreakable model can be useful both for global advocacy on well-being impacts of disasters and for supporting dialogues and operations at the country level.

Additionally, a significant study, prepared over the fiscal year and published in FY24, documented the joint trends of urban expansion and flood exposure over a three-decade period. The study's country-level results were extracted to inform three CCDRs—for **Cambodia**, **India**, and **Vietnam**—ensuring that these results receive substantial visibility. Moreover, the study provides a quick and efficient way to estimate the areas within these countries that are experiencing a rapid increase in flood exposure. This information is invaluable for governments' efforts to prioritize areas for climate-proofing measures.

During the fiscal year, GFDRR also funded analytics and research for a regional report titled *Unlivable: What the Urban Heat Island Effect Means for East Asia's Cities*, which offers new data and insights into the urban heat island (UHI) effect in East Asian cities. This report quantifies the UHI effect and assesses its impact on city competitiveness, livability, and sustainability. It also provides policy principles for East Asian city governments to tackle the urban heat challenge. The report is set to launch in fall 2023 to enhance awareness and influence policy dialogue at various levels, as well as lending operations.

Another example of how GFDRR's disaster risk analytics is being used in country engagements is in **Zimbabwe**, where GFDRR supported the completion of an analysis to examine the impact of recurrent droughts in different geographic areas. This analysis provided valuable insights into the varying impacts of droughts, enabling the creation of a tool that can be used to develop district-level drought mitigation plans. The grant also supported the establishment of a national disaster loss database for the Department of Civil Protection and a framework for emergency preparedness and response, enhancing the country's ability to make risk-informed decisions.

Utilizing Geospatial Tools and Services

GFDRR aims to enhance the resilience of vulnerable countries and communities to climate change and natural hazards through greater access to and adoption of geospatial tools and services. The digital economy can drive the adoption of local disaster risk information. Younger generations can learn and act on DRM through activities such as data collection, remote sensing, and drone flying. This helps them acquire digital skills and find job opportunities. In this context, GFDRR is developing data, tools, and services that are accessible at low-cost and tailored to World Bank operations and client countries. These activities align with the European Space Agency (ESA)–World Bank partnership and support the integration of Earth observation technologies in World Bank projects.

Morning catch arrival in Elmina, Ghana. Photo: © WLDavies.

This approach is in line with the Sendai Framework's mid-term review, which recommends investing in training and education for data collection and analysis at the local level, as well as including entities beyond those traditionally mandated to lead disaster risk reduction.

In FY23, GFDRR explored the use of AI for DRM, specifically capturing housing data and doing it responsibly. This exploration demonstrated that integrating machine learning with drone imagery and local insights enables small island developing states such as Caribbean countries to obtain crucial housing data quickly and cost-effectively. This work convinced the governments of **Dominica** and **St. Lucia** to proceed with a comprehensive building data set inventory. Those data sets will serve as a baseline for countries' resilience projects, including the deployment of asset management systems and housing investments programs. In Dominica, the data will be supporting the implementation and monitoring of the government's Climate Resilience and Recovery Plan (CRRP), which aims to make 90 percent of housing stock resilient by 2030 and assist in Post-Disaster Needs Assessments (PDNAs).

In Kinshasa, the largest city and capital of the **Democratic Republic of Congo**, more than 400 university students digitized critical exposure information for the city thanks to a GFDRR grant and technical support. They gained geographic information system (GIS) skills to create, edit, and label key urban features such as drainage networks, green spaces, and solid waste disposal areas. These GIS layers will inform the implementation of a $500 million urban development project called Kin Elenda. This World Bank investment is expected to benefit about 2 million people in Kinshasa through improved services such as solid waste management, reduced exposure to flooding, and increased green urban spaces. The data layers created though the GFDRR grant will inform feasibility studies as well as project implementation and monitoring. Drainage network and solid waste management will also be used to plan for and monitor labor-intensive street cleaning work. This activity exposed students and the municipality of Kinshasa to new geospatial technologies, such as the combination of machine learning and remote sensing for vegetation detection. It also demonstrated the generation of high-quality but low-cost data sets using the local workforce. The data sets and underlying methodologies will be made accessible to all citizens through a new city geoportal in 2024.

In FY23, GFDRR engaged in various initiatives to promote digital public goods for disaster risk reduction and climate change adaptation. This included collaborating with the ESA and the German Space Agency (DLR) on an ongoing research paper exploring the use of the World Settlement Footprint data set for monitoring urban expansion. Additionally, a joint note with the United Nations Disaster Risk Reduction (UNDRR) highlighted the benefits of digital public goods for disaster risk reduction.

Through the partnership with ESA, and in particular through its Global Development Assistance program, multiple World Bank operational teams have received support on disaster resilience–related topics, including the development of (1) an Urban Wetland and Restoration Monitoring System, which is being used by city authorities in **Rwanda** for evidence-based urban planning in the context of the Second Rwanda Urban Development Project (RUDP-II); (2) Earth observation products, which were used by **Ghanaian** authorities to develop risk assessment analyses aimed at informing the interventions deployed under the World Bank's **Nigeria** West Africa Coastal Areas (WACA) Multi-Sector Resilience Plan; and (3) a desert locust monitoring service, which was transferred and adopted by the Intergovernmental Authority on Development (IGAD) Climate Prediction and Applications Center, which provides climate services to 11 East African countries and will be used to support early warning actions focused on tracking egg breeding as well as impact assessment.

The facility also supported the development of tools such as the Climate and Disaster Risk Screening Tools, which are a collection of scripted online tools and a registry of global hazard data sets used to inform risk analytics for the World Bank's CCDR activities. GFDRR also developed and released the Risk Data Library Standard, an open data standard that provides a common description of the data used and produced in risk assessments, such as hazard, exposure, vulnerability, as well as loss and damage data.

Below are other examples of how GFDRR's support for Earth observation data, geospatial tools, and other innovative technologies are helping countries strengthen their resilience:

- In **Cambodia**, a GFDRR-funded project aimed to assess and mitigate flood risks in five *sangkats* (communes). It successfully developed flood risk profiles by analyzing flood hazards and vulnerabilities, enhancing understanding of flood-prone areas, and identifying high-risk infrastructure. A significant outcome was the creation of a mobile application and a user-friendly website for flood risk assessment. The mobile app allows users to download geo-localized flood risk maps for offline use and the website provides access to 23 analytical scenarios, including climate change simulations. This technology plays a crucial role in the social dimension of flood risk assessment, addressing vulnerabilities even in areas with relatively low flood hazards. Additionally, the project engaged sangkat communities through surveys, empowering them with knowledge and tools to manage flooding. This community empowerment, coupled with training, helped integrate flood risk assessments into local development plans. This initiative, combining technical analysis, community engagement, and technology, not only benefits the targeted sangkats but also offers wider applications for sustainable development and resilience building against climate challenges.
- In **Côte d'Ivoire**, GFDRR helped to combine OpenStreetMap data with analytical work to integrate information on potential hazard-induced disasters into land use plans. This integration of data and analysis helps decision-makers consider the potential effects of hazards when making land use decisions, leading to more risk-informed choices.
- In the city of Kananga, **DRC**, GFDRR supported an assessment of critical areas affected by soil erosion and slope instability. This assessment—based on drone mapping, ground information, and participatory processes—identified optimal solutions for the Kananga Emergency Urban Resilience Project. By providing information on the best combination of green and gray solutions, GFDRR contributed to better decision-making in urban resilience planning.
- Kerala, an **Indian** state susceptible to numerous natural hazards, has been using data to enhance its resilience against climate and disaster risks. The Open Data Initiative, supported by a GFDRR grant, has helped integrate climate and disaster risk data to improve governance and promote data sharing. The data diagnostics tool, also funded by the grant, aids in data-informed decision-making. The grant has directly influenced strategic choices and resource allocations, propelling the utilization of open data to fortify climate and disaster resilience. Following devastating floods in 2018, Kerala initiated the Rebuild Kerala Initiative and partnered with the World Bank to bolster climate resilience and sustainable recovery, including in infrastructure, disaster risk finance, and human capital.
- GFDRR's grant has significantly aided **Bhutan** in improving its resilience against disasters. It has led to policy and institutional reforms for a green and resilient built environment, the creation of design codes for the capital city Thimphu, and the establishment of the Engineering Council to oversee building regulations. The grant also boosted the National Center for Hydrology and Meteorology's capacity for better weather and flood warnings. It provided advanced drone training for multi-hazard risk assessment, including geospatial data analysis, and strengthened disaster preparedness and response. The grant's initiatives are well-aligned with Bhutan's long-term plans and are contributing to impactful resilience-building measures such as agrometeorology advisory services and the use of geospatial technology for hazard risk assessment. Bhutan's partnership with GFDRR is making significant progress in enhancing resilience in various sectors and promoting informed decision-making in climate-related issues.

Thimphu, Bhutan, and approaching snow storm. Photo: © Kateryna Mashkevych.

DIGITAL EARTH

In Focus Leveraging Artificial Intelligence and Earth Observation for a More Resilient Caribbean

Few regions of the world are as exposed to natural hazards and climate change as the Caribbean. When disasters strike the region, impacts on housing, transportation networks, and public facilities such as hospitals and schools can be sweeping and debilitating. For example, when Hurricane Maria hit Dominica in 2017, over 28,000 homes, representing nearly 90 percent of the building stock, were destroyed.

In Dominica and elsewhere in the Caribbean, the destruction brought about by such devastating events has spurred ambitious initiatives by government agencies and international organizations aimed at fortifying critical infrastructure before the next disaster. The Resilient Housing Scheme by the Government of the Commonwealth of Dominica, for one, strives to make 90 percent of its housing stock resilient by 2030.

Yet for such programs to be successful, accurate and up-to-date maps of buildings and their characteristics are needed to identify and retrofit damaged structures, relocate vulnerable and at-risk citizens, and construct new resilient homes. Although comprehensive, the traditional house-to-house surveys that generate the baseline geospatial data for these maps are time-consuming and expensive, and thus often out of reach for developing countries.

With support from GFDRR and the World Bank, a technical team is tackling this challenge by harnessing both Earth observation (EO) data and artificial intelligence (AI) to rapidly generate baseline geospatial data for resilient infrastructure efforts.

Currently, the team is planning to train local government staff and other key stakeholders from Dominica and St. Lucia to coordinate drone mapping efforts that can enable the inexpensive and frequent collection of very high-resolution aerial images. Already, the team has been strengthening their ability to manage the large-scale geospatial data sets that such collection efforts typically produce. By investing in the regular collection of aerial images, governments in the Caribbean will be able to use pre- and post-disaster aerial images to rapidly identify damaged buildings after an extreme hazard event.

The team has also laid the groundwork for utilizing AI tools to extract building characteristics such as building size, roof material, and damage levels from the aerial images. For example, the team has conducted a pilot study in Dominica where AI was used to automatically extract building footprints and classify rooftops from very high-resolution aerial images, achieving correct prediction for approximately 90 percent of the houses. The model outputs consist of building footprints labeled with their corresponding roof type (e.g., flat, gable, hip) and roof material (e.g., concrete, metal, blue tarpaulin, incomplete)—attributes that are key to determining a building's resistance to wind and whether it has been damaged. Overlaying the AI-generated information with hazard maps (e.g., flood inundation maps, storm surge risk maps) can help decision-makers quickly and efficiently identify high-risk structures.

An example of an AI-generated map of building footprints in Salisbury, Dominica. Photo: © OpenAerialMap.

Combining AI and Earth observation with local knowledge and expertise has immense potential to further refine the baseline geospatial data. Accordingly, a priority for the team is to collaborate with local experts to manually interpret, validate, and refine the AI model outputs. Integrating human-in-the-loop workflows allows human validators to address model limitations to obtain the most accurate results, increasing confidence and trust in the generated maps.

AI and Earth observation represent only one way in which GFDRR's Digital Earth Partnership and the World Bank are supporting Caribbean countries in their effort to build resilient infrastructure. For example, an in-depth assessment of the current geospatial capacity in St. Lucia covering four dimensions—institutional arrangements, people, data, and systems—has recently been completed. The assessment is designed to help identify specific areas where GFDRR and World Bank support might be most invaluable in the future. In addition, a comprehensive stocktaking of key data sets for resilience in four countries—Dominica, St. Lucia, Grenada, and St. Vincent and the Grenadines—has also been conducted.

DISASTER RISK ANALYTICS

In Focus Supporting Resilient Recovery in Mozambique

Mandimba villagers wait for help at a collapsed bridge after Cyclone Freddy. Photo: © Roy Gilham.

In early 2023, **Mozambique** was battered by a single tropical cyclone not just once, but twice. Likely breaking the record for the longest-lasting tropical cyclone, Tropical Cyclone Freddy hit Mozambique twice between late February and early March of 2023, affecting nearly 1.2 million people, displacing almost 200,000, and claiming the lives of nearly 200.

With an eye toward informing the country's recovery and reconstruction efforts in the immediate aftermath of Tropical Cyclone Freddy, the government of Mozambique requested a rapid assessment of the post-disaster damage using GFDRR and the World Bank's Global Rapid Post-Disaster Damage Estimation (GRADE) methodology.

While more traditional assessments have tended to be both resource- and time-intensive, the GRADE approach enables the estimation of damages usually within two to three weeks of a disaster at a fraction of the cost of traditional assessments. It does so by risk modeling along with analyzing various data sources such as historical damage data, drone footage, satellite and remote sensing data, and social media.

In the case of the GRADE assessment following Freddy, the technical team analyzed damage reports from Mozambique's National Institute of Disaster Management (INGC) in addition to local media reports, and modeled the exposure of present-day buildings and infrastructure in the country.

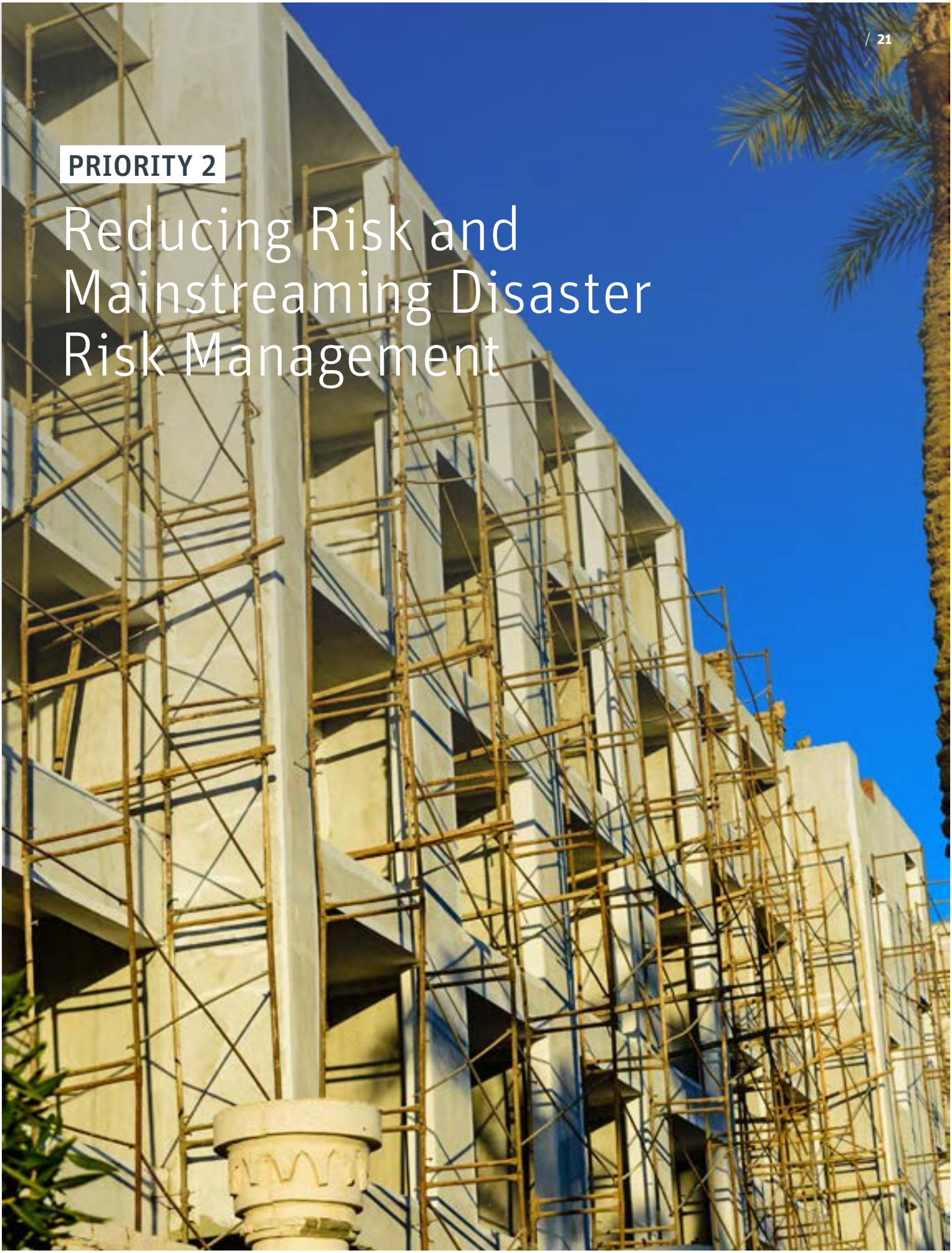
Ultimately, the GRADE assessment found that Freddy resulted in damages of $1.53 billion and revealed that, among the 10 affected provinces, Zambezia was the most affected, followed by Sofala, Inhambane, and Tete. Furthermore, the GRADE assessment uncovered extensive damage to private houses as well as significant damage to nonresidential structures including schools, health facilities, and other mixed-use facilities.

The GRADE findings have already begun to inform the government of Mozambique's recovery and reconstruction as well as its longer-term resilience-building in the aftermath of Freddy. Just as critically, the findings have also paved the way for $300 million in assistance under the World Bank International Development Association's Crisis Response Window (CRW), which provides funding to help countries respond to exceptionally severe crises. Of this $300 million, $125 million will fund secondary roads in Cabo Delgado, $50 million will finance upgrades in the drainage system in Maputo, and $100 million will support upgrades in water storage systems countrywide.

Tropical Cyclone Freddy is only the latest in a string of extreme weather events in Mozambique in recent years. In the aftermath of Tropical Cyclone Gombe and Tropical Storm Ana in 2022 and Tropical Cyclone Idai in 2019, the government of Mozambique also requested a rapid assessment of the post-disaster damage using the GRADE methodology. The government's continued engagement with GFDRR and the World Bank on GRADE is a testament to its reliability as a tool for rapidly measuring the impacts of disasters while also informing recovery and reconstruction.

PRIORITY 2

Reducing Risk and Mainstreaming Disaster Risk Management



Construction of a residential building in Hurghada, Egypt. Photo: © igorbondarenko.

The objective of this priority area is to reduce climate and disaster risks by strengthening relevant institutions, regulations, and infrastructure, enhancing urban and rural resilience and mainstreaming disaster risk management (DRM) across sectors. This will be accomplished by integrating climate change and DRM practices into the operations and maintenance of existing or retrofitted infrastructure while simultaneously building capacity for enhanced regulatory frameworks and compliance mechanisms to mitigate vulnerability to natural hazards and climate change.

Introduction

Reducing risk and mainstreaming DRM are crucial for low- and middle-income countries as well as small island developing states (SIDS), which are disproportionately affected by climate change and natural hazards. These countries typically have fewer resources to cope with and recover from disasters, making the impacts of such events more devastating. By implementing robust disaster risk reduction measures, these impacts can be substantially lessened, saving lives, protecting economic progress, conserving natural resources, expediting recovery efforts, and driving sustainable development forward.

GFDRR focuses on boosting the resilience of the built environment—including essential infrastructure and services such as transportation, energy, water, sanitation, and health care—by improving building regulations and enforcement and reinforcing buildings such as schools and homes against disasters. In parallel, it promotes the use of nature-based solutions (NBS) as cost-effective strategies to reduce natural hazard risks and bolster climate resilience while yielding benefits for biodiversity, communities, and local economies.

Many GFDRR initiatives occur in urban areas, which are home to over half the global population; these urban populations are expanding predominantly in low- and middle-income countries. These burgeoning cities drive economic growth but face increased disaster and climate change vulnerabilities without adequate tools to confront these issues. By 2030, disasters will cost cities $415 billion per year and push 75 million urban residents into poverty. GFDRR addresses urbanization by supporting cities to conduct risk assessments, carry out risk-informed land use planning, design resilient infrastructure systems, and determine opportunities for private sector engagement and financing, among others.

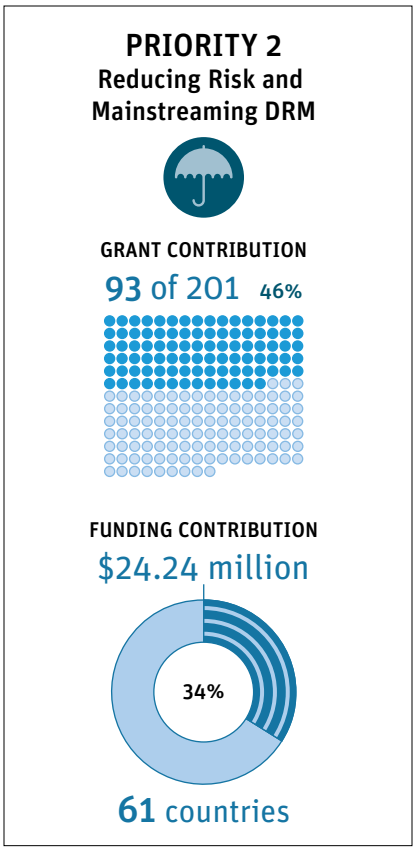
Major Outcomes and Impacts

Building Urban Resilience Strategically

Climate change stresses critical urban systems: the built environment, infrastructure, ecosystems, and communities. This leads to a harsher and less sustainable life for city dwellers and creates complex challenges for subnational governments. To address this situation, pathways to sustainable adaptation investments are crucial. Investments should drive employment opportunities, inclusiveness, and well-being among urban populations.

GFDRR, through the City Resilience Program (CRP), responds to this challenge by facilitating new urban resilience investments, helping cities explore planning and financing opportunities, and ensuring that projects move forward in a risk-informed manner.

In **Egypt**, for instance, CRP helped develop a resilient city priority investment framework of 14 critical interventions specifically tailored to enhance the resilience of Alexandria, while in **South Africa** CRP provided prefeasibility business modeling support to nine projects across seven metropolitan areas.



CRP also focused on tackling urban heat stress in FY23, significantly enhancing its capability to provide advanced scientific modeling of excessive heat in cities. This analysis was conducted for cities in **Cambodia**, **India**, **Romania**, **Rwanda**, **Serbia**, **South Africa**, and **Tunisia** and supported developing specific heat action investment proposals. In South Africa, officials formulated targeted proposals to address urban heat stress such as green infrastructure, improved urban planning, and early warning systems.

Additionally, for the World Bank's Msimbazi Basin Development Project in Dar es Salaam, **Tanzania**, CRP provided a market-driven approach to the area's redevelopment along with guidance as to how a newly created city park in Dar es Salaam, central to the urban design of the project, could be operated sustainably over the long term. The project recently saw the approval of $260 million in concessional lending from the World Bank,

including an expected $60 million from co-financiers—a significant step toward unlocking up to four times that amount in private sector development. This multiplier effect will enable the implementation of further transformative projects, bolster economic growth, and help create lasting resilience in the city.

Other CRP activities in FY23 included:

CRP delivered its flagship rapid urban spatial analytical City Scan product for 20 cities across Africa, Europe, and East Asia and Pacific. This signature product continues to help cities make risk-informed decisions on resilient infrastructure activities and investment opportunities. CRP also developed the City Demographic and Socioeconomic Scan—a new pilot product that offers a rapid survey of essential information about a city's population, industry, and competitiveness. Additionally, the program shaped and co-funded a climate diagnostic that covered 48 cities across **Kazakhstan**, **the Kyrgyz Republic**, **Tajikistan**, **Turkmenistan**, and **Uzbekistan**.

CRP continued to provide customized and in-depth technical assistance to help cities assess climate and disaster risks and prioritize investments. In Pristina, **Kosovo**, CRP conducted a financial analysis that indicated a possible increase in real estate values if the main bus station were redeveloped in a sustainable and climate resilient manner. In **Ghana**, co-funded by the World Bank–administered trust fund PROBLUE, CRP significantly expanded its work to involve mapping the solid waste management investments needed to meet the country's climate objectives in terms of both mitigation and resilience.

Promoting Resilient Infrastructure for a Sustainable Future

Adequate and efficiently operated infrastructure is critical for society to thrive. Although investments are being made, they are not sufficient: according to the United Nations Conference on Trade and Development (UNCTAD)'s *World Investment Report 2023*, an additional $4 trillion in annual investments is needed to achieve the Sustainable Development Goals (SDGs). Without resilient infrastructure, vulnerability and losses will persist for decades. To address these challenges, the Sendai Framework for Disaster Risk Reduction 2015-2030 aims to reduce disaster damage to critical infrastructure and the disruption of basic services.

Farmer preparing to plant paddy in rural Sylhet, Bangladesh. Photo: © H M Shahidul Islam.

Through the 2019 *Lifelines* report, the World Bank and GFDRR provided the first systematic and evidence-based assessment of investing in resilient infrastructure and the opportunity for development. The report concluded that increasing the resilience of new energy, water, and transport assets could cost only 3 percent of full infrastructure investment needs. Therefore, the net benefit of building more resilient infrastructure in low- and middle-income countries is $4.2 trillion, with $4 of benefit for each $1 invested.

GFDRR promotes resilient infrastructure beyond physical assets, including improved regulations, risk-informed strategic planning, data-driven decision-making, asset monitoring, capacity building, and acceleration of financing. GFDRR influences 25 percent of the annual total of around $12.8 billion in World Bank infrastructure project investments through technical assistance.

For example, GFDRR has played a significant role in mainstreaming resilience in the energy and water sectors through its grants. Over the past decade, the **Bangladesh** Rural Electrification Board (BREB) has achieved remarkable success in providing electricity access to over 90 million people, making it one of the largest rural electrification initiatives worldwide. But BREB's focus on achieving universal electricity access came at the cost of not being able to invest enough in strengthening the network against extreme weather and modernizing its management.

Despite the challenges, which include limited data availability on specific attributes of the distribution network, GFDRR's technical assistance has provided valuable insights and knowledge on integrating climate resilience into Bangladesh's rural electrical distribution networks. This assistance has also directly informed World Bank–financed energy operations, particularly the $500 million Bangladesh Electricity Distribution Modernization Program (EDMP). The EDMP is assisting BREB in developing a climate-resilient Rural Distribution Master Plan. This is a clear example of how GFDRR support is contributing to the development of an enabling environment for embedding resilience into energy-sector planning.

Additionally, GFDRR supported a life-cycle cost analysis that found that ultra-high-performance concrete (UHPC) bridges not only have superior structural durability, but they also have a lower life-cycle cost than traditional reinforced concrete cement bridges. Despite the higher cost per cubic meter of UHPC bridges, their exceptional strength and durability enable slimmer designs and reduce the amount of material used. In line with the government of **Vietnam's** goal of generating livelihood

Bridge in Vietnam. Photo: © Quy Tran.

opportunities for domestic manufacturers, GFDRR contributed to an assessment that explored the use of local materials in the production of UHPC. GFDRR also aimed to strengthen public sector capacity for road asset data and investment prioritization. By demonstrating the utility of an expenditure framework that considers natural hazard and climate change risks for road network investment and maintenance decision-making, GFDRR helped Vietnamese officials develop a stronger understanding of where road network improvements are most needed and consolidate legacy road asset data for 14 provinces.

These studies supported the preparation and implementation of the World Bank's Results-Based Operation for Local Bridge Construction and Road Asset Management Project for Vietnam. This seven-year project, which started in 2016 and closed in June 2023, enhanced resilient transport infrastructure for rural communities in 51 provinces. The program benefited around 11.3 million people through improved and resilient transport infrastructure. Additionally, about 51,000 kilometers of rural roads received routine maintenance, 1,824 communes have access to new or rebuilt bridge connections, and 2,432 bridges were built or reconstructed.

To mainstream resilience in water utilities in **Indonesia**, GFDRR partnered with a local educational institution to enhance the capacity of the country's water utility operators. This partnership involved the development of training modules that have now been incorporated into the curriculum, ensuring the sector's long-term resilience and sustainability. Notably, three local water utility providers have adopted disaster resilience considerations into their operations as a result of GFDRR's support.

The three examples—in Bangladesh, Vietnam, and Indonesia—illustrate effective resilience enhancement of World Bank investments and GFDRR's opportunity for impact in the infrastructure sectors. These activities show how access to improved hazard and asset data, studies to identify improved design solutions and assess their economic benefit, and capacity building can develop the enabling environment to accomplish the objectives set in the Sendai Framework.

In FY23, technical assistance to the Rwanda urban mobility project (a $100 million project in the pipeline for FY24) included a spatial overlay of the transport infrastructure with temperature measures (prepared in collaboration with CRP) and a workshop with the government to discuss findings. As a result, the government of **Rwanda** included considerations about heat in the feasibility studies of the Nyabugogo bus terminal. The feasibility study is also being informed by an ongoing flood risk assessment led by GFDRR, and the study is expected to cover seismic and landslide risks as well.

For addressing dam safety, GFDRR-funded **Nepal** Dam Safety and Disaster Risk Management (DRM) technical assistance has been crucial in addressing these vulnerabilities, especially in support of the Upper Arun Hydro Electric Project (UAHEP). Key initiatives include the development of a pilot decision support system for real-time monitoring and forecasting of hydrometeorological conditions and the dam safety seismic guideline, which will provide tailored seismic design. Moreover, the National Disaster Risk Reduction and Management Authority—which is leading the DRM action plan for the UAHEP—established a transboundary working group and a forum for hydropower developers to promote collaboration and data sharing among stakeholders, including a significant number of women. Additionally, a separate $526,000 GFDRR grant for the Upper Arun Hydropower Project is expected to further advance seismic guidelines and DRM plans in the upcoming fiscal year.

Creating Safer Schools for Children

Every year, natural hazards disrupt school activities worldwide. Globally, over 6.6 million school buildings are vulnerable to these disasters, which have become more severe as a result of climate change. Hundreds of millions of children live in areas with high exposure to these hazards and around 175 million have their lives disrupted by natural hazards every year. As a result, millions of children are unable to attend school for extended periods and may never return.

Making schools safer not only ensures the continuity of learning but also significantly reduces fatalities caused by disasters. Each year, approximately 2,500 children lose their lives because of school buildings damaged by earthquakes. The Global Baseline of School Infrastructure, part of the Global Library of School Infrastructure (GLOSI) repository developed by GFDRR, provides this

type of quantitative information on the impact of natural hazards on schools and communities.

GFDRR grants are also making significant impact in countries such as **Angola** by driving policy reforms that aim to enhance the resilience of school infrastructure. These reforms are bringing about positive changes, including the development of new guidelines for the resilient construction and retrofitting of schools. The guidelines prioritize resilience, sustainability, and inclusivity objectives, ensuring that schools are better equipped to withstand and recover from various events. The implementation of these guidelines will have a direct impact on the construction and retrofitting of schools under the World Bank's Girls Empowerment and Learning for All Project. By incorporating resilience, sustainability, and inclusivity principles into the construction process, the project will create safer and more resilient learning environments for girls and all students. This will not only improve the physical infrastructure of schools but will also contribute to the overall well-being and educational outcomes of the students. About 270,000 students from 300 schools are expected to benefit from this operation.

In **the Kyrgyz Republic**, GFDRR's technical assistance had a significant impact by supporting the government in preparing special design criteria for the construction and retrofitting of numerous schools. The criteria focus on improving the seismic performance of the schools—in line with the objectives of the World Bank–financed Enhancing Resilience in Kyrgyzstan (ERIK) project—which the safer schools thematic area has supported since 2019. The efforts of GFDRR and the government are not limited to individual schools alone, but these efforts extend to the development of a comprehensive intervention strategy. This strategy aims to improve the resilience of school infrastructure nationwide, ensuring that it brings about the maximum benefits in terms of resilience, sustainability, and inclusivity for both the students and communities. GFDRR has initially focused on 40 prioritized schools, providing the Kyrgyz Republic with an enhanced framework. This framework will guide the Ministry of Education in making efficient investments in school infrastructure, resulting in comprehensive benefits such as reducing disaster risks, addressing climate and environmental impacts, and improving the quality of the learning environment. Ongoing projects in the country are projected to benefit over 3,300 schools and 1.44 million students.

In Nagaland, **India**, GFDRR conducted rapid diagnostics on 70 sample schools in 2022 to understand the vulnerabilities, intervention needs, and socioeconomic characteristics of representative school infrastructure types. This engagement directly supported the Nagaland: Enhancing Classroom Teaching and Resources project. To holistically improve safety, resilience, the learning environment, and environmental health, school upgrade design guidelines were developed. These guidelines provided integrated intervention solutions for the school community. Additionally, a prioritization tool was created to assist the local government in efficient school infrastructure planning, identifying intervention needs and priorities. Furthermore, GFDRR provided high-level recommendations on local regulations, processes for school infrastructure improvement, and financing mechanisms. These recommendations will be crucial for the upcoming statewide investment plan. Almost 2,070 schools are expected to benefit from these projects, with 150,000 students projected to be positively impacted.

A new project, resilient and learning-oriented school infrastructure in **Iraq**, was launched in 2022 to integrate criteria for disaster risk reduction and improved learning environments into planned and future school infrastructure investments. In 2023, several reports were developed to guide the project's implementation. A construction environment report identified four representative school building types and provided recommendations for existing regulations and processes for school infrastructure. A baseline and hazard exposure report assessed the current state of school infrastructure in Diyala Governorate and the schools' vulnerability to earthquakes, fluvial and pluvial floods, and landslides. A financial environment report evaluated the budget expenditure on existing and new school infrastructure, offering scenario recommendations. Additionally, a spatial analysis was conducted to inform the selection of new school sites based on student population and school deficit distributions. This project is expected to benefit more than 500,000 students from nearly 1,700 schools.

Over 10 years, GFDRR has supported 35 countries across all five regions through projects that benefitted over 121 million students in around 564,000 schools and informed the design and implementation of more than $3.1 billion in World Bank–financed school infrastructure operations.

Providing Resilient Housing Solutions

GFDRR recognizes the urgent need to address the housing challenges faced by millions of people globally, who often reside in substandard homes on hazard-prone land and have limited access to credit or insurance. It aims to provide families with resilient housing solutions, protect government budgets, and contribute to a more sustainable environment.

In **Indonesia**, the thematic area has provided support to the National Affordable Housing Program ($450 million) that bolstered the resilience and standards of Bantuan Stimulan Perumahan Swadaya (BSPS), one of the largest home improvement programs globally. Through the technical assistance provided, the country team helped the government raise BSPS's resilience standards from 11 percent in 2018 to 75.3 percent in 2023. The impact of the project extends beyond directly influencing 238,037 households. It has also had a substantial effect on the $1.28 billion spent by the government on BSPS, benefiting a total of 938,606 households.

Additionally, the technical assistance provided to the Central Sulawesi Rehabilitation and Reconstruction Project ($150 million) has identified (1) policy areas that can strengthen the country's capacity to respond to future housing reconstruction needs; and (2) opportunities to scale up the use of a modular technology (RISHA Technology), which has played a key role in ensuring compliance with resilience standards under the project. This technology allows for the construction of a 36-square-meter housing unit in just five days with a team of four minimally trained masons at a cost of less than $6,000 (excluding the land costs). This efficient and cost-effective technology has the potential for expansion, as it has been successfully tested for two-story structures and also in the construction of small schools.

In **Mexico**, GFDRR helped the country team support the government to achieve two challenging objectives: reaching the most vulnerable population while mobilizing private capital. The technical assistance provided has facilitated the strengthening of green and resilient housing standards within the country's housing programs. It has also led to the rationalization of housing subsidy schemes by connecting them to other financing sources across the board with a deliberate focus on targeting areas with the highest vulnerability and housing needs. Prior to GFDRR's technical assistance, only 3 percent of the annual $222 million housing budget was allocated to address the housing deficit and disaster vulnerability in the southern areas. However, with the assistance provided, the government redirected a higher proportion of subsidies to the areas with the greatest need. Over 60 percent of these subsidies now benefit informal workers. The successful implementation of the Improving Access to Affordable Housing Project ($100 million) has resulted in the mobilization of $170 million in credits despite the focus on vulnerability. The impact of the technical assistance on rationalizing government housing resulted in redirecting support away from those who do not require it and facilitated the mobilization of $1.93 billion in loans for new and improved housing.

In **Türkiye,** the technical assistance provided through a GFDRR grant had a significant impact on the Ministry of Environment, Urbanization and Climate Change. It helped the ministry understand the complexities of area-based investments in housing resilience under the urban transformation policy and the scale of financing needed to reduce the massive risks in this sector. To address the large-scale need, involving the private sector was essential. The technical assistance included specific investment opportunities for the private sector, an e-learning course on financing models for urban transformation in Turkish, and two pre-feasibility technical review studies for Tekirdağ and Kahramanmaraş Metropolitan Municipalities.

In **Maldives,** the World Bank–GFDRR partnership is empowering the Ministry of National Planning, Housing and Infrastructure to enhance disaster and climate resilience. A grant funded by GFDRR improves housing standards in response to changing dynamics, geography, and climate change vulnerabilities. The Builders' Guide, a tangible outcome of the grant, provides a blueprint for sustainable construction practices that integrate inclusivity and resilience. The grant offers valuable lessons, combining technical assistance and enhancing resilient capacity. The success of the Builders' Guide depends on ownership, medium of dissemination, and outreach strategy. The Guide has the potential to transform Maldives' approach to climate and disaster resilience, shaping the future development of the country.

Other technical assistance provided to enhance housing resilience in different regions include using geospatial analysis and satellite imagery to identify and classify pockets of poorer, unplanned neighborhoods in Luanda, **Angola**; advising on the adoption of geo-enabled Management Information Systems for housing reconstruction after floods in Sindh province, **Pakistan;** and, in **Colombia**, assessing the current subsidy scheme for the national government and exploring the potential of expanding the home improvement microfinance market.

Enhancing the Resilience of Health Systems

GFDRR started a new initiative in FY22 to enhance the resilience of health systems to various shocks, generating targeted knowledge, tools, and data-driven analytics to identify critical gaps and opportunities in countries' health systems. Through these tools, countries can prioritize measures to strengthen health systems and facilitate access to critical health services during and after shocks, when people are particularly vulnerable, thereby contributing to the goal of reducing global disaster mortality and morbidity.

The initiative also directly supports World Bank teams' country-level engagements through analytics and advisory services. These services help identify critical gaps in at-risk communities, as well as gaps in health infrastructure and underlying lifelines infrastructure that require investments. They also identify areas where policy reforms and capacity building are needed.

For example, the application of GFDRR's Frontline Scorecard to assess the DRM capabilities of the health sector in **Belize** has helped to identify the need to upgrade and strengthen medical storage infrastructure and supply chains. The assessment helped in making a decision that constructing a new medical storage facility was necessary and cost-effective, and the government made a request to the World Bank to restructure the currently active COVID-19 response project to finance the construction.

Furthermore, a suite of methods to prioritize health facilities for DRM upgrading utilizes artificial intelligence (AI)-based tools to identify the most at-risk facilities and regions based on disaster exposure and population vulnerability. This method is informing a $100 million health infrastructure investment project in **Colombia**, as well as pertinent

components of projects in **Indonesia** and project preparations in **Peru**.

Additionally, in **Indonesia**, technical support informed the Indonesia Health Systems Strengthening Project under preparation, with a total budget of $4 billion. At the request of the Indonesia Ministry of Health, GFDRR supported the development and implementation of an online government platform that has now been launched. The platform enables real-time deployment and tracking of health specialists during disasters using historical experience and continuously updated data.

In **Tajikistan,** the technical assistance has helped incorporate DRM into the national health plan as part of the country's health reform. These engagements continuously support the health and country teams in their thematic assistance to the government.

An engagement in **Peru** initially involved a risk exposure analysis of health facilities and vulnerable populations. It has evolved into a request from Peru's Ministry of Health to develop a simple version of the risk-informed prioritization tool and an annual training program with a focus on DRM topics for regional health planners. Results of the analysis also highlighted regionally different needs, stemming from the diversity of risks in the country, and the need to update the plans and resources. This work informed a hospital rehabilitation and reinforcement project under preparation.

Fortifying Buildings through Regulations and Governance

Building codes and land use planning set minimum requirements for the site selection, design, and construction of buildings. These regulations have proven to be highly effective in improving the safety of building occupants, promoting healthier environments, and reducing disaster damage and losses. However, not all countries have comprehensive and clear building regulatory frameworks in place.

Global experience has shown that continuous efforts to enhance the quality of regulations, enforce the compliance mechanism, and build the capacity of the building sector are crucial for establishing a sustainable ecosystem that promotes resilience, environmental sustainability, and universal accessibility in the built environment. GFDRR also contributes to helping countries achieve the goals of the Paris Agreement through the promotion of a green, resilient, and inclusive built environment.

For example, in Zanzibar, **Tanzania**, GFDRR is making a significant impact by providing technical support to the government through the Boosting Inclusive Growth for Zanzibar (BIG-Z) project. This includes setting up the country's first construction material testing lab and conceptualizing the country's first building code informed by local hazards and the unique built environment, including protecting the famous World Heritage Site the Stone Town of Zanzibar. The concept for the scope of the building code was developed through wide stakeholder consultations with over 50 professionals. The government is now preparing to bid the process to elaborate the technical content of the code as part of the BIG-Z project.

Additionally, GFDRR developed a Building Regulatory Capacity Assessment (BRCA) methodology and checklists to review building codes in areas such as structural resilience, fire safety, green buildings, and universal accessibility. These tools, created in response to requests from governments and task teams, are based on comparative studies of international building codes. So far, the fire safety and green buildings modules have been published and utilized to conduct assessments in some countries. Plans are underway to organize events in FY24 to further disseminate these tools and share insights from pilot applications.

An example of how BRCA methodology was used can be demonstrated in **Maldives**, where GFDRR has supported the enhancement of the regulatory capacity and resilience of the construction sector. The facility has been working with the government and task teams for more than five years, supporting the preparation of two World Bank–financed projects: the Maldives Urban Development and Resilience Project (MUDRP) and the Maldives Development Policy Financing (DPF) with a Catastrophe Deferred Drawdown Option (Cat DDO). As part of this process, a BRCA was conducted to understand the current situation and recommend relevant policy actions and investment activities for improvement. The government was also able to issue important code compliance documents. Under the MUDRP, GFDRR is supporting the review and redesign of the construction approval process and the development of a strategy for its digitalization. As a result, the government is currently preparing to integrate the construction approval function into its e-Government platform.

Stone Town of Zanzibar, Tanzania, UNESCO World Heritage Site. Photo: © URF.

The Lakes of Ounianga in Chad were declared a UNESCO World Heritage site in 2012. Photo: © HomoCosmicus.

In **Sierra Leone,** important analytical work was conducted to assess the country's legal and institutional framework and local implementation capacity on building regulations. This work includes rapid diagnostic using the BRCA tool developed by GFDRR. The diagnostic identifies gaps in regulatory frameworks and proposes actions to optimize the regulatory systems and processes in the country. This work is particularly valuable in assessing issues such as urban deforestation, encroachment, and urban sprawl around Freetown. These findings are being put into action as part of ongoing lending operations by the World Bank, such as the Resilient Urban Sierra Leone Project and the Sierra Leone Economic Diversification Project.

The FY23 regional flagship report *Building Regulations in Sub-Saharan Africa* provides an extensive data set on building regulations in 48 Sub-Saharan African countries. This publication serves as a basis for the World Bank to initiate policy dialogue around urban resilience, including resilience of the built environment and the regulatory framework that supports it. It highlights that, while 45 countries have some form of legally adopted building regulations related to planning and building control, only 25 of these countries have specific provisions for building design. Furthermore, among these 25, 8 countries have limited regulations that might omit important aspects such as structural design or basic sanitation.

Using Nature-Based Solutions for Disaster Risk Management and Resilience

The Sendai Framework recognizes that environmental degradation contributes to hazards, while disasters can also negatively impact the environment. For this reason, environmental management is essential to reduce disaster risk and increase resilience. Nature-based solutions (NBS) are cost-effective measures to minimize risks from natural hazards and build climate resilience while benefiting biodiversity, communities, and local economies.

Despite increased knowledge about the benefits of NBS, these solutions still make up a minor share of investments in climate resilience, and significant technical and financial gaps remain. GFDRR aims to consolidate and scale up the advances in NBS for addressing climate-resilience challenges throughout the World Bank's activities.

During the fiscal year, GFDRR fully developed the NBS Opportunity Scan (NBSOS), an on-demand mapping service to identify areas of opportunity for specific types of NBS (e.g., urban wetlands, urban parks, mangroves) based on openly and globally available geospatial data sets. World Bank teams can request this product for their project area of interest, and a recommendation can be delivered within six weeks. The NBSOS was applied in 32 cities, four coastal landscapes, and two regions in 2022 and 2023, and it can play a critical role integrating NBS into lending operations in the project identification phase.

For instance, the recently approved N'Djamena Urban Resilience Project ($150 million in International Development Association, or IDA, investment) in **Chad** was informed by the NBSOS, which supported the identification of locations and the NBS types specified in the project document. As a result of this support, this project now includes a results indicator that specifically measures the proximity of people benefiting from implemented NBS in the city; the project was approved in FY23.

In the **Democratic Republic of Congo**, the NBSOS was part of a technical study to identify NBS investment opportunities for low-carbon development and urban resilience in the city of Kinshasa. The study informed the integration of NBS under planned investments of the Kinshasa Multisector Development and Urban Resilience Project, a $500 million IDA investment. The scan identified potential locations and suitable NBS types in the city, including the creation and restoration of urban forests, green corridors, and green roofs as effective methods to address erosion, flood risks, and heat island effects. The study was unique in that it recommended suitable plant species for the identified NBS by the NBSOS and accounted for carbon sequestration benefits of the potential NBS.

In **the Kyrgyz Republic**, GFDRR provided a grant to assess and evaluate green, gray, and hybrid measures to mitigate mudflow impact and safeguard communities and landscapes in the southern region of the country. This technical assistance will inform a forthcoming $50 million resilient landscape restoration project, co-financed by the World Bank's IDA and PROGREEN trust fund. Combining NBS with gray infrastructure and policy interventions could effectively address mountainous hazards in the project area.

GFDRR's NBS thematic area has informed $6 billion in World Bank–financed projects to date. These projects impacted more than 2 million people in FY23, bringing the cumulative total to 11.9 million people.

CITY RESILIENCE PROGRAM

In Focus Informing Flood Risk Investments in Bamako, **Mali**

Bamako is one of the world's fastest growing cities. Its population has more than doubled since 2000, and this rapid increase is expected to continue in the coming decades.

Critically, 63 percent of the city's inhabitants live in informal settlements. This uncontrolled development, combined with increasingly frequent and severe rain events, makes the city especially vulnerable to flooding: in 2019, 16 people were killed in just one night of flooding in Bamako, with thousands more affected. Inadequate waste and wastewater management mean that these floods are often followed by outbreaks of waterborne diseases.

Confronted with this worsening situation, the World Bank and the government of **Mali** began preparing a World Bank lending operation to reduce these risks: the Bamako Urban Resilience Project. The City Resilience Program (CRP)'s first contribution to the project was a rapid assessment to identify areas exposed to flood risk. The assessment confirmed that even the $250 million of financing earmarked for the project could not meet all the city's resilient investment needs.

CRP's next contribution was to analyze how private finance could be mobilized to help achieve more of the government's resilience objectives. CRP provided analysis and guidance on how best to help fill the financing gap by attracting private sector capital for resilience investments. Early in the project planning process, CRP analysts studied the legal and commercial context on the ground and identified entry points for private capital. Several concrete opportunities were presented to the CRP team for deeper analysis: the rehabilitation of a busy, flood-prone bus terminal in the Sogoniko neighborhood; the rehabilitation of a wholesale vegetable market that suffered from health and safety problems; a project to fund a new city hall through colocation with commercial tenants; and the construction of new transport hubs to relieve congestion and improve road safety.

CRP screened these four potential projects to test whether they were commercially viable and whether the anticipated private investment was likely to materialize, given the institutional and microeconomic context.

CRP's analysis revealed fundamental investment barriers for three of the proposed projects, including the need for sites to be identified before one project could be properly assessed, a precondition for unrealistic rents to achieve viability in another, and a lack of stakeholder commitment in the third. The Sogoniko bus station project, however, had the best prospects for attracting private capital and, through the investment, achieving long-term improvements to the city's resilience.

The Sogoniko bus station is a vital transport hub. One of three primary bus stations in Bamako, it provides passenger services to other cities in Mali and the capitals of neighboring countries. It is one of the busiest stations in Mali and is the only hub on the south bank of the Niger River. At the same time, it suffers from frequent and disruptive flooding. CRP's analysis tested whether reduced flooding would make commercial activities within and around the bus station more profitable, leading to higher potential rents from commercial tenants. If so, a portion of this increase could be used to support the financing cost of the flood investments themselves.

Discussions revealed strong interest in the bus terminal project from merchants, traders and other stakeholders, so CRP scrutinized the business case in further detail. This investigation showed that the prospect of raising rents enough to support the cost of rehabilitating and flood-proofing the bus station was overly optimistic. This would have meant the city would have needed to use its own budget, or find alternate revenue sources, to repay the private investment. CRP therefore advised the city that, despite the merits of the concept, the investment should not go ahead in this format. Working with this information, the government subsequently decided that the bus station's flood exposure should be addressed instead as part of a wider intervention in the district, funded by the concessional resources of the World Bank's lending operation.

Rapid population growth makes Bamako, Mali, especially vulnerable to flooding.
Photo: © Thomas Brissiaud.

RESILIENT INFRASTRUCTURE

In Focus Enabling Risk-Based Asset Management of Infrastructure in St. Lucia

In recent decades, the small island developing state of St. Lucia has made significant strides in its development, due in no small part to major investments in its national infrastructure. Yet today, as with many of its peers in the Caribbean, much of the country's infrastructure—from roads to schools and hospitals—is under pressure from the impacts of intensifying disaster and climate risks. In 2010, Hurricane Tomas resulted in more than $330 million in damages to economic, social, and natural assets across St. Lucia.

The government of St. Lucia is fully committed to reducing disaster and climate risks to its national infrastructure, cognizant of its importance for the country's financial resilience and wider development agenda. Building upon resilience measures for critical infrastructure under the World Bank's Disaster Vulnerability Reduction Project, a team has provided the government with training and technical assistance on the design and implementation of St. Lucia's first-ever risk-based infrastructure asset management system. The team was supported by GFDRR and the World Bank, in partnership with the European Union (EU), within the framework of the EU-funded Caribbean Regional Resilience Building Facility (CRRBF).

A key focus of the team's initial engagement with their counterparts, which included the Ministry of Finance and the National Integrated Planning and Programme (NIPP) Unit, was to demonstrate the value and importance of risk-based asset management for infrastructure. At the most basic level, as the team emphasized, a risk-based approach to infrastructure asset management would enable the government of St. Lucia to incorporate assessments of disaster and climate risks, among other risks, into how they prioritize investments across the national infrastructure. In doing so, the government would be able to optimize its investments in such a way that these are directed where vulnerabilities in the national infrastructure are the greatest and where limited financial resources can be used most efficiently. From a fiscal standpoint, the result would be a reduction in the cost of disaster impacts on critical infrastructure, a goal that was a cornerstone of the country's disaster risk financing strategy approved in 2018.

The team also worked closely with their counterparts from St. Lucia to unpack the main challenges and opportunities with regard to the design and implementation of risk-based infrastructure asset management. One identified opportunity was that the NIPP Unit, the lead coordinating agency for infrastructure resilience, had a clear mandate to carry out this new approach to infrastructure asset management. On the other hand, an identified challenge was the lack of requisite staffing within the NIPP Unit.

Workers in St. Lucia repairing damaged bridge from Hurricane Tomas.
Photo: © jaminwell.

Subsequently, the team worked closely with their St. Lucian counterparts so that they could gain hands-on practical training at every step of the development of a risk-based asset management system. Some of the key steps covered included the identification of assets, the condition assessment and valuation of those assets, the development of protocols for asset prioritization and maintenance and repair, and overall ownership of the asset management system. The NIPP Unit has since taken the lead in developing a roadmap for the development of risk-based asset management based on these steps.

As the government of St. Lucia moves ahead with risk-based asset management for its national infrastructure as part of its broader disaster risk financing strategy, GFDRR and the World Bank are firmly committed to supporting that effort for the long haul. Elsewhere in the Caribbean, the facility and the World Bank are also on the frontlines of supporting risk-based asset management for infrastructure in Anguilla, Grenada, and Montserrat.

GFDRR and World Bank support of risk-based infrastructure asset engagement only deepen a long-standing partnership for resilience-building with St. Lucia. Recent support has involved technical assistance toward ensuring the country's business continuity in the face of disasters and climate change, as well as analytical work unpacking the challenges and opportunities at the intersection of gender and disaster risk management.

CLIMATE AND DRM FOR HEALTH SYSTEMS

In Focus Informing Resilience-Building in Colombia's Health System through a Risk Exposure and Vulnerability-Based Assessment

Chapinero neighborhood in Bogota, Colombia. Photo: © simonmayer.

Few investments are as critical for population health, people's livelihoods, and effective emergency response as those that make health systems resilient. According to the overwhelming consensus of the scientific community, the trend of disasters becoming more frequent and more severe will only continue, increasing pressure on health systems worldwide, especially in the poorest countries. Confronted with these challenges, health systems need to adapt and prepare to ensure continued access to life-saving services for all people, including the most vulnerable populations. Interventions to increase health systems' resilience to shocks and their ability to maintain services and accessibility can also improve the quality and accessibility of routine care.

Against this backdrop, in recent years, the Colombian government has worked on a range of policy and legislative instruments to increase resilience of the country's health sector. With support from GFDRR, under the auspices of the Japan–World Bank Program for Mainstreaming Disaster Risk Management in Developing Countries, a technical team has been supporting Colombia in using innovative analytics to inform its resilience-building efforts in the health sector while also strengthening cross-sectoral collaboration. That support has been provided in the context of a request from the Colombian Ministry of Health to perform a climate and disaster hazard assessment of its health system.

The analytical work undertaken by the team includes estimates for facility and population risk exposure to flooding and landslides, two of the most common natural disasters in Colombia. It also includes estimates on exposure to risk factors that are likely to change significantly with climate change, such as exposure to extreme heat and extreme cold. Geospatial results showed that primary health care facilities serving between 17 and 25 million people are directly exposed to the risk of flooding or landslides, and about 1 in 5 health care facilities are directly exposed to disruptive floods. The results of the analytical work will be published in a forthcoming World Bank report on climate and health, the first flagship report on that topic from the institution.

As part of the analytical work, the team also developed a tool that enables the combined assessment of risk exposure and vulnerability indicators of people and infrastructure elements—in this case, health facilities—to identify the communities with the highest need for policy intervention. The new tool facilitates the inclusion of social vulnerability criteria to effectively target the most vulnerable populations, such as women, the elderly, or indigenous groups and ethnic minorities, while simultaneously accounting for risk exposure and availability of health services.

Over the course of the policy engagement and dialogue in support of the analytical work, the team was able to strengthen links between different government actors and regional stakeholders, promoting cross-sectoral cooperation for health system resilience. In bi-weekly meetings, key partners included Colombia's Department of Environmental Health, its National Health Institute, and its Department of National Planning. The French Development Agency (AFD), which co-financed the work, also had a seat at the table. Further participants included the government's Disaster Risk Management Unit and the Pan American Health Organization (PAHO). These links are highly important in creating awareness of the cross-sectoral impacts that development projects can have on health sector resiliency and disaster preparedness. By accounting for cross-sectoral co-benefits, projects can reach more people effectively and investments can become more efficient.

Looking ahead, this analytical work is expected to inform a forthcoming World Bank project that aims to upgrade the resilience of health facilities in Colombia to shocks, among others. The project will prioritize health facilities based on the tool assessing both risk exposure and vulnerability indicators made possible through this engagement. This prioritization will represent the adoption of a systemwide approach to risk exposure and vulnerability, as called for by the GFDRR and World Bank *Lifelines* report.

Across the globe, the way in which governments prioritize their resilience investments must be constantly responsive to the ever-evolving climate and disaster risks. The hope here is that through this engagement, policy makers in Colombia will begin to have the tools they need to make that happen. In doing so, Colombia will lay the foundations for a health system resilient in the face of evolving challenges while simultaneously improving access to health services for the most vulnerable people. As this engagement illustrates, GFDRR is in a unique position to strengthen cross-sectoral collaboration and to promote the importance of disaster risk management expertise in other sectors while increasing health systems' resilience to shocks.

Skyline of Roseau in Dominica. Photo: © Nancy Pauwels.

BUILDING REGULATION FOR RESILIENCE

In Focus Strengthening Building Code Compliance and Enforcement in Dominica

From hurricanes to earthquakes, disasters are all too common in the Caribbean, bringing about devastating human and economic losses year after year. For example, in 2017, Hurricane Maria resulted in nearly $1.4 billion in damages and losses for Dominica—equivalent to roughly 226 percent of its gross domestic product.

Even as some member countries of the Caribbean Community (CARICOM), such as Dominica, have adopted building codes that improve the safety and quality of construction and take into consideration natural hazards, effective enforcement of these codes remains lacking. Across CARICOM, there is broad agreement that, in order to address this problem effectively, building professionals and relevant government stakeholders need the right tools and capacity to strengthen code compliance and enforcement mechanisms.

With support from GFDRR and the World Bank, and in partnership with the European Union (EU) within the framework of the EU-funded Caribbean Regional Resilience Building Facility (CRRBF), a technical team has supported Dominica in developing a comprehensive training program for building code compliance and enforcement. A key goal of this initiative has been to provide Dominica's peer countries in the CARICOM community with a model to follow for developing their own training programs in the space.

The team initially conducted an assessment of building code compliance and enforcement training needs in Dominica, drawing on in-depth interviews with a range of stakeholders representing regional organizations, national agencies, and the private sector, and on an exhaustive review of recent training programs in the CARICOM community.

The assessment uncovered four priority areas for both building professionals and government stakeholders: (1) improving understanding and application of national and Organisation of Eastern Caribbean States (OECS) building codes; (2) improving understanding and application of relevant engineering principles; (3) providing ways to more effectively communicate the benefits of code compliance, as well as risks and penalties for noncompliance; and (4) conducting public outreach to promote code compliance.

Informed by the assessment, a curriculum for a Training of Trainers (ToT) program was developed for Dominica that enables participants to train prospective trainees on how to strengthen code compliance and enforcement.

In addition to the four areas of improvement, a major focus of the curriculum has been to equip prospective trainees with practical information that will enable them to better assess the relative costs and benefits of various interventions to strengthen code compliance and enforcement. In order to develop this part of the curriculum, the team engaged in a cost-benefit analysis of a series of hurricane retrofitting solutions for key housing typologies in Dominica: hurricanes are, by far, the most frequent natural hazard in the country. A key finding from the analysis is that, in the context of hurricane retrofitting in Dominica, retrofit packages generally save more than they cost. So, for all house types, it is worth progressing until an advanced retrofit has been completed.

Equipped with this vital information, communities of building professionals and government stakeholders will be well-positioned to reduce risks to the built environment through better code compliance. Capacity building through the training program will also contribute to the broader fiscal resilience of the country by enhancing the resilience of the built environment in a cost-efficient manner. This program illustrates that code compliance efforts as part of the wider building regulations agenda do, in fact, go hand in hand with the equally important work of reducing the impacts of financial shocks from disasters to a country's economy under the disaster risk finance agenda.

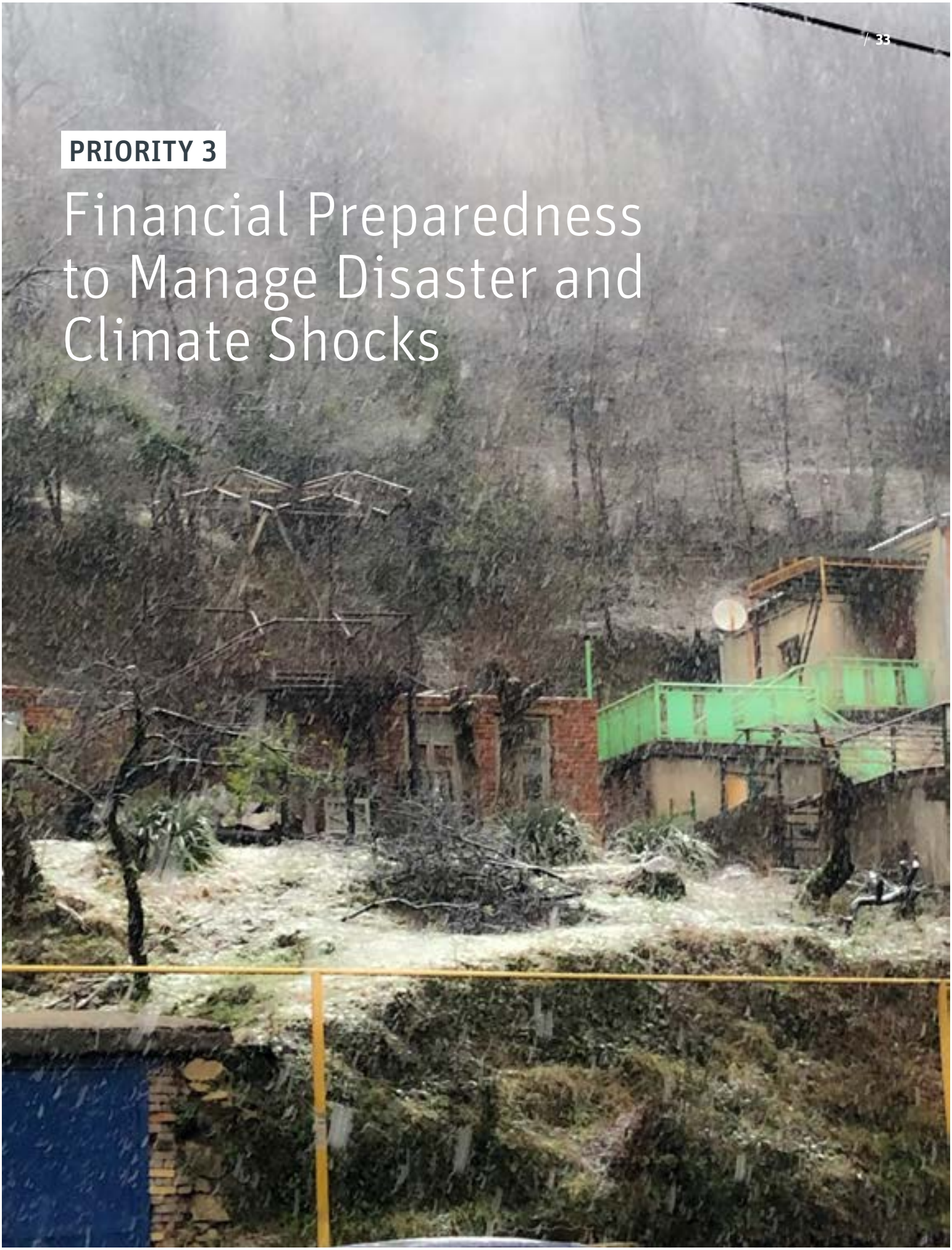
In March 2023, the team implemented a pilot of the ToT program for representatives from within the government of Dominica—officials from the Ministry of Housing, the Ministry of Public Works, and the Climate Resilience Execution Agency for Dominica—as well as representatives from the Dominica Society of Architects and the Dominica State College. The team targeted the pilot for individuals with a significant role in building regulations in Dominica, and thus those who were best positioned to become trainers in the future.

Overall, 94 percent of the participants reported in a survey that they found the ToT pilot to be "very useful" for their respective roles in building regulations in Dominica. Many expressed appreciation for the interactive structure of the pilot, which, among other hands-on features, included site visits to housing construction projects where participants were led through a series of tasks to inspect, identify, and communicate potential deficiencies in code compliance.

Following the successful pilot of the ToT program in Dominica, GFDRR and the World Bank stand ready to support the country's CARICOM peers as they embark on their own efforts to develop training programs for building code compliance and enforcement—including through the development and dissemination of a customizable training strategy and implementation plan with broad applicability throughout the Caribbean. Although other countries in the Caribbean face similar challenges, programs elsewhere in the region will need to be tailored to the specific context of each country. Going forward, GFDRR and the World Bank will continue to focus on strengthening the synergies between the building regulations agenda and the disaster risk finance agenda.

PRIORITY 3

Financial Preparedness to Manage Disaster and Climate Shocks



Heavy summer rain in the mountains of Georgia. Photo: © Alex Dze.

The objective of this priority area is to improve governance in order to strengthen financial preparedness to better manage climate and disaster-related risks in the context of broader fiscal risks from unexpected shocks. This priority area aims to (1) support countries in building disaster risk financing strategies to mitigate the impact from natural hazards by enabling preplanned and responsive finances and governance arrangements, (2) develop innovations in climate adaptation finance, and (3) strengthen internal and external partnerships to better promote inclusive disaster risk financing.

Introduction

Vulnerable countries face overwhelming socioeconomic and financial challenges as a result of compounding shocks. Each year, disasters cause billions of dollars in losses, significantly surpassing the governments' resources. Climate change aggravates these losses by increasing the severity of disasters. Since 1980, disasters from natural hazards have claimed over 2.5 million lives and caused nearly $6 trillion in damages, adjusted for inflation. This represents a 350 percent increase in annual damages—from $52 billion in the 1980s to $232 billion in the early 2020s.

Despite these escalating costs, global development finance is drastically inadequate for mitigating these crises and achieving sustainable, inclusive, and resilient development. With gaps in financing, governments are increasingly bearing the brunt of disaster costs, covering everything from fiscal transfers to subnational governments and the rehabilitation of assets to support uninsured households and small enterprises. They also face long-term challenges such as agricultural disruptions and energy price shocks. Thus, disaster risk financing strategies are vital to minimize the impact of financial losses from natural hazards and climate change by encouraging risk-based decision-making for financial protection instruments and more reliable systems for responding to and recovering from climate and disaster shocks.

In FY23, GFDRR continued to support low- and middle-income countries to develop and implement financial preparedness programs. These programs are integrated within a comprehensive disaster risk management framework, enhancing disaster and climate shock management, response, and recovery. Outlined below are the key impacts, outcomes, and outputs in FY23 for GFDRR-supported in-country activities that focused on strengthening financial resilience to disasters.

Major Outcomes and Impacts

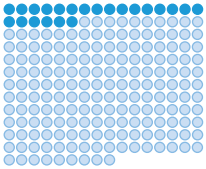
Supporting the Preparation of Cat DDOs

GFDRR's technical assistance has played a crucial role in strengthening countries' financial resilience to natural hazards. One of the notable instruments that has been increasingly utilized by the World Bank is the Development Policy Financing with a Catastrophe Deferred Drawdown Option (Cat DDO), which provides immediate liquidity in the event of a disaster, thus ensuring that countries have the necessary financial resources to respond effectively. GFDRR's support has played an important role in paving the way for the deployment of Cat DDOs. In addition to help mobilizing development finance to support countries' financial preparedness, GFDRR's support of the relevant policy and regulatory reforms, institutional strengthening, and capacity building will also help generate much broader, deeper, and longer-lasting impacts in those countries.

PRIORITY 3
Financial Preparedness to Manage Disaster and Climate Shocks

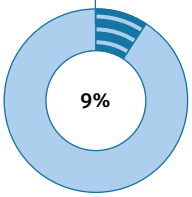
GRANT CONTRIBUTION

22 of 201 11%



FUNDING CONTRIBUTION

$6.78 million



14 countries,
3 regional and
1 global grants

In FY 23, GFDRR supported Cat DDOs, both under implementation (e.g., in **Cabo Verde**) and in preparation (e.g., in Tajikistan and Guatemala), through grants and technical assistance and knowledge creation. Many of the countries receiving GFDRR support are eligible for assistance from the International Development Association (IDA).

For example, in **Cabo Verde**, the World Bank, through a GFDRR grant, provided policy advice and capacity-building activities to help the government develop risk-informed policies and strengthen disaster risk management (DRM) policies in four key areas: (1) managing fiscal risks associated with disasters and climate-related shocks, (2) revamping the country's National Emergency Fund to cover drought-related emergency and recovery activities, (3) designing a shock-responsive safety net framework, and (4) aligning the tourism regulatory framework with its National Strategy for

People wait outside the gates of the Nouakchott City Hall, Mauritania. Photo: © mtcurado.

Disaster Risk Reduction. These activities have been reflected by the inclusion of four risk-informed policy reforms in the $52.5 million Second Resilient and Equitable Recovery Development Policy Financing with a Cat DDO approved in November 2022.

Similarly, following the volcanic eruption in **Tonga** and the subsequent tsunami in January 2022, a GFDRR grant supported a Global Rapid Post-Disaster Damage Estimate (GRADE) and technical assessments, vital for Tonga's recovery and reconstruction, especially in the housing and tourism sectors. The GRADE assessment set a precedent for future rapid post-disaster assessments in Pacific Island countries.

The grant facilitated the approval of $39.5 million for Tonga's post-disaster response and recovery program. This included about $20 million in supplemental financing to the Second Resilience Development Policy Operation with a Cat DDO; $14.5 million for the Tonga Safe and Resilient Schools Project, of which $10 million was from the IDA's Crisis Response Window; and $5.0 million in additional financing to the Pacific resilience program–Tonga project to enhance emergency systems and disaster preparedness.

In **the Philippines,** the impact of GFDRR's support for the government's evaluation of the National Disaster Risk Reduction and Management Fund (NDRRMF) has been significant. This assessment included a thorough examination of the NDRRMF's policy, legal, and regulatory frameworks, as well as an analysis of the range of projects eligible for NDRRMF funding. A detailed public expenditure review from 2015 to 2021 was also conducted. These efforts have notably enhanced the effectiveness and outcomes of policy reforms associated with the Fourth DRM Development Policy Loan, which includes a Cat DDO.

In **Tajikistan,** GFDRR's activities are contributing to policy reforms for the preparation of a Cat DDO. GFDRR will deliver capacity-building activities for the Ministry of Education and Science, as well as other governmental and research institutions, to enhance the resilience of school infrastructure, hydrogeneration, and power transmission assets. Additionally, technical assistance and capacity-building support will be provided to identify multi-hazard risks and innovative protection measures for critical infrastructure. The government's ability to respond promptly and effectively to disasters and manage their fiscal impacts will also be improved.

In Latin America and the Caribbean, GFDRR grants played a crucial role in implementing institutional, policy, and regulatory reforms under Cat DDOs in **Guatemala** and **Panama**. These reforms aimed to enhance disaster preparedness and response capabilities, integrate DRM principles into public expenditure and financial strategies, promote resilience-building policies, and support public investments and DRM institutional development.

Analytics Driven Financial Strategies

In **Moldova,** the impact of a GFDRR-funded grant for a funding gap assessment has been pivotal in enhancing the government's understanding and preparedness for future disasters. This assessment provided crucial insights into the potential financial shortfalls that the government may face in the wake of disasters. By estimating the size of this potential funding gap, the assessment has enabled the government to explore strategies for bolstering its financial readiness for disaster scenarios. Furthermore, the planned situational analysis, encompassing the economic impacts of past and potential future disasters across various sectors, will further inform the government about fiscal impacts and contingent liabilities. This analysis will also evaluate the existing institutional and legal frameworks and financial instruments for managing financial risks associated with disasters, thereby strengthening Moldova's overall DRM strategy.

A GFDRR-funded grant, which closed in FY 23, supported new analytics to inform **Timor-Leste's** readiness to manage public finances in response to disasters. Social, building, and infrastructure vulnerability to natural hazards were assessed to better understand potential risks and appropriate financial protection mechanisms. The grant supported a Disaster Risk Analytics Report and a Disaster Resilient and Responsive Public Financial Management (DRR-PFM) assessment, which equipped government stakeholders with invaluable insights into the quantification of disaster risks and opportunities to strengthen public financial management systems and processes before, during, and after crises. This intends to lead to more effective resource allocation, financial planning, and social protection.

DISASTER RISK FINANCE

In Focus Deepening Reforms for a Resilient Bhutan through a Cat DDO

From COVID-19 outbreaks to human resource constraints, recent years have seen the Royal Government of Bhutan grapple with a range of challenges as the country strives to achieve a more sustainable development path. Recognizing Bhutan's continued vulnerability to natural hazards and climate change, the government has remained as committed as ever to its long-standing efforts to build disaster and climate resilience for the long term.

Front and center in those efforts has been the government's drive, led by the Ministry of Infrastructure and Transport and the Ministry of Home Affairs, to strengthen Bhutan's comprehensive policy and legislative framework for crisis preparedness and a resilient and green built environment. Drawing on technical and financial assistance from GFDRR and the World Bank, and in partnership with the EU-South Asia Capacity Building for Disaster Risk Management Program and the Japan–World Bank Program for Mainstreaming Disaster Risk Management in Developing Countries, Bhutan has achieved several key milestones in that framework.

For starters, officials have drafted a construction bill and housing bill that will jointly provide an overarching legislative framework for the country's resilient built environment. These efforts were made alongside revisions to the country's national building regulations, designed to strengthen their enforcement and improve quality and safety standards for the construction of buildings in Bhutan. Key improvements made in the revisions include a centralized, online approval system for compliance by all engineered buildings; prohibitions on the use of construction materials with high global warming potential such as chlorofluorocarbons; and requirements that all technical drawings must address fire safety requirements.

Furthermore, officials have drafted amendments to the Disaster Management Act of Bhutan, passed in 2013, which will strengthen the country's disaster and emergency preparedness and response by integrating climate change impacts and pandemic management into the country's principal disaster law. The drafting of amendments to the law was taken up in parallel with the development of the National Disaster Management Contingency Plan, which adopts a whole-of-government approach to disaster and emergency preparedness and response.

At the same time, officials have developed a construction quality compliance mechanism (CQCM), which will serve as a framework for regulating and enforcing compliance with the country's national building regulations across all types of infrastructure and engineered buildings in Bhutan. The CQCM defines the roles and responsibilities of public and private stakeholders in the construction sector. It also provides guidance on the formulation of a quality assurance and control framework, including stepwise processes, standard operating procedures, checklists, guidelines on sanctions for noncompliance with quality requirements by contractors and procuring agencies, and relevant rules and regulations. It is anticipated that there will be an important role for the Interim Engineering Council of Bhutan, which was established with support from GFDRR and the World Bank, in registering and certifying construction professionals based on technical qualification criteria.

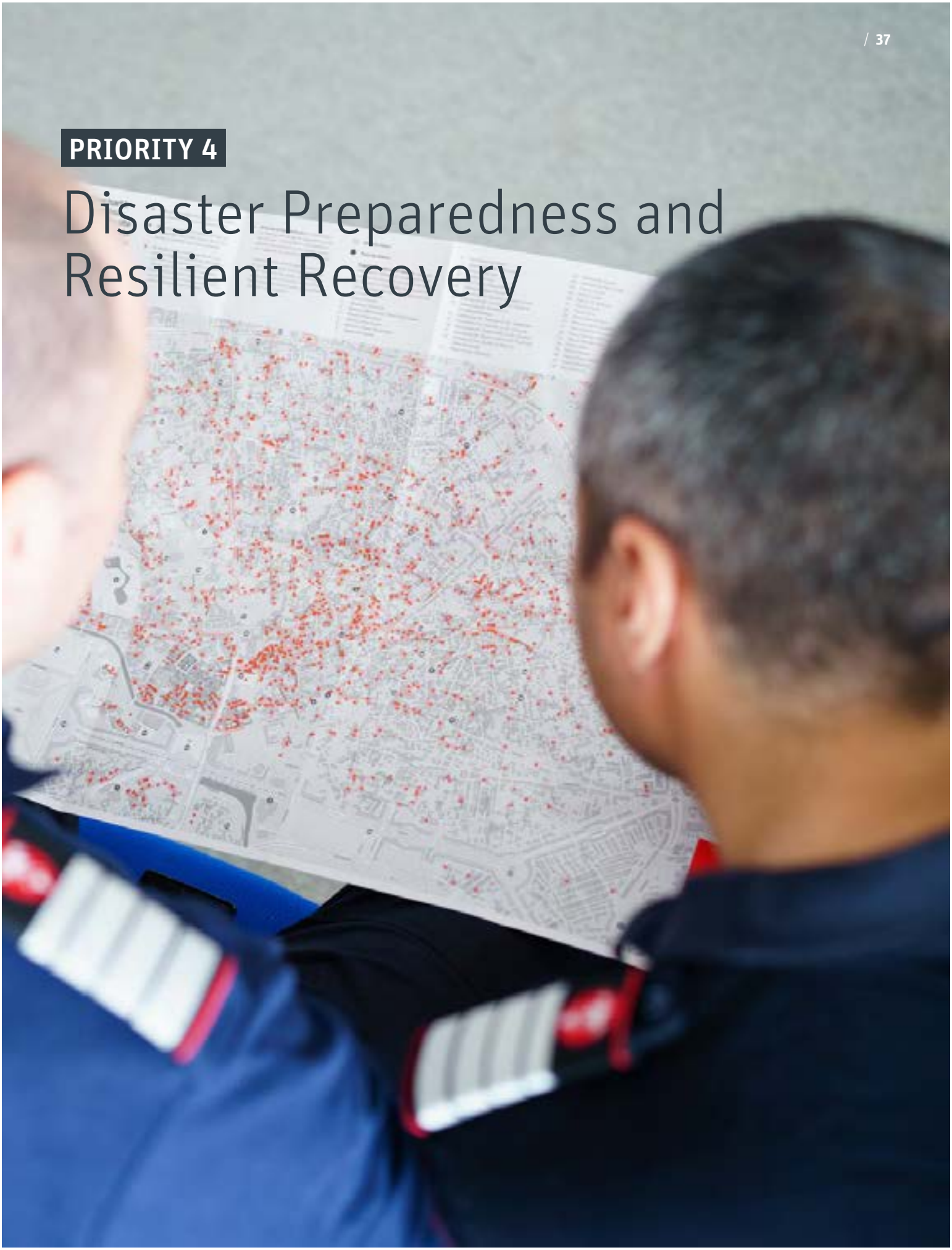
Thimphu district, Bhutan. Photo: © Onlyfabrizio.

Bhutan's remarkable progress on advancing this suite of reforms helped pave the way for the World Bank's approval of $14.8 million in funding for the country under a Development Policy Financing (DPF) with Catastrophe Deferred Drawdown Option (Cat DDO) package. The Cat DDO is a contingent line of credit providing immediate liquidity in the aftermath of a disaster or emergency while also supporting policy actions designed to strengthen a country's disaster risk management capacity. The partnership between Bhutan, GFDRR, and the World Bank in sustaining and deepening reforms over the past decade is informing the preparation of a second Cat DDO operation.

GFDRR and the World Bank will continue to stand shoulder-to-shoulder with Bhutan as it embarks on a comprehensive program for climate and disaster resilience. For instance, support is also being provided toward the National Center for Hydrology and Meteorology (NCHM) in formulating the national hydromet policy, which will strengthen the institutional mandate and governance of the NCHM and enhance the quality of hydromet services.

PRIORITY 4

Disaster Preparedness and Resilient Recovery



First responders participating in the inclusive EP&R training in Bucharest. Photo: © World Bank.

The objective of this priority area is to improve community and government preparedness by improving access to hydrometeorological (hydromet) data and early warning systems (EWS), strengthening emergency response capacity, and supporting resilient recovery by retrofitting damaged or weak infrastructure and improving engineering designs for more resilient new assets with a strong focus on promoting gender equality and inclusion throughout the entire process.

Introduction

Climate change is exacerbating the intensity of climatic hazards, resulting in a disastrous impact on lives and livelihoods. Predicting geological hazards continues to be a challenge. During the pandemic, many countries faced compound shocks that included simultaneous health emergencies, natural hazards, and conflicts; together they serve as a reminder of the importance of being prepared and building resilience.

Aligned with the Sendai Framework for Disaster Risk Reduction and its strategic objectives, in FY23 GFDRR continued working—in close coordination with the United Nations, the European Union, and the World Bank—with disaster-prone countries to help them be better prepared for post-disaster recovery. These partnerships remain a critical enabling factor for producing guidelines and tools for conducting Post-Disaster Needs Assessments and developing disaster recovery frameworks.

Major Outcome and Impacts

Improving Hydromet Services and Early Warning Systems

Hydromet information and EWS have played a crucial role in protecting societies from natural hazards and improving the efficiency of weather-dependent sectors. However, the escalating impacts of climate change pose serious threats to the availability of actionable information. The underfunding of National Meteorological and Hydrological Services has also resulted in inadequate services, where basic societal needs are not met and the NMHSs struggle to gain recognition of their value.

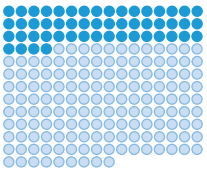
To address this challenge, GFDRR started to develop technical expertise around hydromet and EWS over a decade ago to support client countries to improve their hydromet, climate, and early-warning services. Since then, the portfolio of hydromet projects at the World Bank has grown to over $1.3 billion in FY23 from $300–$350 million in 2011, spread over 120 projects in all regions. The region with the largest number of hydromet and EWS activities is Africa, followed by East Asia and Pacific and South Asia. GFDRR has played a pivotal role in this portfolio growth, working closely with World Bank country teams to offer technical and analytical support and to inform World Bank lending operations and contribute to project design and implementation, as well as to facilitate knowledge sharing among relevant stakeholders.

One of the examples that contributed to such an increase is the Central Asia Hydrometeorology Modernization Project, which was completed in March 2023 after more than a decade of implementation. The main objectives of this regional project were to improve the accuracy and timeliness of hydromet services; improve technical and organizational capacity for acquiring and exchanging information for country NHMSs; and improve services for early warning, weather forecasting,

PRIORITY 4
Disaster Preparedness and Resilient Recovery

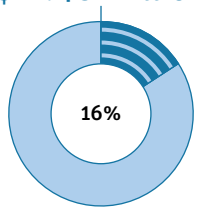
GRANT CONTRIBUTION

52 of 201 26%



FUNDING CONTRIBUTION

$11.40 million



31 countries

DART® Tsunami detection buoy. Photo: © NOAAPMEL.gov.

Approaching storm, Sri lanka. Photo: © Keethopayan Visvalingam.

and climate change assessments. All objectives were not only achieved but exceeded the original targets.

This first regional World Bank hydromet project was prepared based on the Action Plan for Improving Weather and Climate Service Delivery in High-Risk, Low-Income Countries in Central Asia, which was developed by a GFDRR grant. Besides building the technical foundation for future investments, GFDRR provided support to the World Bank's Europe and Central Asia teams to build a consensus among the four participating countries (**Kazakhstan**, **the Kyrgyz Republic**, **Tajikistan**, and **Uzbekistan**), regional entities, and national agencies on the major objectives and implementation modalities of the $27.7 million project. The project later received over $12 million in additional financing from the World Bank. GFDRR provided analytic support and participated in the project implementation.

In **Bhutan**, GFDRR supported its National Center for Hydrology and Meteorology (NCHM) in formulating the National Hydromet Policy, which will strengthen the institutional mandate and governance of NCHM and thus enhance the quality of hydromet services. The policy's emphasis on research and development will, in particular, contribute to enhanced knowledge, understanding, and innovation in hydromet sciences in the South Asian country. Additionally, the policy's emphasis on partnership and collaboration will bolster Bhutan's engagement with regional and international stakeholders, facilitating the exchange of technology, knowledge, and data.

In **Sri Lanka**, GFDRR helped pave the way for a workshop on impact-based forecasts, warnings, and early action for key officials involved in the development of the hydromet sector. A key focus of the workshop was to strengthen the know-how of officials in implementing a comprehensive work program for the World Bank's Climate Resilience Multi-Phase Programmatic Approach Project. This project is designed to support the government of Sri Lanka in delivering improved weather and climate forecasting and early warning, as well as in reducing flood risks in the lower Kelani river basin. Agencies represented in the workshop included the Disaster Management Center, the Department of Meteorology, the National Building Research Organization, and the Department of Irrigation.

Furthermore, GFDRR contributes to global initiatives and partnerships such as the United Nation's Early Warnings for All (EW4All) initiative and actively participates in forums such as the Alliance for Hydromet Development, Systematic Observations Financing Facility (SOFF), the Climate Risk and Early Warning Systems (CREWS) initiative, and the South Asia Hydromet Forum.

For example, GFDRR has utilized its technical expertise to contribute to the concept development and the implementation of the CREWS Caribbean project, which aimed to strengthen regional and national systems for weather forecasting, hydrological services, multi-hazard impact-based early warning systems (MHIEWS), and service delivery for enhanced decision-making. This led to the mobilization of $6.5 million in financing for the Strengthening Hydrometeorological and Early Warning Services Project (FY19-FY23), of which $2.5 million was funded by the World Bank. The project achieved its goals through the development of a regional MHIEWS roadmap (in **Barbados**, **Guyana**, and **Trinidad and Tobago**) and support for national agencies. The project, implemented with the World Meteorological Organization (WMO), the United Nations Office for Disaster Risk Reduction (UNDRR), and regional agencies, has also provided valuable input for the development of a regional emergency alert system. This valuable information was shared with partners and reviewed by the UN's EW4All working

group to guide recommendations for the global initiative.

GFDRR provides analytical underpinnings and selected support for the development of integrated roadmaps strengthening national hydrometeorological and multi-hazard early warning services. In recent years, these national roadmaps —providing information required for strengthening all four pillars of EW4All Initiative—were developed in **Armenia, Djibouti, Georgia, Moldova, Tunisia, Uzbekistan,** and other countries. Such roadmaps also provide a basis for the development of the World Bank's operations, directly contributing to the implementation of EW4All on the ground: the World Bank is now actively engaged in 24 operations with the total amount of $221 million in 14 countries that are included in the first phase of the EW4All initiative.

GFDRR has also developed and disseminated important analytical materials through another partnership, the Global Weather Enterprise Forum. This forum serves as an open dialogue platform that brings together representatives from the public, private, and academic sectors. A significant portion of the new analytical insights have been shared through the WeatherPod episodes, covering specific topics such as the "Economics of Weather Information," "Energy and Meteorology," "Predicting the Uncertain world," and "What Next for Weather Forecasting."

Preparing for Emergencies and Responding to Crises

GFDRR focuses on enhancing the World Bank's collaboration with countries to improve emergency preparedness and response (EP&R) systems and aims to empower local communities to effectively manage disasters stemming from both natural and human-made hazards. As a testament to its influence, from FY13 to FY23, the World Bank has provided financial support for more than 370 lending operations, totaling $113 billion in financing, with a focus on emergency preparedness. This shows a paradigm shift toward more ax-ante interventions than ex-post interventions.

GFDRR offers diagnostic assessment tools such as the Ready 2 Respond (R2R) diagnostics and the Lessons Learned Exercise (LLE) to enable an effective response to the increasing occurrence of multiple emergencies. In addition, the facility is supporting various pilot initiatives to incorporate specific concerns, such as EP&R planning in fragility, conflict, and violent (FCV)-affected settings; the health sector; and planning at the city or subnational level as well as integrating inclusive disaster risk management (DRM) principles into the assessments.

In the face of multiple priorities, low-income and lower-middle-income countries often face tough choices in resource allocation. Recognizing the limited resources and capabilities for EP&R in many countries, GFDRR provides support toward developing adaptable EP&R investment plans to suit various budgets.

It is also dedicated to enhancing the countries' decision-making capabilities through targeted training and planning resources for governments, emergency personnel, and volunteers.

These activities align with the Sendai Framework goals by building the capacity of countries and communities to prepare for and respond to disasters, ultimately contributing to the overall goal of reducing disaster risk and building resilience.

In FY23, 15 new GFDRR grants totaling $3.5 million were awarded that included components related to EP&R. Among these grants, there were projects in FCV-affected countries such as **Ethiopia, Lebanon,** and **Yemen**. The GFDRR grants also supported operations in **Pakistan**,

Boosting Uzbekistan's agribusiness and agritourism sectors. Photo: © USAID.

Disaster risk management workshop in Kingstown, St. Vincent and the Grenadines. Photo: © World Bank.

providing valuable insights for emergency recovery projects in Sindh after the 2022 floods.

Below are a few examples that GFDRR is generating impact in strengthening resilience for countries.

In April 2021, the eruption of La Soufrière Volcano in **St. Vincent and the Grenadines** prompted GFDRR to support the government's recovery efforts. GFDRR's technical support helped to create an effective emergency communication campaign and guided the government in its recovery actions, including the development and validation of a new emergency shelter management policy. It also supported the government in strengthening institutional and public financial management systems for disaster preparation and response. These efforts paved the way for additional investments for reconstruction and EP&R capacity—the World Bank's $42 million Saint Vincent and the Grenadines Volcanic Eruption Emergency Project, which is a testament to GFDRR's ability to mobilize greater development impact.

Additionally, in **Madagascar,** GFDRR's technical assistance—provided as part of the Madagascar – Disaster Risk Management Development Policy Financing with a Catastrophe Deferred Drawdown Option (Cat DDO)—has supported the implementation of the investment plan to improve EP&R systems at national, regional, and local levels in alignment with the country's DRM and resilience priorities.

GFDRR also supported the delivery of an R2R assessment that helped identify specific technical assistance needed to strengthen the professional capabilities and institutional mechanisms of two key entities: the Prevention and Emergency Management Unit (CPGU) within the Office of the Prime Minister of Madagascar and the country's National Office for Risk and Disaster Management (BNGRC).

The R2R assessment identified gaps in operational support that will help the government in its efforts to decentralize emergency and response capacities at the local level and to increase the number of people covered by BNGRC's regional and territorial offices. Additionally, training workshops aimed at increasing the capacity of national and local DRM officials in their roles and responsibilities under the National DRM Act 2014 and the Strategic Plan 2020-2025 to recognize the importance of EP&R in their respective organizations.

In **Peru,** GFDRR support has been instrumental in building sustainable resilience against risks. The diagnostic report for the national DRM plan (PLANAGERD) has significantly advanced government discussions, improving the operation of Emergency Operations Centers and enhancing emergency response. It has also spurred collaborations with the National Institute of Civil Defense (INDECI) on developing tools for damage assessment in the field. The approval of regulations for the sustainable urban development law in October 2022 marks a milestone in integrating disaster risk reduction into urban planning. Additionally, a knowledge exchange with Chile's Ministry of Housing and Urbanism in May 2023 provided valuable insights for Peru's Ministry of Housing, Construction and Sanitation to improve housing programs. Furthermore, a GFDRR grant enabled an effective response to the Pampilla refinery oil spill through specialized consultancy support that include training, economic impact analysis, and policy recommendation formulation, enhancing Peru's emergency management capabilities.

Moreover, GFDRR provided post-disaster technical assistance to the governments of the **Democratic Republic of Congo, Malawi,** and **Rwanda** to aid these countries in their recovery and reconstruction efforts following the devastating floods and landslides, caused by heavy rains, that occurred in February and May 2023. In **Mauritania,** GFDRR's

financial and technical assistance facilitated a rapid flood damage and loss assessment. This assessment played a crucial role in mobilizing $40 million from the International Development Association (IDA) Crisis Response Window (CRW) to support flood resilience interventions in the country.

Additionally, GFDRR's support in **Mauritania** allowed an LLE to be conducted using GFDRR's EP&R framework. This exercise identified gaps in the EP&R system and resulted in a set of recommendations that informed the preparation of a new decree to be approved in the coming months. This decree is one of the prior actions for climate resilience needed for the World Bank Development Policy Financing (DPF) with a Cat DDO that is currently under preparation.

In response to Typhoon Odette in **the Philippines**, a GFDRR grant helped in assessing damage, economic losses, and recovery needs. It included online training for the National Economic and Development Authority (NEDA) in damage assessment and emerging risk identification. The World Bank produced an economic assessment report for the Department of Finance, focusing on the typhoon's macroeconomic impact and recovery costs. Additionally, an executive course and a local-level program entitled Ready to Rebuild were developed to train officials in disaster recovery. The Typhoon Odette response and recovery assessment report provided recommendations for improving disaster response and recovery, marking a successful outcome of the grant. Government entities used these insights for planning and decision-making, emphasizing inclusive disaster risk management and gender equality in the region.

Other notable activities in the past fiscal year are listed below.

In **Jordan**, GFDRR is supporting the Municipality of Greater Amman in undertaking an R2R at the municipal government level, specifically focusing on how national and urban EP&R governance and response mechanisms work together. This municipal-level R2R will serve as an example for how to strengthen coordination and management in responding to disasters impacting large urban areas as well as national disasters relying on municipal services to support response efforts.

GFDRR is providing technical assistance to the World Bank–financed **Pakistan**'s Sindh Flood Emergency Rehabilitation Project. As part of this project, the Sindh Emergency Rescue Service has set the goal of having 30 percent of their rescuers and management staff be women by 2028. To achieve this, they have started hiring and training women to serve in a free, single-number emergency helpline. This helpline allows citizens to access various emergency services, such as long-distance medical transfers, accident response, firefighting, water rescue, urban search and rescue, and law-and-order support.

GFDRR's Policy and Institutional Reforms for Disaster Risk Preparedness in **Malawi** grant and technical assistance aims to strengthen the country's national and subnational governments' capacity to develop risk-informed policies and mainstream DRM into priority sector policies and investment planning. These GFDRR-supported activities have resulted in the approval of a DRM bill in May 2023, a legislative milestone that strengthens the country's ability to manage and respond to disasters effectively. Moreover, GFDRR's support has led to the development of resilient building regulations, ensuring that construction practices align with disaster resilience principles. Furthermore, GFDRR supported technical advice to design the country's National Operations Emergency Centre, enhancing its emergency preparedness and response capacity.

Bahrain, Swat District of Khyber Pakhtunkhwa, Pakistan, on the bank of the Swat river. Photo: © Muhammad Quresh.

HYDROMET SERVICES AND EARLY WARNING SYSTEMS

In Focus Strengthening Hydromet in the Middle East and North Africa

More than ever, the Middle East and North Africa (MENA) region is experiencing increasingly frequent and severe hydrological and meteorological (hydromet) hazards such as floods, droughts, heat extremes, heatwaves, and sea-level rise. Underlying processes—including climate change impacts, population growth, land use changes, and urbanization patterns—are increasing the number of people in the region at risk from these hazards, especially those in coastal, low-lying areas.

Undoubtedly, timely and accurate hydromet information and, more importantly, people-centered and impact-based early warning systems (EWS) will be indispensable if governments in MENA are to protect lives and livelihoods in this new normal of extreme weather. Against this backdrop, GFDRR and the World Bank have been supporting governments in their efforts to strengthen the region's hydromet services for the long term.

A key focus for the technical team thus far has been to develop analytical work and provide advisory services that can guide and inform governments as they strive to modernize their hydromet services.

For starters, the team has developed a regional hydromet services atlas, which provides a deep dive assessment of the state of National Meteorological and Hydrological Services (NMHS) for each of 20 countries and territories across MENA. Informed by that assessment, and prioritizing countries with the lowest capacities in hydromet and EWS, the team has formulated practical recommendations for selected governments to strengthen their respective NHMSs. While the assessment revealed that the capabilities of NHMSs vary considerably across the region, it also found that all would likely benefit if countries were to pursue intra- and inter-regional cooperation on hydromet strengthening in view of the shared challenges.

Specifically, in two prioritized countries—**Djibouti** and **Tunisia**—the team has developed comprehensive roadmaps for strengthening their respective hydromet services. Each of the roadmaps provided a more extensive diagnostic of the gaps, challenges, and opportunities facing the countries' NHMSs than provided by the regional atlas. In both countries, the roadmaps highlighted the lack of awareness about the importance and value of hydromet as a key constraint to further public investment. The roadmaps helped to address this problem through a cost-benefit analysis, which revealed that, in both Djibouti and Tunisia, investment in hydromet will produce socioeconomic benefits significantly greater than their costs—by up to $8 in socioeconomic benefits for every $1 invested in hydromet and EWS.

Sidi Salem Dam, Tunisia's largest dam, on the Medjerda River.
Photo: © Khaled Ladjimi.

In addition, the roadmaps for Djibouti and Tunisia also proposed strategic frameworks for hydromet modernization covering short-term, medium-term, and long-term actions, including cost estimates and staffing requirements for each phase of development. Drawing on the *Weather and Climate Resilience* report published by GFDRR, the actions proposed by the roadmap covered the three main components of a modernization program for an NMHS: enhancement of the service delivery system; institutional strengthening and capacity building; and the modernization of observation, information and communication technology (ICT) and forecasting infrastructure.

The above analytical work has already begun to inform hydromet modernization efforts in MENA. For example, the Tunisia roadmap, alongside GFDRR technical and advisory support, proved instrumental in the preparation of the World Bank's Tunisia Integrated Disaster Resilience Program, which promotes disaster preparedness by strengthening hydromet systems and EWS in the country through a set of investments and reforms, including the strengthening of NHMS commercial services. The project also implements over half of the Tunisia roadmap's key action points. GFDRR support leveraged cumulative development financing of $100 million for the project, including co-financing by the French Development Agency (Agence Française de Développement, or AFD), in addition to a $25 million commitment from the government of Tunisia.

Looking ahead, GFDRR and the World Bank are eager to mobilize analytical work to help catalyze hydromet modernization in the wider region. A team is currently carrying out a gap assessment of hydromet and EWS in Egypt that is informing the preparation of an anticipated World Bank lending operation on climate-resilient agrifood transformation in the country. The assessment is also expected to lead to a roadmap document for strengthening hydromet and EWS in Egypt.

EMERGENCY PREPAREDNESS AND RESPONSE

In Focus Enabling Inclusive Emergency Preparedness and Response in Romania

Determined to protect lives and livelihoods in a country prone to disasters such as earthquakes and floods, **Romania** has been making tremendous headway in strengthening its emergency preparedness and response (EP&R) system. Yet, despite this progress, for the nearly 900,000 people living with disabilities across Romania, who represent 4 percent of the country's population, safety and well-being in the aftermath of a disaster or emergency is far from certain. As revealed by focus group discussions and consultations on the ground, the country's EP&R system is inadequately prepared to respond to the needs of persons living with disabilities.

GFDRR and the World Bank have been on the front lines of supporting Romania in ensuring that its EP&R system is inclusive and does not leave people living with disabilities behind. This support has been provided under the auspices of the Japan–World Bank Program for Mainstreaming Disaster Risk Management in Developing Countries.

Working closely with a range of partners such as the Association of the Blind in Romania (ABR), the National Association of the Deaf in Romania (NADR), the National Red Cross Society of Romania – District 6 Branch, and the Romanian National Authority for the Protection of the Rights of Persons with Disabilities (ANPDPD), the team has provided support toward the development and implementation of training activities for first responders—including firefighters, policemen, and paramedics—on how to interact with persons living with disabilities in an emergency situation.

First responders participating in the inclusive EP&R training in Bucharest. Photo: ©World Bank.

First responders participating in the inclusive EP&R training in Bucharest. Photo: © World Bank.

So far, nearly 130 first responders, of whom 30 are women, from the Romanian Department for Emergency Situations, the Romanian General Inspectorate for Emergency Situations, and the General Directorate of Social Assistance of the Municipality of Bucharest, among other agencies, have participated in training activities spanning critical topics such as interacting with people who are blind or visually impaired and communicating in sign language. The development of the specific curriculum for each topic was informed by a pre-training survey with the participants.

A key highlight of the training activities was that they were led by persons living with disabilities who shared insights, drawing on their own firsthand experiences. These trainers shared personal stories and practical knowledge about their needs and abilities in emergency situations, providing valuable lessons that went beyond theoretical concepts. This approach not only enhanced the empathy and understanding of first responders but also challenged stereotypes, fostering respect for diverse abilities and perspectives. The trainers' involvement hammered home the point that people with disabilities are agents for building their own resilience, including as educators, and are not merely recipients of assistance. Additionally, the training's hands-on approach, which featured role-playing exercises where participants guided blindfolded partners, offered real-world learning for the participants, thus deepening the impact of the training.

At the same time, the training activities also provided the participants, now much more acquainted with the needs and

First responders participating in the inclusive EP&R training in Bucharest. Photo: © World Bank.

abilities of persons living with disabilities, with practical tips and guidance for how to interact with them in an emergency situation. For example, the training on communicating in sign language taught first responders that it might be helpful for them to create predefined messages in their tablets or mobile phones so that they could much more easily communicate with people with hearing disabilities.

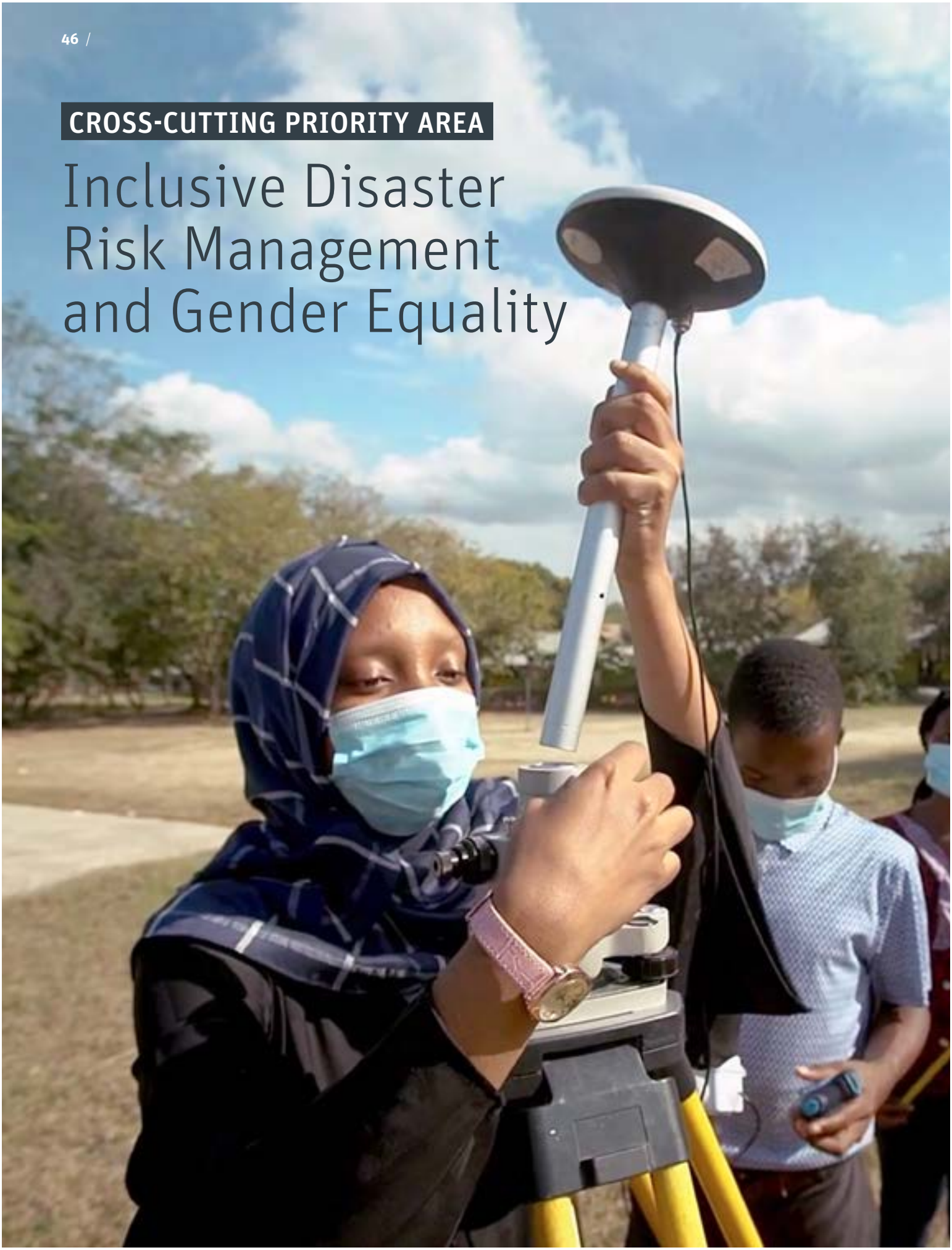
Based on surveys conducted with the participants, there is every indication that the training activities have, in fact, borne fruit in terms of their ability to interact with persons living with disabilities. Eighty percent of participants found that the training activities improved their understanding of the specific vulnerabilities and needs of persons living with disabilities, while 64 percent said that they would be likely to apply knowledge and skills from these activities in their work. Buoyed by the promising results, it is anticipated that the training activities for first responders that took place in Bucharest will be scaled up significantly in fiscal year 2024, to 10 counties, by training more first responders and expanding the technical offerings to include guides for interacting with people with intellectual disabilities. ANPDPD is a key partner in expanding this support.

GFDRR and World Bank support under this engagement are only one part of an ever-deepening partnership with Romania on inclusive EP&R. For instance, support has also been provided toward the Safer, Inclusive and Sustainable Schools Project currently under implementation, as well as toward advancing gender inclusion by informing the design of modern and universally accessible new fire stations under the Strengthening Disaster Risk Management project. Support through GFDRR also encompassed earthquake preparedness activities for students living with disabilities as well as teachers and staff. Across five schools, nearly 90 students and over 200 teaching and nonteaching staff have participated in these activities thus far.

Looking ahead, GFDRR and the World Bank expect to work closely with the Romanian government to explore ways to further advance the inclusive EP&R agenda, including in the context of a second Catastrophe Deferred Drawdown Option (Cat DDO) operation for the country, which is currently in the pipeline and slated to include a focus on enhancing preparedness for persons living with disabilities. The Cat DDO is a contingent line of credit providing immediate liquidity in the aftermath of a disaster or emergency while supporting policy actions designed to strengthen a country's disaster risk management capacity.

CROSS-CUTTING PRIORITY AREA

Inclusive Disaster Risk Management and Gender Equality



Tanzania. Photo: © World Bank.

Aligned with the Sendai Framework, the objective of this cross-cutting priority area is to foster inclusive disaster risk reduction and management across all GFDRR activities for more robust outcomes and more broadly into World Bank operations and policy dialogue. GFDRR also supports projects that give marginalized groups greater voice in disaster risk management (DRM) activities as agents of change. These activities will lead to more effective and equitable solutions in reducing climate and disaster risks.

Introduction

The impacts of disasters caused by natural hazards and climate change expose structural inequality and exclusion. Shocks often have disparate impacts on vulnerable groups—such as women, people with non-binary gender identities, older persons, youth, persons with disabilities, and other marginalized communities. Recent research has shown that men, women, girls, boys, and people who are intersex experience disasters differently. Gendered differences in disaster outcomes tend to reinforce existing inequalities in a broad range of aspects in their lives. Additionally, the link between disability and poverty is now well accepted, with the intersection of poverty and disability playing a significant role in undermining a person's resilience to disasters.

In recognition of the disparate impacts of disasters, the Sendai Framework for Disaster Risk Reduction 2015-2030 calls for the empowerment of persons with disabilities and the inclusion of gender-sensitive approaches across all stages of DRM activities, ultimately advocating for an all-of-society approach. Moreover, it encourages citizen participation as well as community engagement throughout the DRM cycle. GFDRR's strategy for 2021–2025 also outlines inclusive DRM and gender equality as a cross-cutting priority area.

The inclusive DRM and gender equality cross-cutting priority area mainstreams inclusion across GFDRR and more broadly into World Bank operations and policy dialogue; it also supports programs that give marginalized groups greater voice in DRM programs as agents of change. Below is a summary of key programs and activities on inclusive DRM and gender equality that have been supported in FY23.

Major Outcomes and Impacts

Integrating Inclusion in Disaster Risk Management

In the Pacific Islands, disability inclusion was thoroughly studied to assess the integration of disabled individuals in DRM. The impact of this comprehensive study on disability inclusion was significant. The study identified gaps in emergency planning, early warning systems (EWS), and resilience measures. This information allowed both the World Bank and GFDRR to evaluate ongoing projects in the Indo-Pacific and identify opportunities to integrate disability considerations. As result of the study's findings, projects such as the Kiribati Outer Islands Resilience and Adaptation Project, the Vanuatu Affordable and Resilient Settlements Project, and the Republic of the **Marshall Islands** Urban Resilience Project were assessed and potential avenues for incorporating disability considerations were identified. These projects will now be implemented with a focus on including and accommodating the needs of disabled individuals.

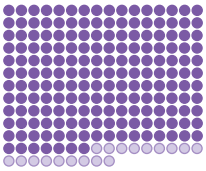
GFDRR also provided capacity-building training to **Honduras'** Permanent Contingency Commission (COPECO), the country's national DRM agency, to educate operational staff on protocols and procedures for preventing and responding to gender-based violence (GBV). The goal is to ensure that at least 30 percent of emergency shelters supervised by COPECO are managed by personnel with specific knowledge and sensitivity to GBV. With GFDRR support, a comprehensive plan for a Training of Trainers program was developed; the plan includes international protocols and procedures for preventing GBV in shelters, as well as a proposal for prioritizing shelters.

A gender gap analysis on DRM was carried out in **Ethiopia** with support from GFDRR to provide valuable insights for designing gender-sensitive aspects of the Ethiopia Flood Management Project and other operations that include DRM components. The gender gap analysis is expected to increase the effectiveness and inclusivity of these operations by ensuring that the projects are better tailored to address the specific challenges and vulnerabilities faced by different genders. Additionally, a methodology for conducting gender gap analyses on DRM has been developed, with the intention of applying it in other countries.

Inclusive Disaster Risk Management and Gender Equality

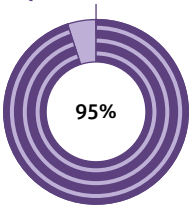
GRANT CONTRIBUTION

183 of 201 91%



FUNDING CONTRIBUTION

$67.80 million



60 countries

In light of the growing intensity and frequency of shocks and the large number of poor and vulnerable people, it is essential to prioritize investments and initiatives that advance adaptive social protection in the Latin America and the Caribbean region. With GFDRR's support, social protection stress test assessments were conducted for **Belize**, **Chile**, **Costa Rica**, **the Dominican Republic**, **Ecuador**, **Paraguay**, and **Uruguay** between September 2022 and July 2023. The stress test provided diagnostics on the ability of social protection systems to respond to disasters/shocks and identified best practices in the region, such as regularly investing in social protection programs. These programs stand out for their broad coverage and inclusiveness, as well as for their innovative approaches to payment systems and financial inclusion. These assessments present clear opportunities to invest further in enhancing the adaptability of social protection systems to effectively manage future shocks and address the challenges posed by ongoing shocks.

Throughout FY23, GFDRR also provided hands-on guidance to country programs to advance the inclusive DRM and gender equality agenda through policy dialogue and/or technical assistance to inform investments. Specific activities included:

- The **Costa Rica** investment project financing and Catastrophe Deferred Drawdown Options (Cat DDOs) projects received technical support from the team to incorporate gender considerations and to refine gender and other inclusive DRM indicators in the project. Additionally, the team identified essential steps to operationalize key actions.
- For **Romania**, GFDRR provided advice and support in several areas, including the development of training for first responders in supporting persons with disabilities in emergency situations.
- When the **Türkiye** earthquakes occurred in February 2023, GFDRR provided timely support to include gender considerations in the final Global Rapid Post-Disaster Damage Estimation (GRADE) report. This was the first time that gender considerations were incorporated into the report that the government used to make decisions in the post-disaster context. The facility is evaluating how to replicate this approach for future GRADE reports and is working with UN Women to develop tools to enhance gender sensitivity for post-disaster needs assessments. In addition, GFDRR provided technical support and funding for the preparation of the Türkiye emergency project, which included gender-sensitive approaches to recovery, especially in the housing and health sectors.
- In **Rwanda**, GFDRR provided technical support for the design of an inclusive impact-based flood EWS through the Climate Risk and Early Warning Systems (CREWS) initiative.
- For the **Caribbean** regional catastrophe bond under preparation, GFDRR prepared an analysis of the disaster risk financing strategies and identified entry points focusing on gender.
- In **the Dominican Republic**, GFDRR supported the design of a survey to measure the inclusiveness of cash transfers under an emergency project.

Creating Knowledge Products and Tools

GFDRR produced various guidance notes and tools to support practitioners to integrate socially inclusive approaches into their DRM projects. These covered topics such as nature-based solutions, disaster risk financing, adaptive social protection, preventing gender-based violence, and inclusive EWS. For example, the note, *Designing Inclusive, Accessible Early Warning Systems: Good Practices and Entry Points* report and the related online learning program are contributing to the Early Warnings for All initiative. With the UN's goal of universal access to EWS within the next five years, scaling up inclusive EWS is crucial. The report provides over 30 entry points and actions to guide project teams in designing and developing inclusive EWS, ensuring universal access.

Temporary shelter for victims of the 2023 Türkiye earthquake. Photo: © World Bank.

INCLUSIVE DISASTER RISK MANAGEMENT AND GENDER EQUALITY

In Focus Advancing Disability Inclusion in Disaster Risk Reduction and Early Warning Systems in the Pacific Region

The Importance of Inclusion in Disaster Risk Management

Disasters can affect everyone, but their impacts can disproportionately affect certain groups, including individuals with disabilities. These individuals often face additional challenges and are more vulnerable during crises because of a lack of disability-adapted strategies. For instance, evacuation plans might not consider the needs of individuals with disabilities, communication channels might not be accessible to them, and safe shelters might not be equipped to accommodate their specific requirements. This can leave them in precarious situations during disasters. It is crucial to prioritize inclusive disaster risk management (DRM) to ensure the safety and well-being of individuals with disabilities during emergencies.

Disability Inclusion in Disaster Risk Reduction and Early Warning Systems in the Pacific Region

GFDRR conducted an assessment that focused on the Pacific region and highlighted the complex challenges and opportunities in integrating disability considerations into DRM. This study examines various aspects of conditions experienced in a disaster, including the role of climate change, existing legal frameworks, and the essential role of national disability organizations. The aim was to develop a blueprint for action that can guide inclusive DRM efforts across the Pacific. By understanding the specific risks and needs of individuals with disabilities in the face of climate change, DRM initiatives can be better tailored to ensure their inclusion and resilience. By integrating disability-inclusive DRM into legal frameworks, countries in the Pacific can ensure that the rights and needs of these individuals are protected and addressed in disaster preparedness, response, and recovery. Overall, the study provides a comprehensive analysis of the challenges and opportunities in integrating disability considerations into DRM in the Pacific. It offers a blueprint for action that can guide policy makers, practitioners, and stakeholders in implementing inclusive DRM strategies that prioritize the needs and rights of individuals with disabilities.

Transforming Findings into Actions

The report offers recommendations that cover various aspects of DRM, including policy frameworks, capacity building, community engagement, and data collection. These recommendations underscore the importance of integrating disability considerations into all stages of DRM, from planning and preparedness to response and recovery. By doing so, DRM practices can better address the specific needs and vulnerabilities of individuals with disabilities, ensuring their safety and well-being during disasters. The insights gained from this collaborative effort can guide policy makers, practitioners, and stakeholders in implementing inclusive DRM strategies that prioritize the inclusion and resilience of all individuals, regardless of their abilities or backgrounds. By adopting these recommendations and implementing inclusive DRM practices, countries can enhance their disaster preparedness and response capabilities, reduce the impact of disasters on vulnerable populations, and build more resilient communities. Based on the findings of the report, the World Bank and GFDRR assessed projects in the Indo-Pacific region to identify opportunities for integrating disability considerations for the Kiribati Outer Islands Resilience and Adaptation Project, the Vanuatu Affordable and Resilient Settlements Project, and the Republic of the **Marshall Islands** Urban Resilience Project.

Adapting the Recommendations to the Unique Context of the Marshall Islands

The Republic of the Marshall Islands (RMI) provided a successful example of translating theoretical recommendations into tangible change by embracing inclusion in DRM. In a collaborative effort involving various stakeholders—including local nongovernmental organizations (NGOs) and governmental bodies—a workshop was conducted to adapt the broad recommendations to the unique context of the Marshall Islands. The workshop aimed to ensure a holistic and grounded approach to inclusive DRM in the island country. By bringing together diverse perspectives and expertise, the workshop facilitated the translation of theoretical recommendations into practical actions relevant to the local context. This process enabled the customization of DRM strategies and initiatives to address the specific challenges and needs of the Marshall Islands. The workshop stands as a shining example of how inclusive DRM can be achieved through collaboration and the adaptation of recommendations to the local context. It demonstrates the commitment of the Marshall Islands to prioritize the inclusion and resilience of all individuals, including those with disabilities and other marginalized groups.

The Way Forward

The workshop had significant impacts and outcomes, as evidenced by the recommendations and discussions that took place.

1. **Identification of recommendations.** The breakout groups identified recommendations in four broad areas: governance representation, inclusive building code, facilitated participation, and accessibility to infrastructure. This exercise

allowed participants to collectively brainstorm and prioritize actionable recommendations.

2. **Prioritization and feasibility assessment.** Participants ranked the recommendations according to their priority and the urgency of their implementation. They also assessed the feasibility of each recommendation using a colored dot system. This process helped establish a consensus on the most critical and actionable recommendations.
3. **Checklist or action plan development.** Based on the prioritization and feasibility exercise, participants in the breakout groups drafted a checklist or action plan. This plan included details on "What" needs to be done, "Who" is responsible for implementation, and "When" it should be completed. This step facilitated the development of a clear implementation plan.
4. **Concerns and proposals on accessibility and inclusivity.** Throughout the workshop, attendees raised numerous concerns and proposals related to accessibility and inclusivity for people with disabilities in the **Marshall Islands**. These concerns included inaccessible governmental facilities and the slow progress in implementing existing accessibility laws. Participants also highlighted the need for improved communication solutions and heightened emergency preparedness, especially in the outer islands.
5. **Consensus on ongoing dialogue and cooperation.** Participants appreciated the effort to include the perspectives of people with disabilities in the workshop. They emphasized the importance of ongoing dialogue and cooperation to effectively implement the identified enhancements. This consensus reflects a commitment to continuous collaboration and improvement in promoting accessibility and inclusivity in the RMI.

Overall, the workshop resulted in a set of prioritized recommendations, an action plan, and a deeper understanding of the challenges and proposals related to accessibility and inclusivity in DRM. These outcomes provide a foundation for future initiatives and actions aimed at improving the lives and resilience of individuals with disabilities in the RMI. Similar workshops will be conducted for Vanuatu and the Kiribati Outer Islands.

Translating Theoretical Recommendations into Practical Actions

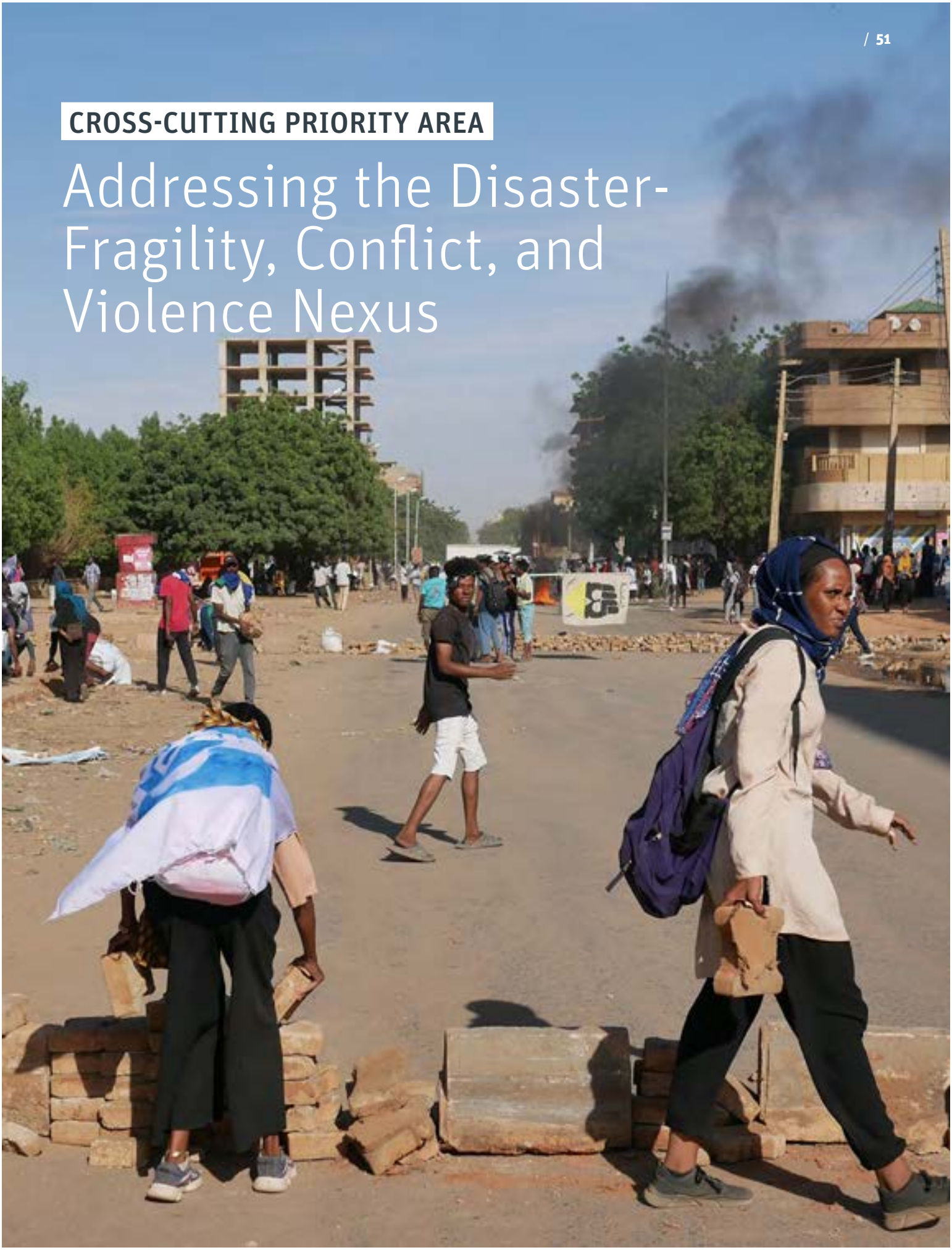
One of GFDRR's key contributions is grounding studies with actionable insights. Through research and analysis, GFDRR produces valuable knowledge and recommendations that inform DRM practices. These insights, rooted in a deep understanding of the challenges and opportunities in DRM, offer practical guidance for policy makers, practitioners, and stakeholders. By collaborating closely with governments, local NGOs, and other stakeholders, GFDRR assists in translating recommendations into tangible actions. This includes providing technical assistance, capacity-building support, and financial resources to back the implementation of inclusive DRM strategies.

GFDRR's work not only yields immediate improvements in DRM practices but also has a lasting impact by shaping policies, building institutional capacity, and promoting a culture of resilience. Through its efforts, GFDRR aspires to create a future where communities are better prepared, more resilient, and capable of effectively responding to and recovering from disasters.

Students in Fanning Island, Kiribati. Photo: © Mike Leary.

CROSS-CUTTING PRIORITY AREA

Addressing the Disaster-Fragility, Conflict, and Violence Nexus



Sudanese protestors barricade the streets on the one year anniversary of military coup. Photo: © Roy Gilham.

The objectives of this priority area are (1) to integrate disaster risk management (DRM) into fragility, conflict, and violence (FCV)-affected settings through a variety of methods such as risk understanding, governance, infrastructure, early warning systems, disaster risk financing, emergency response, and resilient recovery; (2) to enhance DRM approaches that are sensitive to FCV contexts; and (3) to promote the understanding of the relationship between disasters, FCV, and the complex nature of crises when these occur simultaneously.

Introduction

An increasing number of disaster-prone countries are simultaneously affected by compounding risks caused by FCV. By 2030, two-thirds of the world's extreme poor are expected to live in FCV-affected countries. These countries are disproportionately affected by natural and economic shocks, and climate change is exacerbating the adverse impacts of natural hazards. The relationship between disasters and conflicts is complex and context-specific. Conflicts and fragility increase vulnerability and weaken the government's capacity to respond to disasters and protect communities. On the other hand, disaster risks worsen pre-existing tensions and increase the likelihood of conflict; disasters also prolong humanitarian crises, food insecurity, and fragility.

Despite the actions known to reduce disaster risk and impacts, they are often not implemented in FCV settings. When they are implemented, they often fail to consider the complex dynamics at play. The targets set by the Sendai Framework for Disaster Risk Reduction 2015-2030 are not being met, particularly in FCV-affected countries. The capacity challenge delays climate and DRM finances, and investments in DRM are not prioritized, leading to low levels of disaster preparedness.

Major Outcomes and Impacts

In recognition of the fact that addressing disaster risk is an integral part of GFDRR's response to complex crises, the facility strives to enhance resilience against disasters by facilitating both the exchange of ideas and collaboration among DRM initiatives and conflict prevention and peacebuilding efforts in countries affected by conflict.

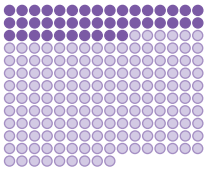
In order for GFDRR to provide more effective support to World Bank operations relating to the Disaster-FCV Nexus, it is critical to have a stocktaking review of the World Bank's FCV portfolio; this was undertaken in FY23. The review spanned a decade, from FY12 to FY22. The goal was to assess the status quo, note progress made thus far, and inform the future course of action by identifying the key issues that need to be addressed and outlining the strategic direction.

The portfolio review found that GFDRR implemented 320 grants in FCV-affected countries, amounting to $153 million, and mobilized (informed) $6 billion in development financing from the World Bank and partners. Out of the total, 131 grants amounting to $72 million were dedicated to supporting 310 World Bank lending operations in FCV-affected countries encompassing DRM activities. This accounts for approximately 17 percent of the total number of lending operations by the World Bank in FCV contexts. These efforts have contributed to raising awareness about the interconnectedness of various crises countries face and promoting the integration of DRM practices into the investments made by the World Bank and its partners. By conducting this review, GFDRR is better equipped with valuable insights to guide its efforts for more effective and targeted interventions.

Addressing the Disaster-FCV Nexus

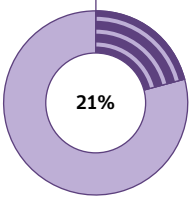
GRANT CONTRIBUTION

42 of 201 21%



FUNDING CONTRIBUTION

$11.89 million



17 countries and 2 regional grants

Below are some of the noteworthy impacts and outcomes of this cross-cutting priority area in FY23.

- In **Mozambique**, a comprehensive report that assesses the risk faced by internally displaced persons (IDPs) living in relocation sites was finalized. The report specifically focuses on the Cabo Delgado area and examines risks posed by natural hazards, gender-based violence, and the COVID-19 pandemic.
- In **Ethiopia**, a grant was implemented in FY23 to support post-conflict resilient recovery and reconstruction in the country. As part of the grant activities, GFDRR has been providing technical advisory services on post-conflict impact assessment, recovery, and reconstruction planning. This

A mother carrying her three children in Beira, Mozambique. Photo: © Wirestock.

support has resulted in the production of key outputs that significantly enhance the understanding of damage and recovery needs. These outputs include a damage and needs assessment, a conflict impact assessment, and the World Bank's Ethiopia's Resilient Recovery and Reconstruction Planning Framework for the period of 2023 to 2028. These documents inform efforts to take action and guide the implementation of effective recovery and reconstruction initiatives in the country.

- In the **Democratic Republic of Congo (DRC),** the Strengthening Hydro-Meteorological and Climate Services Project—a collaborative effort between the World Bank, GFDRR, Climate Risk and Early Warning Systems (CREWS), and the Global Environment Facility (GEF)—had a significant impact on strengthening DRM in an FCV setting. This project has been instrumental in addressing the governance challenges in the DRC, where the implementing agency—the National Agency of Meteorology and Teledetection by Satellite (METTELSAT)—had no prior experience working with the World Bank or other donor funds.
- The activities supported by the grant have played a crucial role in building institutional capacity for early warning systems (EWS). Though capacity-building training, 339 professionals have been equipped with necessary skills and institutional and regulatory strengthening efforts have been undertaken. As a result, 12 memorandums of understanding have been developed or revised that incorporate mechanisms for monitoring, and a draft national law on meteorological services has been elaborated and submitted to the government. The support provided by GFDRR has laid the foundation for an efficient coordination and harmonization framework for hydrometeorological services in the DRC.
- The implementation challenges faced by the DRC, such as low institutional capacity and political commitment, underscore the importance of longer-term and comprehensive engagements in DRM within FCV settings. Countries such as the DRC face capacity constraints that hinder their ability to independently deliver hydrometeorological and climate services. Therefore, partnerships with regional and global providers are crucial in prioritizing the key services for the economy and the most vulnerable populations, thereby addressing governance challenges.
- The support provided by GFDRR, which has led to the mobilization of additional development finance from CREWS, exemplifies the positive impact that targeted funding and capacity building can have. It also emphasizes the significance of sustained engagement and collaboration in addressing the unique challenges faced by conflict-affected and fragile countries.
- During this fiscal year, GFDRR continued to provide critical funds to **Ukraine** to assess the damages and needs resulting from Russia's invasion. This has included the development and launch of the first Rapid Damage and Needs Assessment (RDNA) in September 2022, which led to the mobilization of additional resources for cross-sectoral and sector-specific analytics in areas such as housing and municipal services, health, education, urban transportation, district heating, water supply and

Lifeguards and volunteers evacuating the elderly after the collapsed of the Kakhovka dam. Photo: © Palinchak.

sanitation, and agriculture. With GFDRR's support, a follow-up RDNA2 was completed and launched jointly by the government of **Ukraine**, the World Bank, the United Nations, and the European Commission in March 2023, informing the recovery planning of the Ukrainian government and donors.

- The RDNA2 report has been widely accessed (downloaded over 10,000 times) and used by various organizations, researchers, and media outlets, contributing to knowledge generation and recovery efforts. In addition, following the collapse of the Kakhovka dam in June 2023, GFDRR financed a Global Rapid Post-Disaster Damage Estimation (GRADE) assessment to understand the direct impact on infrastructure and agriculture. These assessments aim to improve coordination among development actors, provide targeted assistance to those in need, and facilitate better-informed decision-making and recovery planning (see In Focus story on page 102 for more details).

Other key activities in FY23 are noted below:

- As an input to the GRADE process for **Türkiye** and **Syria** and **Myanmar**, specific consideration was given to how disaster response, recovery, and reconstruction efforts could interact with existing and emerging FCV conditions. This complementary analysis seeks to highlight the complex risks that arise—such as the impact of the conflict in Syria on the exposure of assets; the potential unequal distribution of resources during the recovery and reconstruction phases, leading to societal tension; and new challenges posed by displaced populations affected by both disasters and conflict that strain welfare systems. The engagement of GFDRR and World Bank following the earthquakes in Türkiye and Syria, as well as Cyclone Mocha in Myanmar, through GRADE represents a novel approach that recognizes the multidimensional aspect of crises.
- GFDRR provided a DRM perspective as a background paper to the Mauritania Risk and Resilience Assessment, a World Bank tool to diagnose the key factors of resilience and fragility. The background paper, an analytical piece, examines the connections between disasters and FCV drivers through intersection points such as urbanization, displacement, climate risks, and disaster risk governance capacities. It offers preliminary recommendations for enhancing the World Bank's engagement through analysis, investment, and programming. As result, this work is expected to inform the upcoming Country Partnership Framework on the DRM-FCV nexus.

Syria's Idlib province is a refuge for about 3 million displaced people, and the Atmeh camp is the country's largest, home to more than 140,000 families, well above its capacity. Photo: © samer daboul.

ADDRESSING THE DISASTER-FCV NEXUS

In Focus Enabling a Conflict-Sensitive Approach to Disaster Recovery and Resilience in the Southern Philippines

Officials from BARMM participating in the Ready to Rebuild DRM capacity-building program. Photo: © World Bank.

Across the development community, there is growing awareness about the reality that, in countries affected by fragility, conflict, and violence (FCV), the path to a resilient future is even more difficult. Disasters often amplify FCV stresses, just as these stresses tend to increase FCV countries' vulnerability to disasters.

Even as the disaster-FCV nexus becomes more widely recognized, the common misperception that FCV—and by extension, its complex interplay with disasters—does not pose a significant challenge to middle-income countries remains. Yet, as a recent World Bank report pointed out, national-level growth in rising economies such as the Philippines often masks FCV at the subnational level. While the World Bank does not classify the Philippines as an FCV country, there are parts of the country that are affected by FCV issues.

The Bangsamoro Autonomous Region of Muslim Mindanao (BARMM) in the Philippines' southernmost island of Mindanao, in particular, has seen more than its fair share of violence from radical Islamic groups, criminal armed groups, political actors, and clans. In a region that is no stranger to natural hazards such as typhoons and flash floods, the disaster-FCV nexus is a recurring threat multiplier to the lives and livelihoods of the 4.4 million people who call BARMM home.

With the support of GFDRR and the World Bank, a technical team has been on the front lines of supporting BARMM in tackling the disaster-FCV nexus.

Drawing on emerging best practices, including those gleaned from recent experience by the World Bank and GFDRR, as well as that of the Philippine government as distilled in its Conflict-Sensitivity and Peace Promotion approach, the team provided in-depth training to regional and municipal officials in BARMM on how to design conflict-sensitive disaster recovery frameworks. In total, 67 officials, nearly half of whom were female, participated in the training.

At the most basic level, the training underscored the fact that, for a disaster recovery framework to be conflict-sensitive, such a framework must maximize positive impacts on conflict dynamics while minimizing any negative impacts. Accordingly, a disaster recovery framework must follow the "do no harm" principle, which—beyond merely *preventing* harm—must also entail *avoiding* doing harm by exacerbating or perpetuating underlying conflicts.

Subsequently, the training imparted practical insights on how to design a conflict-sensitive disaster recovery framework. For example, the training highlighted the importance of conflict analysis, or a study of the dynamics of conflict, including its key drivers and causes and the key actors involved. Such an analysis will be crucial if critical elements of the framework—including the prioritization of resources, the design of interventions, and the structure of the consultation process—are able to balance the interests and positions of the principal actors in the conflict, thus minimizing negative impacts on conflict dynamics.

The training also highlighted the importance of ensuring that disaster recovery frameworks consider historical or legacy issues, such as those related to land and resources, as well as marginalized populations such as women and indigenous peoples. Lack of consideration for these issues in disaster recovery may have the effect of renewing cycles of violence that may have been diffused in the past.

The training in BARMM has begun to pay dividends in terms of enabling a conflict-sensitive approach to disaster recovery, particularly in the aftermath of Tropical Storm Nalgae, which claimed the lives of over 60 people in the region in October 2022. Most critically, the Bangsamoro Planning and Development Authority (BPDA), the regional development planning body, as well as 10 municipalities across BARMM have prepared disaster recovery plans following Nalgae. These plans integrate specific interventions designed to maximize positive impacts on conflict dynamics. For instance, a number of the plans envision multipurpose halls to serve not only as evacuation centers but also as spaces for peacebuilding activities.

Support for conflict-sensitive disaster recovery in BARMM is part of a broader suite of resilience-building engagements by GFDRR and the World Bank in the region. For instance, support has also been provided toward the rollout in BARMM of Ready to Rebuild, a nationwide disaster risk management (DRM) capacity-building program led by the National Disaster Risk Reduction and Management Council (NDRRMC) and Office of Civil Defense (OCD). So far, 53 regional and municipal officials across BARMM have been trained on how to use the range of DRM tools made available by Ready to Rebuild, including the PlanSmart web application, which will enable faster and more efficient disaster rehabilitation and recovery planning.

The Permanent Contingency Commission of Honduras (COPECO). Photo: © GFDRR/World Bank.

Knowledge Management, Communications, and Partnerships

GFDRR's knowledge management, communications, and partnerships have bolstered awareness, strengthened collaboration, and deepened the facility's development impacts.

FY23 COMMUNICATIONS AND KNOWLEDGE MANAGEMENT

WEBSITES

Resilience and Disaster Risk Management Portal (Internal)

13,659 PAGE VIEWS

5,488 VISITS

GFDRR External Website

424,347

PAGE VIEWS

SOCIAL MEDIA

Twitter/X

201,580 impressions

6,000 engagements

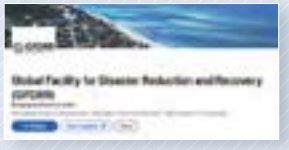
335 posts

LinkedIn

30,269* impressions

724* reactions **1,304*** clicks

38* posts



* The GFDRR LinkedIn account launched in September 2022.

VIDEOS

101 videos published

9,642 views of new videos in FY23

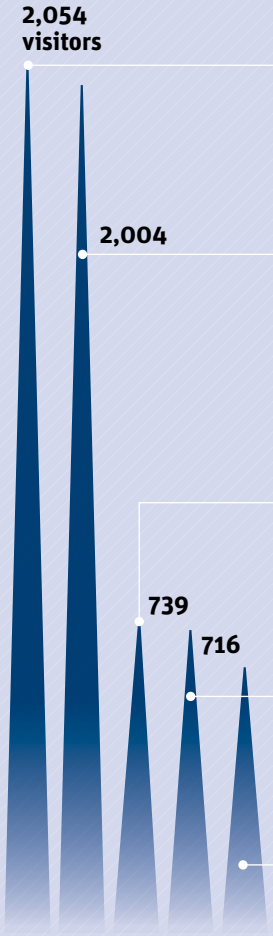
73,800

TOTAL VIEWS IN FY23

BLOGS

TOTAL VISITORS
11,448

BLOGS
21



Top 5

1. Japan and the World Bank: Working together to build resilient infrastructure I **Getting Infrastructure Finance Right**
2. Nature-based solutions for climate resilience are catching on in World Bank projects: Less gray, more green and blue I **Development and a Changing Climate**
3. Preparing for hurricane season: Lessons learned from risk communication to behavioral change I **Latin America & the Caribbean**
4. Where are all the jobs? A machine learning approach for high-resolution urban employment prediction I **Let's Talk Development**
5. In South Asia, disaster risk management is key to durable development I **End Poverty in South Asia**

PUBLICATIONS

43 REPORTS
25 BRIEFS

E-NEWSLETTERS

Understanding Risk

13,926 subscribers | **196** countries
5,180 unique organizations | **12** newsletters

GFDRR Digest (donors)

Audience
220 | **39%** open rate | **12** newsletters

Weekly Digest (internal)

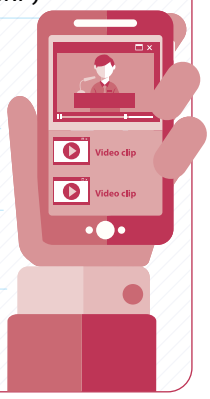
Audience
1,800 | **43%** open rate | **34** newsletters

EVENTS

29 EXTERNAL EVENTS
21 INTERNAL EVENTS

Top 5 New Videos in FY23

1. Presenting the City Resilience Program (CRP)
2. GFDRR Partnership Days 2023: Assessing the Benefits and Costs of NBS for Climate Resilience
3. Understanding Risk Global Forum 2022: What if. What next. What now
4. South Africans creating urban heat maps of their cities
5. Transforming the Global Response to Disaster Risk Reduction



GFDRR's continued efforts to protect countries and communities from the ever-evolving challenges of disaster risks that are being intensified by climate change reflect an unwavering dedication to building resilience. Through strategic communications and robust knowledge sharing, GFDRR has empowered stakeholders, bolstered awareness, and strengthened collaboration across borders. Below is a snapshot of the communications and knowledge management activities that have contributed to GFDRR's overall mission of helping the world prepare for and recover from disasters.

Video on Leveraging Nature-Based Solutions for Climate Resilience. © World Bank Group.

Highlights

- The GFDRR 2022 Annual Report was published in February 2023. The report highlighted that, from June 2021 to July 2022, GFDRR implemented 134 grants in 47 countries—with most grants addressing more than one natural hazard—and mobilized nearly $2.3 billion in additional financing for disaster and climate resilience.

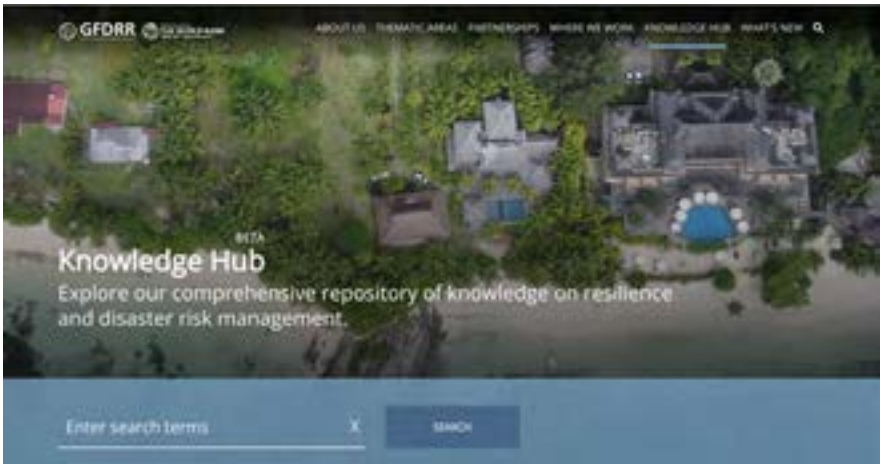
Global Forums

- GFDRR participated in the 2022 United Nations Climate Change Conference (more commonly known as COP27) held in Sharm El-Sheikh, Egypt, from November 6 to 20, 2022, through two World Bank events: Scaling Financing for Nature-Based Solutions, which discussed how to unpack the key issues behind the financing gap for investments in nature-based solutions of $700 billion per year; and Thriving – Making Cities Green, Resilient, and Inclusive in a Changing Climate, which brought together mayors, ministers, and civil society to discuss a World Bank analysis based on 10,000 cities across the globe. GFDRR's Global Program on Nature-Based Solutions for Climate Resilience and City Resilience Program contributed to these events.
- GFDRR actively engaged in the High-Level Meeting of the General Assembly on the Midterm Review of the Sendai Framework for Disaster Risk Reduction 2015-2030 at the United Nations (UN) headquarters in New York from May 17 to 19, 2023. The event provided a critical platform to examine context shifts and emerging issues that have occurred since 2015; to identify course corrections and new initiatives to address the systemic nature of risk more effectively; and to realize the outcomes and goals of the Sendai Framework, the 2030 Agenda for Sustainable Development, the Paris Agreement, and other relevant agreements, frameworks, and conventions.
- As part of this engagement, GFDRR participated as a panelist in two important discussions. The first event, "Scaling Up Risk Sensitive Urban Development," highlighted the importance of risk-informed local strategies as a key element of resilient and sustainable urban development, shared practical experience and lessons about risk-sensitive urban development in action to support the implementation of the Sendai Framework Midterm Review recommendations, and provided recommendations for municipalities to strengthen their local disaster risk reduction strategies. The second event, "Accelerating Action for Gender Responsive Disaster Risk Reduction," emphasized persisting barriers to gender-responsive disaster risk reduction, the priorities informing the development of the Gender Action Plan, and key actions needed to accelerate the gender-responsive implementation of the Sendai Framework by 2030.
- Furthermore, GFDRR took part in the closed-door 8th Meeting of the UN Senior Leadership Group on Disaster Risk Reduction for Resilience. This meeting reflected on the UN system entities' role in accelerating Sendai Framework implementation over the next seven years, considering the Midterm Review's key findings and recommendations to make accelerated progress toward the Sustainable Development Goals. GFDRR's active involvement in these events highlights its commitment to driving effective disaster risk reduction strategies and fostering resilience globally.

Engagements

In addition to major events such as Understanding Risk 2022 and the GFDRR 2023 Partnership Days, below are some of the engagements hosted by GFDRR.

- An October 2022 Independent Evaluation Group (IEG) event—Scaling Up Action on Disaster Risk Reduction: A Critical Step for Climate Change Adaptation and Building Resilience—brought together global experts and policy makers from developing and donor countries to discuss what is needed to scale up disaster risk reduction to increase resilience and meet the challenges ahead. The event was based on an August 2022 IEG report—*Reducing Disaster Risks from Natural Hazards: An Evaluation of the World Bank's Support FY10-20*—that noted how "GFDRR support has played a major role in enabling growth of DRR [disaster risk reduction] by financing analytical work and technical assistance and developing a critical mass of disaster experts to support World Bank project teams."
- The GFDRR website, which received 424,347 views in FY23, continues to serve as an invaluable resource for the latest information about the facility's work to bring to resilience to scale across the globe. Housed in the GFDRR website, the GFDRR Knowledge Hub remains one of the leading repositories of knowledge on resilience and disaster risk management. The GFDRR Knowledge & Learning Catalog: 2009–2023, which shows the wide range of knowledge and learning products that GFDRR has produced from 2009 to 2023, reflects GFDRR's vast repository as it includes reports, evaluations, country profiles, post-disaster needs assessment guidelines, videos, and self-paced e-learning courses.
- The internal portal, which is accessible to World Bank staff, gathers a wide range of knowledge and learning assets for consultation before and after learning events, making it one of the most popular and frequently visited intranet spaces within the World Bank's Sustainable Development Vice Presidency, with 13,659 page views and 5,488 visits in FY23.
- Videos serve as a valuable tool for illustrating the impact of GFDRR's work. In FY23, GFDRR's YouTube channel attracted 73,800 views. Videos on the City Resilience Program, the natured-based solutions (NBS) panel session at the GFDRR 2023 Partnership Days, and South Africans creating urban heat maps of their cities were some of the most viewed.
- GFDRR captures lessons learned through its activities and shares them by publishing guidance notes and similar reports. These knowledge-based technical assistance resources serve as valuable references, facilitating the sharing of expertise and experience within the disaster risk management (DRM) community. In FY23, for example, it published guidance notes on how to design inclusive and accessible early warning systems and integrate gender and social inclusion into NBS.
- GFDRR, in partnership with the World Bank's Resilience and Disaster Risk Management (RDRM), delivered 49 learning events with over 4,500 participants in FY23. Recordings of these webinars, panel discussions, and workshops are posted in the internal RDRM portal to give World Bank staff the ability to access and view these replays at their convenience, which is especially helpful if they were unable to participate in real-time. GFDRR also regularly organizes workshops and courses to enable the capacity development of its external partners. E-learning courses in the Resilience and Disaster Risk Management Learning Lab in the World Bank's Open Learning Campus (OLC), all of which are publicly available, are also disseminated to external partners. On a more periodic basis, GFDRR helps organize technical deep dives (TDDs), which are multi-day peer-to-peer learning events that bring together World Bank staff and representatives in its partner countries. In FY23, for example, 30 participants visited Kyoto, Japan, for a TDD on NBS.
- GFDRR launched its LinkedIn page in September 2022. The page, which had 30,269 impressions in FY23, aims to be a platform for a deeper dive into the work that GFDRR does as it partners with countries and communities to boost their resilience against disasters that are increasingly being exacerbated by climate change.
- GFDRR contributed 21 World Bank blogs that received a total of 11,488 visitors in FY23. Blog posts on the cooperation between the World Bank and Japan to build resilient infrastructure, the growing share of NBS in the World Bank portfolio, lessons learned from a hurricane risk communications campaign in the Caribbean, a machine learning



GFDRR Knowledge Hub homepage. © World Bank.

approach for high-resolution urban employment prediction, and disaster risk management in South Asia garnered the most readers.

Media

- The media—as seen in the *Associated Press*, *Bloomberg*, *Deutsche Welle*, *The Financial Times*, and *Reuters*, to name a few news outlets—extensively covered reports that GFDRR contributed to using the Global Rapid Post-Disaster Damage Estimation (GRADE) methodology to assess direct physical damage following Russia's invasion of **Ukraine** as well as the devastating earthquakes in Türkiye and **Syria**.
- In a February 2023 interview with *The Christian Science Monitor*, Alanna Simpson, Lead Disaster Risk Management Specialist at the World Bank, discussed the aftermath of the earthquakes in Türkiye and the World Bank's ongoing work on building resilience in the country, including building safer schools that have become shelters for those who were displaced by the earthquakes. GFDRR arranged this interview and contributed disaster risk management messaging. In her March 2023 *New York Times* opinion piece "The Crisis That Changed My Life 8 Years Ago Keeps Happening," Academy Award winner Michelle Yeoh referenced the GFDRR report *Gender Dimensions of Disaster Risk and Resilience*, which shows how gender inequalities drive disaster impacts and vice versa.

© NY Times.com.

The Disaster Fighters campaign was recognized with the Silver ADDY Award.

- Disaster Fighters, a creative communications campaign supported by GFDRR that raises awareness about disaster preparedness in the Caribbean, was recognized as the silver winner in the Public Service Category of the 2023 American Advertising Federation's American Advertising Awards. The innovative initiative by the Caribbean Disaster Emergency Management Agency—and supported by the World Bank, the UN, the European Union, Canada, and Japan—gathers key figures in the Caribbean to raise awareness about preparedness and survival skills for various hazards, ranging from hurricanes and volcanic eruptions to the recent challenges posed by the COVID-19 pandemic.
- In an interview with the United Nations Office for Disaster Risk Reduction (UNDRR) about the drivers of urban risk, Claudia Soto Orozco, Senior Disaster Risk Management Specialist at the World Bank's Urban, Resilience and Land department for West Africa, mentioned several examples of GFDRR's work: the City Resilience Program's work in Moldova, South Africa, and **Sudan**, as well as GFDRR's work in Building Regulation for Resilience, Resilient Infrastructure, Emergency Preparedness and Response, and the Nature-Based Solutions.

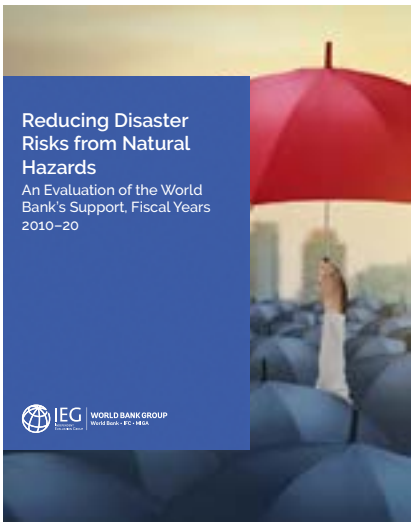
GFDRR in the Global News

City Resilience Program

Extreme urban heat poses a rapidly growing threat to human health, labor productivity, education, and urban infrastructure. Cities in South Africa are particularly vulnerable to rising heat stress. In FY23, GFDRR's City Resilience Program actively engaged local governments and community organizations in Johannesburg and Ekurhuleni. Together, they conducted a citizen science campaign, combining climate simulation data with street-level heat measurements to create detailed urban heat intensity maps. These maps reveal neighborhood-level disparities in heat exposure, allowing cities to develop targeted action plans to combat extreme heat and create cooler neighborhoods. The experiences and lessons learned from this initiative are being shared with other South African cities, fostering collaborative efforts to tackle the challenges of climate change and urban heat. Watch the campaign's video here.

Disaster Risk Analytics

In the immediate aftermath of recent crises such as the Türkiye and **Syria** earthquakes as well as the floods in Pakistan, GFDRR swiftly responded by conducting GRADE



IEG report that highlighted GFDRR's pivotal role in tripling the World Bank's support for DRM.

Clip from video on South Africans creating urban heat maps of their cities. © GFDRR.

assessments to estimate the physical and economic damages and guide recovery and reconstruction efforts. These assessments show how GFDRR can mobilize technical expertise, promote evidence-based decision-making, and support diverse countries and communities in enhancing their resilience against disasters and climate risks. Notably, GFDRR's contributions, including GRADE assessments used in **Ukraine**, have played a crucial role in advancing DRM globally, as recognized in an August 2022 IEG report that highlighted GFDRR's pivotal role in tripling the World Bank's support for DRM from 2010 to 2020.

Hydromet Services and Early Warning Systems

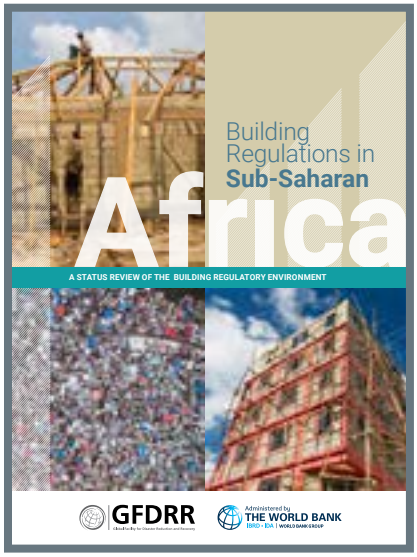
Effective early warning systems play a critical role in saving lives during disasters. Yet, despite significant global progress in disaster risk reduction, around one-third of the world's population remains without access to such systems. Responding to this urgent need, the UN Secretary-General launched the Early Warnings for All (EW4All) initiative at the COP27 held in November 2022. As an active collaborator, GFDRR works closely with low-income countries to upgrade their warning systems and enhance disaster protection. A notable example is its *Charting a Course for Sustainable Hydrological and Meteorological Observation Networks in Developing Countries* report, which aims to facilitate strategic roadmaps for weather and climate observation network investments, particularly in regions where such investments are expected to be substantial in the coming decade.

Nature-Based Solutions

Amid the increasing complexity of climate challenges, NBS emerge as valuable cost-effective alternatives to traditional "gray" infrastructure, offering a plethora of social and environmental benefits. A new GFDRR report—*Assessing the Benefits and Costs of Nature-Based Solutions*—delves into the diverse advantages and costs of NBS, presenting methods and approaches for estimating them based on a review of the World Bank portfolio. To complement this report, a GFDRR guidance note based on several case studies—*Integrating Gender and Social Inclusion in Nature-Based Solutions*—addresses how NBS can incorporate gender and social inclusion principles.

Sand dunes and lagoons in Tatajuba, Ceara, Brazil. Photo: © Luca Roggero.

Key Publications



Building Regulations in Sub-Saharan Africa: A Status Review of the Building Regulatory Environment

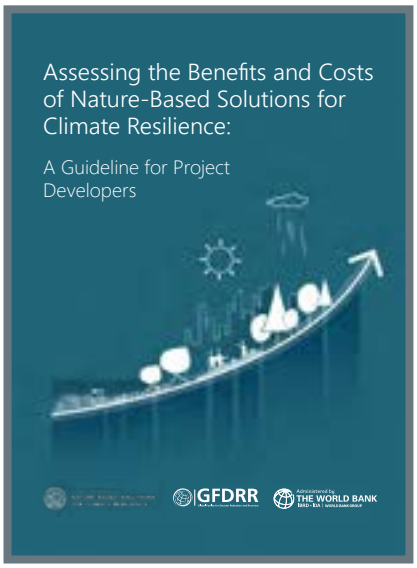
https://www.gfdrr.org/en/publication/building-regulations-sub-saharan-africa

This report provides the first comprehensive snapshot of the building regulatory environment in Sub-Saharan Africa, where regulations are often still based on colonial-era documents and are not adapted for disaster and climate risks. It shows that out of 48 countries in the region, only four—Ghana, Rwanda, South Africa, and Uganda—have updated and reformed their building regulatory documents in the last decade. The report highlights the value of an inclusive and participatory process involving government stakeholders, local communities, and building professionals as well as underlines the importance of knowledge sharing and promoting cross-regional collaboration.

Assessing the Benefits and Costs of Nature-Based Solutions: A Guideline for Project Developers

https://www.gfdrr.org/en/publication/assessing-benefits-and-costs-nature-based-solutions

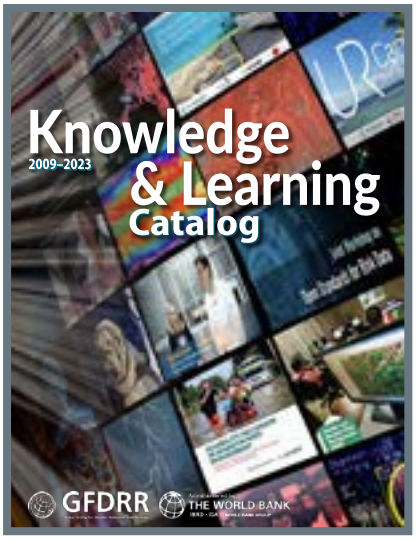
This report offers a decision framework tailored to project developers seeking to integrate nature-based solutions into their operations. Using eight case studies drawn from World Bank projects, it illustrates the application of diverse valuation techniques in specific scenarios, providing valuable perspectives on their actual implementation. Its overarching goal is to accelerate the adoption of nature-based solutions, amplify impact evaluation, and identify additional funding for projects centered around nature-based solutions.



GFDRR Knowledge & Learning Catalog 2009-2023

https://www.gfdrr.org/en/publication/gfdrr-knowledge-learning-catalog-2009-2023

Committed to amplifying its impact, GFDRR disseminates its technical and analytical expertise through a variety of formats and makes them available for public use. This catalog, spanning from 2009 to 2023, showcases GFDRR's extensive knowledge and learning repository as it encompasses core operational documents, annual reports, results briefs, country profiles, guidelines for post-disaster needs

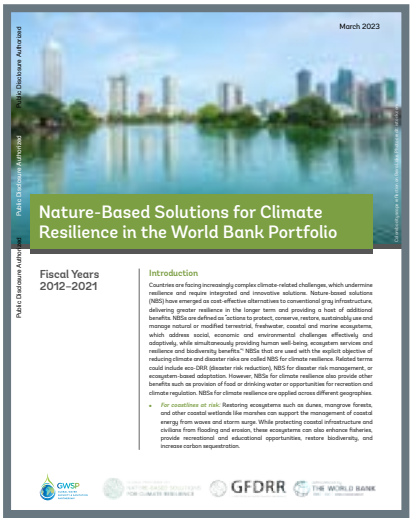


assessments, videos, and self-paced e-learning courses.

Nature-Based Solutions for Climate Resilience in the World Bank Portfolio

https://www.gfdrr.org/en/publication/nature-based-solutions-climate-resilience-world-bank-portfolio

In a world faced with increasingly complex climate challenges, nature-based solutions offer a cost-effective alternative to "gray" infrastructure while offering social and environmental benefits. From 2012 to 2021, over 100 World Bank



projects included nature-based solutions. This review, conducted by the Global Program on Nature-Based Solutions for Climate Resilience—a thematic area under GFDRR—estimates the value of these components at $5.5 billion.

Digital Public Goods for Disaster Risk Reduction in a Changing Climate

https://www.gfdrr.org/en/publication/digital-public-goods-disaster-risk-reduction-changing-climate

Digital public goods can potentially transform how disaster and climate risks are managed while supporting innovation and collaboration globally. Many valuable digital assets for disaster and climate analytics, however, remain closed or do not exist for climate-vulnerable, low-income countries. A global effort is therefore needed to advance their creation and uptake. This joint note by the United Nations Office for Disaster Risk Reduction and GFDRR encourages creating and using digital public goods for disaster and climate risk reduction.

Global Rapid Post-Disaster Damage Estimation (GRADE) Report: February 6, 2023 Kahramanmaraş, Türkiye Earthquakes

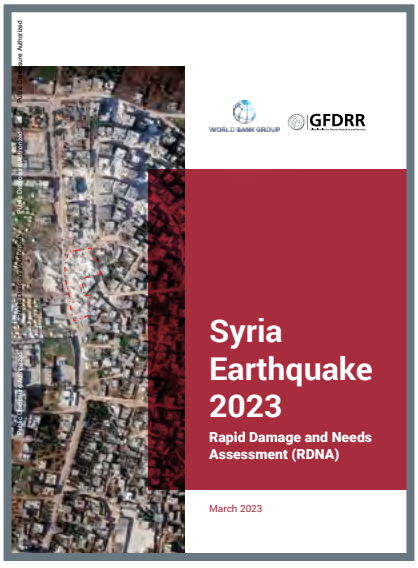
https://www.gfdrr.org/en/publication/grade-report-february-2023-kahramanmaras-turkiye-earthquakes

The February 6, 2023, earthquakes of 7.8 and 7.5 magnitude, followed by more than 7,500 aftershocks and two additional earthquakes, have resulted in the largest such disaster to hit Türkiye in over 80 years. This GRADE report, which focuses on the direct physical damage caused by these earthquakes, estimates that 1.25 million people have been rendered temporarily homeless as a result of moderate to severe damage or complete building collapse. It also highlights that 81 percent of the estimated damage occurred in provinces that, combined, are home to around 6.45 million people—or around 7.4 percent of the total population of Türkiye.

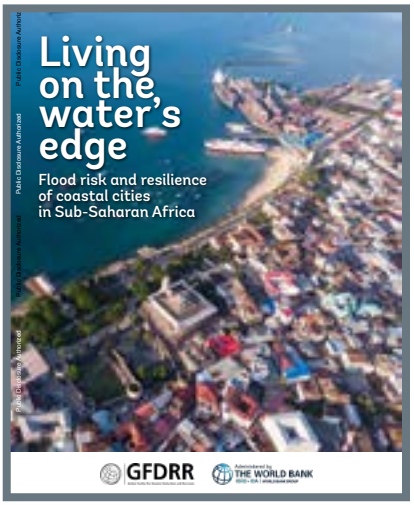
Syria Earthquake 2023: Rapid Damage and Needs Assessment

https://www.gfdrr.org/en/publication/syria-earthquake-2023-rapid-damage-and-needs-assessment

This Rapid Damage and Needs Assessment (RDNA) builds on the GRADE report on **Syria**, which estimated the direct physical damage to range between $2.7 billion and $7.9 billion. While the GRADE report focused on physical damage and relied largely on earthquake damage modeling and exposure analysis, the RDNA estimates sectoral damage, economic losses, and recovery needs. The RDNA finds that the Syrian economy, initially anticipated to shrink by 3.2 percent in 2023, is now projected to face a more pronounced contraction of 5.5 percent as a direct consequence of the earthquake. Around 6.6 million Syrians reside in areas severely affected by the earthquakes, triggering an earthquake-induced displacement that will add to the staggering count of 3 million conflict-induced internally displaced persons already living in affected areas.



Living on the Water's Edge: Flood Risk and Resilience of Coastal Cities in Sub-Saharan Africa



https://www.gfdrr.org/en/publication/living-waters-edge-flood-risk-and-resilience-coastal-cities-sub-saharan-africa

Despite contributing the least to global warming, Sub-Saharan Africa faces a disproportionate burden of climate change effects. With a few exceptions, most urban areas in Sub-Saharan Africa lack adequate resources to adjust to the evolving climate because of factors such as widespread poverty, high levels of informality, rapid population growth, inadequate infrastructure, and limited financial resources. This report, which presents a comprehensive analysis of coastal cities in the region, emphasizes the urgent need for action to tackle the escalating risks posed by cyclones, flooding, and droughts.

Ukraine Rapid Damage and Needs Assessment 2: February 2022 - February 2023

https://www.gfdrr.org/en/publication/ukraine-rapid-damage-and-needs-assessment-february-2022-february-2023-english

This RDNA is part of an ongoing effort to take stock of the damages and losses that Ukraine has suffered from Russia's invasion. It lays out a strong analytical foundation for a comprehensive financial and operational strategy and plan to support long-term reconstruction in Ukraine. The country's reconstruction and recovery needs, at the time of publication, were estimated at about $411 billion. Integrated into these needs are critical steps toward becoming a modern, low-carbon, disaster- and climate-resilient country.

Efficiency and Equity in Urban Flood Management Policies: A Systematic Urban Economics Exploration

https://www.gfdrr.org/en/publication/efficiency-and-equity-urban-flood-management-policies-systematic-urban-economics

Flood exposure is likely to increase in the future as a direct consequence of more frequent and more intense flooding as well as population growth in flood-prone areas. Low-income households, which are more likely to be situated in high-risk zones, will be particularly vulnerable. Within this context, this paper evaluates the welfare and equity ramifications of three flood management strategies—risk-based insurance, zoning policies, and subsidized insurance—employing an urban economics framework that encompasses two income groups and three potential flood locations.

Climate Investment Opportunities in India's Cooling Sector

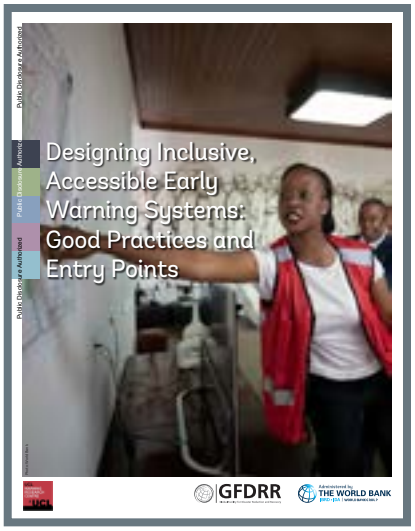
https://www.gfdrr.org/en/publication/climate-investment-opportunities-indias-cooling-sector

India was one of the first countries to develop an action plan for sustainable cooling. This study, supported by both GFDRR and the European Commission, aims to identify how concessional finance can deliver cooling solutions. It finds that, as temperatures rise, keeping spaces cool with energy-efficient technologies can open an investment opportunity in India of $1.6 trillion by 2040.

Designing Inclusive, Accessible Early Warning Systems: Good Practices and Entry Points

https://www.gfdrr.org/en/publication/designing-inclusive-accessible-early-warning-systems-good-practices-and-entry-points

Contextually tailored approaches to designing and implementing early warning systems produce more effective outcomes than one-size-fits-all

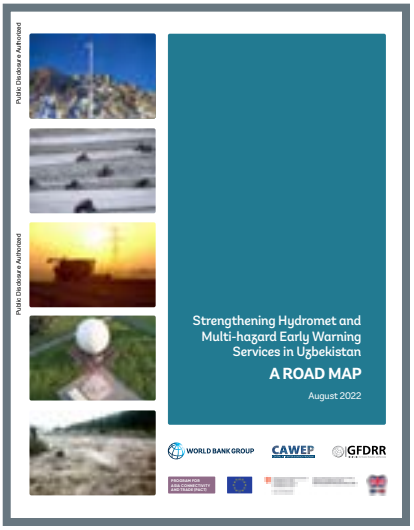


models. Making early warning systems meaningfully inclusive is crucial to reach diverse populations and build resilient communities. This report offers valuable lessons, recommendations, and entry points to ensure accessibility and inclusion.

Strengthening Hydromet and Multi-Hazard Early Warning Services in Uzbekistan: A Road Map

https://www.gfdrr.org/en/publication/strengthening-hydromet-and-multi-hazard-early-warning-services-uzbekistan-road-map

This report is based on a technical evaluation and assessment of the needs and capacities of Uzhydromet which, as the main service provider in Uzbekistan,



issues hydrometeorological (hydromet) information, forecasts, and warnings. The assessment identifies gaps and challenges in the production and delivery of weather, climate, and hydrological information and services. It also offers a strategic blueprint aimed at enhancing Uzbekistan's institutional capacity to effectively bolster efforts to safeguard lives, shield assets, foster livelihoods, and boost socioeconomic growth.

Enhancing Power Sector Resilience: Emerging Practices to Manage Weather and Geological Risks

https://www.gfdrr.org/en/publication/enhancing-power-sector-resilience-emerging-practices-manage-weather-and-geological

Power infrastructure in far-flung areas is particularly vulnerable to weather and geological events. Given the changing climate, the repercussions of such events on power grids and energy provision—which underpin all economic sectors—could be exacerbated. This study catalogs the risks faced by the power sector as a result of weather and geological hazards and documents a range of emerging standards and practices for building resilience developed by power utilities and their partners, including investors and insurance companies.

Gender-Responsive Entry Points to Strengthen Financial Resilience to Disasters and Climate Shocks: Guidance Note

https://www.gfdrr.org/en/publication/gender-responsive-entry-points-strengthen-financial-resilience-disasters-and-climate

Substantial gender disparities persist in terms of access to climate and disaster risk finance and insurance (CDRFI), curtailing women's ability to effectively navigate shocks. The aim of this note is to provide entry points for integrating gender considerations into the design of CDRFI operations. Female-headed households, for example, are particularly vulnerable to the impacts of hazards because they tend to be poorer than other households, especially in rural areas. This note provides recommendations grouped according to four critical CDRFI elements: promptness of funding, risk diversification, disbursement methods, and data and analytical insights.

Stocktaking of Adaptive Social Protection and Disaster Risk Management

https://www.gfdrr.org/en/publication/stocktaking-adaptive-social-protection-and-disaster-risk-management

This guidance note shows how social protection systems have been adapted to maximize resilience building—especially for women—before, during, and after disasters happen. A review of World Bank–financed interventions shows that disaggregating data in social registries; leveraging economic inclusion to accommodate the needs of vulnerable populations; adapting social protection programs to support disaster-affected populations; and supporting low-income, female-headed households to access financial protection all contribute to making social protection programs more inclusive.

Violence against Women and Girls (VAWG): Disaster Risk Management Brief Second Edition

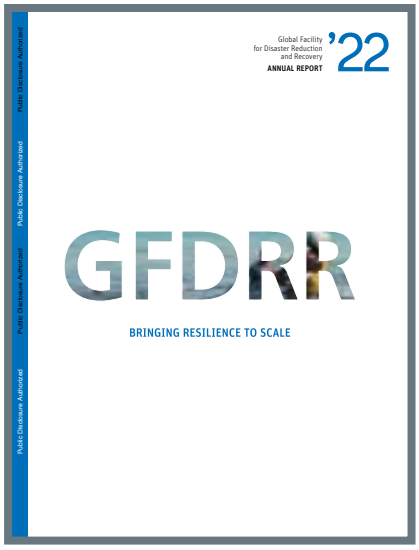
https://www.gfdrr.org/en/publication/violence-against-women-and-girls-vawg-disaster-risk-management-brief-second-edition

There is a clear link between violence against women and girls (VAWG) and disasters triggered by natural hazards. This brief, which is intended for development practitioners of international finance institutions and government officials designing disaster risk management strategies and programs, offers valuable insights on effectively incorporating measures to avert and address VAWG into resilience and disaster risk management projects and programs.

GFDRR Annual Report 2022

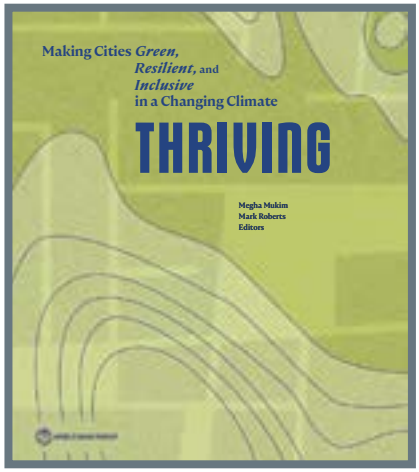
https://www.gfdrr.org/en/publication/gfdrr-annual-report-2022

This report provides an overview of grant-making activities across GFDRR's priorities and cross-cutting areas in FY22.



It shows that, during the fiscal year, most grants addressed more than one natural hazard, nearly $2.3 billion in additional financing was mobilized for disaster and climate resilience, and 49 percent of the GFDRR portfolio contributed to risk-informed policy formulation or decision-making as well as led to policy changes aligned with the Sendai Framework for Disaster Risk Reduction.

Thriving: Making Cities Green, Resilient, and Inclusive in a Changing Climate



https://www.gfdrr.org/en/publication/thriving-making-cities-green-resilient-and-inclusive-changing-climate

Responsible for 70 percent of global greenhouse gas emissions, cities face escalating impacts from climate-related shocks. These challenges intertwine with other urban stresses and affect the sustainability, resilience, and inclusivity of both urban and national development. This report delves into the intricate dynamics of these interactions. It also offers policy makers a strategic guide to crafting targeted policies that help cities proactively address and navigate the complexities of climate change mitigation and adaptation.

Integrating Gender and Social Inclusion in Nature-Based Solutions: Guidance Note

https://www.gfdrr.org/en/publication/integrating-gender-and-social-inclusion-nature-based-solutions-guidance-note

This note aims to offer guidance on integrating gender and social inclusion considerations into nature-based solutions (NBS). It lays out the factors for consideration throughout the entire lifecycle of NBS projects, from the early stages of conceptualization to project design and implementation. Primarily designed for World Bank staff engaged in NBS operations, as well as governments and other development practitioners involved in implementing inclusive NBS, it also contributes valuable insights, lessons, and case studies from the World Bank–financed NBS portfolio and other relevant sources to the broader literature on NBS.

Secondary Benefits of Urban Flood Protection

https://www.gfdrr.org/en/publication/secondary-benefits-urban-flood-protection

While advances in evaluation methodologies may ease quantification challenges, a departure from traditional cost-benefit analyses may be needed for a more comprehensive assessment of secondary benefits of urban flood protection. This review examines these secondary benefits, analyzes their inclusion in cost-benefit analyses for flood protection projects, and discusses methodological concerns. A deeper understanding and quantification of these secondary benefits could attract additional financing for flood protection infrastructure, particularly in urban centers of developing countries.

Climate Change, Urban Expansion, and Food Production

https://www.gfdrr.org/en/publication/climate-change-urban-expansion-and-food-production

Urbanization influences food production opportunities and risks. This paper quantifies the link between urban expansion and food production—by estimating the overlap of future urban expansion in 2040 and 2100 with current crop and livestock production—under five climate scenarios. It finds that, if poorly managed, urban expansion is projected to coincide with a decline in crucial crops and animal-source foods essential for diets and nutrition.

KEY PUBLICATIONS

In Focus A Reform Roadmap for Resilient Built Environments

Buildings play a vital role in ensuring the well-being and productivity of individuals within societies. More than just physical structures, they are integral components of economies, housing the critical infrastructure required to sustain the functioning of governments and businesses alike. They also serve as the initial safeguard against the forces of natural disasters and the impacts of a changing climate, offering protection to the broader population.

A session at the GFDRR 2023 Partnership Days gave a preview of the report *Building Regulations in Sub-Saharan Africa: A Status Review of the Building Regulatory Environment*. This report marked a significant milestone as it provides the inaugural comprehensive assessment of the building regulatory landscape in Sub-Saharan Africa, where building regulations often trace their origins back to colonial-era documents and typically lack adaptations that would address contemporary challenges related to disasters and climate risks.

Developed as part of GFDRR's Building Regulation for Resilience line of work—which aims to help countries fortify their built environment through climate risk–informed policy and regulatory review; advisory for policy, regulatory, and institutional reforms; capacity building; and targeted knowledge exchanges—this report serves as a catalyst for initiating a much-needed policy discourse on urban resilience in Sub-Saharan Africa.

The assessment revealed that 56 percent of urban development in Sub-Saharan Africa is informal, resulting in several challenges. For example, over the past 20 years, **Nigeria** has witnessed 200 structural collapses due to buildings being unable to withstand their load, while Kenya has experienced 87 collapses in the last five years alone. Out of 48 countries in the region, only four—Ghana, Rwanda, South Africa, and Uganda—have updated and reformed their building regulatory documents in the past decade.

The report also imparts valuable guidance on enhancing and modernizing building regulatory frameworks based on a comprehensive assessment. It recommends identifying key concerns through an inclusive and participatory process involving government stakeholders, local communities, and building professionals.

One of the recommendations put forward is to improve the transparency and efficiency of building regulations and control processes. This involves widely disseminating regulations and building control procedures, making them easily accessible online, and providing free access. For instance, Kenya has successfully digitized its processes, implementing a system that expedites the building permit process, enhancing efficiency, transparency, and attractiveness for individuals seeking to transition from the informal sector to the formal sector.

Construction workers working on laying pipes in contrsuction area in South Africa. Photo: © wilpunt.

Another recommendation entails investing in capacity development for both public and private sectors. In this regard, proactive support from governments plays an indispensable role in creating an enabling environment. For instance, in **Nigeria**, the city of Lagos has taken proactive steps to address the persistent issue of building collapses. It initiated public awareness campaigns emphasizing the importance of adhering to building regulations and established an anonymous whistleblower hotline to report unsafe structures, demonstrating the crucial role of government engagement in bolstering regulatory effectiveness.

The report also underlines the importance of fostering knowledge sharing and promoting cross-regional collaboration to collectively tackle building resilience challenges. Since some countries have made more progress than others in developing and implementing regulatory frameworks, regional synergies can support coordinated and scalable solutions. For example, a shared process to update regulations, regional standards, and guidance can be complemented by tailoring these measures to specific country needs and implementation capacities. Ultimately, the report's overarching objective is to drive risk- and climate-informed, context-specific improvements in building regulations toward a resilient built environment. Rather than serving as the final word on the building regulatory environment in Sub-Saharan Africa, it aims to spark the start of a critical conversation on an important issue that profoundly affects countless lives and livelihoods in the region.

KEY PUBLICATIONS

In Focus Assessing the Benefits and Costs of Nature-Based Solutions

Mangroves. Photo: © Bayu Setiawan.

Countries everywhere are facing increasingly complex climate-related challenges that, in combination with unplanned growth and nature loss, are making them less resilient to climate shocks and more vulnerable to disasters. Nature-based solutions (NBS) for climate resilience are integrative strategies to reduce climate risks while at the same time enhancing biodiversity and ecosystem services. They include the protection or restoration of mangroves, urban green space, rivers and floodplains, reef ecosystems, and wetlands.

Despite growing interest in NBS, one of the key barriers to scaling up investment in these solutions for climate resilience is the limited understanding of their benefits at the project level. A better understanding of methods and approaches to value NBS may enable further uptake of NBS by articulating their contribution to disaster risk reduction, climate resilience, and important co-benefits for other sectors and, thereby, pave the way for additional financing options.

In consultation with over 20 leading NBS experts, a technical team from GFDRR and the World Bank developed the report *Assessing the Benefits and Costs of Nature-Based Solutions for Climate Resilience: A Guideline for Project Developers.* This report provides practical guidance for valuing NBS for climate resilience; it also considers other benefits such as food production, tourism, recreation, biodiversity, health, and water quality.

The report outlines six steps that should be part of every NBS valuation: scoping the benefits, defining the decision support framework, hazard and risk assessment, risk reduction benefits valuation, other benefits valuation, and cost valuation. Moreover, the report outlines four guiding principles for all assessments:

1. **Value both risk reduction and other benefits.** NBS are multi-benefit and therefore multistakeholder approaches. The other benefits—such as biodiversity, climate regulation, and ecosystem services supporting local livelihoods—are a crucial part of their value proposition.
2. **Engage stakeholders to scope locally relevant benefits of NBS.** It is critical to consult and engage stakeholders to identify the relevant benefits to consider in project identification to ensure community buy-in and engagement.
3. **Address uncertainty.** Uncertainties driven by both climate and socioeconomic conditions play an important role in the assessment of the benefits and costs of NBS.

Urban vertical garden. Photo: © Ricardo Gomez Angel.

4. **NBS cost-benefit assessment should inform project identification, design, implementation, and impact evaluation.** Such an assessment should be an integral part of NBS project identification and preparation to raise awareness, engage stakeholders, assess economic viability on investments, and evaluate the impact of the NBS.

Building on these principles, the report presents a tiered decision framework that guides study design, considering the project context as well as time and budget constraints. The framework also connects valuation methods to the different phases in NBS investment projects, from upstream analytics to impact evaluation.

Eight case studies on the valuation of NBS for climate resilience that have informed World Bank projects are included in the report. For example, in Sri Lanka, the economic case was made for wetland conservation in the capital city of Colombo, showing that the benefits of flood management and recreation outweigh the opportunity cost of land development. In Indonesia, a national-level cost-benefit analysis revealed the economic viability of mangrove conservation and restoration and helped identify priority areas for a $400 million investment, offering coastal protection and ecosystem services supporting the livelihoods of local communities

Haizu Wetlands. Photo: © Ilee Wu.

Summary of Events

GFDRR 2023 Partnership Days

https://www.gfdrr.org/en/2023-gfdrr-partnership-days

The GFDRR 2023 Partnership Days event, which was held both at the World Bank headquarters in Washington, DC, and online, brought together GFDRR members, observers, partners, and World Bank staff from all over the world. Through panel discussions, presentations, videos, and interactive activities it showcased GFDRR's multifaceted approach to addressing disaster risks faced by its country and community partners.

Averted Disaster Award photo exhibit

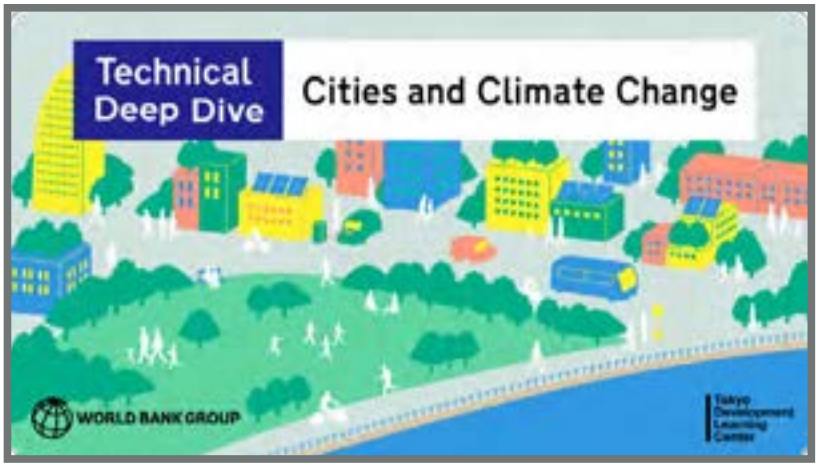
https://www.gfdrr.org/sites/default/files/2023-05/Exhibit%20Description%20-%20GFDRR%202023%20Partnership%20Days.pdf

GFDRR 2023 Partnership Days attendees had the opportunity to tour the Averted Disaster Award (ADA) photo exhibit, which displayed the work of the organization Build Change, the 2022 ADA runner-up. Developed in collaboration with the camera company Nikon and the streaming platform WaterBear Network, the exhibit featured photographs captured by the London-based photographer Hermeilio Miguel Aquino (known as Kino) and provided a visual representation of the vital efforts undertaken to prevent and mitigate the impact of disasters worldwide.

Safer Schools exhibit

https://www.gfdrr.org/sites/default/files/2023-05/Exhibit%20Description%20-%20GFDRR%202023%20Partnership%20Days.pdf

Participants of the GFDRR 2023 Partnership Days had the opportunity to immerse themselves in the Safer Schools exhibit, a virtual reality experience that recreated an elementary school classroom in Peru facing the impact of a magnitude-8 earthquake. Equipped with virtual reality (VR) goggles and a vibrating backpack, participants witnessed the importance of making buildings more resilient and ensuring the safety of school communities.



Technical Deep Dive: Cities and Climate Change

https://www.worldbank.org/en/programs/tokyo-development-learning-center/tdd/cities_and_climate_change

Cities are already disproportionately impacted by coastal flooding, extreme heat, and other hazards that are exacerbated by climate change. This technical deep dive—which was attended by World Bank client country delegations and government officials as well as urban, climate, and nature-based solutions specialists—emphasized the importance of implementing cross-sectoral actions and integrating social inclusion into disaster risk management, highlighting how individual investments can address several climate goals simultaneously.

Climate Resilient Cities in Bosnia and Herzegovina Workshop

https://www.linkedin.com/posts/city-resilience-program_as-the-city-resilience-programs-climate-activity-7046092988841644032-ua4g?utm_source=share&utm_medium=member_desktop

GFDRR's City Resilience Program held a three-day workshop to engage cities in Bosnia and Herzegovina to develop an understanding of capital project priorities that integrate resilient and green urban development into the delivery of strategic urban infrastructure. The discussion encompassed various issues such as green spaces, improvements in urban mobility, low-carbon transport, flood protection, and waste management.

Scaling Financing for Nature-Based Solutions

https://www.worldbank.org/en/events/2022/11/16/scaling-financing-for-nature-based-solutions

GFDRR's Global Program on Nature-Based Solutions for Climate Resilience contributed to this discussion—held during the 2022 United Nations Climate Change Conference (more commonly known as COP27) in November 2022—on how to unpack the key issues behind the financing gap for investments in nature-based solutions of $700 billion per year. Increasing finance for nature-based solutions, after all, is critical for the successful implementation of the climate, biodiversity, and development goals.

Thriving – Making Cities Green, Resilient and Inclusive in a Changing Climate

https://live.worldbank.org/events/cop27-thriving-making-cities-green-resilient-and-inclusive-changing-climate

Cities must play a role in climate mitigation while also adapting to better manage climate impacts. GFDRR's City Resilience Program contributed to this discussion, which brought together mayors, ministers, and civil society during COP27 to discuss a World Bank analysis based on 10,000 cities across the globe.

Technical Deep Dive on Nature-Based Solutions for Climate Resilience

https://www.gfdrr.org/en/event/technical-deep-dive-nature-based-solutions-climate-resilience

This five-day technical deep dive—organized by the World Bank's Tokyo Development Learning Center and GFDRR's Tokyo Disaster Risk Management Hub, in collaboration with the Global Program on Nature-Based Solutions for Climate Resilience—brought together Japanese officials and participants from the International Finance Corporation and the UN Environment Programme to explore nature-based solutions for urban settings. One key insight that emerged is that urban environments can coexist with natural ecosystems given appropriate city design and planning, leading to increased resilience and livability.

Understanding Risk 2022

https://www.understandrisk.org/event/ur22/

Under the theme "Riding the Waves of Risk," an eclectic mix of plenaries, technical sessions, fireside chats, and engaging activities such as "risky karaoke" shone a spotlight on disaster resilience within a multi-hazard context during the five-day Understanding Risk 2022 (UR22) event. Held both in Florianópolis, Brazil, and online, it also linked participants from across the globe through satellite hubs situated in London (UK), Niamey (**Niger**), Vancouver (Canada), and Wellington (New Zealand).

Scaling Up Action on Disaster Risk Reduction: A Critical Step for Climate Change Adaptation and Building Resilience

https://www.gfdrr.org/en/event/event-scaling-action-disaster-risk-reduction-critical-step-climate-change-adaptation-and

Disasters caused by natural hazards increasingly threaten the lives and livelihoods of the world's poor and disaster-vulnerable populations. Climate change is increasing the risks of disasters and exacerbating their impacts by contributing to more destructive droughts, floods, and storms. This event, which took place in October, 2022, gathered global experts and policy makers from both developing and donor countries for a discussion on what it will take to scale up disaster risk reduction to build resilience and meet the challenges ahead. The event also highlighted an evaluation from the World Bank Group's Independent Evaluation Group (IEG), which confirmed GFDRR's transformative contributions to the field of disaster risk management.

A Live Conversation with the Hurricane Hunters Team

https://www.gfdrr.org/en/event/event-live-conversation-hurricane-hunters-team
This engaging Zoom conversation enabled students to meet the Hurricane Hunters team—part of Disaster Fighters, a creative communications campaign that raises awareness about disaster preparedness in the Caribbean. The Hurricane Hunters team is composed of a pilot responsible for navigating the aircraft, a flight director serving as an on-board meteorologist in charge of coordinating scientific inquiries and ensuring aircraft safety, and an engineer managing the deployment of expendable instruments for data collection.

Regional Forum on Disaster Risk Reduction: Strengthening the resilience of Central Asia

https://www.eeas.europa.eu/delegations/kazakhstan/regional-forum-disaster-risk-reduction-strengthening-resilience-central-asia_en?s=222
A three-day regional forum in Dushanbe, Tajikistan, convened the heads of emergency situations authorities and other government officials from Kazakhstan, Kyrgyz Republic, Tajikistan, Turkmenistan, and Uzbekistan as well as experts from international development institutions and academia. Participants discussed measures to tighten regional cooperation and strengthen resilience in the area of disaster risk management.

South Africa Urban Resilience, Emergency Preparedness & Response Workshop

Over the course of three days, the virtual Urban Resilience, Emergency Preparedness & Response workshop delved into the enhancement of emergency readiness and response capabilities within urban settings. The discussions not only examined strategies to bolster city-level preparedness but also provided insightful suggestions to reinforce intergovernmental coordination and secure financing for effective disaster risk management.

A Roadmap to Resilience: Cities Planning and Adapting to Climate Change

https://resilientcitiesnetwork.org/category/cities-on-the-frontline/
This ninth Cities on the Frontline session, which is a collaborative effort between the Resilient Cities Network and GFDRR's City Resilience Program, delved into the theme "Cities Planning and Adapting to Climate Change Through the implementation of Resilience Road Maps." The session provided a unique platform for city stakeholders to gain firsthand insights from officials who have actively engaged in the iterative process of drafting strategic planning documents and establishing a path to climate action.

Scaling Up Risk Sensitive Urban Development

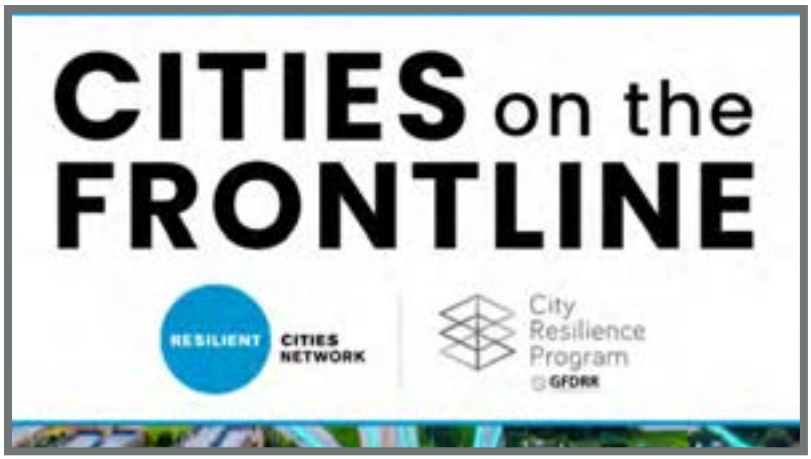
https://sendaiframework-mtr.undrr.org/media/87253
At the High-Level Meetings of the General Assembly on the Midterm Review of the Sendai Framework for Disaster Risk Reduction 2015-2030 held at the UN headquarters in New York in May 2023, GFDRR participated as a panelist. This event highlighted the importance of risk-informed local strategies as a key element of resilient and sustainable urban development, shared practical experience and lessons about risk-sensitive urban development in action to support the implementation of the Sendai Framework Midterm Review recommendations, and provided recommendations for municipalities to strengthen their local disaster risk reduction strategies.

Accelerating Action for Gender-Responsive Disaster Risk Reduction

https://sendaiframework-mtr.undrr.org.mcas.ms/media/86648
This discussion at the High-Level Meetings of the General Assembly on the Midterm Review of the Sendai Framework for Disaster Risk Reduction 2015-2030, to which GFDRR contributed as a panelist, emphasized the persisting barriers to gender-responsive disaster risk reduction and key actions needed to accelerate the gender-responsive implementation of the Sendai Framework by 2030, including the development of a gender action plan.

8th Meeting of the UN Senior Leadership Group on DRR for Resilience

GFDRR contributed to this closed-door meeting on the UN system entities' role in accelerating Sendai Framework implementation over the next seven years. The discussion centered on how to use the Midterm Review's key findings and recommendations to make accelerated progress toward the Sustainable Development Goals.



EVENTS

In Focus GFDRR 2023 Partnership Days: Putting People at the Center of Partnerships

GFDRR Partnership Days. Photo: © GFDRR/World Bank.

The GFDRR 2023 Partnership Days event, held at the World Bank headquarters and online from May 22 to 23, 2023, brought together GFDRR members, observers, partners, and World Bank staff from around the world. With a focus on innovation, inclusiveness, and impact, the event showcased GFDRR's unwavering commitment to addressing the increasingly difficult challenges in disaster risk management.

Highlighting the importance of meaningfully inclusive interventions, the event underlined both the need to safeguard the progress made to prevent any potential setbacks and the imperative for collective efforts to ensure the preservation of hard-earned gains in what has become an even more critical undertaking amid the challenges posed by climate change. The need for collaborative action among government, civil society, academia, and the private sector was also emphasized.

For example, in his opening remarks, Axel van Trotsenburg, the World Bank's Senior Managing Director for Development Policy and Partnerships, underscored the instrumental role played by GFDRR within the World Bank in driving support for disaster risk reduction. He noted that, beyond financial resources, there is a pressing need for knowledge and technical expertise to effectively address disaster risks. Both GFDRR and the World Bank are committed to delivering a comprehensive package of support, recognizing that successful disaster risk reduction initiatives require more than just funding.

Building upon the commitment to comprehensive disaster risk reduction support, the discussions focused on putting people at the center of disaster risk management efforts. A panel on harnessing digital innovation, for example, concentrated on investing in local people, local devices, and open access, underlining the value of bottom-up models that leverage emerging global resources. Another panel that was focused on resilient recovery in Türkiye and Pakistan showed that mainstreaming disaster risk management across all sectors is key to post-disaster reconstruction. In Türkiye, disaster risk reduction considerations

will be integrated into investment plans, encompassing vulnerability assessments, resilient design features, and hazard mapping. In Pakistan, a GFDRR-informed cash-for-work project targeted women-led households, persons with disabilities, and marginalized groups, while reconstruction grants were provided to eligible female-headed households, accompanied by training in financial management and supervision of construction activities.

Another highlight of the event was the launch of two GFDRR reports. The first report—*Assessing the Benefits and Costs of Nature-Based Solutions for Climate Resilience: A Guideline for Project Developers*—enables the identification of cost-effective strategies aligned with project contexts and highlights eight case studies from World Bank projects, providing practical implementation guidance. The second report—*Building Regulations in Sub-Saharan Africa: A Status Review of the Building Regulatory Environment*—provides the first comprehensive snapshot of the building regulatory environment in Sub-Saharan Africa, where regulations are often still based on colonial-era documents and are not adapted for disaster and climate risks. The report emphasizes the need for an inclusive and participatory approach that involves government stakeholders, local communities, and building professionals to address key concerns and ensure effective implementation.

Informal housing in Africa. Photo: © Shutterstock.

The event was interactive. Attendees had the opportunity to immerse themselves in the Safer Schools exhibit, an immersive virtual reality experience depicting a Peruvian classroom facing a powerful earthquake, highlighting the importance of resilient buildings and school safety. Haitian singer Tafa Mi Soleil also took the stage and delivered a performance of the anthem she composed for Disaster Fighters, which is a creative communications campaign that brings together people from different walks of life to promote awareness about disaster risk preparedness in the Caribbean.

Frame from the GFDRR video of the earthquake in Türkiye. © World Bank.

In a video showcasing the strength of earthquake-resistant schools built with GFDRR support in Türkiye, a young boy, inspired by his school's ability to withstand the devastating February 2023 earthquakes, shared his aspiration of becoming an engineer capable of constructing disaster-proof schools and homes. "When I grow up, I am going to be an engineer. I am going to build schools and houses," he said. "Because the houses were destroyed in the earthquake, but I am going to build them like this school."

It was a powerful moment that exemplified how disaster risk reduction extends beyond protecting lives and assets, as it has the transformative ability to inspire aspirations and positively reshape countless lives through proactive planning and action.

Takahiro Tsuda, the World Bank's Alternate Executive Director for Japan, delivered the closing remarks and reflected this sentiment in his message: both physical infrastructure and social infrastructure—including safety standards and regulations—need to be prioritized to ensure overall resilience.

Amid the World Bank's evolution process and the growing realization that climate change is becoming ever more urgent, being able to prepare for and recover from disasters has never been more relevant. The GFDRR 2023 Partnership Days event showcased the many ways that GFDRR has been stepping up to the plate by putting the people it aims to serve at the heart of its partnerships. This commitment will only continue to grow.

Partnerships

GFDRR is grateful to the generous donors who support its work, shape its agenda, and contribute their expertise and insights. In addition to its donors, bilateral development partners, and host governments, GFDRR collaborates with a diverse range of partners to enhance its development impacts. These partners include the United Nations, other multilateral institutions, local development partners, renowned universities, the private sector, civil society organizations, foundations, and national government agencies responsible for technical and development aspects of its work. In FY23, GFDRR focused on strengthening existing partnerships and forging new ones to continue scaling up resilience efforts, as outlined below.

United Nations Institutions and Agencies

Since its establishment, GFDRR has fostered close collaborations with international organizations, including United Nations institutions. These partnerships are based on utilizing the respective comparative advantages of each party. GFDRR engages in various forms of collaboration, such as joint advocacy efforts, participation in new initiatives, strategic consultations, and joint project implementation at the country level. Here are some notable highlights of these collaborations:

United Nations Office for Disaster Risk Reduction (UNDRR). UNDRR is invited to GFDRR's Partnership Council biannual meetings as a valued technical partner contributing to various bilateral and multilateral initiatives to help communities and countries reduce risk and prepare for, and recover from, disasters. In May 2023, GFDRR participated in the UNDRR's High-Level Meeting of the Sendai Midterm Review in New York and contributed to the thematic sessions and high-level discussions on the midterm review findings and recommendations. Throughout FY23, GFDRR participated as an observer to the UN interagency focal points meetings on disaster risk reduction (DRR), which aim to advocate for and ensure the integration of risk reduction within the respective UN organization's strategic planning, share knowledge products on DRR, and support coordination among organizations on DRR. GFDRR actively participated in the consultations on the Gender Action Plan for the Sendai Framework. GFDRR is also an active member in the UNDRR-led Task Team on Disaster Risk Reduction in Humanitarian and Fragile Contexts, where it engages periodically in advice, coordination, and knowledge sharing with the various humanitarian actors working in fragile and conflict-affected settings. Through the City Resilience Program (CRP), GFDRR has also continued the dialogue with the UNDRR's initiative Making Cities Resilient 2030.

World Meteorological Organization (WMO). In 2023, the World Bank and GFDRR continued to be actively engaged in multiple partnerships with national, regional, and global initiatives with the WMO. These initiatives include (1) **the Climate Risk and Early Warning Systems (CREWS) initiative**, in which UNDRR, the WMO, and the World Bank/GFDRR are jointly leading activities in Africa, the Caribbean, the Pacific, and South Asia. This collaboration brings together the unique comparative advantages of the respective organizations to support least developed countries (LDCs) and small island developing states (SIDS) in strengthening early warning systems in a complementary manner; and (2) the **Systematic Observations Financing Facility (SOFF),** a financing mechanism that provides long-term support to countries to close the basic climate and weather observations data gap.

United Nations Educational, Scientific and Cultural Organization (UNESCO). GFDRR collaborates closely with UNESCO's Disaster Risk Reduction unit by improving the resilience of the built environment using building regulatory reforms and capacity building. The two institutions jointly organized a technical session at Understanding Risk 2022, starting an informal mutual learning process that has been in effect since then. Recently, UNESCO invited GFDRR to present in a workshop in December 2023 to further strengthen collaboration.

United Nations Development Programme (UNDP)/UN Women. GFDRR has enhanced its work with both the UNDP and the **International Federation of Red Cross and Red Crescent Societies (IFRC)** to better understand the rule of law in the context of disaster recovery, in addition to its continued coordination with UN Women on the incorporation of gender considerations into damage and loss assessments and inclusive early warning systems. GFDRR also collaborated with the UNDP in developing a Global Rapid Post-Disaster Damage Estimation (GRADE) report in response to the extremely severe Cyclone Mocha that impacted **Myanmar** in June 2023.

United Nations Environment Programme (UNEP)/Ecosystems for Disaster Risk Reduction and Adaptation (PEDRR). GFDRR closely collaborates with PEDRR—the UNEP-led platform for Ecosystem-based Disaster Risk Reduction (Eco-DRR) using nature-based solutions (NBS) to reduce disaster risk. GFDRR collaborates with PEDRR on NBS knowledge dissemination, capacity building, and fostering engagement with UNDRR and UNEP in the NBS space.

International Organizations and Foundations

GFDRR intensified collaboration with the **African Development Bank (AfDB),** the

World Resources Institute (WRI), the **Green Growth Knowledge Partnership,** the **Swedish International Development Cooperation (SIDA),** the **Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH (German Development Cooperation, or GIZ),** and other development partners to identify common priorities for investment in NBS for climate resilience and adaptation in Sub-Saharan Africa. This joint effort will result both in a flagship report to be launched in 2024 and in continued collaboration in the region through a community of NBS practitioners.

GFDRR also actively engaged with the **Overseas Development Institute (ODI)** on a range of disaster–fragility, conflict, and violence (FCV) nexus—related policy advice and climate resilient development products. Additionally, GFDRR provided advice to the high-level advisory group this year on the recovery and peacebuilding assessment methodology review with the **UN Peacebuilding Support Office** and the European Commission's **Foreign Policy Instruments**.

GFDRR continued to work closely with the **European Space Agency (ESA)** to accelerate a digital transition for green, resilient, and inclusive development and enhance the resilience of vulnerable countries and communities to climate change and natural hazards by accelerating their adoption of frontier Earth observation tools and services**.** This collaboration is part of the partnership agreement with the World Bank to identify and explore technical partnerships with national space agencies such as the **German Aerospace Agency (DLR)**. GFDRR continues to co-lead the Recovery Observatory Project to support activations of the **Committee on Earth Observation Satellites (CEOS),** which is designed to demonstrate the value of space-based information in recovery planning and monitoring in post-disaster settings.

On the resilient housing front, GFDRR has continued its collaboration with the Way Forward Housing Coalition and **Habitat for Humanity's** Terwilliger Center for Innovation in Shelter to introduce new technology and materials to governments seeking to integrate resilience into their housing programs.

Academia

GFDRR works closely with academic institutions to leverage their research and knowledge in disaster risk management. This involves partnering with universities and research centers to co-develop research papers and publications. Selected examples from FY23 include:

Tokyo University of Science, which has an advanced fire research laboratory, provided in-depth knowledge inputs for a new knowledge product that the GFDRR developed to advance fire safety of the built environment.

The Natural Capital Project at **Stanford University,** the **University of California Santa Cruz,** and the Institute for Environmental Studies at **the VU University in Amsterdam** teamed up as partners for the development of guidelines for assessing the benefits and costs of NBS for climate resilience.

Sciences Po Urban School in Paris, which enhanced collaboration and awareness-raising about urban resilience, resulted in the joint event titled Investing in Urban Resilience in African Cities. The event was organized in Paris in June 2023 as part of the Paris Summit on a New Global Financing Pact.

Civil Society

Over time, GFDRR has built partnerships with several civil society organizations—mainly through the World Bank—to strengthen community resilience against disasters. This has chiefly resulted in engagements with local organizations to support their capacity-building efforts.

For example, in FY23, GFDRR worked with civil society on NBS capacity building with the **International Union for the Conservation of Nature (IUCN)** in Uzbekistan, and it has initiated further collaboration with IUCN for a series of capacity-building activities in **West Africa** for FY24.

In addition, GFDRR has coordinated with **WomenStrong International** to share lessons and experiences of gender-sensitive emergency preparedness and response efforts.

Private Sector Engagement

GFDRR primarily utilizes CRP to establish partnerships with the private sector, aiming to influence the mobilization of finance, funding, and expertise. In FY23, the facility intensified its efforts to explore ways that private sector development can contribute to funding resilience investments. Additionally, it focused on utilizing longer-term performance contracts to enhance resilience outcomes in municipal services such as solid waste management. This involved engaging in closer dialogue with the World Bank's **International Finance Corporation (IFC)** and **Multilateral Investment Guarantee Agency (MIGA)**, resulting in increased collaboration in various private sector–related initiatives. CRP has also strengthened its partnership with the **Global Infrastructure Facility (GIF)**, the **Public-Private Infrastructure Advisory Facility (PPIAF)**, and the **Gap Fund** to identify specific opportunities for joint work.

In the realm of disaster risk finance, GFDRR maintained its collaboration with UNDRR and provided ongoing support to external engagements, including partnerships with organizations such as the **Insurance Development Forum,** the **Global Risk Modeling Alliance,** and the **Global Resilience Index Initiative**. Through these collaborations, GFDRR aims to strengthen public-private partnerships by facilitating the transfer of technical knowledge from the reinsurance industry to sovereign governments. This knowledge transfer enhances governments' understanding of disaster risk and supports the development of strategies for financial protection. Such efforts align with a key pillar of the Sendai Framework.

PARTNERSHIPS

In Focus Understanding Risk Global Forum (UR22)

UR22 opening ceremony, Topásio Silveira Neto, Mayor of Florianópolis. Photo: © Mikifern.

UR22 by the numbers

1 global hub event and **4** satellite events

Nearly **3,000** attendees, including **600** in Florianópolis, Brazil

More than **200** speakers from over **80** institutions

Over **100** sessions providing **400** hours of content

For the first time in over four years, Understanding Risk (UR) saw the global UR community of disaster risk experts and practitioners come together in person to share ideas and best practices for how to create, communicate, and use risk information for a more resilient world.

In addition to the 600 attendees at the global hub in Florianópolis, Brazil, 100 attendees joined at each of the satellite events in London, United Kingdom; Wellington, New Zealand; Niamey, **Niger**; and Vancouver, Canada. A further 1,800 attendees joined UR22 through its online platform, bringing the total number of attendees to nearly 3,000.

In keeping with the event theme of "riding the waves of risk," what emerged from UR22, which took place from November 28 to December 2, 2022, was a sense of renewed purpose about the need to grapple head-on with the intensifying disaster and climate risks of a multi-hazard world.

Plenary and keynote speakers set the stage for such optimism by putting the spotlight on a few of the game-changing interventions that are showing real potential to transform the way disaster risk experts and practitioners carry out their vital work around the world.

Newton Neto, Google's Director for Global Partnerships in Latin America, highlighted a partnership between the technology giant and the government of Brazil that will leverage artificial intelligence to deliver high-quality flood forecasts, initially focusing on riverine floods.

Meanwhile, Kara Siahaan, Head of the Anticipation Hub, spoke about how an approach known as forecast-based financing is enabling the rapid mobilization of post-disaster recovery funding based on scientific forecasts of extreme weather events.

Emiliano Rodriguez Nuesch, Director at the risk communications agency Pacifico, highlighted how behavioral science is uncovering new ways of addressing the psychological barriers that often prevent local communities from being prepared for the next disaster.

The technical sessions meanwhile served as an opportunity for attendees to take a deep dive into some of the key topics in disaster risk management, including Earth observation, nature-based solutions, disaster risk finance, coastal resilience, and adaptive social protection. Attendees not only heard from leading experts on these topics, but also engaged in lively discussions with the experts and their fellow attendees.

In what has become the major spectacle of every UR global forum, UR22 showcased how the arts can play an important part in communicating risk. Attendees in Florianópolis and online were enthralled by the live acrobatic performance of the Circocan International School of Circus, which demonstrated how a risky, life-threatening situation can be managed through listening, connecting, trusting, and relying on one's surrounding community.

If prior UR global forums are any indication, then UR22 will undoubtedly continue to inspire ideas, galvanize action, and facilitate partnerships in the UR community and beyond in the years to come. UR22 was co-organized by GFDRR, the World Bank, and the City of Florianópolis, Brazil. A biennial gathering, previous UR global events have been held in the following locations: Mexico City, Mexico; Venice, Italy; London, United Kingdom; Cape Town, South Africa; and Washington, DC, United States. Understanding Risk 2020 was held virtually because of the COVID-19 pandemic. The next UR global forum will be held in Himeji City, Japan, in June 2024.

Umbrella Program

GFDRR's Umbrella Program channels donor contributions by providing funding for activities that directly respond to technical requests from communities and countries identified through the World Bank's global operational engagements.

Tuvalu, Funafuti Atoll, street scene in Vaiaku. Photo: © Michal Wozniak.

As described in the Overview section, GFDRR is an Umbrella Program comprised of one anchor Multi-Donor Trust Fund (MDTF) and four Associated Trust Funds (ATFs). The Umbrella Program channels donor contributions to fund activities that directly respond to technical requests from communities and countries identified through the World Bank's global operational engagements.

Anchor Fund: The Multi-Donor Trust Fund for Mainstreaming Disaster Risk Management in Developing Countries

Program Overview

The third phase of the Multi-Donor Trust Fund (MDTF), which anchors the GFDRR Umbrella Program, was established in November 15, 2019 to support those countries most vulnerable to climate and disaster risks. The fund aims to understand, manage, prepare for, and reduce the risks stemming from the impacts of natural hazards, climate change, and other perils. The fund also supports these countries in their post-disaster response and sustainable recovery efforts. Activities under the MDTF align with GFDRR's 2021–2025 Strategy, and the MDTF allocates its funding based on annual workplans. In the context of growing demand for better climate risk management, MDTF-financed activities implemented during FY23 focused on finding effective ways to enhance climate risk management at different scales and to engage with a wide range of stakeholders.

Status

The MDTF focuses most of its grants where there is a high likelihood of mobilizing large disaster and climate resilience operations. In FY23, country demand for grants (as a percentage of the total number of grants awarded) included grants covering urban resilience (22 percent), disaster risk analytics (21 percent), emergency preparedness and response (16 percent), resilient infrastructure (13 percent), disaster risk financing (9 percent), nature-based solutions (9 percent), adaptive social protection (4 percent), digital Earth (5 percent), building regulations for resilience (4 percent), resilient housing (4 percent), hydrometeorology (4 percent), safer schools (3 percent), and health preparedness (1 percent).

In FY23, the MDTF strategically prioritized and streamlined inclusion across GFDRR's work. By producing targeted guidance, GFDRR championed inclusive early warning systems, supported the integration of gender consideration into nature-based solutions, promoted the design of inclusive adaptive social protection mechanisms, and identified opportunities to make disaster risk financing approaches more inclusive. These efforts continue to underscore GFDRR's commitment to mainstream inclusivity in disaster risk management (DRM).

During FY23, $19.5 million was allocated from the MDTF to support technical assistance, analytics, and capacity-building activities, supporting countries' investments that are in the preparation process and are expected to be financed by around $7.1 billion from the World Bank.

Associated Trust Fund: The Africa, Caribbean and Pacific – European Union Disaster Risk Management Program

Overview

The Africa, Caribbean and Pacific – European Union Disaster Risk Management (ACP-EU DRM) Program is a partnership of the EU, the Organisation of African, Caribbean and Pacific States (OACPS), GFDRR, and the World Bank. The program's overarching objectives are to reduce the impact of disasters caused by natural hazards and increase resilience in ACP countries. The program also supports the ACP countries' efforts to implement the Sendai Framework for Disaster Risk Reduction 2015-2030.

In pursuit of these goals, priority areas of intervention include strengthening African regional institutions, integrating disaster risk reduction (DRR) and climate adaptation into national policies and investment planning, improving resilience in targeted cities, and supporting the establishment of operational early warning systems in targeted ACP regions and countries.

The program was established as an Associated Trust Fund (ATF) to the Umbrella Program in November 2022 and will run until December 2027. Financed by the EU, it has a total budget of €29.625 million. Activities are implemented by World Bank teams in collaboration with the European Commission's Directorate General for International Partnerships (DG INTPA) and EU delegations in ACP countries. This program builds on the successful cooperation among the OACPS Secretariat, the EU, and the World Bank–GFDRR during the recently concluded ACP-EU Natural Disaster Risk Reduction Program.

Status

Since the establishment of the program at the end of 2022, the GFDRR Program Management Unit (PMU) has focused on setting up its implementation arrangements.

In coordination with the World Bank task teams, DG INTPA, and EU delegations, a first work plan was drafted, laying the foundations for the initiation and implementation of activities in ACP countries under the program in FY24. This work was built upon the collection of expressions of interest for projects from regional World Bank teams based on country demand. The proposed projects were discussed with EU delegations to explore synergies and complementarities on the ground.

During the spring and summer months, several projects were approved. By the end of FY23, the work plan included activities in 6 African countries (**Burkina Faso**, Cabo Verde, **Ethiopia**, **South Sudan**, Tanzania, and Uganda), 7 Caribbean countries (Dominica, the Dominican Republic, Grenada, **Haiti**, Jamaica, St. Lucia, and St. Vincent and the Grenadines), and 10 countries in the Pacific (Kiribati, the **Marshall Islands**, **Papua New Guinea**, Samoa, **Solomon Islands**, **Timor-Leste**, Tonga, **Tuvalu**, Vanuatu). Those projects are being operationalized and implemented in FY24 and onwards.

In addition, preparations began for several regional projects in the Caribbean and the Pacific, as well as specific support to African Regional Economic Communities (the Economic Community of Central African States, or ECCAS; the Economic Community of West African States, or ECOWAS; and the Intergovernmental Authority on Development, or IGAD, in East Africa). Throughout this period, the PMU coordinated its actions with the regional organizations and development partners implementing the 11th European Development Fund Program.

Associated Trust Fund: The City Resilience Program

Overview

The City Resilience Program (CRP) is a global program that contributes to efforts to build and scale up the resilience of cities against the adverse impacts of disasters and climate change. The program supports risk-informed and multisector urban planning efforts, identifies suitable interventions and investments that enhance city resilience, and supports their creditworthiness and access to multiple sources of financing to ensure that those investments materialize. This approach helps create the conditions for equitable and sustainable economic growth in a context of rapid urbanization and increasing climate and disaster risks in urban settings.

Status

In FY23, CRP maintained its regular activities, secured more funding, and experienced a rise in demand for its services. During this period, the program intensified its efforts in known areas for private sector investment, focusing on cities that showed early success and high potential for private sector involvement. It also strategically aligned its new initiatives with countries and regions identified as priorities by the program, which meant concentrating its efforts on geographic areas such as eastern Europe, Central Asia, and Africa regions.

CRP continued to forge strategic partnerships and develop innovative products and tools. It facilitated connections between cities, resilience experts, and broader networks in the resilience field. This included collaboration with International Finance Corporation (IFC) Advisory and involvement with project development funds like TURF and Africa50. Additionally, CRP introduced a new pilot product, the City Demographic and Socioeconomic Scan, which provides a quick overview of vital data regarding population, industry, and competitiveness for cities.

The program also scaled up its existing resilience services, including City Scans and the Flood Risk Assessment Framework Agreement, seeing a significant increase in demand from World Bank Group teams. These services are now more widely available to cities and World Bank task teams, often at minimal or no cost to the program. As of June 2023, CRP has worked with over 200 cities in more than 85 countries.

Associated Trust Fund: European Union-South Asia Capacity Building for Disaster Risk Management Program

Overview

Launched in 2015 and becoming an Associated Trust Fund (ATF) of the Umbrella Program in August 2022, the European Union-South Asia Capacity Building for Disaster Risk Management (EU-SAR DRM) Program is effectively bolstering DRM and hydrometeorological (hydromet) service capacity across South Asia. The overarching aim of the ATF is to fortify the region's resilience in the face of the increasingly frequent and severe weather-and climate-related disasters.

Financially supported by the European Union and overseen by GFDRR, this multifaceted program is executed by the World Bank in close collaboration with national and regional partners.

The EU-SAR DRM Program has significantly influenced the design of World Bank investments in climate resilience within the South Asian region. It has played a pivotal role in shaping the direction of over $1 billion worth of World Bank investments.

The EU-SAR DRM Program places emphasis on two key pillars:

1. **Enhancing National and Regional DRM Institutional Capacity.** The program recognizes the critical importance of addressing gaps in institutional capacity and awareness in DRM. It strives to empower communities and governments with the knowledge and expertise required to enhance preparedness, formulate comprehensive plans, and deliver effective services.
2. **Strengthening Regional and National Hydromet Institutional Capacity.** This entails the development and reinforcement of the administrative infrastructure responsible for hydromet services at both regional and national levels. It ensures that these institutions are adequately prepared to monitor and forecast weather and climate patterns.

Status

The EU-SAR DRM Program has been instrumental in advancing DRM and climate resilience efforts in South Asia. Since its inception, it has effectively implemented 16 grants, comprising both regional and national projects. In FY23, nine of these projects were still active and steadily progressing toward completion. The active grants under the program amounted to $3.8 million in funding.

Throughout FY23, the EU-SAR DRM Program has been proactive in fostering knowledge sharing and collaboration across the region. It has organized more than 30 events with 802 experts (including 119 female participants). These events have been dedicated to disseminating best practices related to improving regional early warning systems, enhancing contingency planning, and promoting cross-border data sharing. These efforts collectively contribute to building a more robust and interconnected DRM framework in South Asia.

Associated Trust Fund: United States Agency for International Development (USAID) Single-Donor Trust Fund for Mainstreaming Disaster Risk Management in Developing Countries

Overview

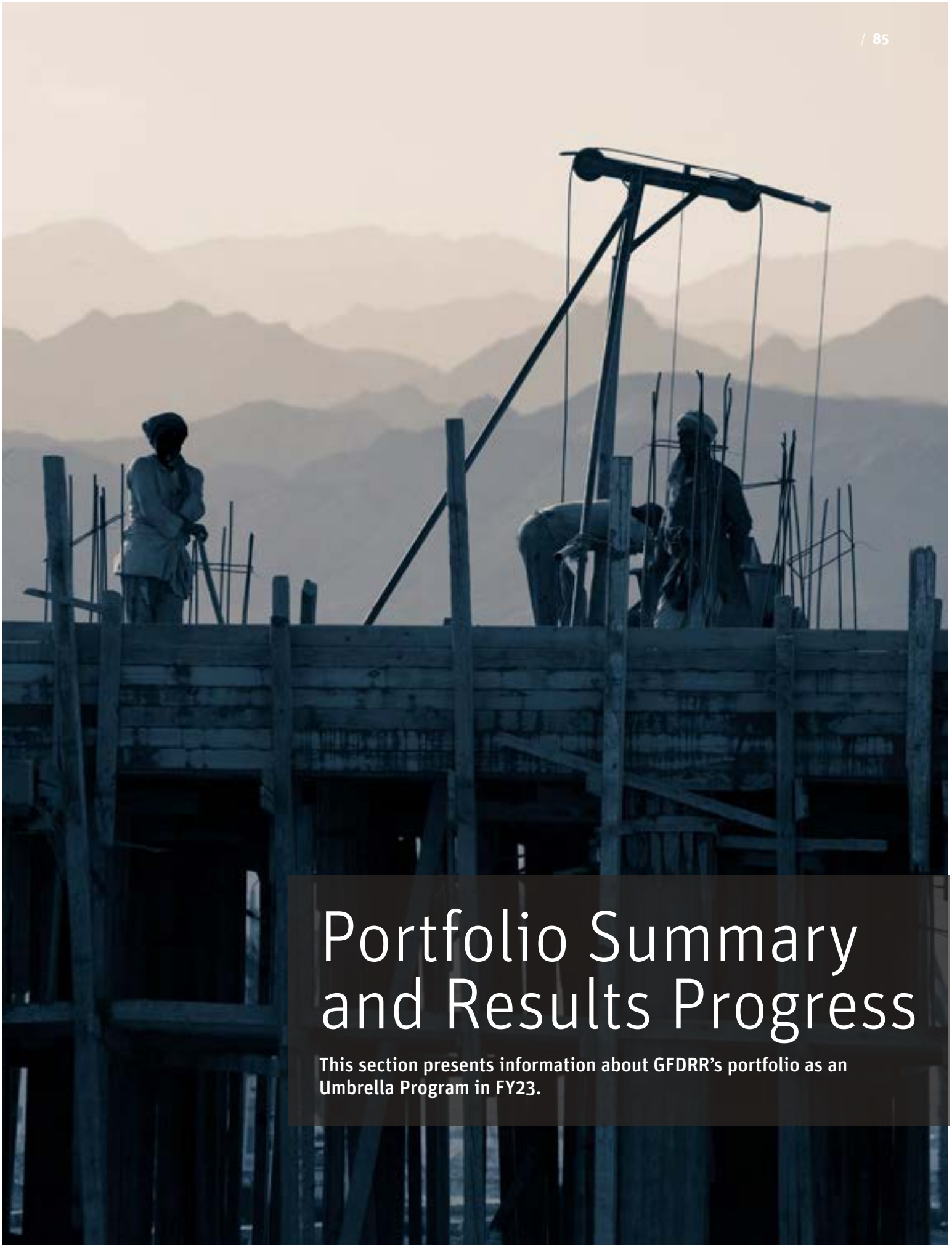
The USAID Single-Donor Trust Fund (SDTF) was originally established in 2017 and became associated with the GFDRR Umbrella Program in 2021, to support developing countries' efforts to mainstream DRM into national and local development planning and investment programs. USAID and GFDRR's partnership serve to bridge the gap between humanitarian assistance and development interventions by focusing on activities related to the disaster-fragility, conflict, and violence (FCV)-Nexus, emergency preparedness and response, inclusive DRM and gender equality, and hydromet and inclusive early warning systems.

Status

In FY23, USAID continued to support activities that scale up the number of climate-resilient and inclusive interventions to bridge the gap between development and humanitarian stakeholders. Following the devastating earthquakes in Türkiye and **Syria**, the World Bank mobilized its knowledge and convening power through the delivery of a Global Rapid Post-Disaster Damage Estimation (GRADE) report, securing grant resources from GFDRR through its partnership with USAID.

In **Türkiye**, grant activities provided technical assistance to support the post-earthquake assessments informing the design of a $1 billion World Bank–financed Türkiye Earthquake Recovery and Reconstruction Project as well as the planning, prioritization, and implementation of post-disaster reconstruction investments. The project has a focus on mainstreaming resilience, building-back-better principles, and good practices related to social inclusion and citizen engagement.

In **Syria**, grant activities contributed to the estimation of economic damages through the GRADE report, providing a comprehensive understanding of the damage, losses, and needs caused by the earthquakes. These activities also informed planning for sustainable, inclusive, and resilient disaster recovery.



Portfolio Summary and Results Progress

This section presents information about GFDRR's portfolio as an Umbrella Program in FY23.

Construction site in Egypt. Photo: © goldhafen.

Portfolio Summary

This section presents information about GFDRR's portfolio as an Umbrella Program in FY23. For more detailed information on each of the trust funds in the Umbrella Program, please refer to page 95 in the Financial Information section.

Portfolio Summary

In FY23, GFDRR continued to implement its 2021–2025 strategy, focusing on the four priority areas and two cross-cutting areas mentioned earlier in this *Annual Report*. In FY23, GFDRR continued to support countries and communities in their efforts to reduce disaster and climate risks and to help countries recover from disasters by integrating climate change adaptation into development strategies and programs. This section provides information about GFDRR's portfolio in FY23, including but not limited to total funding, disbursements, and information on donors' resources.

New Grants Approved in FY23

New funding allocated: Throughout FY23, the GFDRR Umbrella Program committed a total of $32.8 million to operational activities. This included $23.9 million for 87 new grants and $8.9 million in additional funds to scale up 40 existing ones.

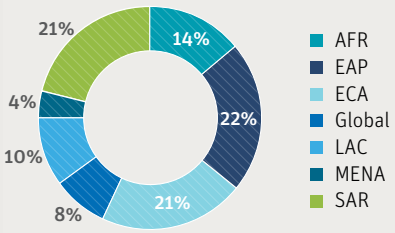
In terms of regions, the East Asia and Pacific region (EAP) received the largest share of new funding support from GFDRR (22.1 percent of total funding) in FY23, followed by the Europe and Central Asia region (ECA) (21.4 percent of total funding), the South Asia region (SAR) (20.7 percent of total funding), the Africa region (AFR) (13.6 percent of funding), the Latin American and the Caribbean region (LAC) (9.7 percent of total funding); the Middle East and North Africa region (MENA) received the smallest share (4.2 percent of total funding) (see figure 1). The grants for global technical lines of work and multi-country regional activities accounted for 8 percent of the total new funding. In terms of funding sources, the third Multi-Donor Trust Fund (MDTF III) accounted for 82 percent of total funding for new commitments; the City Resilience Program (CRP) accounted for 12 percent; the United States Agency for International Development (USAID) accounted for 4 percent; and the Africa, Caribbean and Pacific - European Union Disaster Risk Management Program (ACP-EU DRM) accounted for 2 percent.

In addition, approximately 26 percent of the total number of newly approved grants, equivalent to approximately $4.8 million, was implemented in countries affected by fragility, conflict, and violence (FCV)—for example, **Burundi**, **Myanmar**, **Ukraine**, and **Zimbabwe**. Those new grants in FCV-affected countries included Ukraine, where the conflict is still ongoing and where the CRP trust fund provided country-specific funding for sectoral deep-dive assessments.

Ten percent of GFDRR's portfolio in regions went to small island developing states (SIDS), such as islands in the Caribbean and the Pacific. GFDRR funded 13 new grants with a total of $4.2 million in SIDS such as **Comoros**, the Dominican Republic, Maldives, the Seychelles, and **Solomon Islands**. It is worth noting that there are standalone trust funds outside the GFDRR Umbrella but managed by the GFDRR Unit that provide extra funding to SIDS, such as the Canada-Caribbean Resilience Facility (CRF) and the EU-funded Caribbean Regional Resilience Building Facility (CRRBF), among others.

Finally, GFDRR has supported newly approved grants that have been implemented in International Development Association (IDA)-eligible countries with 24 grants and a total amount of approximately $5.5 million.

FIGURE 1
GFDRR Funding for New Grants by Region, FY23



The GFDRR Portfolio in FY23

Throughout the 2023 fiscal year, 201 grants with a total amount of $71.5 million have been implemented in 63 countries.[1] In addition to the MDRF III, CRP, and the Global Facility for Disaster Reduction and Recovery Trust Fund for Mainstreaming Disaster Risk Management in Developing Countries (USAID) trust funds, two Associated Trust Funds (ATFs)—the European Union - South Asia Capacity Building for Disaster Risk Management (EU-SAR DRM) and the ACP-EU DRM—became part of the Umbrella at different points during FY23. The MDTF III has the largest share of the total funding, with $56.2 million (78.6 percent of total) and 174 grants. It is followed by CRP with $9.4 million (13.1 percent of total) and 14 grants, the EU-SAR DRM with $4.5 million (6.3 percent of total) and 10 grants, USAID with $1.1 million (1.5 percent of total) and 2 grants, and the ACP-EU DRM with $0.35

[1] The grants that are active as of June 30, 2023, and those closed in FY23, are included in the portfolio review. The average lifespan of the country-level grants is 1.4 years.

million (0.5 percent of total) and 1 grant (see figure 2).[2]

In terms of regional representation, AFR had the largest share of funding (21.5 percent of the total), with 45 grants. This was followed by SAR, with 15.0 percent of the total funding and 27 grants; EAP, with 13.7 percent of the total funding and 51 grants; ECA, with 12.1 percent of the total funding and 26 grants; LAC, with 6.4 percent of the total funding and 18 grants; and MENA, with 3.5 percent of the total funding and 12 grants. Grants for global technical lines of work and multi-country regional operations accounted for 27.8 percent of the total funding, with 22 grants (see figure 3).[3]

On June 30, 2023, out of the 201 grants under implementation during FY23, 177 grants with a total amount of $68.2 million were still active and will continue their operations in FY24.[4] Of the 177 active grants portfolio, 154 grants were funded through the MDTF III (78.5 percent of total funding), 13 grants were funded through CRP (13.7 percent of total funding); 7 grants through the EU-SAR DRM (5.7 percent of total funding); 2 grants through USAID (1.6 percent of total funding); and 1 grant through the ACP-EU DRM (0.5 percent of total funding) (see figure 4).

In terms of regional representation, the largest share of funding of the above active grants was the AFR region, which represented 22 percent of active funding with 41 grants. This was followed by SAR at 15 percent of active funding and 24 grants; EAP at 13 percent of active funding and 42 grants; and ECA at 12 percent of active funding with 22 grants. A smaller proportion of active funding supported the LAC region with 6 percent of total funding and 16 grants and MENA with 4 percent of funding and 12 grants. Additionally, 28 percent of active funding (20 grants) was awarded to support global technical lines of work and multi-country regional activities (see figure 5).

FIGURE 2
Funding Distribution by Trustee, FY23

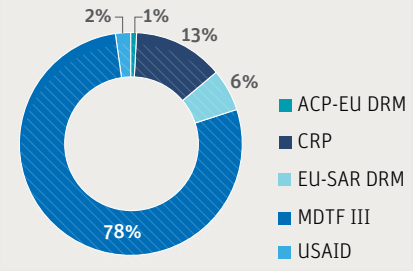


FIGURE 3
Funding Distribution by Region, FY23

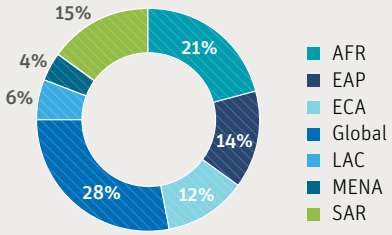


FIGURE 4
Distribution of Funding for Active Grants across Trustees, as of end of FY23

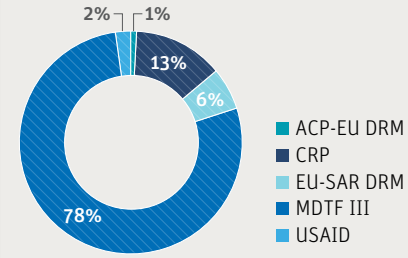


FIGURE 5
Distribution of Funding for Active Grants by Region, as of end of FY23

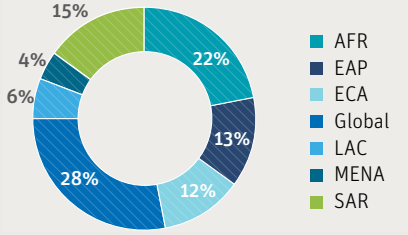
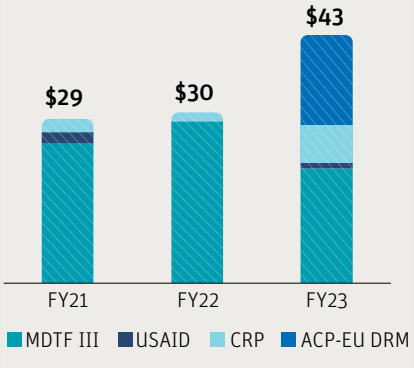


FIGURE 6
Contributions Received to the GFDRR Umbrella Program (US$ millions)



Pledged Contributions

Contributions Received

As of June 30, 2023, the GFDRR Umbrella Program had received a total pledge of $199.1 million for its anchor trust fund the MDTF III and its four ATFs. In FY23, seven donors—Austria, the European Union, Italy, Norway, Sweden, Switzerland, and the United States—contributed an additional $43 million to the GFDRR Umbrella Program in support of GFDRR's broad-based disaster resilience program (see figure 6). The MDTF III received $19.7 million (46 percent of overall contributions); the ACP-EU DRM Program received $15.7 (36.4 percent of overall contributions); CRP received $6.5 million (15.1 percent of total contributions); and USAID received $1.1 million (2.5 percent of the total). The EU-SAR DRM Program did not receive any contributions in FY23. Overall, total contributions received during FY23 by the GFDRR Umbrella Program were 45 percent higher than they had been in FY22. For more details of contributions received by donors, please refer to the table 1 below and the financial statements on page 95.

[2] The ACP-EU DRM Program became effective as a new ATF under the GFDRR Umbrella Program in December 2023. The EU-SAR DRM Program joined the GFDRR Umbrella Program as an ATF in August 2022.

[3] The global programs have, on average, 3–4 years of lifespan. Each year, the global programs receive a top up. The total amount for the global grants is the accumulated total grant amount as of June 30, 2023.

[4] Some (34) of the active grants are closed but are in their grace period for disbursement.

Pending Contributions

As of June 30, 2023, unpaid contributions to the Umbrella Program came to a total of $47.6 million. The total amount of unpaid contributions to the MDTF III accounted for $17.9 million of that total; $15.7 million was unpaid to the ACP-EU DRM; $5.4 million to the CRP; and $8.7 million to USAID. No unpaid contributions were outstanding for the EU-SAR DRM.

For more details, please refer to table 1 below. These numbers reinforce the need for extra effort on the part of GFDRR's fundraising to meet the operational demands for outer fiscal years before the Umbrella Program is closed in FY28.

Disbursements

In FY23, the GFDRR Umbrella Program disbursed approximately $32.2 million. Ninety percent ($29 million) of this disbursement was for operational activities and 10 percent ($3.2 million) related to project management and administration. In FY23, the disbursement percentage against the fiscal year opening balance was 54 percent, which is 17 percent higher than it was in FY22 and 17 percent higher than in FY21.

Table 1. Contributions to GFDRR Umbrella Program by Trustee

Fund	Fund Name	Trust Fund Effectiveness Date	End of Disbursement Date	Signed Contribution (US$)	Net Unpaid Contribution (US$)
TF072896	Global Facility for Disaster Reduction and Recovery Trust Fund for Mainstreaming Disaster Risk Management in Developing Countries (USAID)	09/15/2017	12/31/2027	14,500,000	8,663,000
TF072921	City Resilience Program Multi-Donor Trust Fund (CRP)	10/14/2017	12/31/2024	27,332,726	5,477,651
TF073410	GFDRR Multi-Donor Trust Fund for Supporting Disaster and Climate Resilience in Developing Countries (MDTF III)	11/06/2019	04/30/2028	114,401,899	17,927,262
TF072458	EU-South Asia Capacity Building for Disaster Risk Management Program (EU-SAR DRM)	09/04/2015	09/30/2023	11,531,020	0
TF073845	Africa, Caribbean and Pacific - European Union Natural Disaster Risk Management Program (ACP-EU DRM)	11/29/2022	12/31/2027	31,365,469	15,714,581

Note: Rounding and exchange rates can result in slight number changes.

Results Progress

This section is dedicated to reporting on two important topics: (1) updating the implementation of the Monitoring, Evaluation and Learning (MEL) Framework, which was approved by the Partnership Council in February 2023;[1] and (2) the progress made by the GFDRR Umbrella Program and its role in informing development financing during FY23—an important outcome that reflects GFDRR's comparative advantages in aligning knowledge work and technical assistance with World Bank lending to create impacts on the ground.

Implementation of the Monitoring, Evaluation and Learning Framework

GFDRR started operationalizing the updated MEL Framework in Q3 FY23. The framework was designed to promote accountability and learning through a systematic blending of monitoring, evaluation, and learning functions. GFDRR launched the new monitoring and evaluation (M&E) reporting platform—which was intended to support the operationalization of the results monitoring portion of the new MEL Framework—at the end of FY23, with its first modules launched to partially support the annual reporting cycle for active grants and those closed during FY23. The new reporting platform has enhanced the accountability of task teams because it requires them to provide adequate reports on activities, outputs, outcomes, and expected impacts.

These reports are now being vetted for adequacy and completeness by GFDRR's Program Management Unit. Based on the vetted information, a supplemental report to this *Annual Report* will be produced to present a more complete picture on development effectiveness of the closed grants, from outputs to outcomes that illustrate how GFDRR has supported client countries to implement the Sendai Framework for Disaster Risk Reduction 2015-2030.

GFDRR is in the process of implementing the other modules of the reporting platform, including the process for grant proposals and a data visualization tool. In this way, FY23 is still a transition year for GFDRR as it moves toward the full digitalization of grant processing and reporting stages from proposal to completion. Together with results data systematically captured through the M&E platform, the multiyear rigorous evaluation plan that will be rolled out in the coming years will further strengthen the evidence-based results, accountability, and learning agenda.

Development Financing Informed by Active Portfolio and Expected Impacts

One important impact-generating pathway deployed by GFDRR in supporting client countries in implementing the Sendai Framework is the informing of development finance.[2] According to the World Bank Group's Independent Evaluation Group (IEG)'s recent evaluation of the World Bank's support to disaster risk reduction (DRR) over the 2010–20 period, GFDRR has played a major role in enabling the growth of DRR interventions by financing analytical work and technical assistance as well as developing a critical mass of disaster experts to support World Bank project teams and, ultimately, the World Bank client countries.[3] GFDRR-informed development financing supports governments in developing countries to increase public investment in DRR through structural and nonstructural measures that are essential in enhancing the economic, social, and environmental co-benefits.

Consistent with the methodology adopted in FY22 and with the World Bank's Development Finance (DFi) guidelines, GFDRR tracks development financing informed when its knowledge work and technical assistance are used in designing, preparing, and/or implementing new or existing World Bank lending operations—and only after these lending operations have been approved. GFDRR also influences the World Bank's climate adaptation finance by providing inputs to the upstream work that would inform country engagements in resilience downstream. Thus, directly or indirectly, GFDRR supports and complements the investment interventions in resilience funded by the World Bank Group's International Bank for Reconstruction and Development (IBRD) and International Development Association (IDA) resources, counterparts from governments, and third parties when they co-finance World Bank lending.

In FY23, GFDRR-informed development financing reached the record high level of **$6.8 billion,** of which $6.3 billion came from IBRD and IDA resources and $0.5 billion came from national governments and other development partners (see table 2 for more details). All these lending operations have been

[1] The Monitoring, Evaluation and Learning Framework, approved in February 2023, can be found at https://www.gfdrr.org/en/publication/gfdrr-monitoring-evaluation-and-learning-mel-framework.

[2] GFDRR grants informed not just development financing but also follow-up technical assistance or advisory services and analytics work. This section focuses only on the GFDRR-informed World Bank lending outcome.

[3] For details about this evaluation of the World Bank's support, see https://ieg.worldbankgroup.org/sites/default/files/Data/Evaluation/files/Reducing_Disaster_Risks_v3.pdf.

approved in FY23. Cumulatively, under this Strategy cycle, GFDRR has effectively informed over **$9 billion** of development financing, helping **32 countries** to invest in DRR.[4] The significant increase in the FY23 amount of informed development financing compared to that in FY22 ($2.3 billion) is explained by two main factors: (1) significant GFDRR grant portfolio growth due to new Associated Trust Funds (ATFs) joining the Umbrella, which naturally has a higher number of grants contributing to lending operations—this resulted in 26 lending operations in FY23, considerably more than the 14 lending operations informed in FY22; and (2) GFDRR informed some larger operations—for example, the $1 billion lending to support Türkiye to restore access to essential municipal and health services and resilient housing in selected provinces affected by the deadly February 2023 earthquakes.

[4] This result refers to the development finance informed by GFDRR during FY22 and FY23.

It is noteworthy that the FY23 GFDRR-informed development financing spans across six regions (see pages xxvi and xxvii). **Forty-nine percent** of the total financing is for **17 IDA-eligible countries, 22 percent** went to **9 fragility, conflict, and violence (FCV)-affected countries,** and **10 percent** to **small island developing states (SIDS)** (please refer to table 2 for the list of informed lending operations).

GFDRR-informed development financing comes in the form of different World Bank financing instruments. Through these diversified arrangements, GFDRR can directly or indirectly support clients on all fronts: from policy reforms to climate-resilient investments, from institutional capacity to social inclusion and all-of-society engagement in DRR. It is important to highlight that gender equality and inclusiveness is incorporated in all GFDRR-informed lending operations, as this is the World Bank's corporate mandatory requirement; some of these lending operations received direct support from GFDRR's Inclusive DRM and Gender Equality technical team during their design stage.

Cumulatively, the 26 lending operations that are operational in FY23 are expected to increase resilience for **39.5 million people and households** by providing them with access to climate-resilient infrastructure, facilities, housing, and schools, and basic services; access to improved early warning systems and forecasting services; and access to financial protection mechanisms.[5] These lending operations will also bring nearly **8 million hectares** of land/forest/coastal areas under climate-resilient management practices. GFDRR will monitor and report on the progress of actual results achieved from the informed lending operations on a yearly basis and will also deploy a variety of evaluation instruments as laid out in the MEL Framework to assess GFDRR's contribution and analyze lessons learned.

[5] Expected results from GFDRR-informed lending operations are based on these lending project appraisals and official documents.

Table 2. FY23 GFDRR-Informed Development Financing

Country	FCV	SIDS	IDA-Eligible Countries	Project Name	Project Code	Total Development Finance Informed (US$)	World Bank Lending Informed (US$)	Non–World Bank Finance Informed	Non–World Bank Finance Sources[a]
Armenia				Green, resilient and inclusive DPO	P176278	100,000,000	100,000,000	*0*	*n.a.*
Cabo Verde		SIDS	IDA	Cabo Verde: Second Resilient and Equitable Recovery DPF with a Cat DDO	P176148	52,500,000	52,500,000	*0*	*n.a.*
Chad	FCV		IDA	N'Djamena Urban Resilience Project	P177044	150,000,000	150,000,000	*0*	*n.a.*
Chad	FCV		IDA	**Chad** Territorial Development and Resilience Project	P177163	140,000,000	140,000,000	*0*	*n.a.*

Table 2. FY23 GFDRR-Informed Development Financing (cont.)

Country	FCV	SIDS	IDA-Eligible Countries	Project Name	Project Code	Total Development Finance Informed (US$)	World Bank Lending Informed (US$)	Non–World Bank Finance Informed	Non–World Bank Finance Sources[a]
Democratic Republic of Congo	FCV		IDA	Kananga Emergency Urban Resilience Project	P179292	100,000,000	100,000,000	*0*	*n.a.*
Costa Rica				Second Costa Rica Disaster Risk Management Development Policy Loan with a CAT DDO	P179861	160,000,000	160,000,000	*0*	*n.a.*
Dominican Republic		SIDS		Integrated Social Protection Inclusion and Resilience Project (INSPIRE)	P179440	100,000,000	100,000,000	*0*	*n.a.*
Dominican Republic		SIDS		Dominican Republic Emergency Response and Resilience Project	P180163	200,000,000	200,000,000	*0*	*n.a.*
Eastern and Southern Africa (Madagascar, **Mozambique**, **South Sudan**, **Comoros**)	FCV	SIDS	IDA	Regional Climate Resilience Program for Eastern and Southern Africa Project	P180171	382,400,000	382,400,000	*0*	*n.a.*
Ghana			IDA	Greater Accra Resilient and Integrated Development Project Additional Financing	P178778	150,000,000	150,000,000	*0*	*n.a.*
India				Gujarat Resilient Cities Partnership: Ahmedabad City Resilience Project	P175728	400,000,000	280,000,000	*120,000,000*	National Government
Indonesia				Indonesia: National Urban Flood Resilience Project (NUFReP)	P173671	400,000,000	400,000,000	*0*	*n.a.*
Kenya			IDA	Second Kenya Urban Support Program	P177048	486,000,000	350,000,000	*136,000,000*	National Government
Lao People's Democratic Republic			IDA	Community Livelihood Enhancement And Resilience	P178545	45,000,000	45,000,000	*0*	*n.a.*

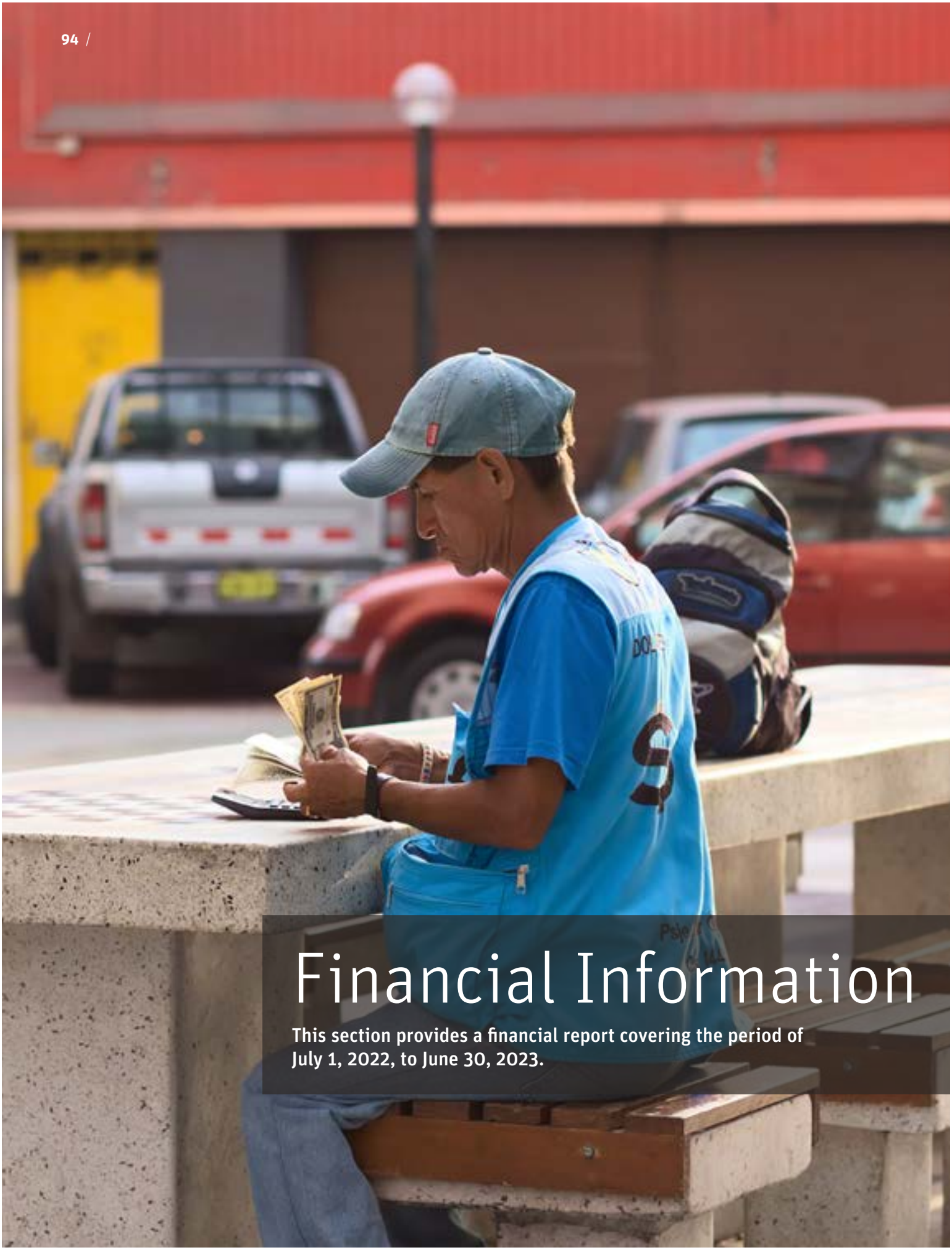
Table 2. FY23 GFDRR-Informed Development Financing (cont.)

Country	FCV	SIDS	IDA-Eligible Countries	Project Name	Project Code	Total Development Finance Informed (US$)	World Bank Lending Informed (US$)	Non–World Bank Finance Informed	Non–World Bank Finance Sources[a]
Mali	FCV		IDA	Bamako Urban Resilience Project	P171658	250,000,000	250,000,000	*0*	*n.a.*
Pakistan			IDA	Sindh Flood Emergency Rehabilitation Project	P179981	510,000,000	500,000,000	*10,000,000*	
Pakistan			IDA	Sindh Flood Emergency Housing Reconstruction Project	P180008	500,000,000	500,000,000	*0*	*n.a.*
Samoa		SIDS	IDA	Samoa First Recovery and Resilience Development Policy Operation	P180120	10,000,000	10,000,000	*0*	*n.a.*
South Sudan	FCV		IDA	Enhancing Community Resilience and Local Governance Project Phase II Additional Financing	P180785	30,000,000	30,000,000	*0*	*n.a.*
Tanzania			IDA	Msimbazi Basin Development Project	P169425	260,000,000	200,000,000	*60,000,000*	Government of Spain | Government of Netherlands
Türkiye				Climate and Disaster Resilient Cities Project	P173025	512,150,000	512,150,000	*0*	*n.a.*
Türkiye				Türkiye Climate Resilient Forests Project	P179345	400,000,000	400,000,000	*0*	*n.a.*
Türkiye				Türkiye Earthquake Recovery and Reconstruction Project	P180849	1,000,000,000	1,000,000,000	*0*	*n.a.*
Ukraine	FCV			Restoration Project of Winterization and Energy Resources	P180332	200,000,000	0	*200,000,000*	Other TF

Table 2. FY23 GFDRR-Informed Development Financing (cont.)

Country	FCV	SIDS	IDA-Eligible Countries	Project Name	Project Code	Total Development Finance Informed (US$)	World Bank Lending Informed (US$)	Non–World Bank Finance Informed	Non–World Bank Finance Sources[a]
Western and Central Africa (The Gambia, Ghana, **Guinea-Bissau**)	FCV		IDA	West Africa Coastal Areas Resilience Investment Project 2	P175525	246,000,000	241,000,000	*5,000,000*	Other TF
Yemen	FCV		IDA	Second Additional Financing - **Yemen** Integrated Urban Services Emergency Project II	P181053	25,491,000	19,500,000	*5,991,000*	Other TF
TOTAL						**6,809,541,000**	**6,272,550,000**	**536,991,000**	

Note: Cat DDO = Catastrophe Deferred Drawdown Option; DPO = Development Policy Operation; FCV = fragility, conflict, and violence; IDA = International Development Association; n.a. = not applicable; SIDS = small island developing states; TF = trust fund.
a. Non–World Bank Finance Sources can include counterpart financing from the government, co-financing from other third parties such as donors, multilateral/regional development banks, etc.



Financial Information

This section provides a financial report covering the period of July 1, 2022, to June 30, 2023.

Money exchanger counting bills in Lima, Peru. Photo: © Svenschermer.

FY23 Unaudited Financial Statements

STATEMENTS OF RECEIPTS, DISBURSEMENTS, AND FUND BALANCE

All dollar amounts are expressed in U.S. dollars (US$) unless otherwise indicated. For FY2021 and FY2022, the numbers are exclusive of EU-SAR DRM and ACP-EU DRM ATFs, which came under the Umbrella Program in FY2023.

Financial data of trustees with EUR holding currency are converted to US$ for reporting purpose based on the exchange rate on June 30, 2023 (1 USD = 0.9161 EUR)

	Notes	For the fiscal year ended June 30th, 2023	For the fiscal year ended June 30th, 2022	For the fiscal year ended June 30th, 2021
Opening Balance:		60,037,912.00	44,354,978.61	24,792,782.71
Receipts:				
Donor Contributions	1	42,995,233.50	29,599,740.08	28,527,868.50
Net Investment and Other Income	2	2,557,786.26	94,290.78	111,061.74
Total Receipts		**45,553,019.76**	**29,694,030.86**	**28,638,930.24**
Disbursements:				
Project Disbursements	3	28,981,660.65	14,299,937.76	7,023,433.94
World Bank Administration Fee	4	2,443.09	0.00	0.00
Program Management and Administration Expenses	5	3,178,476.25	2,202,384.45	2,053,300.39
Refund to Donors	6	0.00	126,069.17	0.00
Total Disbursements		**32,162,579.99**	**16,628,391.38**	**9,076,734.33**
Excess of (disbursements over receipts)/ receipts over disbursements		13,390,439.77	13,065,639.48	19,562,195.91
Ending Balance:				
Ending Fund Balance		73,428,351.77	**57,420,618.09**	**44,354,978.62**
Less: Total Undisbursed Commitments	7	29,226,676.65	**20,681,393.88**	**12,559,009.63**
Funds Available for New Grants	8	44,199,552.08	**36,739,224.21**	**31,795,968.99**
		44,199,552.08	**36,739,224.21**	**31,795,968.99**

i. The methodology for funds available for new grants is as follows: ACTV grants under Umbrella – Total Grant Amount – Cumulative Disbursements excluding RETFs.
ii. Ending Balance in FY22 and the beginning balance in FY23 do not match as EU-SAR DRM became a part of Umbrella in FY23.
iii. Rounding and application of Exchange Rate may result in slight number differences.

NOTE 1 - DONOR CONTRIBUTIONS

The following table provides details of contributions paid-in and receivable by donor

	Contribution received			
Donor	For the fiscal year ended June 30th, 2023 in US$	For the fiscal year ended June 30th, 2022 in US$	For the fiscal year ended June 30th, 2021 in US$	Contribution Receivable Amount in US$ equivalent
Australia	–	–	3,009,600.00	–
Austria	4,256,200	5,184,246.90	2,444,228.00	–
Canada	–	–	1,596,678.91	–
European Union	15,650,888	–	–	15,695,325.00
Germany	–	7,459,696.52	3,647,100.00	–
India	–	158,091.25	–	–
Italy	1,984,200	294,159.20	2,347,400.00	–
Japan	–	2,011,433.42	1,000,000.00	4,000,000.00
Norway	5,734,633	5,201,494.48	5,791,393.99	5,558,695
Sweden	5,591,734	3,842,110.20	3,020,491.01	2,725,538.40
Switzerland	8,717,577	5,448,508.11	3,915,976.59	10,955,302
United Kingdom	–	–	–	–
United States	1,060,000	–	1,755,000.00	8,663,000.00
Total	**42,995,232.73**	**29,599,740.08**	**28,527,868.50**	**47,597,861.00**

Note: Amounts are in US$ equivalent. The actual US$ equivalent will be based on the exchange rate on the date of the transfer of funds. EU-SAR DRM became a part of the Umbrella in FY23, hence the financial information for FY22 and FY21 does not include information on EU-SAR DRM trust fund.

NOTE 2 - INVESTMENT AND OTHER INCOME

Net investment and other incomes in the amount of **$2,557,786** for the fiscal year ended June 30th, 2023

NOTE 3 - PROJECT DISBURSEMENTS

The following table provides details of the project disbursements by region.

Region	For the current fiscal year ended June 30th, 2023	For the fiscal year ended June 30th, 2022	For the fiscal year ended June 30th, 2021
Africa	6,066,764.43	3,567,286.66	795,334.89
East Asia and Pacific	4,177,321.35	1,454,590.94	985,791.26
Europe and Central Asia	2,959,312.45	1,420,944.97	703,235.52
Latin America and Caribbean	2,356,763.18	287,545.69	199,308.83
Middle East and North Africa	585,006.90	562,249.61	104,301.85
South Asia	4,019,144.95	241,078.52	4,988.30
Global	8,817,347.39	6,766,241.37	4,230,473.29
Total	**28,981,660.65**	**14,299,937.76**	**7,023,433.94**

The following table provides details of the project disbursements by execution type.

Execution Type	For the current fiscal year ended June 30th, 2023	For the fiscal year ended June 30th, 2022	For the fiscal year ended June 30th, 2021
Bank Executed	28,981,660.65	14,299,937.76	7,023,433.94
Recipient–Executed	–	–	–
Total	**28,981,660.65**	**14,299,937.76**	**7,023,433.94**

Note: There are Recipient-Executed Trust Fund (RETF) disbursements of negative $15,308.44—that is, a refund was received in TF072458 for $15,308.44.

NOTE 4 - WORLD BANK ADMINISTRATIVE FEE

In the current fiscal year ended June 30th, 2023, the World Bank charged **$2,443** in administrative fees.

NOTE 5 - PROGRAM MANAGEMENT AND ADMINISTRATION DISBURSEMENTS

Program management and administration expenses for the current fiscal year 2023 are in the amount of **$3,178,476**.

The following table provides details of the program management and administration disbursement by expense category

Expense Category	For the fiscal year ended June 30th, 2023	For the fiscal year ended June 30th, 2022	For the fiscal year ended June 30th, 2021
Staff Costs[a]	2,179,622.10	1,424,829.01	1,726,553.41
Short-Term Consultants/Temporaries	574,106.71	578,114.85	222,481.84
Travel[b]	143,860.34	29,139.94	(6.16)
Other Expenses[c]	280,887.10	170,300.65	104,271.30
Total	**3,178,476.25**	**2,202,384.45**	2,053,300.39

[a] *Staff costs* included salaries and benefits for GFDRR staff and short-term consultants and short-term temporaries.
[b] *Travel* included travel expenses of GFDRR staff, candidates/interviewees for GFDRR positions, and participants in GFDRR- sponsored events.
[c] *Other expenses* included overhead expenses, contractual services (e.g., editing, graphic design, translation, publishing and printing), representation, and hospitality.

NOTE 6 - REFUND TO DONORS

In the current fiscal year ended June 30th, 2023, no amount was refunded to donors.

NOTE 7 - UNDISBURSED COMMITMENTS

Commitments in the amount of $29,226,677 are outstanding as of June 30th, 2023

These are the remaining balance of the funds that GFDRR has approved and committed to implementing units and recipients.

The following table provides details of undisbursed commitments by main fund.

Main Fund	For the current fiscal year ended June 30th, 2023
MDTF III (TF073410)	22,724,488.34
USAID SDTF (TF072896)	808,596.69
City Resilience MDTF (TF072921)	5,018,238.29
ACP-EU DRM (TF073845)	347,296.00
EU-SAR DRM (TF072458)	328,057.33
Total	**29,226,676.65**

The following table provides details of undisbursed commitments by region.

Region	For the current fiscal year ended June 30th, 2023
Africa	5,928,301.69
East Asia and Pacific	4,461,550.56
Europe and Central Asia	3,901,871.06
Latin America and the Caribbean	1,980,610.88
Middle East and North Africa	1,384,921.82
South Asia	3,792,285.11
Global	7,777,135.53
Total	**29,226,676.65**

The following table provides details of undisbursed commitments by execution type.

Execution Type	For the current fiscal year ended June 30th, 2023
Bank-Executed Trust Fund	29,226,676.65
Recipient-Executed Trust Fund	–
Total	**29,226,676.65**

NOTE 8: FUNDS AVAILABLE FOR NEW GRANTS

Fund available for new grants in the amount of $44,201,675 are outstanding as of June 30th, 2023.

These can be used to finance new operational grants and program management and administration activities.

The break-up by main fund is available in the table below.

Main Fund	For the current fiscal year ended June 30th, 2023
MDTF III (TF073410)	24,765,503.66
USAID-SDTF (TF072896)	210,721.31
City Resilience MDTF (TF072921)	3,387,743.71
ACP-EU DRM (TF073845)	15,497,742.73
EU-SAR DRM (TF072458)	337,840.67
Total	**44,199,552.08**

Annex

Highlights from GFDRR's engagement on the frontlines of resilience building across six regions.

Students on their way to school in Paro, Bhutan. Photo: © Feije Riemersma.

Annex 1: Project Highlights from around the World

AFRICA

In Focus Tackling Soil Erosion in the **Democratic Republic of Congo**

Soil erosion in Kananga, the Democratic Republic of Congo (DRC). Photo: © World Bank.

Kananga, the capital city of the Kasaï-Central Province in the **Democratic Republic of Congo** (DRC), is a bustling commercial center that is home to roughly 1.5 million people. Yet even as the city is poised to become an engine of growth for the whole country, Kananga, as do many other urban areas in the DRC, must wrestle with an array of environmental challenges.

One of the most serious of these challenges by far is soil erosion. Local soils in Kananga, which are already naturally prone to erosion because of their sandy composition, have become even more exposed due to a range of factors including inadequate urban agriculture practices, widespread deforestation, changes in land use and land cover, inadequate construction regulation, and poor drainage. Climate change, and the more intense rainfall that brings, will likely accelerate the pace of erosion even further.

Determined to safeguard lives, livelihoods, and critical infrastructure in Kananga from the threat of soil erosion, the government of the DRC, led by the Ministry of Finance and the Ministry of Urban Planning and Housing, has begun to tackle this problem with the support of GFDRR and under the auspices of the World Bank's Kananga Emergency Urban Resilience Project.

The team has recently completed a comprehensive assessment of soil erosion in Kananga. This assessment has already begun to inform the DRC government's design and implementation not only of more immediate erosion containment measures, but also of a longer-term strategy to combat the underlying causes. Both the containment measures and the strategy will be supported by the World Bank–financed project.

A key focus for the assessment was the identification and analysis of areas in Kananga that face the greatest risk from soil erosion and that should therefore be prioritized by the DRC government. The assessment, for instance, revealed which segments of National Road 1—a major highway that connects Kananga with the rest of the country as well as with the railway and the airport—are most vulnerable to soil erosion.

Moreover, the assessment also helped identify which interventions should be prioritized by the government in both its immediate measures and its longer-term strategy. The assessment ultimately found that the following interventions should be among those that are the government's top priority: stabilizing slopes; managing runoff and improvements to drainage, including with nature-based solutions; monitoring the situation, including erosion risks and flooding; designing early warning systems; implementing awareness campaigns; and strengthening community-response capacities. The community engagement will support changed land use practices and minimize the negative impact of movement around the gully erosion sites.

In reaching these findings, the assessment relied on a range of methods including historical data collection; satellite-based assessment of urban growth, vegetation cover, and land management; the use of drones to analyze slope stability; and the modeling of flows in ravines.

At every stage of its implementation, the assessment engaged with a wide range of stakeholders. The national and provincial branch of the Urban Roads Agency provided technical inputs; the provincial and local government authorities helped organize community consultations and provided inputs for prioritizing study areas; and local communities were not only involved in the historical data collection, but they also shared locally developed solutions to combat erosion. Such solutions include planting strategies either to cover the ground with grass, thus preventing further surface erosion while rebuilding the topsoil, or to stabilize the slopes.

The assessment was recently presented to the Ministry of Finance, the Ministry of Urban Planning and Housing, and the Urban Roads Agency in addition to provincial and local authorities as well as community representatives. It is anticipated that the immediate focus for the DRC authorities will be the stabilization of priority sites as identified in the assessment, an effort that will be supported by the World Bank's Kananga Emergency Urban Resilience Project. This project is among the first in the World Bank's global portfolio to focus squarely on the problem of soil erosion, and it does so in a way that takes an integrated and multisectoral approach.

GFDRR support for tackling soil erosion in the DRC is only one of a broader suite of efforts by the facility to advance the country's resilience to disaster and climate change. To cite just one example, the facility has been supporting the capital city of Kinshasa in using Earth observation (EO) data and services to strengthen its disaster risk management and urban resilience practices.

EAST ASIA AND PACIFIC

In Focus Strengthening Locally Led Flood Risk Management in Phnom Penh, Cambodia

For the more than 2 million people who call Phnom Penh, Cambodia, home, seasonal flooding is a recurring challenge that disrupts their ability to live their lives and secure their livelihoods. In recent years, heavy monsoon rains have inundated the city's major thoroughfares, causing extensive damage to property and prompting families to flee their homes. The informal settlements that dot the capital city have seen especially heightened vulnerability from the impacts of poorly planned urban development projects.

With the support of GFDRR and the World Bank and in partnership with the Royal Government of Cambodia, a technical team has been strengthening locally led flood risk management efforts in Phnom Penh. These efforts have focused on five communes or *sangkats*: Dangkor, Kbal Koh, Prey Veng, Sak Sampov, and Trapeang Krasang.

A key first step for the team was to develop a baseline understanding of flood risk in the five target sangkats. Accordingly, the team developed a comprehensive profile of flood risk in each of the sangkats, an effort that was informed by an in-depth analysis of relevant flood risk data and information as well as extensive consultations with community members. The consultations focused on gathering insights on the social and gender impacts of flood risk.

On the basis of those analyses and consultations, the flood risk profiles mapped and identified the most flood-prone communities as well as high-risk communal infrastructure such as community roads, houses, and drainage systems. Each of the profiles also identified both existing and planned flood risk management initiatives, such as flood protection and drainage measures, at the sangkat level.

One of the commune- or sangkat-level training workshops. Photo: © World Bank.

Traffic continues during a flood in Phnom Penh. © MindStorm-inc.

Subsequently, the team engaged closely with the sangkat authorities to strengthen their capacity to integrate the flood risk profiles into their flood risk management planning processes. As part of these efforts, the team developed both mobile and website versions of the flood risk profiles for each sangkat. With the mobile application, users can generate the flood risk profiles for the sangkat based on their current Global Positioning System (GPS) location; with the website version, they can select any of the profiles for the five sangkats. WIth both mobile and website versions, users can choose any one of 23 analytical scenarios—for instance, an extreme climate event—to see how that would impact flood risk in a particular sangkat.

In conjunction with the development of a step-by-step manual, the team conducted in-person trainings for 84 officials from across the five sangkats on how to use the mobile and website versions of the flood risk profile.

A further 76 people—including some from other sangkats, Phnom Penh Capital Hall, the Ministry of Interior, and the nongovernmental organization (NGO) sector—participated in a workshop designed to increase awareness of this initiative with a wider audience. Many of the participants in that workshop have expressed interest in replicating the flood risk profile, including the mobile and website versions, elsewhere in Cambodia.

GFDRR and World Bank support for these locally led flood risk management efforts is directly shaping the implementation of the World Bank's Livelihood Enhancement and Association of the Poor Project (LEAP) in Cambodia. One of the overarching objectives of LEAP is to improve the access of poor and vulnerable households to financial services, opportunities for generating income, and small-scale infrastructure. It is anticipated that the flood risk profiles developed under this engagement will inform the selection of the small-scale infrastructure subprojects supported under LEAP.

EUROPE AND CENTRAL ASIA

In Focus Continuous Damage and Needs Assessments for **Ukraine**

Since Russia's invasion of **Ukraine** in February 2022, the World Bank, with support from GFDRR, has been conducting cross-sectoral assessments of the war's impacts supported by baseline data collection, rapid remote analytics, and sectoral deep dives.

Following the completion of a rapid remote analytics and baseline data collection in the form of a Global Rapid Post-Disaster Damage Estimation (GRADE) in May 2022, GFDRR's analytical support this fiscal year has included two sets of Rapid Damage and Needs Assessments (RDNAs) and support for recovery and reconstruction planning, including through sectoral analytics.

In September 2022, the government of Ukraine, the World Bank, and the European Commission jointly presented the results of the first RDNA (RDNA1), which provided a consistent assessment of physical damage to assets and economic losses incurred by the war between February 24, 2022, and June 1, 2022. Based on these assessments, RDNA1 helped to build the foundation for coordinated national and international recovery efforts and the mobilization of resources. Covering 20 sectors, estimated overall damages came to $97 billion, losses came to $252 billion, and—considering green, resilient, and inclusive development principles—reconstruction and recovery needs came to $349 billion. Since then, the impacts of Russia's invasion of Ukraine have continued to accrue.

The second RDNA (RDNA2) was launched in December 2022, again covering 20 sectors and including damages, losses, and needs, but also including implementation priorities for 2023. The RDNA2 report—available in English and Ukrainian on the World Bank website—was launched on March 23, 2023, in Kyiv during a high-level event that was held both in-person and online; it has since been downloaded more than 35,700 times. The analysis has informed various important discussions, including at the World Bank/International Monetary Fund Spring Meetings in April 2023 and the international Ukraine Recovery Conference in London in June 2023. It informs the ongoing recovery and reconstruction planning by the government of Ukraine and the donor community, including the preparation of the European Commission's Ukraine Facility.

World Bank task teams, in coordination with relevant national authorities and stakeholders, are also working on the development of sector-specific assessments, including those of municipal services and infrastructure, water supply and sanitation, education, health services, urban transport, heating, and agriculture. Deep dive activities are combining trainings and technical meetings with relevant national and local stakeholders; coordination with Ukraine's government, donors, development partners, academia, private sector, and so on; and analytical assessments and development of technical recommendations to build local capacities, share knowledge, and mainstream green and resilient development. Technical assistance is funded through various trust fund sources, including GFDRR's Multi-Donor Trust Fund (MDTF); Switzerland's State Secretariat for Economic Affairs (SECO), which is channeled through the City Resilience Program (CRP); and the Japan–World Bank Program for Mainstreaming Disaster Risk Management in Developing Countries.

Bombed apartment complex in Kharkiv, Ukraine. Photo: © Tuomas Kauko.

Following the destruction of the Kakhovka dam on June 6, 2023, GFDRR supported the rapid remote assessment of the impact of the dam break. At the end of the fiscal year, the team started the internal and external coordination and planning of the third RDNA (RDNA3), to be launched in November 2023.

GFDRR's assistance in FY23 played a crucial role in understanding the extent of the damage and the needs of affected Ukrainian communities. It also informed the preparation and implementation of critical investment projects focusing on the housing, energy, and transport sectors, among others. These projects are closely tied to the Ukrainian government's recovery priorities. Going forward, assistance through GFDRR will continue to guide effective resource allocation and capacity building in priority sectors by supporting RDNA3.

EUROPE AND CENTRAL ASIA

In Focus Building Safer, More Resilient Schools in Türkiye

GFDRR Partnership Days 2023 video featuring schools built in Türkiye that withstood February 2023 earthquakes. Photo: © World Bank.

In February 2023, Türkiye was hit by two very large magnitude 7.8 and 7.5 earthquakes, followed by thousands of aftershocks and then another large, magnitude 6.7, earthquake. The earthquakes inflicted the heaviest damages in 11 provinces in southern Türkiye, home to 14 million Turkish citizens, representing 16 percent of the country's population and 1.8 million Syrian refugees.

GFDRR played a pivotal role in ensuring that recently constructed schools in Türkiye withstood what has now become the deadliest earthquake disaster in the country's modern history.

Since 2017, with support from GFDRR, the World Bank, and the European Commission, Türkiye's Ministry of National Education has built 57 schools, representing over 1,400 classrooms, based on Türkiye's latest seismic code, which was updated in 2018 in accordance with international earthquake engineering standards.

Every single one of the 24 schools located in areas affected by the February 2023 earthquakes and aftershocks survived. Fortunately, the earthquakes struck outside of school hours, which also contributed to saving the lives of students and educators.

"Most of the parents came to look at the school. They saw that there is not even the smallest crack or plaster crack in our school," said Murat Çiçekdal, School Manager for the Martyr Ercan Sanca Primary School. "We continue our educational activities seamlessly where we left before the earthquake."

Among the 24 schools in affected areas, four schools located in Kahramanmaraş Province were used by the Turkish government to provide temporary shelters. These same schools were also used by the government for the provision of vital services for affected populations.

GFDRR Partnership Days 2023 video. Photo: © World Bank.

GFDRR Partnership Days 2023 video. © World Bank.

Across Türkiye, it is estimated that over 40,000 people now have access to safer and resilient schools as a result of the Ministry of National Education's initiative on safer schools, supported under the Education Infrastructure for Resilience Project. Roughly half of the beneficiaries are estimated to be female.

In addition to seismic safety, each of the 57 schools built through this project also complied with Turkish codes and regulations on land use planning, energy efficiency, fire protection, workplace safety, and access for people with disabilities. The end result has been a safer and better learning environment for students and trainees.

These efforts build upon the World Bank's comprehensive technical assistance program for a resilient built environment in Türkiye. This program includes support for innovative approaches toward building urban resilience and scaling up disaster-resilient and energy-efficient buildings; the support has been made possible through two GFDRR grants under the Japan Program.

Since 2015, Türkiye has partnered with GFDRR and the World Bank to ensure that schools across the country are safer and more resilient to disaster.

In the context of the Education Infrastructure for Resilience Project and the Disaster Risk Management in Schools Project, GFDRR in particular has connected the Turkish government with international experience on safer schools, helped established a program on reducing seismic risk, and supported the expansion of disaster-resilient education infrastructure. Türkiye's leadership on prioritizing safer schools was highlighted in a video presented at the GFDRR 2023 Partnership Days.

GFDRR's support for safer and more resilient schools is only one part of the facility's broader engagement with Türkiye, a deep and long-standing partnership that was brought to bear following the February 2023 earthquakes and aftershocks.

In the immediate aftermath of the devastation, GFDRR and the World Bank conducted an assessment to gauge the cost of the direct damage. The Global Rapid Post-Disaster Damage Estimation (GRADE) methodology harnessed diverse data sources—including historical damage data, drone footage, satellite data, expert knowledge, and social media—to provide an initial estimation of direct physical damage within a mere two weeks.

The findings of the GRADE report were sobering, revealing an estimated $34.2 billion in direct physical damage caused by the earthquakes. The Turkish government, with the support of its development partners, then were able to estimate that the costs for recovery and reconstruction would surpass $81 billion. Approximately 5 percent of the 20,000 education buildings in the earthquake-affected areas either collapsed entirely or were severely or moderately damaged.

Beyond damage assessments, a $1 million grant was mobilized from GFDRR through the United States Agency for International Development (USAID), which has also supported the design of the $1 billion Türkiye Earthquake Reconstruction and Recovery Project.

LATIN AMERICA AND THE CARIBBEAN

In Focus Refining the Public Investment Process in Costa Rica

Field visit for flood protection investments under the World Bank's Costa Rica Climate Resilient Recovery and Territorial Development Project. Photo: © World Bank.

Although Costa Rica has a robust legal and policy framework for disaster risk management, these policies face implementation challenges at the local level and across some government agencies. Coordination between municipalities and national-level institutions overseeing major investments in public infrastructure is sometimes lacking. The country also grapples with limited logistical resources to coordinate extensive relief efforts to various regions, with poor road conditions further complicating disaster responses. The dearth of emergency shelters across the country contributes to greater vulnerability to disasters.

On top of these challenges, Costa Rica also faces a gradual decline in its fiscal capacity to independently finance post-disaster expenditures. This fiscal strain means that it does not always have adequate resources, whether through transfers or feasible financing, to cover losses and restore affected capital and assets.

All these problems underscore the pressing need to decentralize emergency responses and strengthen regional services currently managed by the National Commission for Risk Prevention and Emergency Response (CNE), which is the country's leading institution for disaster risk management. A central government priority—as outlined in Costa Rica's National Land-Use Management Policy 2012-2040 and its National Development and Public Investment Plan 2018—is to enhance the quality of life and opportunities in underdeveloped regions, fostering more inclusive and sustainable growth. This undertaking entails determining policy and investment priorities for underserved regions while maximizing infrastructure investments for urban revitalization, social inclusivity, and economic efficiency.

To address Costa Rica's multiple challenges, GFDRR supported a study focused on identifying and assessing critical areas and processes that obstructed the progress of public investment projects within the Ministry of National Planning and Economic Policy (MIDEPLAN). The study unveiled essential technical and normative priorities, shedding light on areas that require immediate attention. It also furnished a structured roadmap for enhancing the integration of disaster risk and climate change considerations into the construction and upkeep of bridges and public buildings. These recommendations are poised to play a pivotal role in guiding Costa Rica as it embarks on the implementation of new guidelines for public infrastructure planning.

To help fortify Costa Rica against future hazards, GFDRR also supported the development of studies for a range of strategic investments. The investments explored in these studies encompass vital components of emergency response, such as warehouses, storage facilities for emergency response supplies, multipurpose shelters, reinforced early warning systems at regional levels, the establishment of an emergency operation center, and the creation of decentralized operation centers and situation rooms to support the often-overburdened CNE. These studies directly informed the World Bank's Costa Rica Climate Resilient Recovery and Territorial Development Project, which will be financing the proposed investments.

The comprehensive analysis and recommendations stemming from these outputs have informed MIDEPLAN's ongoing efforts to improve its National Public Investment System. This knowledge, derived with GFDRR's assistance, serves as a valuable resource for promoting a more resilient and climate-responsive approach to disaster risk management across Costa Rica.

LATIN AMERICA AND THE CARIBBEAN

In Focus Advancing Safer and More Resilient Housing in Colombia

Colombia's vulnerability to disasters and climate-related shocks presents a formidable challenge to its efforts to provide safe and resilient housing. Even as it has achieved significant progress in addressing the lack of housing, the government recognizes the importance of also ensuring the quality of its housing. Approximately 23 percent of all Colombian households live in substandard housing units that are highly vulnerable to climate impacts.

With the support of GFDRR and the World Bank, a technical team provided analytical work and advisory services to the government of Colombia to address this challenge. Equipped with new insights provided by this support, the government has strengthened its approach to addressing housing resilience and disaster risk reduction.

First, the team conducted a deep dive assessment of the housing sector in Colombia, emphasizing the need for the government to include more home retrofitting and holistic neighborhood improvement. Summarized in the report *Striking a Balance*, this approach deviated from the government's existing approach of focusing on new construction. Importantly, the report highlighted that, while 80 percent of families in Colombia need improvements to preexisting housing units, a staggering 98 percent of the country's $600 million annual housing budget has been spent on the construction of new housing.

This misalignment in Colombia's housing budget has had three adverse consequences. First, it led the Colombian government to spend more money than it needed to on its housing program. Second, the vast majority of the budget failed to reach the poorest. And third, the emphasis on new housing contributed to an unnecessary and excessive carbon footprint.

The team's dialogue with the Ministry of Housing, City and Territory played a vital role in driving and informing several critical budgeting and policy changes by the Colombian government that have strengthened its approach to housing resilience. In 2022, the country's budget for home improvement increased from $12 million per year to $460 million. At the same time, the government placed a new emphasis on enabling housing improvements in line with strict resilience standards. Furthermore, the distribution of the Colombian housing program's resources, including for resilience-building, also shifted geographically to target populations in the lower income brackets.

Moreover, the team engaged with the government to streamline the operational requirements for resilience improvements to the

Ciudad Bolivar, Colombia. Photo: © Javier Conesa.

housing sector. The World Bank's $136.7 million Resilient and Inclusive Housing Project, which received technical assistance from GFDRR, served as an entry point for this engagement. The team initially introduced operational requirements for resilience to the project that financed homes for roughly 13,000 families. These requirements were then adopted and streamlined by the government into its broader national housing program—expanding their reach to homes for the 400,000 families covered by that program. To cite just one example of the streamlined operational requirements, all construction works now have to meet new resilient standards, including the requirement for urgent structural strengthening that must be completed before any other upgrade is undertaken.

But can these numbers be magnified even further? With support from GFDRR, the World Bank, and the International Finance Corporation (IFC), the Colombian government is now working to address two of the main issues showcased in the *Striking a Balance* report.

First, the government is taking steps to adopt the right policy mix for ensuring resilient housing—including new housing, improved housing, or rental housing as needed—while also complementing government subsidies with loans. All this could potentially reduce the total cost of closing the housing quality gap in Colombia from $36 billion to $2 billion.

Second, with the support of GFDRR, the government is exploring more decentralized methods for implementing its program for resilient housing. One such method under consideration is for local governments to play an active role in locating, planning, and executing housing projects. In order to incentivize and empower local governments to do so, a payment-for-results scheme is also under consideration. These more decentralized methods have the goal of extending support to an additional 1.5 million people in various municipalities across the country.

GFDRR's engagement on resilient housing in Colombia has played an important part in ushering in much-needed changes in the nation's housing and disaster risk reduction strategies. By driving critical budget, policy, and operational reforms, the facility's support has paved the way for a safer and more resilient future for Colombians.

MIDDLE EAST AND NORTH AFRICA

In Focus Sharing and Mobilizing Knowledge for a More Resilient Jordan

Droughts, extreme temperatures, and floods are just some of the natural hazards facing Jordan and its over 11 million citizens. Climate change has raised the specter that such hazards will become even more commonplace in the decades to come.

The government of Jordan fully recognizes that realizing its aspirations for a brighter future for its citizens will require that the country put disaster risk management (DRM) front and center in its development agenda. GFDRR, in collaboration with technical teams from World Bank, has been working closely with the government to support its efforts to advance the country's DRM capabilities, with an eye toward a more resilient future for all Jordanians.

Drawing on their long-standing expertise and experience on the frontlines of resilience building, the facility and the World Bank jointly organized a three-day global knowledge workshop in Amman on June 19 to 21, 2023. The workshop covered three key areas of DRM: emergency preparedness and response (EP&R), strategic and crisis communication, and seismic risk and vulnerability.

Over the course of the workshop, international DRM experts highlighted some of the cutting-edge initiatives and emerging best practices that have been successfully implemented in each of those key areas. For instance, the session on EP&R introduced a conceptual framework for institutionalizing and strengthening EP&R that covered the five pillars of personnel, information, facilities, equipment, and legal and institutional frameworks.

Each of the workshop sessions provided participants with the opportunity not only to listen to the experts but also to actively engage with the material in a way that placed what they learned in the context of Jordan's DRM landscape. For example, during the session on seismic risk and vulnerability, participants' learnings were put to the test when they dove into an earthquake simulation for Amman that covered multiple scenarios—including settings prior, during, and after a seismic event.

Overall, the workshop saw the participation of over 100 officials, representing upwards of a dozen DRM-related bodies and agencies, including the Municipality of Greater Amman, the Ministry of Interior, Civil Defense, the National Center for Security and Crises Management, the Ministry of Health, and the Ministry of Local Administration.

Many of the participants are already drawing on lessons learned from the workshop to drive and inform concrete actions toward advancing Jordan's DRM capabilities. With support from GFDRR and the World Bank, the Municipality of Greater Amman is moving forward with an EP&R assessment—the first ever at the city level—in an effort that is expected to inform a short- and medium-term DRM action plan for the Jordanian capital. Subsequently, GFDRR and the World Bank will support a seismic risk assessment and a crisis communication workshop for the city, both of which will also draw on lessons learned from the workshop.

The June 2023 workshop is only the latest knowledge exchange jointly organized by GFDRR and the World Bank in Jordan. In the previous fiscal year, a workshop attended by over 40 participants focused on international best practices on DRM analytics, tools, and assessments.

Participants at the global knowledge workshop on strengthening DRM in Amman in June 2023. Photos: © World Bank.

SOUTH ASIA

In Focus Advancing Resilient Energy in Rural Bangladesh

In the last 10 years, the Bangladesh Rural Electrification Board (BREB) has made remarkable strides in rolling out one of the world's most extensive rural electrification projects, providing electricity to more than 90 million individuals. While BREB's primary focus has been on achieving universal access to electricity, this emphasis has resulted in limited investments made to fortify the network against severe weather conditions and update its administrative systems. Enhancing network resilience and flexibility—with the support of the World Bank and development partners—has emerged as a key government objective.

With financial and technical backing from GFDRR, the World Bank assisted BREB in incorporating weather-related hazard and climate risk data into the design of Bangladesh's rural electricity infrastructure. Despite the challenges posed by limited data on specific distribution network attributes, GFDRR's technical support has yielded invaluable insights and expertise on the integration of climate resilience into Bangladesh's rural electrical distribution systems. This knowledge has directly influenced World Bank–funded energy projects, notably the $500 million Bangladesh Electricity Distribution Modernization Program, which is aimed at assisting BREB in developing a climate-resilient rural distribution master plan. This master plan is set to serve as the foundation for a modern, dependable, and robust power system.

In its initial phase of support, GFDRR undertook the task of mapping power infrastructure that faced exposure to climate and disaster threats, with a particular focus on cyclone-related impacts, and pinpointing areas in need of enhancement within the rural distribution network. The study provided a framework for assessing risks, conducting a cost-benefit analysis, and guiding climate-resilient power system distribution network planning. Furthermore, it underscored the significance of incorporating risk data and resilience objectives into Bangladesh's investment prioritization.

GFDRR's assistance provided the Bangladeshi government with valuable insights into policy frameworks and operational procedures geared toward minimizing disaster risks across various facets of the power sector, including distribution, transmission, generation, and fuel supply. This knowledge has been instrumental in strengthening capacity-building initiatives to align operations and policies with global best practices for enhancing the resilience of the power system. It has also left a notable imprint on the government's efforts to digitalize its capabilities for monitoring and managing electricity network infrastructure. This digital transformation is expected to yield benefits such as improved customer service, enhanced safety measures, cost savings in operations and maintenance, and quicker responses during outages.

GFDRR also facilitated collaboration with international partners such as the European Space Agency. This collaboration harnessed the expertise of a consortium of Earth observation companies to perform asset-level assessments of climate risks on the high-voltage network in Bangladesh. As a result, the World Bank's team in Bangladesh has advanced discussions with the government on the cost-effective remote monitoring of flood and landslide risks and the implementation of preventive measures for vulnerable sections of the power grid. This initiative represents an innovative application of satellite data to bolster resilience in Bangladesh.

Furthermore, with support from GFDRR, the Japan–World Bank Program for Mainstreaming Disaster Risk Management in Developing Countries is fostering potential partnerships between Bangladesh and Japanese expert counterparts. The World Bank aims to facilitate knowledge exchange between Bangladesh and its development partners, including the Tokyo Electric Power Company, to gain insights into distribution system resilience, disaster preparedness policies, and mechanisms for risk allocation. GFDRR's support will enable the World Bank to collaborate with Japan's Central Research Institute of Electric Power Industry to share best practices for disaster preparedness and enhance capacity building in rapid disaster response and recovery.

High voltage electric transmission line in rural Bangladesh. Photo: © Md Golam Mortuza Ali.

Annex 2: List of Trust-Funded Activities or Projects Funded

Fund	Fund Name	Fund Status	Fund Country Region Name	Country	Activation Date	Closing Date	Grant Amount USD
TF0C1970	**Democratic Republic of Congo** Floods and Landslides Damage and Needs Assessment	ACTV	Eastern and Southern Africa	**Democratic Republic of Congo**	6/30/2023	9/30/2023	35,000
TF0C1669	Rwanda Flood Damage and Needs Assessment	ACTV	Eastern and Southern Africa	Rwanda	5/31/2023	8/31/2023	50,000
TF0C1588	Resilience Analytics and Investment Planning for Northern and Eastern **Chad**	ACTV	Western and Central Africa	**Chad**	5/22/2023	5/31/2025	250,000
TF0C1261	**Ethiopia**: Enhancing Disaster Risk Management and Basin-Level Flood Risk Management	ACTV	Eastern and Southern Africa	**Ethiopia**	4/6/2023	9/30/2024	250,000
TF0C1240	GFDRR MDTF for Strengthening Kenya's Building Regulations for Resilient, Green and Affordable Housing	ACTV	Eastern and Southern Africa	Kenya	4/5/2023	6/30/2024	100,000
TF0C1231	Support to **Mozambique** Post Cyclone Freddy GRADE and Post Disaster Damage Assessment	ACTV	Eastern and Southern Africa	**Mozambique**	4/4/2023	7/31/2023	50,000
TF0C1105	Enhancing Resilient and Affordable Housing in Southwest Indian Ocean countries	ACTV	Eastern and Southern Africa	Seychelles	3/22/2023	11/30/2024	450,000
TF0C0932	Green and Resilient Urban Growth in Tanzania	ACTV	Eastern and Southern Africa	Tanzania	3/1/2023	12/31/2023	320,000
TF0C0732	Strengthening Climate Change and Disaster Risk Management Reserve Funds and Contingent Financing in Tanzania	ACTV	Eastern and Southern Africa	Tanzania	2/13/2023	7/31/2024	200,000
TF0C0731	Gabon WRM Study	ACTV	Western and Central Africa	Gabon	2/7/2023	6/30/2024	500,000
TF0C0692	**Comoros**: Enhancing Disaster Resilience in **Comoros**	ACTV	Eastern and Southern Africa	**Comoros**	2/2/2023	12/31/2024	300,000
TF0C0202	Climate Resilience in Mauritania for improved flood risk management and enhanced preparedness	ACTV	Western and Central Africa	Mauritania	12/5/2022	12/31/2024	400,000
TF0B9426	Ghana: Mainstreaming Resilience into Urban Policies and Infrastructure	ACTV	Western and Central Africa	Ghana	8/24/2022	12/31/2023	350,000

Annex 2: List of Trust-Funded Activities or Projects Funded (cont.)

Fund	Fund Name	Fund Status	Fund Country Region Name	Country	Activation Date	Closing Date	Grant Amount USD
TF0B8873	Building urban resilience to disaster and climate risk in informal settlements in eThekwini Municipality, South Africa	ACTV	Eastern and Southern Africa	South Africa	6/13/2022	6/30/2024	250,000
TF0B8795	Erosion Management for Climate Adaptation in DRC	ACTV	Eastern and Southern Africa	**Democratic Republic of Congo**	6/6/2022	6/30/2024	950,000
TF0B8692	Benin: Strengthening DRM in urban planning and municipal investments	ACTV	Western and Central Africa	Benin	5/23/2022	12/31/2023	300,000
TF0B8633	Supporting preparedness diagnostics and urban resilience investment planning in Uganda	ACTV	Eastern and Southern Africa	Uganda	5/16/2022	9/30/2023	193,000
TF0B8566	GFDRR MDTF - Mainstreaming Resilience in Urban Management in **Niger**	ACTV	Western and Central Africa	**Niger**	5/4/2022	3/31/2024	300,000
TF0B8478	Informing Urban Resilience in **Sudan**	ACTV	Eastern and Southern Africa	**Sudan**	4/22/2022	9/30/2023	125,761
TF0B8301	Digital Earth for Urban Resilience in Kinshasa	ACTV	Eastern and Southern Africa	**Democratic Republic of Congo**	4/14/2022	12/31/2023	290,000
TF0B8431	Enhancing Flood Resilience in Rwanda	ACTV	Eastern and Southern Africa	Rwanda	4/13/2022	10/31/2023	450,000
TF0B8388	Strengthening the resilience of economic growth and local economic activity to disaster and climate-related shocks in Cape Verde	ACTV	Western and Central Africa	Cabo Verde	4/10/2022	7/31/2023	150,000
TF0B8288	Gambia: Mainstreaming Resilience into Land and Development Planning	ACTV	Western and Central Africa	The Gambia	4/1/2022	12/31/2023	250,000
TF0B8311	Enhancing Flood Risk Reduction and Disaster Risk Management in **South Sudan**	ACTV	Eastern and Southern Africa	**South Sudan**	3/30/2022	12/31/2023	400,000
TF0B8305	Enhancing data collection and land management for improved urban resilience in Côte d'Ivoire	ACTV	Western and Central Africa	Cote d'Ivoire	3/29/2022	3/31/2024	300,000
TF0B8193	**Mozambique** Urban and Housing Resilience Mapping and Guidelines	ACTV	Eastern and Southern Africa	**Mozambique**	3/11/2022	1/31/2024	250,000
TF0B8145	Enhancing Disaster and Climate Resilient Slum Upgrading in **Ethiopia**	ACTV	Eastern and Southern Africa	**Ethiopia**	3/9/2022	1/31/2024	400,000
TF0B8023	Zambia Disaster Risk Management Diagnostics	LCLS	Eastern and Southern Africa	Zambia	2/15/2022	9/30/2022	149,981
TF0B7990	Disaster Resilient Recovery and Reconstruction in Post Conflict **Ethiopia**	ACTV	Eastern and Southern Africa	**Ethiopia**	2/7/2022	6/30/2023	400,000

Annex 2: List of Trust-Funded Activities or Projects Funded (cont.)

Fund	Fund Name	Fund Status	Fund Country Region Name	Country	Activation Date	Closing Date	Grant Amount USD
TF0B7907	Supporting DRM Policy Dialogue in Senegal	ACTV	Western and Central Africa	Senegal	1/28/2022	9/30/2024	350,000
TF0B7684	Flood Resilience in N'Djamena	ACTV	Western and Central Africa	**Chad**	12/21/2021	8/30/2024	650,000
TF0B7685	Resilient Urban Sierra Leone Technical Assistance	ACTV	Western and Central Africa	Sierra Leone	12/20/2021	6/30/2023	250,000
TF0B7712	Policy and Institutional Reforms for Disaster Risk Preparedness in Malawi	ACTV	Eastern and Southern Africa	Malawi	12/20/2021	12/30/2024	500,000
TF0B6586	Gambia: Enhancing capacity to manage resilient infrastructure investments	ACTV	Western and Central Africa	The Gambia	8/30/2021	12/31/2023	130,000
TF0B6228	**Burundi** MDTF Grant	ACTV	Eastern and Southern Africa	**Burundi**	8/27/2021	6/30/2024	677,500
TF0B6536	Strengthening Disaster Preparedness and Resilience of Internally Displaced Persons (IDPs) in Northern **Mozambique**	ACTV	Eastern and Southern Africa	**Mozambique**	8/10/2021	8/31/2023	181,000
TF0B6036	Kenya-Enhancing the Government's capacity to manage disaster risk and fortifying its building regulations for resilience.	LCLS	Eastern and Southern Africa	Kenya	6/8/2021	5/16/2023	93,413
TF0B5782	Madagascar: Strengthening Urban and Coastal Resilience	ACTV	Eastern and Southern Africa	Madagascar	5/10/2021	12/31/2024	850,000
TF0B5339	Advancing Resilience Dialogue in Uganda	LCLS	Eastern and Southern Africa	Uganda	3/16/2021	8/31/2022	7,543
TF0B5298	Strengthening DRM and Urban Resilience in **Sudan**	LCLS	Eastern and Southern Africa	**Sudan**	3/2/2021	8/31/2022	74,239
TF0B4911	Strengthening Urban Resilience in Rwanda	ACTV	Eastern and Southern Africa	Rwanda	1/14/2021	6/30/2024	500,000
TF0B4679	Strengthening Disaster Risk Governance and Systems in **Zimbabwe**	ACTV	Eastern and Southern Africa	**Zimbabwe**	12/10/2020	6/30/2023	150,000
TF0B4441	Digital Work for Urban Resilience	ACTV	Western and Central Africa	Western and Central Africa	11/17/2020	12/31/2023	825,000
TF0B4459	Africa Disaster Risk Analytics Program to Build Resilient-Informed Engagements, SCD and CPF (Phase 2)	ACTV	Western and Central Africa	Western and Central Africa	11/17/2020	10/15/2024	494,000
TF0B4154	Disaster Risk Management Support for the Africa Region	ACTV	Eastern and Southern Africa	Eastern and Southern Africa	10/9/2020	7/31/2023	1,150,000
TF0C1668	Supporting Disaster and Climate Risk Reduction in Samoa	ACTV	East Asia and Pacific	Pacific Islands	6/7/2023	12/31/2024	220,000
TF0C1731	Urban Heat Reduction in Bangkok	ACTV	East Asia and Pacific	Thailand	6/6/2023	6/30/2024	225,000

Annex 2: List of Trust-Funded Activities or Projects Funded (cont.)

Fund	Fund Name	Fund Status	Fund Country Region Name	Country	Activation Date	Closing Date	Grant Amount USD
TF0C1715	Additional Financing for China--Knowledge Exchange on Urban Disaster Preparedness	ACTV	East Asia and Pacific	China	6/5/2023	5/31/2024	100,000
TF0C1677	Resilient Rural Road Asset Management	ACTV	East Asia and Pacific	Cambodia	6/1/2023	12/31/2024	150,000
TF0C1678	**Myanmar** - Post-Disaster Assessments in the Aftermath of Cyclone Mocha	ACTV	East Asia and Pacific	**Myanmar**	6/1/2023	1/31/2024	50,000
TF0C1679	**Myanmar** - Post-Disaster Assessments in the Aftermath of Cyclone Mocha	ACTV	East Asia and Pacific	**Myanmar**	6/1/2023	1/31/2024	50,000
TF0C1650	Supporting Disaster and Climate Risk Reduction in **Tuvalu**	ACTV	East Asia and Pacific	Pacific Islands	5/30/2023	12/31/2024	110,000
TF0C1542	Case Studies - Resilience in Urban Spaces & Waterfront Redevelopments	ACTV	East Asia and Pacific	Thailand	5/16/2023	3/31/2024	150,000
TF0C1468	GFDRR MDTF for Support to the Second Edition (2024) of the Averted Disaster Award	ACTV	East Asia and Pacific	East Asia and Pacific	5/3/2023	6/30/2024	100,000
TF0C1320	Post-disaster Technical Support to Tropical Cyclones Judy and Kevin in Vanuatu	ACTV	East Asia and Pacific	Pacific Islands	4/17/2023	9/30/2023	100,000
TF0C0973	Philippines – Support to Post-disaster Recovery Planning in Bangsamoro Autonomous Region in Muslim Mindanao (BARMM)	ACTV	East Asia and Pacific	Philippines	3/6/2023	2/29/2024	75,000
TF0C0876	Supporting Climate Adaptation and DRM institutional and regulatory policy reforms in selected Pacific Island Countries	ACTV	East Asia and Pacific	Pacific Islands	2/24/2023	10/31/2025	750,000
TF0C0627	Strengthening policy frameworks and capacities for disaster risk reduction and financing in select Pacific Island Countries	ACTV	East Asia and Pacific	Pacific Islands	1/29/2023	9/30/2025	720,000
TF0C0579	Integrating Climate and Disaster Risk Management into Investments Planning in Ulaanbaatar Eco-Industrial Park	ACTV	East Asia and Pacific	Mongolia	1/25/2023	6/30/2024	250,000
TF0C0510	Thailand – Planning for disaster resilient infrastructure for livable cities	ACTV	East Asia and Pacific	Thailand	1/16/2023	5/31/2023	100,000

Annex 2: List of Trust-Funded Activities or Projects Funded (cont.)

Fund	Fund Name	Fund Status	Fund Country Region Name	Country	Activation Date	Closing Date	Grant Amount USD
TF0C0399	Cambodia – Building Locally Led Climate and Disaster Resilience Action	ACTV	East Asia and Pacific	Cambodia	12/22/2022	12/31/2023	75,000
TF0C0144	Mongolia – Support for Locally led Climate and Disaster Risk Resilience	ACTV	East Asia and Pacific	Mongolia	11/29/2022	12/31/2023	75,000
TF0B9788	Resilient Urbanization and Risk-informed Adaptation Planning in the Pacific Region	ACTV	East Asia and Pacific	Pacific Islands	11/9/2022	5/31/2024	230,000
TF0B9789	Customary Land Tenure and Resilience in Pacific Island Countries	ACTV	East Asia and Pacific	Pacific Islands	11/9/2022	6/30/2024	230,000
TF0B9914	Climate Change Information for Communities in the Philippines	ACTV	East Asia and Pacific	Philippines	10/28/2022	12/31/2023	75,000
TF0B9790	Philippines - Support to the Sustainable Inclusive and Resilient Tourism Project	ACTV	East Asia and Pacific	Philippines	10/13/2022	12/31/2023	100,000
TF0B9692	Gender Sensitive Adaptive Social Protection and Disaster Risk Management in Vanuatu	ACTV	East Asia and Pacific	Pacific Islands	9/29/2022	9/30/2024	150,000
TF0B9646	The Philippines: Support to the Philippines NDRRMC's Disaster Risk Communication Program	ACTV	East Asia and Pacific	Philippines	9/27/2022	6/30/2024	240,000
TF0B9470	China DRM Policy Dialogue	ACTV	East Asia and Pacific	China	8/31/2022	5/31/2024	53,806
TF0B9439	City Resilience Program Grant	ACTN	East Asia and Pacific	Vietnam	8/24/2022	2/28/2023	262,841
TF0B9299	Knowledge Exchange on Urban Disaster Preparedness	ACTV	East Asia and Pacific	China	8/3/2022	5/31/2024	190,000
TF0B9057	Cambodia: Assessment of Shelter, Emergency Preparedness and Response Needs	ACTV	East Asia and Pacific	Cambodia	7/7/2022	6/30/2024	330,632
TF0B9056	Social Dimensions of Climate Change in the Pacific Study	ACTV	East Asia and Pacific	**Solomon Islands**	7/6/2022	8/31/2023	50,000
TF0B9099	GFDRR MDTF for Support to Cities on the Frontline Speaker Series	ACTV	East Asia and Pacific	East Asia and Pacific	7/6/2022	6/30/2023	75,000
TF0B8816	Enhancing integration of social inclusion and social protection in Disaster Risk Management in Indonesia	ACTV	East Asia and Pacific	Indonesia	6/3/2022	10/31/2023	150,000
TF0B8806	GFDRR MDTF for Averted Disaster Award	ACTV	East Asia and Pacific	East Asia and Pacific	6/2/2022	9/30/2023	200,000

Annex 2: List of Trust-Funded Activities or Projects Funded (cont.)

Fund	Fund Name	Fund Status	Fund Country Region Name	Country	Activation Date	Closing Date	Grant Amount USD
TF0B8807	GFDRR MDTF for Eap Emissions Reduction Program - Mobilizing Capital for Climate and Disaster Risk Reduction Investments from Global Emission Reduction Credit Markets	ACTV	East Asia and Pacific	East Asia and Pacific	6/2/2022	8/30/2024	150,000
TF0B8560	Vietnam – Analytical work on climate and natural hazards-induced migration	ACTV	East Asia and Pacific	Vietnam	5/9/2022	5/31/2023	75,000
TF0B8546	The Philippines - Support to Climate and Disaster Risk-Informed Policies, Institutional Strengthening, and Budgets Execution	ACTV	East Asia and Pacific	Philippines	5/6/2022	12/31/2024	450,000
TF0B8300	Developing an Adaptive Social Protection Framework in **Timor-Leste**	ACTV	East Asia and Pacific	**Timor-Leste**	3/29/2022	6/30/2023	218,221
TF0B8276	Mongolia: Exploring options for resilient housing retrofit in ger districts in select cities	ACTV	East Asia and Pacific	Mongolia	3/23/2022	9/30/2023	150,000
TF0B8024	Support to Evidence-based Disaster and Climate Risk Management Financing in **Timor-Leste**	ACTV	East Asia and Pacific	**Timor-Leste**	2/14/2022	6/30/2023	680,000
TF0B7935	Thailand Community Level Climate Risk	LCLS	East Asia and Pacific	Thailand	2/2/2022	9/30/2022	46,243
TF0B7883	Disaster Risk Quantification, Financing, and Policy reforms for Resilience Building in Tonga	ACTV	East Asia and Pacific	Tonga	1/26/2022	10/31/2023	550,000
TF0B7897	Support for Resilient Village Infrastructure in Indonesia	ACTV	East Asia and Pacific	Indonesia	1/26/2022	6/30/2023	50,000
TF0B7862	Philippines: Support to Government's Conduct of Post- Disaster Needs Assessment and Recovery Planning for Typhoon Odette (RAI) (Reg)	LCLS	East Asia and Pacific	Philippines	1/23/2022	12/31/2022	49,548
TF0B7863	Philippines: Support to Government's Conduct of Post-Disaster Needs Assessment and Recovery Planning for Typhoon Odette (RAI) (CMU)	LCLS	East Asia and Pacific	Philippines	1/21/2022	12/31/2022	49,709
TF0B7859	Support to Rapid Post-Disaster Assessment and Recovery Planning in Tonga (JIT)	LCLS	East Asia and Pacific	Tonga	1/20/2022	9/30/2022	49,641

Annex 2: List of Trust-Funded Activities or Projects Funded (cont.)

Fund	Fund Name	Fund Status	Fund Country Region Name	Country	Activation Date	Closing Date	Grant Amount USD
TF0B7860	Support to Rapid Post-Disaster Assessment and Recovery Planning in Tonga (MDTF)	LCLS	East Asia and Pacific	Tonga	1/20/2022	9/30/2022	49,757
TF0B7504	City Resilience Program Grant	LCLS	East Asia and Pacific	Vietnam	11/26/2021	8/31/2022	61,474
TF0B6298	EAP Regional Extreme Urban Heat Study – Assessing Risk and Adapting to Impacts	ACTV	East Asia and Pacific	East Asia and Pacific	7/27/2021	6/30/2023	450,000
TF0B6299	EAP Regional Understanding Risk Forum	LCLS	East Asia and Pacific	East Asia and Pacific	7/27/2021	12/31/2022	274,680
TF0B5903	Tropical Cyclone Seroja post-disaster assessment and support to resilience building	ACTV	East Asia and Pacific	**Timor-Leste**	5/25/2021	6/30/2023	262,000
TF0B5536	Cambodia - Piloting Flood Management Planning Tool at the Sangkat Level, Phnom Phen	ACTV	East Asia and Pacific	Cambodia	3/30/2021	6/30/2023	150,000
TF0B3985	Philippines: Institutionalizing Community-Based Disaster Risk Operation Modality	LCLS	East Asia and Pacific	Philippines	9/24/2020	2/28/2023	199,795
TF0B3642	Mongolia City Competitiveness and Resilience	LCLS	East Asia and Pacific	Mongolia	7/30/2020	12/31/2022	198,007
TF0C1910	Supporting disaster risk reduction, preparedness, and climate adaptation and mitigation in Tajikistan	ACTV	Europe and Central Asia	Tajikistan	6/26/2023	6/30/2025	350,000
TF0C1882	**Ukraine** Sectoral Deep Dives – Heating Infrastructure and Services	ACTV	Europe and Central Asia	**Ukraine**	6/19/2023	9/30/2024	400,000
TF0C1541	Safeguarding Education Infrastructure in **Ukraine** – Deep Dive Damage and Needs Analytics	ACTV	Europe and Central Asia	**Ukraine**	5/17/2023	5/31/2024	168,377
TF0C1297	**Ukraine** Sectoral Deep Dives – Health Services Recovery and Reconstruction	ACTV	Europe and Central Asia	**Ukraine**	4/15/2023	9/30/2024	400,000
TF0C1321	Support to **Ukraine**'s Agricultural Recovery and Reconstruction	ACTV	Europe and Central Asia	**Ukraine**	4/15/2023	5/31/2024	300,000
TF0C1273	Support to Türkiye's Resilient and Inclusive Post-Earthquake Recovery	ACTV	Europe and Central Asia	Türkiye	4/11/2023	9/30/2025	1,000,000
TF0C1087	**Ukraine** Sectoral Deep Dives – Water Supply and Sanitation Services	ACTV	Europe and Central Asia	**Ukraine**	3/21/2023	6/30/2024	320,000

Annex 2: List of Trust-Funded Activities or Projects Funded (cont.)

Fund	Fund Name	Fund Status	Fund Country Region Name	Country	Activation Date	Closing Date	Grant Amount USD
TF0C1017	GFDRR MDTF Grant for Kyrgyz Republic RESILAND Project	ACTV	Europe and Central Asia	Central Asia	3/13/2023	12/31/2024	200,000
TF0C0690	**Ukraine** Sectoral Deep Dives – Urban and Local Transport Infrastructure and Services	ACTV	Europe and Central Asia	**Ukraine**	2/3/2023	6/30/2024	400,000
TF0C0608	**Ukraine** – Urban Infrastructure and Municipal Services	ACTV	Europe and Central Asia	**Ukraine**	1/24/2023	11/30/2024	400,000
TF0C0609	Dissemination and update of **Ukraine** Rapid Damage and Needs Assessment (RDNA)	ACTV	Europe and Central Asia	**Ukraine**	1/24/2023	11/30/2024	700,000
TF0C0248	Damage and needs analytics for recovery and reconstruction in **Ukraine** (DRM and Urban)	ACTV	Europe and Central Asia	**Ukraine**	12/14/2022	10/31/2024	300,000
TF0C0226	Safeguarding Education Infrastructure in **Ukraine** – Deep Dive Damage and Needs Analytics	ACTV	Europe and Central Asia	**Ukraine**	12/7/2022	5/31/2023	31,623
TF0B9428	Türkiye – Green and Resilient Future Cities	ACTV	Europe and Central Asia	Turkiye	8/25/2022	3/31/2024	150,000
TF0B8940	Turkey Green and Future Cities	LCLS	Europe and Central Asia	Turkiye	6/21/2022	3/31/2023	-
TF0B8792	**Ukraine** Rapid Damage, Loss and Needs Assessment	ACTV	Europe and Central Asia	Europe and Central Asia	6/16/2022	5/31/2023	200,000
TF0B8748	**Ukraine** Conflict Damage Estimation and Exposure Analysis	LCLS	Europe and Central Asia	**Ukraine**	6/9/2022	7/31/2022	16,478
TF0B8345	Uzbekistan – Resilient Cities for Competitiveness	ACTV	Europe and Central Asia	Uzbekistan	4/13/2022	12/31/2023	200,000
TF0B8379	Deepening interventions in disaster risk reduction, preparedness, and climate adaptation in ECA	ACTV	Europe and Central Asia	Europe and Central Asia	4/4/2022	12/31/2024	850,000
TF0B7711	Supporting the Operationalization of the DRM and Climate Resilience Agenda in Moldova	ACTV	Europe and Central Asia	Moldova	12/20/2021	12/31/2024	200,000
TF0B7472	Supporting Holistic DRM in Albania	ACTV	Europe and Central Asia	Albania	11/26/2021	5/31/2023	200,000
TF0B5795	Assessing the Nexus of Land Administration and Resilience to Disaster and Climate Risks	ACTV	Europe and Central Asia	Bosnia and Herzegovina	5/18/2021	12/31/2023	250,000
TF0B4717	Towards Adaptive Social Protection in ECA	LCLS	Europe and Central Asia	Europe and Central Asia	12/16/2020	12/31/2022	299,811

Annex 2: List of Trust-Funded Activities or Projects Funded (cont.)

Fund	Fund Name	Fund Status	Fund Country Region Name	Country	Activation Date	Closing Date	Grant Amount USD
TF0B4388	Climate Change Adaptation and Disaster Resilience in Turkey: establishing a baseline to inform national policies	LCLS	Europe and Central Asia	Turkiye	11/3/2020	10/31/2022	199,739
TF0B4206	Accelerating and Deepening Disaster Resilience and Climate Change Adaptation in the ECA Region	ACTN	Europe and Central Asia	Europe and Central Asia	10/27/2020	2/28/2023	700,000
TF0B4064	Turkey Urban Resilience: Improving Private Sector Participation in Urban Transformation	ACTV	Europe and Central Asia	Turkiye	9/29/2020	6/30/2023	400,000
TF0C1849	Territorial and Spatial Development	ACTV	Global	Global	6/15/2023	3/31/2024	100,000
TF0C1362	Disaster Risk Financing and Resilience TA	ACTV	Global	Global	4/21/2023	6/30/2025	50,000
TF0C0628	Socio-economic Benefits of a Better Weather and Climate Observation and Decision Making	ACTV	Global	Global	1/30/2023	2/28/2025	1,350,000
TF0B9818	City Resilience Showcase at Understanding Risk Global Forum 2022	ACTN	Global	Global	10/18/2022	1/31/2023	75,000
TF0B9314	Global Program on the Disaster Conflict Nexus	ACTV	Global	Global	8/16/2022	5/31/2024	400,000
TF0B8894	CRP Supervision & Quality Assurance	ACTV	Global	Global	6/16/2022	6/30/2024	300,000
TF0B8872	CRP Planning for Resilience	ACTV	Global	Global	6/14/2022	6/30/2024	1,850,000
TF0B8869	CRP Finance for Resilience	ACTV	Global	Global	6/13/2022	6/30/2024	3,200,000
TF0B8871	Leveraging Partnerships for City Resilience	ACTV	Global	Global	6/13/2022	6/30/2024	625,000
TF0B7447	Global Program for Disaster Risk Analytics	ACTV	Global	Global	11/18/2021	6/30/2025	1,145,000
TF0B7351	Global Program for Emergency Preparedness and Response	ACTV	Global	Global	11/9/2021	6/30/2024	700,000
TF0B7360	Global Hydromet Program 2.0	ACTV	Global	Global	11/9/2021	8/31/2024	950,000
TF0B7270	Global Program on Resilient Infrastructure	ACTV	Global	Global	11/3/2021	8/29/2024	900,000
TF0B7077	Building Regulation for Resilient, Green and Inclusive Built Environment (MDTF)	ACTV	Global	Global	10/7/2021	12/31/2023	1,000,000
TF0B6941	Scaling and Mainstreaming Resilience Knowledge and Innovation Through Global Communities of Practice	ACTV	Global	Global	10/4/2021	12/31/2024	1,250,000

Annex 2: List of Trust-Funded Activities or Projects Funded (cont.)

Fund	Fund Name	Fund Status	Fund Country Region Name	Country	Activation Date	Closing Date	Grant Amount USD
TF0B6933	GFDRR MDTF Grant Proposal Global Program for Resilient Housing – Phase 2	ACTV	Global	Global	9/28/2021	6/30/2025	300,000
TF0B6990	Global Program on Digital Earth Partnership for Resilience	ACTV	Global	Global	9/28/2021	5/30/2025	1,100,000
TF0B6914	Global Program for Safer Schools – MDTF grant	ACTV	Global	Global	9/22/2021	6/30/2023	800,000
TF0B5806	Global Program on NBS for Climate Resilience	ACTV	Global	Global	5/12/2021	6/30/2024	2,300,000
TF0B5401	Strengthening Inclusive Approaches To DRM	ACTV	Global	Global	3/14/2021	6/30/2024	832,000
TF0B4983	Resilient Recovery Program 2.0	LCLS	Global	Global	2/8/2021	9/30/2022	467,584
TF0B4956	DRM-FCV Nexus Phase II	LCLS	Global	Global	1/21/2021	11/30/2022	221,114
TF0C2040	DR – Enhancing resilient and inclusive infrastructure development and territorial planning	ACTV	Latin America and Caribbean	Dominican Republic	6/30/2023	2/28/2025	347,296
TF0C0372	Enhance Ecuador's capacity to promote resilient and Inclusive infrastructure	ACTV	Latin America and Caribbean	Ecuador	12/21/2022	3/31/2024	100,000
TF0C0201	Enhance Guatemala's capacity to promote resilient infrastructure at the subnational level	ACTV	Latin America and Caribbean	Guatemala	12/12/2022	10/31/2023	100,000
TF0C0066	Strengthening Nicaragua's Institutional and Local Capacity for Resilient Recovery	ACTV	Latin America and Caribbean	Nicaragua	11/17/2022	1/31/2024	250,000
TF0B9919	Rapid Wildfire Management Assessment in Argentina	ACTV	Latin America and Caribbean	Argentina	10/29/2022	12/31/2023	100,000
TF0B9833	Supporting policy reforms for resilience in Guatemala	ACTV	Latin America and Caribbean	Guatemala	10/25/2022	9/30/2024	200,000
TF0B9135	Digital Earth for Resilient Infrastructure and Housing in the Caribbean	ACTV	Latin America and Caribbean	Caribbean	7/21/2022	3/31/2024	1,220,000
TF0B8793	Consolidating Disaster Risk Management and Climate Adaptation Framework for Honduras	ACTV	Latin America and Caribbean	Honduras	6/10/2022	10/31/2023	375,000
TF0B8693	Towards Shock Responsive Social Protection in the LAC Region	ACTV	Latin America and Caribbean	Latin America and Caribbean	5/27/2022	5/31/2024	500,000
TF0B8313	Enhancing Capacity for Resilient Public Investments in Costa Rica	ACTV	Latin America and Caribbean	Costa Rica	4/18/2022	12/31/2023	350,000
TF0B8419	Peru Oil Spill Response	LCLS	Latin America and Caribbean	Peru	4/10/2022	10/31/2022	45,927

Annex 2: List of Trust-Funded Activities or Projects Funded (cont.)

Fund	Fund Name	Fund Status	Fund Country Region Name	Country	Activation Date	Closing Date	Grant Amount USD
TF0B8277	Supporting preparation and implementation of key DRM instruments in Peru	ACTV	Latin America and Caribbean	Peru	3/23/2022	6/30/2023	75,000
TF0B8103	Strengthening Institutional Capacities for Comprehensive DRM in Panama	LCLS	Latin America and Caribbean	Panama	2/23/2022	12/31/2022	136,816
TF0B6093	BRISA	ACTV	Latin America and Caribbean	Costa Rica	6/21/2021	6/30/2023	250,000
TF0B6063	LAC Rising – Promoting Resilient Infrastructure in LAC	ACTV	Latin America and Caribbean	Latin America and Caribbean	6/14/2021	1/31/2024	235,000
TF0B6050	DRM Communications Strategy in LAC	ACTV	Latin America and Caribbean	Latin America and Caribbean	6/9/2021	6/30/2023	15,000
TF0B5895	Hands-on Implementation Support to Resilient Recovery from Tropical Storms Eta and Iota	ACTV	Latin America and Caribbean	Honduras	5/25/2021	12/30/2024	200,000
TF0B5899	Enhance Nicaragua's post Hurricanes Eta and Iota disaster capacity response	ACTV	Latin America and Caribbean	Nicaragua	5/24/2021	6/30/2024	100,000
TF0C1467	GFDRR Multi-Donor Trust Fund for Supporting Disaster and Climate Resilience in Developing Countries	ACTV	Middle East and North Africa	**Lebanon**	5/26/2023	5/31/2024	175,000
TF0C1540	**Syria** Earthquake Global Rapid post-disaster Damage Estimation (GRADE)	ACTV	Middle East and North Africa	**Syria**	5/26/2023	12/31/2023	60,000
TF0C1589	Strengthening Jordan's disaster risk management and climate resilience	ACTV	Middle East and North Africa	Middle East and North Africa	5/22/2023	5/31/2024	145,000
TF0C1360	GFDRR MDTF – Strengthening DRM and Climate Resilience in Jordan	ACTV	Middle East and North Africa	Middle East and North Africa	4/24/2023	5/31/2024	200,000
TF0C1232	A roadmap for effective hydromet and EWS in Egypt	ACTV	Middle East and North Africa	Middle East and North Africa	4/20/2023	5/31/2024	250,000
TF0C0931	A roadmap for managing climatic risks in **Yemen**	ACTV	Middle East and North Africa	**Yemen**	3/1/2023	6/30/2024	175,000
TF0B8747	Strengthening Jordan's DRM and Climate Resilience	ACTV	Middle East and North Africa	Jordan	5/31/2022	11/30/2023	289,996
TF0B7683	Evaluating and strengthening Morocco's national flood risk management approach	ACTV	Middle East and North Africa	Middle East and North Africa	12/17/2021	12/31/2023	350,000
TF0B6307	Supporting the operationalization of Algeria's National Disaster Risk Management strategy	ACTV	Middle East and North Africa	Middle East and North Africa	8/9/2021	8/31/2023	92,000

Annex 2: List of Trust-Funded Activities or Projects Funded (cont.)

Fund	Fund Name	Fund Status	Fund Country Region Name	Country	Activation Date	Closing Date	Grant Amount USD
TF0B6177	GFDRR MDTF – Resilient Housing Reconstruction for a Green and Inclusive Beirut	ACTV	Middle East and North Africa	**Lebanon**	6/29/2021	6/30/2023	100,000
TF0B5897	Enhancing Regional Disaster Risk Preparedness through Strengthening Hydromet and Early Warning Services	ACTV	Middle East and North Africa	Middle East and North Africa	5/25/2021	5/31/2023	300,000
TF0B5108	MNA Regional Mainstreaming DRM Support	ACTV	Middle East and North Africa	Middle East and North Africa	2/17/2021	7/31/2023	400,000
TF0C1832	Knowledge Tools and Solutions for Coastal Resilience in India	ACTV	South Asia	India	6/28/2023	6/30/2024	175,000
TF0C1824	Bihar Kosi Basin Development	ACTV	South Asia	India	6/14/2023	6/30/2024	184,000
TF0C1361	Strengthening Climate Resilience and Disaster Risk Management in Maldives	ACTV	South Asia	Maldives	4/25/2023	6/30/2025	500,000
TF0C1104	Enabling urban resilience investments in hazard-prone Indian states	ACTV	South Asia	India	3/22/2023	12/31/2025	300,000
TF0C0877	Climate and disaster risk assessment of katchi abadis in Karachi	ACTV	South Asia	Pakistan	2/26/2023	6/30/2024	100,000
TF0C0789	Climate Smart Urbanization in SAR	ACTV	South Asia	India	2/16/2023	12/31/2024	669,206
TF0C0578	Programmatic Support for Enhancing Climate and Disaster Resilience in South Asia	ACTV	South Asia	South Asia	1/24/2023	5/31/2024	300,000
TF0C0028	Nepal Resilient Hydropower in Arun Valley	ACTV	South Asia	South Asia	11/10/2022	6/30/2024	526,000
TF0B9670	Pakistan Cash Transfer Support Beneficiary Survey	ACTV	South Asia	Pakistan	10/1/2022	12/31/2023	100,000
TF0B9575	Post Disaster Needs Assessment and Resilient Recovery Framework for Pakistan	ACTV	South Asia	Pakistan	9/15/2022	12/31/2023	1,000,000
TF0B9354	Promoting flood resilient urban development in Surat, India	ACTV	South Asia	India	8/10/2022	7/31/2023	390,000
TF0B9300	Mainstreaming Disaster and Climate Resilience into the New National Urban Mission (NNUM)	ACTV	South Asia	India	8/5/2022	6/30/2023	200,000
TF0B9211	Strengthening Climate Resilience For Health In The South Asia Region	ACTV	South Asia	South Asia	7/21/2022	5/9/2024	500,000
TF0B9058	Climate Smart Urbanization in SAR	ACTN	South Asia	South Asia	6/30/2022	2/28/2023	380,794

Annex 2: List of Trust-Funded Activities or Projects Funded (cont.)

Fund	Fund Name	Fund Status	Fund Country Region Name	Country	Activation Date	Closing Date	Grant Amount USD
TF0B9005	Adaptive Social Protection Sri Lanka	ACTV	South Asia	Sri Lanka	6/26/2022	12/30/2023	200,000
TF0B8612	BHUTAN: Understanding Risk and Enhancing Resilience	ACTV	South Asia	Bhutan	5/11/2022	6/30/2024	500,000
TF0B7682	Assessment to improve disaster prevention, emergency preparedness and response mechanisms	ACTV	South Asia	India	12/16/2021	5/30/2023	200,000
TF0B7085	Support for Pakistan Hydromet and Sindh Operations	LCLS	South Asia	Pakistan	10/19/2021	12/31/2022	176,269
TF0B6935	Development of Resilient Programs for Select Indian States	ACTN	South Asia	India	10/4/2021	12/31/2022	302,332
TF0B6676	Urban Flood Resilience Program in India	ACTV	South Asia	India	8/31/2021	3/14/2023	200,000
TF0B6128	Landslide Risk Mitigation through Nature Based Solutions	ACTV	South Asia	Sri Lanka	6/24/2021	5/30/2023	100,000
TF0B6098	Informing the New Generation of Investments and Policies for Coastal Resilience	ACTN	South Asia	Bangladesh	6/16/2021	12/31/2022	250,000
TF0B6099	Bhutan Green and Resilient Infrastructure and DRM Service Delivery	LCLS	South Asia	Bhutan	6/16/2021	12/31/2022	298,793
TF0B5612	Strengthening Climate Resilience in Sri Lanka	ACTV	South Asia	Sri Lanka	4/21/2021	6/30/2023	200,000
TF0B3593	Sub-National Action on Climate Change and support to the Cooling Action Plan	ACTN	South Asia	South Asia	8/24/2020	12/31/2022	300,000
TF0B2446	Supporting the Operationalization of the Coalition for Disaster Resilient Infrastructure (CDRI	LCLS	South Asia	South Asia	7/15/2020	7/31/2022	161,706
TF0A9155	Enhancing capacity of Regional DRM and Hydromet institutions and last mile connectivity	ACTV	South Asia	South Asia	12/18/2018	8/30/2023	2,521,589

Note: Fragility, conflict, and violence (FCV)-affected countries are highlighted in orange. ACTV = active; LCLS = legally closed.

Annex 3: Key Umbrella Program Data

Umbrella Name	Global Facility for Disaster Reduction and Recovery (GFDRR) Umbrella Program
Anchor Fund and Associated Trust Funds	*Anchor Fund* GFDRR's third Multi-Donor Trust Fund for Supporting Disaster and Climate Resilience in Developing Countries (MDTF III) (TF073410) *Associated Trust Funds* • Global Facility for Disaster Reduction and Recovery Trust Fund for Mainstreaming Disaster Risk Management in Developing Countries (USAID) (TF072896) • City Resilience Program Multi-Donor Trust Fund (CRP) (TF072921) • Africa, Caribbean and Pacific - European Union Disaster Risk Management Program (ACP-EU DRM) (TF073845) • European Union - South Asia Capacity Building for Disaster Risk Management Program (EU-SAR DRM) (TF072458)
Umbrella Donors	Australia, Austria, Canada, the European Union, Germany, Italy, Japan, Norway, Sweden, Switzerland, and the United States
Managing Business Unit and Collaborating Business Units	Managing Business Unit: GFDRR Collaborating Business Units within the World Bank: Urban, Disaster Risk Management, Resilience and Land (GPURL); Climate Change Group; Social Protection and Jobs; Infrastructure; Transport; Water; Energy; Poverty; Environment; Social Sustainability and Inclusion; Governance; Gender; Agriculture; Finance, Competitiveness & Innovation (FCI)
Umbrella Program Manager Name and Title	Jason Zhenrong Lu, Lead Operations Officer
Sector/Theme and Geographic Scope	Climate Change Global
Activation Dates	MDTF III: 11/15/2019 USAID: 09/18/2017 CRP: 10/19/2017 ACP-EU DRM: 11/29/2022 EU-SAR DRM: 09/04/2015
End-Disbursement Dates	MDTF III: 04/30/2028 USAID: 12/31/2027 CRP: 12/31/2027 ACP-EU DRM:12/31/2027 EU-SAR DRM: 09/30/2023
Frequency of Progress Reports	Annual

Note: As indicated earlier, the GFDRR Japan–World Bank Program for Mainstreaming Disaster Risk Management in Developing Countries for Global Resilience - Phase 3 became effective as a new Associated Trust Fund (ATF) under the GFDRR Umbrella Program on June 29, 2023. Hence, it is not included in FY23's annual progress reporting.

Abbreviations

4RF	Resilient Recovery, Rehabilitation, and Reconstruction Framework (Pakistan)
ABR	Association of the Blind in Romania
ACP countries	Africa, Caribbean and Pacific countries
ACP-EU DRM	Africa, Caribbean and Pacific - European Union Disaster Risk Management Program
ADA	Averted Disaster Award
AFD	Agence Française de Développement (French Development Agency)
AfDB	African Development Bank
AFR	Africa region
AI	artificial intelligence
ANPDPD	Romanian National Authority for the Protection of the Rights of Persons with Disabilities
ASP	adaptive social protection
ATF	Associated Trust Fund
BARMM	Bangsamoro Autonomous Region of Muslim Mindanao (the Philippines)
BIG-Z	Boosting Inclusive Growth for Zanzibar
BNGRC	National Office for Risk and Disaster Management (Madagascar)
BPDA	Bangsamoro Planning and Development Authority (the Philippines)
BRCA	Building Regulatory Capacity Assessment
BREB	Bangladesh Rural Electrification Board
BSPS	Bantuan Stimulan Perumahan Swadaya (home improvement program in Indonesia)
CARICOM	Caribbean Community
Cat DDO	Catastrophe Deferred Drawdown Option
CB	capacity building
CCDR	Country Climate and Development Report
CCDRs	Country Climate and Development Reports
CDRFI	climate and disaster risk finance and insurance
CEOS	Committee on Earth Observation Satellites
CNE	National Commission for Risk Prevention and Emergency Response (Costa Rica)
COP27	2022 United Nations Climate Change Conference
COPECO	Permanent Contingency Commission (Honduras)
CPF	Country Partnership Framework
CPGU	Prevention and Emergency Management Unit (Madagascar)
CQCM	construction quality compliance mechanism (Bhutan)
CREWS	Climate Risk and Early Warning Systems
CRF	Canada-Caribbean Resilience Facility

Abbreviations (cont.)

CRP	City Resilience Program
CRRBF	Caribbean Regional Resilience Building Facility
CRW	Crisis Response Window
DFi	Development Finance (World Bank Vice Presidency)
DG INTPA	Directorate General for International Partnerships (European Union)
DLR	German Space Agency
DPF	Development Policy Financing
DPO	Development Policy Operation
DRC	Democratic Republic of Congo
DRM	disaster risk management
DRR	disaster risk reduction
DRR-PFM	Disaster Resilient and Responsive Public Financial Management
EAP	East Asia and Pacific region
ECCAS	Economic Community of Central African States
ECA	Europe and Central Asia region
Eco-DRR	Ecosystem-based Disaster Risk Reduction
ECOWAS	Economic Community of West African States
EDMP	Electricity Distribution Modernization Program (Bangladesh)
EO	Earth observation
EP&R	emergency preparedness and response
ERIK	Enhancing Resilience in Kyrgyzstan
ESA	European Space Agency
EU	European Union
EU-SAR DRM	European Union - South Asia Capacity Building for Disaster Risk Management Program
EWS	early warning systems
EW4All	Early Warnings for All initiative
FCI	Finance, Competitiveness & Innovation (Global Practice)
FCV	fragility, conflict, and violence
GBV	gender-based violence
GEF	Global Environment Facility
GFDRR	Global Facility for Disaster Reduction and Recovery
GIF	Global Infrastructure Facility
GIS	geographic information system
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH (German Development Cooperation)
GLOSI	Global Library of School Infrastructure

Abbreviations (cont.)

GPS	Global Positioning System
GPURL	Global Practice for Urban, Disaster Risk Management, Resilience and Land
GRADE	Global Rapid Post-Disaster Damage Estimation
hydromet	hydrometeorological
IBRD	International Bank for Reconstruction and Development
IDA	International Development Association
IDPs	internally displaced persons
IEG	Independent Evaluation Group
IFC	International Finance Corporation
IFRC	International Federation of Red Cross and Red Crescent Societies
IGAD	Intergovernmental Authority on Development
INDECI	National Institute of Civil Defense (Peru)
INGC	National Institute of Disaster Management (Mozambique)
IUCN	International Union for the Conservation of Nature
Japan-World Bank DRM Program	Japan-World Bank Program for Mainstreaming Disaster Risk Management in Developing Countries
LAC	Latin America and the Caribbean region
LDCs	least developed countries
LEAP	Livelihood Enhancement and Association of the Poor Project for Cambodia
LLE	Lessons Learned Exercise
M&E	monitoring and evaluation
MDTF III	third Multi-Donor Trust Fund
MEL	Monitoring, Evaluation and Learning
MENA	Middle East and North Africa region
METTELSAT	National Agency of Meteorology and Teledetection by Satellite (Democratic Republic of Congo)
MHIEWS	multi-hazard impact-based early warning systems
MIDEPLAN	Ministry of National Planning and Economic Policy (Costa Rica)
MIGA	Multilateral Investment Guarantee Agency
MUDRP	Maldives Urban Development and Resilience Project
NADR	National Association of the Deaf in Romania
NBS	nature-based solutions
NBSOS	NBS Opportunity Scan
NCHM	National Center for Hydrology and Meteorology (Bhutan)
ND-GAIN	Notre Dame Global Adaptation Initiative
NDRRMA	National Disaster Risk Reduction and Management Authority (Nepal)

Abbreviations (cont.)

NDRRMC	National Disaster Risk Reduction and Management Council (the Philippines)
NDRRMF	National Disaster Risk Reduction and Management Fund (the Philippines)
NEDA	National Economic and Development Authority (the Philippines)
NGO	nongovernmental organization
NIPP Unit	National Integrated Planning and Programme Unit (St. Lucia)
NMHS	National Meteorological and Hydrological Services
OACPS	Organisation of African, Caribbean and Pacific States
OCD	Office of Civil Defense (the Philippines)
ODI	Open Data Initiative
ODI	Overseas Development Institute
OECS	Organisation of Eastern Caribbean States
OLC	Open Learning Campus
PAHO	Pan American Health Organization
PC	Partnership Committee
PDNA	Post-Disaster Needs Assessment
PDO	Project Development Objective
PEDRR	Ecosystems for Disaster Risk Reduction and Adaptation
PLANAGERD	National Disaster Risk Management Plan (Plan Nacional de Gestion del Riesgo de Desastres, Peru)
PMU	Project Management Unit
PPIAF	Public-Private Infrastructure Advisory Facility
R2R	Ready to Respond
RDNA	Rapid Damage and Needs Assessment
RDRM	Resilience and Disaster Risk Management
RETF	Recipient Executed Trust Fund
RMI	Republic of the Marshall Islands
RUDP-II	Second Rwanda Urban Development Project
SAR	South Asia region
SDGs	Sustainable Development Goals
SECO	State Secretariat for Economic Affairs (Switzerland)
SIDA	Swedish International Development Cooperation
SIDS	small island developing states
SOFF	Systematic Observations Financing Facility
TA	technical assistance
ToT	Training of Trainers
TDD	technical deep dive

Abbreviations (cont.)

UAHEP	Upper Arun Hydroelectricity Project (Nepal)
UHI	urban heat island
UHPC	ultra-high-performance concrete
UNCTAD	United Nations Conference on Trade and Development
UNDP	United Nations Development Programme
UNDRR	United Nations Disaster Risk Reduction
USAID	United States Agency for International Development
VAWG	violence against women and girls
WACA	West Africa Coastal Areas
WMO	World Meteorological Organization
WRI	World Resources Institute

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The Global Facility for Disaster Reduction and Recovery (GFDRR) is a global partnership that helps low- and lower-middle-income countries better understand and reduce their vulnerabilities to natural hazards and adapt to climate change. GFDRR provides grant financing, technical assistance, training and knowledge sharing activities to mainstream disaster and climate risk management in national and regional policies, strategies, and investment plans. The Program Management Unit, located within the World Bank, manages grant resources to carry out GFDRR's mission.