Global Facility
for Disaster Reduction
and Recovery

ANNUAL REPORT '14


## BRINGING RESILIENCE TO SCALE

# Bringing resilience to scale

**The Philippines:** Typhoon Haiyan (Yolanda). Photo credit: © Dan Kitwood/Getty Images

Notes: Fiscal year (FY) runs from July 1 to June 30; the financial contributions and expenditures reported are reflected up to June 30, 2014; all dollar amounts are in US dollars ($) unless otherwise indicated.

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Design: Miki Fernández/ULTRAdesigns, Inc.

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# Contents

**In Mozambique, 10-year-old Armando Cau Júnior is pursuing his dream of becoming a journalist within the walls of his newly-built school, engineered to withstand the intense cyclones that frequently make landfall in the region. Armando's school, along with nearly 1,000 other schools, was built following a risk assessment across seven provinces of Mozambique supported by the Global Facility for Disaster Reduction and Recovery (GFDRR). For Armando and thousands of other children this means safety, uninterrupted studies, and a chance at a better life.**

# Foreword

Over the past year, GFDRR has been working to build resilience in vulnerable communities around the globe. With its activities increasingly geared to leverage large investments in disaster and climate resilience, in fiscal year 2014 (FY14) GFDRR helped developing countries secure nearly $1.5 billion in financing from the World Bank Group and other partners. While many vulnerable countries have made progress to better identify and manage risks, we have also seen the devastation wrought by events like Typhoon Haiyan in the Philippines and floods in Niger. We know that we must act urgently to scale up innovative and sustainable solutions to build resilience.

This Annual Report highlights the results of GFDRR's grants, technical assistance, and knowledge sharing activities in FY14. Through its targeted interventions, GFDRR strived to maximize impact and enable countries to design and undertake comprehensive approaches that integrate disaster risk management into development policies and planning. In Vietnam, for example, GFDRR provided $4 million in seed funding, which in turn leveraged over $800 million in government-funded projects to address disaster and climate risk. After the GFDRR initiative trained officials from 12 provinces in flood preparedness, the government decided to scale up the program nationally and invested $450 million to cover 6,000 communes comprising 21 million people.

GFDRR reached over 65 countries in FY14 with support ranging from initiatives that identify sources of risk, reduce exposure and vulnerability, increase preparedness, and improve financial protection, to initiatives that help countries recover faster in the aftermath of disasters. In Djibouti, a new system to communicate disaster risk and emergency procedures is changing the way that country deals with drought and floods. A flash flood in March 2013 resulted in 13 casualties—far fewer than the 230 caused by a comparable flood in 2004. In the Caribbean, GFDRR leveraged $24 million in World Bank funding to support the expansion of the Caribbean Catastrophe Risk Insurance Facility, a multi-country risk pool, to Central American countries.

To scale up disaster risk management efforts at the global level, GFDRR continued to build and consolidate partnerships with donors, development partners, national and local governments, businesses, and civil society. Through such collaborations GFDRR has brought together people from across the globe to address disaster risk and recovery—like in the Philippines where, following Typhoon Haiyan, the GFDRR Innovation Labs helped mobilize 1,700 volunteers from 82 countries in one of the largest participatory mapping efforts to date.

The past year saw the establishment of the Tokyo Disaster Risk Management Hub under the Japan-World Bank Program for Mainstreaming Disaster Risk Management in Developing Countries, a project that is funded by the government of Japan. GFDRR also continued to strengthen long-standing partnerships, such as with the European Commission under the African, Caribbean, and Pacific (ACP)–European Union (EU) Natural Disaster Risk Reduction Program. In addition, through international events like the Understanding Risk Forum and the Resilience Dialogue series, GFDRR continued to provide a space for collaboration across a diverse set of actors—from disaster risk management experts to leaders from academia, government, and the private and nonprofit sectors.

Looking ahead, GFDRR is helping shape the upcoming Sustainable Development Goals and the successor to the Hyogo Framework for Action on disaster resilience, or HFA2, to ensure that resilience is fully integrated in the frameworks that will shape development for years to come. GFDRR will continue to work closely with its partners to ensure that new and ongoing disaster risk management initiatives receive the attention they need to have a significant and lasting impact on the communities most at risk. The challenges are stark, but by sustaining the growing global commitment to disaster resilience, we have the potential to make real, sustainable change in the lives and futures of the world's poorest and most vulnerable.

**Rachel Kyte**
Chair, GFDRR Consultative Group
World Bank Group Vice President and
Special Envoy for Climate Change

**Kåre Stormark**
Co-chair, GFDRR Consultative Group
Deputy Director General
UN and Humanitarian Affairs Department
Ministry of Foreign Affairs of Norway

# Executive Summary

**In fiscal year 2013-14 (FY14), the Global Facility for Disaster Reduction and Recovery (GFDRR) continued to scale up support to disaster-prone countries. This effort helped over 65 countries integrate disaster risk management into development policy and investment.**

GFDRR grew significantly in FY14 as a result of the expansion of the financial support provided by its donors. In FY14, GFDRR received $95 million from its 21 contributing members, double the amount received in FY13. Japan, the European Union (EU), and the United Kingdom were the largest contributors. GFDRR also deepened engagement with developing countries—such as Mexico, Nigeria, and Saudi Arabia—that are on track to become GFDRR members.

During the course of the year, GFDRR issued 85 new grants worth $60 million—31 percent more than in FY13. The portfolio of projects under implementation consisted of 232 grants worth approximately $168 million, with Sub-Saharan Africa as the largest recipient. This portfolio remains focused on 20 priority countries, representing 71 percent of grants.

With global losses from disasters averaging nearly $200 billion per year, countries need quick and scalable solutions. Unforeseen crises in Iraq, Syria, and Ukraine, in Gaza, and in Western African countries as a result of the Ebola outbreak, however, have brought severe fiscal pressures on the humanitarian and development aid budgets of GFDRR donor partners. Acknowledging these competing priorities, GFDRR continues to be selective in supporting country initiatives that justify its mission and maximize its resources. This approach has steadily made GFDRR the partner of choice for developing countries seeking to mobilize knowledge, capacity, and innovation in disaster risk management.

In delivering on its mission, GFDRR collaborates with numerous partners. In FY14, GFDRR strengthened its engagement with over 300 government entities, international organizations, civil society and communities, and the private sector. Due to these partnerships, GFDRR grants and technical assistance helped developing countries secure $1.5 billion in World Bank investment programs, up 50 percent from FY13. GFDRR's support and advocacy also contributed to an increase in World Bank financing for disaster risk management, which totaled $5.3 billion in FY14—40 percent higher than in FY13.

On-the-ground experience remains GFDRR's main contribution towards enhancing global knowledge and moving the international agenda of disaster risk management forward. Critical to this effort is GFDRR's partnership with the United Nations Office for Disaster Risk Reduction (UNISDR) and the United Nations Development Programme (UNDP). This partnership, in particular, has facilitated consensus building among countries for the development of the Post-2015 Framework for Disaster Risk Reduction—also known as the second Hyogo Framework for Action (HFA2)—to be agreed upon at the Third UN World Conference on Disaster Risk Reduction in March 2015.

The *GFDRR Annual Report 2014: Bringing Resilience to Scale* covers the period from July 2013 to June 2014. It highlights progress and results achieved against GFDRR's work plan, and is organized according to its Five Pillars of Action: Risk Identification, Risk Reduction, Preparedness, Financial Protection, and Resilient Recovery. The report also captures a snapshot of the organization's most successful disaster risk management initiatives, and showcases the role partnerships play in making GFDRR's work possible at the local, national, and global levels.

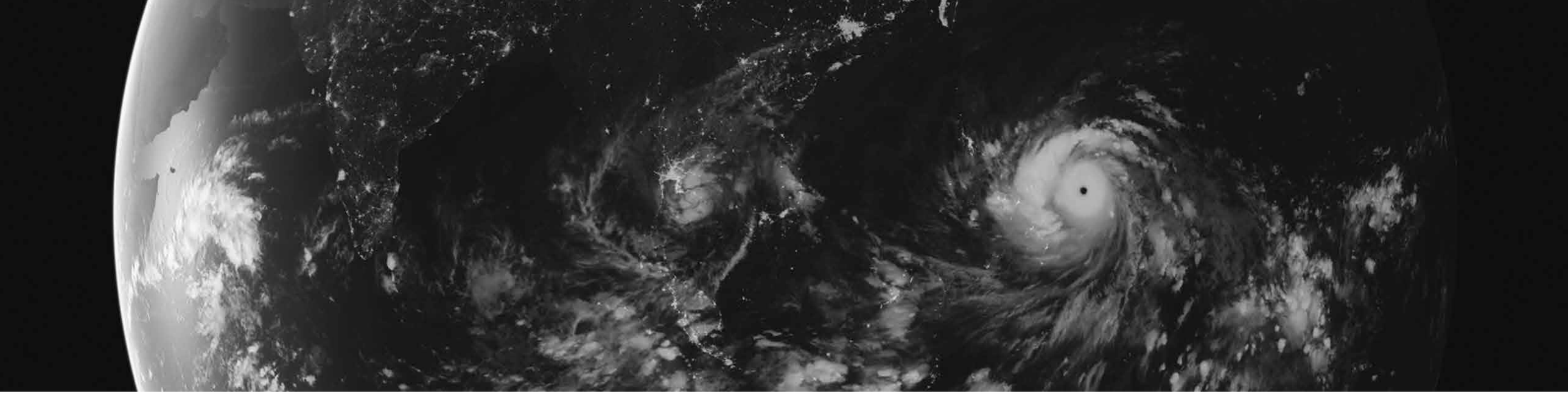
**In FY14 GFDRR's grant portfolio consisted of 232 grants worth almost $168 million, including 85 newly-approved grants worth $60 million—31 percent higher than in FY13.**

# Portfolio Overview

**The Philippines**

Residents of Tacloban City rebuild their homes following the destruction wrought by Typhoon Haiyan (Yolanda) in November 2013.
Photo credit: Richard Reyes

| GFDRR's New Grants (FY14) | # of grants | $ committed |
|---|---|---|
| Sub-Saharan Africa | 58 | $61,963,421 |
| East Asia and Pacific | 45 | $34,456,247 |
| Latin America and the Caribbean | 35 | $16,265,295 |
| South Asia | 27 | $13,305,166 |
| Europe and Central Asia | 16 | $5,385,777 |
| Middle East and North Africa | 7 | $4,772,133 |
| Global | 44 | $31,597,697 |
| **Total** | **232** | **$167,745,736** |



**The Philippines**

Typhoon Haiyan (Yolanda) was one of the strongest tropical cyclones ever recorded, devastating portions of Southeast Asia in early November 2013. Photo credit: NASA

**GFDRR grants delivered results along its**

**5 Pillars of Action.**

## Pillar 1–Risk Identification

37 countries improved the identification and understanding of risks through hazard mapping, risk assessments, and data platforms.

See page 17.

## Pillar 2–Risk Reduction

30 countries developed and implemented policies and legal frameworks, improved building codes, strategies for risk reduction investment, and land use planning to avoid new risks and reduce existing risks.

See page 23.

## Pillar 3–Preparedness

28 countries improved management of disasters through better forecasting services, early warning systems, contingency planning, and emergency preparedness.

See page 31.

## Pillar 4–Financial Protection

12 countries increased the financial resilience of government and the private sector through sovereign disaster risk financing and catastrophe risk market development.

See page 39.

## Pillar 5–Resilient Recovery

21 countries strengthened their readiness for quicker, more resilient recovery from disasters through post-disaster assessments and planning.

See page 45.

**Responding to demand for more intense technical assistance in particular areas, GFDRR maintains thematic programs supported by**

**specialized teams that provide expert support and advanced knowledge.**

See page 55.

## Innovation Lab

Provides capacity building, tools, and technical assistance to support the use of science, technology, open data, and innovation to empower decision makers to increase resilience.

## Safer Schools

Provides technical support to make school facilities, and the communities they serve, more resilient to natural hazards.

## Resilient Cities

Provides technical assistance to develop common definitions and metrics of urban shocks and stresses, clarify GFDRR's menu of services available to cities, and catalyze cities' access to finance for resilience-enhancing investment.

## Hydromet

Provides analytical and operational support, capacity building, and technical assistance to modernize weather and climate information systems.

## Disaster Risk Financing and Insurance

Provides financial instruments and advisory services to increase the financial resilience of governments, businesses, and households to the economic burden of disasters.

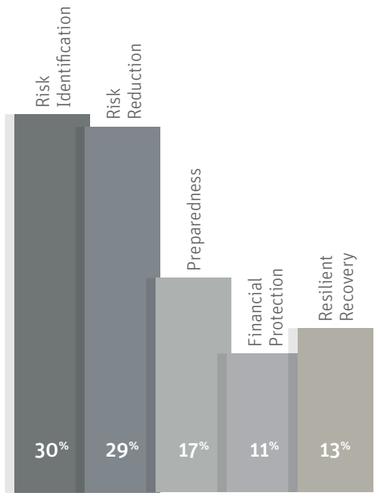
## Inclusive Community Resilience

Provides technical support and convening power to engage community leaders, civil society, and women in disaster risk management initiatives.

**The Philippines** Coastal communities were hit hardest by intense storm surges and heavy flooding from Typhoon Haiyan. Photo credit: Herman Lumanog | Dreamstime.com

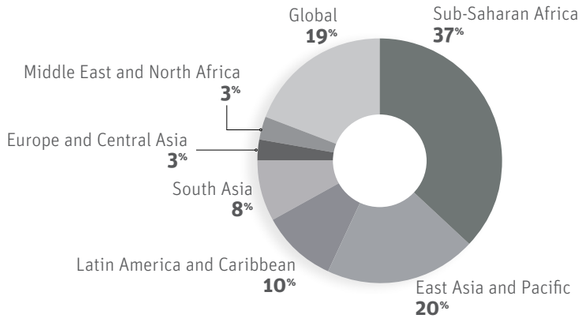
## Overview of the FY14 portfolio by pillar of action, region, and types of engagement.

### Grants by Pillar of Action




232
grants

### Grant Financing by Region




$168
million

### Types of Engagement


615
engagements

**The Philippines**

Disaster risk mapping by government officials, nongovernmental organizations (NGOs), academics, and community members helps identify hazards in the Cagayan de Oro City region, better enabling resilience building. Photo credit: Horacio Marco C. Mordeno/MindaNews

# Risk Identification

**37 countries improved the identification and understanding of risks through hazard mapping, risk assessments, and data platforms.**

## Improve access to information about disaster and climate risks, and enhance capacity to create, manage, and use this information.

Understanding hazards, exposure, and vulnerability is the first step towards managing disaster risk. GFDRR helps decision makers access innovative practices and partnerships to enable easier and better collection and sharing of risk information. In FY14, GFDRR supported 37 countries in this area. For example, GFDRR worked with 19 countries, including **Malawi**, **Mozambique**, **Nepal**, and **Vietnam** to produce hazard information. Twenty-one countries, including **Bangladesh**, **Djibouti**, and **Timor-Leste**, conducted risk assessments, and 21, such as **Ethiopia**, **Indonesia**, and **Sri Lanka**, implemented or improved their data sharing and communication platforms.

## Providing High-Quality Information for Better Decision Making

**Decision makers need data that are reliable and suited to their contexts, so that they can understand how and where disasters may affect their communities.**

The southwestern **Nigerian** state of Oyo now has an urban flooding risk map for Ibadan, its capital city of 3 million people. A GFDRR-supported risk assessment identified zones that were most at risk for flooding. It also gave the government and donors a blueprint for where and how to rebuild infrastructure destroyed by flooding in 2011 when the Eleyele Dam burst, killing more than 120 people, many of them children. In June 2014, Nigeria was able to access $200 million from the World Bank for the Oyo State to improve its disaster risk management capabilities, strengthen community-based resilience capacity, and provide support for risk assessment and early warning systems in Ibadan.

Another important initiative was the joint support that GFDRR and the World Bank provided to the government of **Peru** to apply risk-related data for more informed decision making. This resulted in the Ministry of Education's accelerated capacity to conduct and analyze the results of the first national School Infrastructure Census, which took stock of 50,000 public school buildings nationwide. This assessment supported the identification of current structural conditions and outlined necessary actions to mitigate natural hazards. The census has set the baseline for the development of a structural retrofitting program that has been integrated into Peru's national school infrastructure plan.

In November of 2013, Typhoon Haiyan hit **the Philippines** and was the strongest cyclone to make landfall in recorded history. With critical infrastructure, roads, and entire neighborhoods swept away, there was an urgent need to collect data on the extent of the damage to aid in recovery and reconstruction. GFDRR teamed up with the American Red Cross and the nonprofit mapping group Humanitarian OpenStreetMap Team (HOT) to mobilize approximately 1,700 volunteers from 82 countries for one of the largest participatory mapping efforts to date. Working together, the teams created a free and open data platform to gather and share information that has provided public officials with satellite imagery and other spatial data to inform ongoing reconstruction efforts.

**Nigeria:** Oyo State accessed **$200 million** to rebuild infrastructure.

**Peru:** Now has a baseline for the development of a structural retrofitting program in **50,000 public school buildings** nationwide.

**Philippines: 1,700 volunteers** from **82 countries** mobilized for one of the largest participatory mapping efforts to date.

### Risk Identification

*Countries by types of engagement during FY14*

**Hazard mapping**

Bangladesh
Belize
Burundi
Colombia
Comoros
Ecuador
Fiji
Gambia, The
Liberia
Malawi
Mozambique
Nepal
Peru
Philippines
Rwanda
Sri Lanka
Timor-Leste
Togo
Vietnam

**Risk assessments**

Bangladesh
Bhutan
Djibouti
Ethiopia
Fiji
Gambia, The
Indonesia
Lao PDR
Liberia
Malawi
Mali
Nepal
Nigeria
Pakistan
Philippines
Rwanda
Solomon Islands
Sri Lanka
Tanzania
Timor-Leste
Vietnam

**Data platforms**

Bangladesh
Belize
Bolivia
Colombia
Comoros
Dominica
Dominican Republic
Ethiopia
Guatemala
Haiti
India
Indonesia
Kyrgyz Republic
Lesotho
Malawi
Mozambique
Nepal
Pakistan
Sri Lanka
Timor-Leste
Vietnam

## Collecting and Sharing Risk Information through Innovative Practices and Partnerships

**Many governments, partners, and organizations collect a wealth of risk data. However, policy guidelines and appropriate tools to manage and share this data may often be lacking. Applying and managing new technology so that risk information can be collected and shared easily has been a key GFDRR priority in FY14.**

**Kyrgyz Republic:** Its government now has **a disaster risk data platform** to support efficient and effective decision making.

In **the Kyrgyz Republic**, for example, GFDRR worked with the Ministry of Emergency Situations to create the country's disaster risk data platform. The platform provides easy access to available risk data from various agencies and organizations to support efficient and effective decision making. This approach is now a best practice being replicated across many other countries in Central Asia.

In April 2014, GFDRR, the Australia-Indonesia Facility for Disaster Reduction, and the government of **Indonesia** partnered in launching an enhanced version of InaSAFE (inasafe.org), an award-winning open-source software program that produces risk analyses for all types of natural hazards, and which integrates geospatial data to allow for more customized risk reporting. InaSAFE is currently being used by local governments in Indonesia and **the Philippines** to create contingency plans. The governments of **Haiti**, **Malawi**, and **Sri Lanka** have also been recently trained on the software.

**Sri Lanka**

Specialists receive training on the award-winning InaSAFE platform, which provides critical risk information to decision makers in a growing number of countries. Photo credit: The World Bank



## Focus on Africa

### Protecting School Children from Disaster in Mozambique

***"I am very happy with my new school because it is safe and for sure will not fall and hurt the students as happened during the 2002 cyclone,"*** says Armando.

Armando Cau Júnior, a 10-year-old student at the "October 7" primary school in the coastal city of Xai-Xai, Mozambique, dreams of one day becoming a journalist. Like many children in Mozambique, however, Armando's school is located in a flood zone and thus vulnerable to heavy seasonal rains and cyclones. In fact, in 2002 the original school building was completely destroyed by a cyclone, and even after being rebuilt suffered frequent damage from high water and strong winds.

Sixty percent of schools in the country are located in areas that can be exposed to one or more natural disasters. Up to 1,000 classrooms—typically used for 80 students or more—are damaged each year due to cyclones and floods, usually because of poor design, the use of subpar construction materials, and ad hoc, unregulated building practices. Mozambique's children often find their schooling interrupted, with schools sometimes closed for months due to the damage.

Today, however, Armando is attending classes in a new school built to withstand the intense winds of cyclones and located far away from the flood zone. GFDRR and the World Bank have been supporting the construction of stronger schools, including Armando's, through GFDRR's Safer Schools Program.

Since July 2012, the World Bank, with financial support from GFDRR, and along with UN-Habitat and the Faculty of Architecture and Physical Planning at Eduardo Mondlane University in Maputo, have been developing school safety guidelines that are being put into place in classrooms across the country.

An important part of this work is educating the government about the disaster risk management procedures needed to revamp these schools for the long term. With the effects of climate change aggravating the already large economic and social costs of climate-related hazards like cyclones, flooding, and windstorms, the government is keen to put these procedures permanently into place.

In FY14, GFDRR worked with the government, the European Union (EU), and the multi-donor Education Sector Support Fund to complete a risk assessment of 637 classrooms in 7 provinces. The team then produced a catalog of hazard-resistant school construction options tailor-made for Mozambique, such as raised cement foundations and stronger, wind-proof roofs. The team also developed a national plan for updating the country's building codes and access to risk information.

The World Bank, along with other donors, will finance the annual construction of 800 primary education classrooms and 150 rural secondary classrooms over the next few years, built according to the new national safe school guidelines. The government's overall goal is to construct 30,000 more classrooms that are compliant with the disaster resilient guidelines.

As a result of these efforts, Mozambique's Ministry of Education has made significant strides in reducing the risk of damage to a school's infrastructure, protecting the children inside, and ensuring education facilities remain open and operational when disaster strikes.

Pillar 2

**Sri Lanka**

Improvements in building practices are essential for risk reduction, particularly in areas prone to seismic risk or extreme weather. Here, reinforced concrete will make this structure much more resistant to typhoons and high winds.
Photo credit: Thinkstock.com

# Risk Reduction

**30 countries developed and implemented risk-reducing policies, legal frameworks, building codes, and strategies for investment and land use planning to avoid creating new risks and reduce existing ones.**

## Protect people through improved planning and building practices, and increase investments in reducing vulnerability.

Technical advice and financing to GFDRR-supported countries continued to focus on developing and institutionalizing policies that lead to risk reduction. In FY14, GFDRR provided advisory services to make disaster risk reduction a central part of national and subnational governmental efforts in 30 countries. These results strengthened, for example, community building codes and enforcement, land use planning, and the implementation of investments in resilient infrastructure.

## Improving Public Policy to Manage and Reduce Risk

GFDRR, together with the Japan International Cooperation Agency (JICA) and the United Nations Development Programme (UNDP), worked with **Mongolia's** National Emergency Management Agency to thoroughly review the country's legal and institutional framework for disaster risk management. Using advice from the review, the government is currently drafting a major revision to its 2003 Disaster Protection Law to include risk reduction and preparation measures. The law will be submitted to Parliament in FY15.

In FY14, GFDRR also helped the government of **Turkey** develop a National Disaster Risk Management Program. Following the devastating 1999 Marmara Earthquake, Turkey has made significant progress in pushing forward its disaster risk management agenda. In March 2014, GFDRR brought together four ministries and experts from Turkey's Middle East Technical University to finalize a national disaster risk management strategy. This group identified the links between disasters and development outcomes, necessary policy changes for improved disaster risk management, and the strengths and weaknesses of Turkey's current system. As a result of this work, Turkey secured a GFDRR grant of $1.5 million to continue improving its public policy and institutional arrangements.

**Mongolia:** GFDRR, JICA, and UNDP worked with the National Emergency Management Agency to **review the country's legal and institutional framework for disaster risk management (DRM)**.

**Turkey: Secured GFDRR support** to continue improving its public policy and institutional arrangements.

### Risk Reduction

*Countries by types of engagement during FY14*

**Policies and legal frameworks**

Bangladesh
Belize
Bhutan
Bolivia
Colombia
Dominican Republic
Ethiopia
Guatemala
Haiti
Indonesia
Kiribati
Liberia
Malawi
Mali
Mozambique
Panama
Senegal
Seychelles
Turkey
Vietnam

**Building codes**

Bangladesh
Guatemala
Haiti
India
Lao PDR
Malawi
Mozambique
Philippines
Sri Lanka
Turkey
Vietnam

**Strategies for risk reduction investment**

Armenia
Bangladesh
Belize
Bolivia
Colombia
Ethiopia
Guyana
Haiti
India
Indonesia
Kiribati
Malawi
Mozambique
Panama
Philippines
St. Vincent and the Grenadines
Tanzania
Timor-Leste
Togo
Turkey
Vanuatu

**Land use planning**

Bangladesh
Colombia
Guatemala
Indonesia
Malawi
Mozambique

## Guiding Investments to Build Resilience

GFDRR supported the development of a cost-benefit analysis and seismic-proofing guidelines for retrofitting schools in Metro Manila, **the Philippines**. The analysis showed that a small investment could save a large number of lives in the case of an earthquake. For example, by strengthening the most vulnerable 5 percent of school buildings, the country could potentially save 6,000 lives; doing the same to 40 percent of these buildings could potentially save 19,000 lives. As a result of this work, the government of the Philippines introduced and committed to fund new regulations for building safe schools.

In **Bangladesh**, polders—low-lying tracts of land enclosed by dikes and filled with fresh water to keep salt water at bay—are half a century old and were not built to withstand more extreme storm surges. In FY14, a GFDRR grant supported the government of Bangladesh to change its national policy and make an investment decision to upgrade the country's 139 polders; this led to the World Bank's $400 million Bangladesh Coastal Embankment Improvement Project.

Benefitting from analytical and financial support from GFDRR, **Sri Lanka** secured a $110 million World Bank Climate Resilience Improvement Project in April 2014. This will help to reduce the country's vulnerability to climate risk by investing in flood mitigation efforts and the protection of transport and schools, and ultimately improve the government's capacity to respond effectively to disasters.

**Istanbul, Turkey**

More than 1,000 public buildings have been retrofitted or reconstructed to improve earthquake resilience throughout Istanbul as part of a GFDRR-supported seismic risk project. Photo credit: Simone D. McCourtie

**The Philippines:** By strengthening 40 percent of school buildings, the country could **potentially save 19,000 lives**.

# Focus on East Asia and Pacific

## Investing in Climate Change in Vietnam

Across Vietnam, like much of the developing world, rapid urbanization is increasing the exposure and vulnerability of people and critical public assets like roads, hospitals, and schools. While such a trend is alarming, it also provides an opportunity for the government to integrate disaster resilience principles into urban planning.

In the past four years, through a series of grants totaling $4.4 million, GFDRR has assisted Vietnam to make disaster and climate change resilience efforts a central part of the government's policies and public investments. The GFDRR seed funding resulted in the World Bank approving $808 million worth of large-scale lending projects to assist the country with disaster risk management and climate change adaptation.

For example, with GFDRR's advisory support and a World Bank operation investment, Vietnam built nearly 500 kilometers of new rural roads using climate-resilient designs that include flood-proof pavement, drainage systems, and slope protection measures in mountainous areas. Another 5,000 kilometers of existing rural roads were similarly retrofitted. The project involved more than 15,000 people from neighboring villages to plan and monitor the road construction and rehabilitation, and to ensure regular maintenance in the future.

**Vietnam** Ho Chi Minh City. Photo credit: lichtbildfotograf/Thinkstock.com

In FY14, the government of Vietnam established a new disaster risk management law based, in part, on GFDRR analytical work in making resilience measures—especially the building of disaster resilient public infrastructure—a central part of planning across sectors. GFDRR support also resulted in monitoring and evaluation systems for the new law's implementation, and guidance on how to integrate disaster and climate change considerations into larger investment projects. GFDRR and the government worked with a host of national and international partners, such as the Asian Development Bank, UN agencies, Care International, Action Aid, Save the Children, and donor countries including Australia, France, Germany, Japan, Norway, Sweden, the United Kingdom, and the United States.

A World Bank and GFDRR initiative also trained communities in 12 provinces on flood preparedness and resilient development measures in FY14. The success of this initiative inspired the government to scale up a program on a national level by investing $450 million to cover 6,000 communes, or approximately 21 million people. Other GFDRR projects have stimulated additional investments, such as the ongoing $150 million World Bank-supported Vietnam Managing Natural Hazards Project. Other climate change investments in Vietnam include a GFDRR-funded flood risk assessment in Ho Chi Minh City to protect 7 million people and to inform a $500 million World Bank flood risk management project.

The government accessed **$808 million** worth of large-scale lending projects to assist Vietnam with disaster risk management and climate change adaptation.

A GFDRR initiative **trained communities in 12 provinces** on flood preparedness.

GFDRR funded a flood risk assessment in Ho Chi Minh City to protect **7 million people**.



# Focus on Eastern Europe and Central Asia



## Preparing Schools for Earthquakes in Armenia

Twenty-five years ago, Armenia suffered one of the most destructive earthquakes of the 20th century. It devastated the northern city of Spitak and surrounding regions, leaving an estimated 530,000 homeless, injuring 19,000 people, and killing approximately 25,000, including 6,000 children. While the damage done to the economy and infrastructure was immense, the collapse of 917 schools and the high death toll was a tragedy of devastating proportions.

Today, GFDRR is supporting the government of Armenia's efforts to earthquake-proof 20 of the country's oldest secondary schools in all 10 of its provinces and in its capital city. GFDRR began working in Armenia in 2009 when it financed a comprehensive study of existing disaster risks and institutional arrangements, recommending the development of a national disaster risk reduction and preparedness agenda that the government then adopted.

With 80 percent of Armenia's population living in danger of catastrophic events, including earthquakes and floods, the need for safer schools is urgent. A recent analysis of building stock in Armenia's capital city of Yerevan showed that a 7.0 magnitude earthquake would destroy most of its buildings and potentially kill some 300,000 people.

In FY14, GFDRR's work in Armenia produced a vulnerability assessment and proposed structural improvements for seismic-proofing five high schools, each with 2,000 students and teachers. The assessments continue, and the project will have surveyed all 20 schools by the end of FY15.

Along with delivering the assessment and recommendations, GFDRR organized a workshop to present its methodology to representatives from government, NGOs, and civil society groups. It is also working closely with the United Nations Children's Fund (UNICEF), which is using the same methodology to assess other schools in the country. Finally, GFDRR's work is informing a $30 million World Bank investment for improving education standards that includes plans to improve the physical conditions of Armenia's secondary schools.

**Armenia** GFDRR's Safer Schools Program improves the safety of thousands of students by reducing seismic risk. Photo credit: Asian Development Bank

GFDRR is supporting the government of Armenia to **earthquake-proof 20** of the country's oldest secondary schools.

With **80 percent** of the population living in danger of catastrophic events, the need for safer schools is urgent.

A 7.0 magnitude earthquake would destroy most of Armenia's buildings and potentially kill some **300,000 people**.

Pillar 3

**28 countries improved management of disasters through forecasting services, early warning systems, contingency planning, and emergency preparedness.**

# Preparedness

**Bangladesh**

Early warning systems—an essential component of reducing losses in lives and livelihoods in rural areas—being tested outside Dhaka by volunteer community members.
Photo credit: Amir Jina

## Better protect people through more accurate and timely early warning, and through civil protection agencies capable of mobilizing a quick response in the event of a disaster.

GFDRR supports the modernization and strengthening of national weather, climate, and hydrological services, as well as early warning systems and other efforts for disaster preparedness leading to significant investment and reform. In FY14, GFDRR delivered results in 28 countries under this pillar.

## Preparedness

*Countries by types of engagement during FY14*

**Forecasting services**

Albania
Bhutan
Djibouti
India
Lao PDR
Lesotho
Malawi
Moldova
St. Lucia
Senegal
Togo
Vanuatu
Vietnam

**Early warning systems**

Bolivia
Colombia
Djibouti
Ethiopia
Gambia, The
Ghana
India
Kyrgyz Republic
Lesotho
Liberia
Malawi
Mozambique
Senegal
Togo

**Contingency planning and emergency preparedness**

Bangladesh
Bolivia
Djibouti
Dominica
Ecuador
Ethiopia
Haiti
India
Indonesia
Liberia
Mali
Vietnam

## Forecasting Natural Hazards to Prevent Loss and Prepare for Disasters

Northern **Ghana** regularly faces flooding, including a series of extreme flood events from 2007 to 2010. In response, a GFDRR-supported project established a modern flood forecasting system for the White Volta River. It also provided hands-on training for emergency practitioners on the system's use, as well as planning guidance for policy makers. The early warning system went live in FY14 and now forecasts water levels ahead of time for a stretch of river more than 800 kilometers long.

GFDRR also supported the modernization of 40 automated hydrometeorological monitoring stations across **Albania**. As a result, real-time data now flows directly to the country's Institute for Geosciences, Environment, Water, and Energy. Six of these newly updated stations report directly via satellite into the World Meteorological Organization's (WMO) Global Telecommunication System, allowing for Albanian weather observations to be assimilated into global forecasting models and improving forecasting for both the country and the region.

In **Moldova**, GFDRR supported the installation of Doppler weather radar and four new meteorological stations. Together, they are pivotal to improving severe weather forecasting and Moldova's ability to collect raw hydrometeorological data, enhancing Moldova's capacity to prepare for and respond to natural disasters.

**Albania:** GFDRR supported the modernization of **40 automated hydrometeorological** monitoring stations and strengthened services.

## Planning and Preparing for Disaster Response

In October 2013, Cyclone Phailin, a Category 4 cyclone, struck the coast of Odisha, **India**, resulting in 47 deaths and damage to 90,000 homes in 18,300 villages. Yet the damage was only a fraction of that caused by the 1999 landfall of the Paradip cyclone, a storm of similar proportions that killed over 10,000 people and destroyed a substantial proportion of the state's housing and public infrastructure.

A decade and a half of sustained disaster preparedness work by the government, civil society, and international organizations, including GFDRR, helped India avoid mass casualties and widespread destruction for this event. Over a million people were evacuated to cyclone shelters, safe houses, and locations inland in Odisha and Andhra Pradesh. Beginning in 2011, GFDRR grant support and technical assistance to India's National Cyclone Risk Mitigation Project has enabled the central and state governments to modernize early warning systems, design and build cyclone shelters, and create 200 kilometers of saline embankments, which protect farms and communities from being inundated with seawater.

**Bangladesh's** capital city of Dhaka is a densely populated megacity of 15.3 million people. Many high-rise apartments and office buildings are not built according to the country's building code, and an emergency system is needed for effective disaster response efforts. In FY14, a GFDRR grant enabled the Dhaka government to design a new emergency management system that will include an emergency command center to better prepare transportation, communication, and rescue services for actual disasters. This led to a $175 million World Bank project to support the implementation of the system.

**India**

Passengers of a cycle ricksaw get caught up in a flash flood during the monsoon season in Varanasi. Photo credit: Danielrao/Thinkstock.com

# Focus on Latin America and the Caribbean



## Improving Evacuation through Emergency Preparedness in Haiti

With 96 percent of its population exposed to the effects of earthquakes, hurricanes, flooding, and landslides, Haiti is more at risk to natural hazards than almost any other country in the world. Of its 10 million people, two-thirds live below the poverty line and are extremely vulnerable to the impact of disasters. These numbers underscore the dire need for comprehensive evacuation strategies that save lives and livelihoods and minimize disruption to much-needed education and health services.

Evacuation strategies, however, are a challenge in a country that lacks reliable infrastructure like roads, bridges, and emergency shelters. Previous attempts to improve Haiti's evacuation systems failed to recognize the unique geographic, socioeconomic, and financial challenges faced by the country and its people. For example, the government identified 1,400 buildings as evacuation centers in case of emergency, but 90 percent of these buildings are schools. Such a plan would make it impossible for students to continue their education for up to months at a time in the event of a disaster.

To address such specific, critical, concerns, GFDRR—with the support of the World Bank, Harvard University, the Massachusetts Institute of Technology, and Leibniz University of Hannover—conducted an extensive field study of evacuation systems in Haiti. The study carefully identified national and local-level political and economic considerations; issues of timing, such as the onset of the rainy season, harvest time, and the school calendar; physical vulnerabilities to the landscape, such as deforestation and clogged drainage canals; and existing emergency practices.

As a result of this study and its recommendations, completed and delivered in FY14, the government of Haiti is transforming its concept of an emergency shelter from a basic, standalone building to being one part of a broader evacuation system that incorporates geographic, cultural, and socioeconomic factors. To test the validity of the new approach, GFDRR is working with the government to set up nine pilot sites where the government will build evacuation parks in FY15 that include shelters and evacuation infrastructure, such as bridges and waste management systems. This support from GFDRR is directly influencing a World Bank International Development Association (IDA) investment of $60 million for a disaster risk management and reconstruction project.

**For more information**, please visit the World Bank's *Insights in DRM: Issue #5, May 2014, From Mountains to Valleys: An Alternative Approach to Emergency Evacuation Strategies in Haiti*
www.worldbank.org/lcrdrm/insights

**Haiti**

Evacuation strategies for dense communities in Haiti are vital for safety during disasters. Photo credit: Dominic Chavez / World Bank

**12 countries increased financial resilience of governments and the private sector through sovereign disaster risk financing and catastrophe risk market development.**

# Financial Protection

**Bangladesh**

Monsoon clouds rise near Dhaka. Extreme weather is the cause of over 75 percent of all disaster losses, and is a main focus for financial protection strategies, especially in areas prone to seasonal typhoons.
Photo credit: NASA

## Improve financial resilience to the impact of natural disasters, with better post-disaster financial response capacity and stronger domestic catastrophe insurance markets.

GFDRR works with countries and other partners to improve the financial resilience of government, business, farmers, and households to the effects of natural disaster and climate change. In particular, GFDRR seeks to give governments the financing and budgetary tools to plan for emergency and long-term recovery efforts and strengthen and expand domestic insurance markets. In FY14, GFDRR delivered projects in 12 countries under this pillar.

## Financial Protection

*Countries by types of engagement during FY14*

| **Sovereign disaster risk financing**[1] | **Catastrophe risk market development**[2] |
|---|---|
| Colombia | Costa Rica |
| Dominican Republic | Guatemala |
| Haiti | Papua New Guinea |
| Indonesia | |
| Lao PDR | |
| Malawi | |
| Pakistan | |
| Panama | |
| Philippines | |

[1] http://siteresources.worldbank.org/EXTDISASTER/Resources/SDRF_Concept_Final.pdf

[2] http://siteresources.worldbank.org/EXTDISASTER/Resources/PCRI_Concept_Final.pdf

## Supporting Governments to Plan for the Financial Impact of Disasters

In FY14, GFDRR supported the government of **Pakistan** in carrying out a fiscal risk assessment. The government lacked information about the full financial cost of disasters to government budgets and the country's overall gross domestic product (GDP). This assessment, delivered to the Ministry of Finance and the provincial governments of Punjab and Sindh, provided expected average annual losses and probable maximum losses under different disaster scenarios, underscoring the need to invest in risk reduction measures.

GFDRR also provided needed technical assistance to the government of **the Philippines** to develop a disaster risk financing strategy and action plan. The action plan, which was adopted by the government, identified potential mechanisms for reducing financial risk at the sovereign and household levels. In **Colombia**, with GFDRR support, the government is implementing international best practices through insuring $38 billion in new road infrastructure built through public-private partnerships.

GFDRR supported a damage and loss assessment in **the Seychelles** following Tropical Cyclone Felleng in January 2013, quantifying $8.4 million worth of damages to roads and infrastructure due to floods, mudslides, and falling rocks. The assessment also gave the Seychelles the necessary information to begin formulating a risk financing framework. This enabled the Seychelles to become the first African country to access a Catastrophe Deferred Drawdown Option (Cat-DDO), an innovative World Bank financing instrument that offers contingent lines of credit that can be drawn down if a country declares a state of emergency after a natural disaster. Such financing helps governments respond faster following a disaster.

**Seychelles:** GFDRR support helped it become **the first African country** to access a Cat-DDO.

## Scaling Insurance to Protect Government Budgets, Farmers, and the Private Sector

In January 2014, Cyclone Ian hit the Pacific island country of **Tonga**, the strongest storm ever recorded in its waters. Thousands were left homeless and roughly half of all buildings on the worst hit islands were destroyed. The government was awarded $1.2 million by a new insurance facility established with the support of GFDRR, the Asian Development Bank, and the South Pacific Applied Geoscience Commission (SOPAC), through the **Pacific Catastrophe Risk Assessment and Financing Initiative** (pcrafi.sopac.org). This made Tonga the first of six participating countries, including **the Cook Islands**, **the Marshall Islands**, **Samoa**, **the Solomon Islands**, and **Vanuatu**, to receive an insurance payout following a disaster. The purchase of this disaster risk insurance coverage as a group has reduced premium costs by 50 percent, providing an incentive for each country to collaborate in a joint effort to reduce risk and help them prepare for national emergencies.

The PCRAFI Initiative is built on the model of the seven-year-old **Caribbean Catastrophe Risk Insurance Facility** (www.ccrif.org), a multi-country risk pool that has made eight payouts totaling $32 million to support participating countries in managing budget volatility in the aftermath of hurricanes, earthquakes, and excess rains. In FY14, GFDRR supported actuarial analyses to assist the CCRIF's **16 member countries** in understanding the costs and benefits of a proposal to include Central American countries in the program. This analysis estimated the premium savings from the move and allowed **Honduras** and **Nicaragua** to access $24 million in support from the World Bank.

GFDRR also promotes specific measures to help farmers, homeowners, small businesses, and the most vulnerable households to access financial protection. For example, in FY14 GFDRR financed a comprehensive study of agricultural risk and local market conditions to support the development of a public-private agricultural insurance program in **Kenya**. The program will protect the livelihoods of more than 130,000 vulnerable farmers in selected regions, and includes a strategy for expanding the program nationally.

**The Caribbean:** GFDRR is helping **16 countries** plan for and manage post-disaster budget volatility.



## Focus on South Asia



### Understanding Risk to Improve Physical and Financial Protection in Sri Lanka

When the 2004 India Ocean tsunami devastated Sri Lanka, killing nearly 35,000 people and affecting over one million, the high vulnerability of the island nation was clear. Yet it is the growing effects of climate change, including flooding and drought, which present the greatest threat to Sri Lanka's development and growth. Landslides and high winds also destroy or damage thousands of homes each year. Flooding in 2010 and 2011 alone caused $1 billion in total loss and damage.

GFDRR and the World Bank have been working with Sri Lanka to put in place a national comprehensive disaster risk management program, with the goal of reducing future effects of climate change. Importantly, for the first time GFDRR has influenced a World Bank project to simultaneously invest in and account for both physical and financial risk reduction measures. In particular, the program is seeking to adapt the country's infrastructure, budget, and economy to extreme climate shocks.

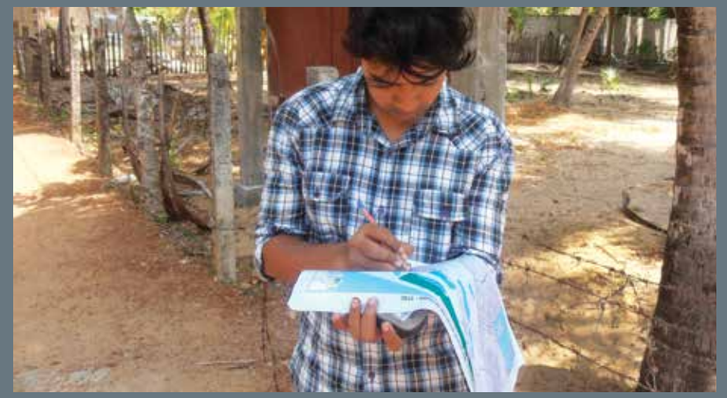
GFDRR's flagship Open Data for Resilience Initiative is developing risk exposure data that will be used to inform a $110 million World Bank project on improving climate resilience as well as a more detailed risk analysis for Sri Lanka. Batticaloa, for example, is located on the eastern coast with a population of nearly 100,000, and is highly vulnerable to floods, tsunamis, and storm surges.

Over the course of just three months in 2013, GFDRR-trained government authorities and graduate students mapped all 30,000 buildings in the city. The data are now freely available at www.OpenStreetMap.org and in the government geospatial data-sharing platform RiskInfo (www.riskinfo.lk). GFDRR will extend this crowdsourcing and community mapping initiative to other major urban centers in FY15, eventually covering all of the country's most vulnerable regions.

The Open Data for Resilience Initiative also supported the Disaster Management Center in establishing RiskInfo, a platform that:

- gives access to key datasets for disaster risk management such as hazard zones, building stock, and infrastructure;
- provides an interactive map visualization program that is easy to use;
- houses data in a raw format ready for downloading.

Based on the success of this initiative, the government of Sri Lanka has now started a national data infrastructure project to streamline geospatial data sharing across all of its ministries and agencies. Additionally, in FY14, Sri Lanka became the first South Asian country to access an innovative form of World Bank financing that provides immediate payouts after a major catastrophe such as a tsunami, cyclone, or flood. This $102 million operation investment comes with a Catastrophe Deferred Drawdown Option (Cat-DDO). Using a GFDRR assessment of recent natural disasters and their financial impact on budgets and GDP, Sri Lanka's government recognized the value of this financial protection instrument and acted in order to gain access to it.



**Sri Lanka**

Over the course of just three months in 2013, GFDRR-trained government authorities and graduate students mapped all 30,000 buildings in the city of Batticaloa. Photo credit: OpenStreetMap

Pillar 5

**The Philippines**

Community members come together to rebuild homes in the Philippines after Typhoon Haiyan (Yolanda). Recovery from disasters provides a unique opportunity for communities to build back better, increasing resilience for any future events.
Photo credit: Danilo Victoriano

# Resilient Recovery

**21 countries strengthened their readiness for quicker, more resilient recovery from disasters through post-disaster assessments and planning.**

## Improve the quality and timeliness of recovery and reconstruction.

GFDRR supports government-led post-disaster assessments and recovery frameworks, promotes the exchange and sharing of knowledge, and offers technical assistance to help countries mainstream disaster risk management and recovery readiness into development policy. In FY14, GFDRR in collaboration with the EU and UNDP developed a ***Disaster Recovery Framework Guide***[3] to help countries prioritize and sequence recovery interventions, improving their readiness for future disasters.

GFDRR also provided financial and technical support for post-disaster assessments and recovery planning in 21 countries, including **Bosnia and Herzegovina**, **Burundi**, **Guatemala**, **Indonesia**, and **Serbia**.

[3] www.gfdrr.org/recoveryframework

**Resilient Recovery**

*Engagements during FY14*

**Post-disaster assessments and planning**

Bosnia and Herzegovina
Burundi
Fiji
Guatemala
Haiti
India
Indonesia
Kyrgyz Republic
Lao PDR
Liberia
Malawi
Nigeria
Philippines
St. Lucia
St. Vincent and the Grenadines
Serbia
Seychelles
Solomon Islands
Sudan
Tonga
West Bank and Gaza

## Preparing Post-Disaster Assessments

GFDRR works to make disaster recovery more resilient, recognizing the important role that disasters play in catalyzing action for resilience. With the risk awareness of governments and people at its highest in the aftermath of disaster, recovery and reconstruction planning presents an important opportunity to change practices that have led to underlying vulnerabilities. A primary step in this process is the preparation of post-disaster assessments.

In June 2013, unprecedented heavy rainfall in the State of Uttarakhand in northern **India** resulted in flash floods and landslides, killing 580 people and affecting 900,000. GFDRR, partnering with the Asian Development Bank, helped the state government in conducting a post-disaster needs assessment that resulted in a detailed recovery framework to support recovery efforts. The framework included solutions for both emergency recovery needs and longer-term disaster risk reduction measures, leading to a $31 million World Bank project to rebuild disaster resilient housing and public infrastructure.

GFDRR also supported **India's** Odisha State government in conducting a rapid post-disaster needs assessment following Cyclone Phailin. The assessment's recommendations for recovery measures in both the short and long term led to a $153 million World Bank project to rebuild 30,000 houses and restore public services and infrastructure, including schools and health centers. In all, 150,000 people will benefit directly from this project.

On December 24, 2013, months after the end of the Caribbean's hurricane season, a violent storm hit the island country of **St. Vincent and the Grenadines** with torrential rains causing flash floods and landslides that killed 9 people and affected 13,000 more. A GFDRR grant supported a rapid damage and loss assessment two weeks later, helping the government to identify losses of $108 million, or 15 percent of the country's GDP. The assessment also showed which public and private infrastructure was hit worst, allowing the government to prioritize spending and reconstruction efforts, particularly to benefit the poorest areas of the country. The assessment also allowed the government to raise $19 million in aid from international donors to recover from the disaster.

**St. Vincent and the Grenadines:**
A GFDRR assessment was completed within two weeks of the disaster and helped identify $108 million in losses.

## Working with Countries to Prepare for Recovery

Within days of Typhoon Haiyan's landfall in September 2013, GFDRR and its partners began providing the government of **the Philippines** with policy and technical guidance for reconstruction efforts, based on international post-disaster experience. Five weeks later, the government had a comprehensive reconstruction plan to guide the recovery and reconstruction of the country's economy, lives, and livelihoods. The World Bank provided the Philippines with a $500 million post-disaster reconstruction operation investment in November 2013, while the $479 million Philippines National Community Driven Development Program, launched in June 2014, has been expanded and redesigned to include post-disaster recovery and rehabilitation, covering 554 municipalities affected by the typhoon.

In FY14, a GFDRR initiative in **the Kyrgyz Republic** developed a national action plan for improving post-disaster assessment and recovery planning, and created a guidance manual for government authorities. As a result, the National Technical and Scientific Council of the Kyrgyz Republic as well as the government's agency overseeing disaster response and emergency preparedness endorsed the new methodology, and the Ministry of Emergency Situations provided training on its use to 280 government staff. The new methodology is now part of university curriculum for students studying emergency management at Kyrgyz Slavonic University.

**The Philippines**

Debris from Typhoon Haiyan (Yolanda) created enormous challenges for recovery workers. Photo credit: Marcel Crozet



**West Bank and Gaza**

The aftermath of Alexa, one of the strongest storms to occur in half a century. Photo credit: The World Bank

## Supporting Recovery Work in Fragile and Conflict Situations

GFDRR is experienced in supporting and conducting post-disaster assessments in fragile and conflict situations. Not only does this work assist governments and donors in planning recovery efforts, but it has led to an improved and refined methodology for conducting such assessments in difficult and extreme conditions. This includes using remote sensing and satellite imagery as potential sources of data when teams cannot be present on the ground.

In FY14, GFDRR completed a rapid damage, loss, and needs assessment in the **West Bank and Gaza** in the aftermath of winter storm Alexa in December 2013, one of the strongest storms to occur in half a century. The assessment was conducted in close coordination with the UN and the European Union, and took into account other assessments already undertaken by the Palestinian Authority and its partners. Not only did the assessment provide information on physical damage and economic losses from the storm, it also laid the groundwork for a longer-term disaster risk management framework, showing how government and international partners can assist in this process. As a result, several municipalities in the West Bank have announced that they will request further assistance from the World Bank and GFDRR in improving their resilience to disasters.

Following the severe August 2013 floods in **Sudan**, and in response to a request from the government for technical assistance, GFDRR supported a damage and needs assessment. During the first part of the mission, international experts provided training to 30 government officials in addition to making field visits to validate data. While this work was interrupted because of security concerns, the team was able to later return and complete the training and submit key findings, resulting in a draft transitional recovery and reconstruction framework for future flooding.

# GFDRR-Supported Post-Disaster Needs Assessments in FY14

### Uttarakhand Floods
### June 2013

Photo credit: The World Bank

### Sudan Floods
### August 2013

Photo credit: Nafeer

### Typhoon Haiyan in the Philippines
### August 2013

Photo Credit: Nicolas Asfouri | AFP Photo

### West Bank and Gaza Winter Storm
### December 2013

Photo credit: Dalibor Platenik | Dali/gallery

### St. Lucia Floods
### December 2013

Photo credit: The World Bank

### St. Vincent and the Grenadines Floods
### December 2013

Photo credit: CatholicOnline

### Cyclone Ian in Tonga
### January 2014

Photo credit: NASA Goddard MODIS Rapid Response Team

### Burundi Floods and Landslides
### February 2014

Photo credit: africanclimate.net

### Serbia Floods
### May 2014

Photo credit: © Nemar74 | Dreamstime.com

### Bosnia and Herzegovina Floods
### May 2014

Photo credit: © Alen Ciric | Dreamstime.com

### Solomon Islands Floods
### April 2014

Photo credit: Solomon Star

**India:**
A rapid post-disaster needs assessment in Uttarakhand helped leverage a **$153 million** World Bank project to rebuild **30,000 houses.**

# Focus on Middle East and North Africa



## Strengthening Flood and Drought Risk Management in Djibouti

Djibouti is one of the most water scarce countries in the world and yet vulnerable to floods, in addition to droughts and earthquakes. An extended drought that devastated livelihoods and the country's economy from 2007 to 2011 caused GDP to contract at an annual average rate of 4 percent. Farmers and herders were hit hardest, and 120,000 people—15 percent of the population—faced greater food insecurity.

Since 2007, GFDRR has played an important role in supporting Djibouti to better prepare and manage disaster risk, through guidance, financial support, and post-disaster assessments. Successes include:

- In FY14, GFDRR helped strengthen Djibouti's ability to forecast and communicate weather conditions, for example by financing the acquisition and installation of five hydrometeorological stations. It also completed the first seismic and flood risk assessment of Djibouti City, the country's capital. In addition, seven different national authorities—such as the Ministries of Interior and Housing and Land Planning, and the country's meteorological agency—are now actively working together and sharing critical weather- and climate-related data with each other.
- GFDRR's total investment of $2 million in Djibouti has led to almost $50 million from other international donors in support of risk management efforts.
- GFDRR developed the country's very first hazard risk profile, putting the disaster risk management agenda on the radar of decision makers.
- GFDRR updated preparedness and emergency plans dating as far back as 1986.
- In 2011, a GFDRR team, in partnership with UNDP, the EU, and the United States Agency for International Development (USAID), completed Djibouti's first post-disaster needs assessment, which mobilized $13 million of World Bank emergency funding and an additional $30 million of international funding for drought mitigation measures. A GFDRR grant then trained 30 national staff to conduct needs assessments, and provided a distance education program on disaster risk management. Already, 60 practitioners including government officials, university professors, geographers, and other scientists have completed it.

This cooperation was made possible by a new system of disaster risk communications and emergency protocols created with GFDRR support. The Minister of Finance and Minister of Higher Education launched the new system in FY14 before an audience of 80 government staff, academics, and members of civil society groups, all of whom were trained on its use. GFDRR is also working to create online open source software that will make disaster risk information for Djibouti more accessible for both decision makers and the general public. These initiatives combined will result in the first disaster risk communication platform of its kind in Africa and the Middle East.

Early warning systems and emergency preparedness plans for both floods and droughts are now in place, thanks to GFDRR assistance. In fact, the government reported that during flash floods in March 2013 it was able to rely on these emergency plans, contributing to the relatively low number of casualties, with only 13 people hurt or killed. This is in stark comparison to similarly severe flooding in 2004 that resulted in 230 casualties.

**Djibouti**

Situated on the disaster-prone Horn of Africa, Djibouti is highly vulnerable to prolonged droughts. Photo credit: The World Bank

**Djibouti:** GFDRR's total investment of **$2 million** has led to almost **$50 million** from other international donors in support of risk management efforts.


**United Kingdom**

Finalists from a Code for Resilience competition present at the 2014 Understanding Risk Forum in London. Over 2,000 participants have joined events in eight countries to showcase dozens of software applications tailored to reduce regional disaster risk.
Photo credit: The World Bank

# Thematic Programs

**Building on the need for more intense technical assistance, GFDRR has assembled seven teams to provide technical assistance and training to government counterparts and other implementing partners, as well as conduct research and share best practices on these thematic areas at the global, regional, and local levels.**

## Innovation Lab

The Innovation Lab (www.gfdrr.org/innovation-lab) is connected to Pillar 1 Risk Identification. This program guides GFDRR's risk identification work and supports the use of science, technology, and open data in promoting new ideas and the development of original tools to empower decision makers in vulnerable countries seeking to strengthen their resilience. Three major initiatives showcase the value of Innovation Lab:

### Open Data for Resilience Initiative

Through this initiative, Innovation Lab maps hundreds of thousands of buildings, providing more than 1,000 geospatial datasets to the public. The Lab also develops and applies innovative tools, such as GeoNode (geonode.org), a free and open source catalog of risk data and visualization. It also undertakes participatory mapping, a community engagement approach that relies on residents and volunteers to gather information about the built environment. In FY14, GFDRR launched the *Open Data for Resilience Field Guide* (www.gfdrr.org/ODRIFG), a practical manual for governments and other organizations aimed at setting basic standards for the creation and communication of disaster and climate change information on open source platforms.

### Code for Resilience

Through this initiative, Innovation Lab supports Code for Resilience (www.codeforresilience.org), which collaborates with developing countries on new digital and hardware solutions tailored to a country's particular needs and situation. Over 2,000 participants have joined events in eight countries to showcase dozens of software applications, including ones that provide flood alerts and improve access to evacuation maps for the elderly.

### Understanding Risk Forum

The 2014 Understanding Risk Forum (www.understandrisk.org), held in London in June 2014, convened more than 800 experts and practitioners representing over 280 institutions including government agencies, private sector companies, international organizations, research institutions, and civil society. Under the theme Producing Actionable Information, nearly 60 sessions and workshops offered a wide range of topics, such as risk modeling in the financial sector, earth observation systems, risk communication methods, community-based risk assessments, and how to assess risk in the face of climate change. Started four years ago, the Understanding Risk community has grown to include a global membership of over 3,200 experts and practitioners from more than 125 countries.



## Resilient Cities

The Resilient Cities Program (www.gfdrr.org/resilient-cities) is related to Pillar 2 Risk Reduction. It was launched in FY14 by GFDRR to help cities understand, prepare for, and adapt to the effects of changing conditions, such as climate change and rapid urbanization, and to withstand and recover rapidly from natural disasters and other shocks.

In its first year, the program created the methodology for its CityStrength Diagnostic, following consultations with a number of international organizations including UN-Habitat, UNISDR, the Rockefeller Foundation, and the World Bank. This new diagnostic brings in a team of experts to guide city leaders through an investigative process to identify potential gaps in resilience in city systems and services, as well as risks to critical infrastructure, specific neighborhoods, and vulnerable groups of people. The process is meant to inform policy decisions and build understanding of, demand for, and access to resilience-strengthening investment options.

In June 2014, the Resilient Cities Program completed its first diagnostic in Can Tho, **Vietnam's** largest city in the Mekong Delta with a population of 1.3 million. In addition to city authorities, GFDRR interviewed a number of local organizations, including groups representing civil society, women, the disabled, and commercial and industrial interests. Using the results of the diagnostic, the city is expected to access financing to advance its flood prevention infrastructure, improve important services such as sanitation and transport, and upgrade living conditions, particularly in flood-prone areas.

GFDRR also joined UN-Habitat, UNISDR, the World Bank, the Inter-American Development Bank, C40 Cities Climate Leadership Group, the Rockefeller Foundation's 100 Resilient Cities initiative, and local government association ICLEI to form the Medellin Collaboration on Urban Resilience, announced at the 7th World Urban Forum in **Colombia** in April 2014. The collaboration's partners are developing common definitions and metrics for understanding urban shocks and stresses, and helping cities to access sources of international support and finance to better manage these risks.

In FY14, more than 30 percent of GFDRR's grants supported work on urban resilience, including projects in **Bangladesh**, **Burundi**, **Guyana**, **Sri Lanka**, and **Vietnam**.

## Safer Schools

The Safer Schools Program (www.gfdrr.org/areas/SafeSchools) works under Pillar 2 Risk Reduction. Close to 1.2 billion students are enrolled in primary and secondary schools worldwide, of whom 875 million live in high seismic risk zones. Hundreds of millions more face regular hazards such as floods, landslides, extreme winds, and fires. Children spend up to 50 percent of their time in school buildings, yet all too often these buildings are not disaster resilient. This kind of risk is avoidable and many of GFDRR's thematic initiatives, such as its Safer Schools Program, advance measures to reduce it.

In FY14, GFDRR developed the Safer Schools Program to support large-scale government investments in education by providing technical assistance and expertise, including measures to reduce disaster risk such as disaster-proof school building codes. Additional financing is needed to be able to implement the initiative and meet country demand. The program cooperates actively with the international Comprehensive School Safety Framework and will support UNISDR's Worldwide Initiative for Safe Schools, to be launched in March 2015 at its Third World Conference on Disaster Risk Reduction in Sendai, Japan. The Safer Schools Program has also formed partnerships with Save the Children and others to help ensure that building safer schools is included in the post-2015 Hyogo Framework for Action on disaster resilience.

In FY15, the Safer Schools Program will launch country-level projects in **Indonesia**, **Peru**, **the Philippines**, and in **Pacific island countries**, building on successes in **Mozambique**.




## Hydromet

The Hydromet Program (www.gfdrr.org/hydromet) is associated with Pillar 3 Preparedness. This program works with countries to develop modern, sustainable, and service-oriented climate, weather, and water information services. Launched in 2011, GFDRR's Hydromet Program works closely with the WMO, national weather and hydrological services, and governments to support countries in modernizing their weather, climate, and hydrological information systems. In particular, the program seeks to increase the accuracy and timeliness of weather forecasts and early warning systems.

Since its inception, the program has assisted 31 countries in improving their hydrometeorological services through grants as well as the expertise of its own team of specialists. Together, these engagements have leveraged and shaped more than $400 million in investments from the Climate Investment Funds,[4] the World Bank, and other partners.

GFDRR's Hydromet Team plays an important role in supporting World Bank efforts to include forecasting and early warning in disaster risk management and other sectors. In FY14 alone it contributed to preparations for World Bank projects in **Burkina Faso**, **the Democratic Republic of Congo**, **Haiti**, **Mali**, **Myanmar**, **Rwanda**, **Uganda**, and **Vietnam**.

The team also supported an investment by the Global Environment Facility in **São Tomé and Príncipe** and continued to provide assistance to modernization projects financed by the IDA and the Pilot Program for Climate Change in **India**, **Mozambique**, **Nepal**, **Russia**, **the Republic of Yemen**, and the **Central Asia** region.

In FY14, GFDRR and the World Bank published the flagship study *Weather and Climate Resilience: Effective Preparedness through National Meteorological and Hydrological Services*.[5] The report shows how national meteorological and hydrological services can reduce the effects of natural hazards and improve a country's overall economy.

The GFDRR Hydromet Program is currently identifying and preparing new projects for glacial monitoring in **Pakistan**, urban flood management in **Nigeria**, and improved hydrometeorological systems in the **Sahel region**.

[4] www.climateinvestmentfunds.org/cif/

[5] http://documents.worldbank.org/curated/en/2013/09/18273238/weather-climate-resilience-effective-preparedness-through-national-meteorological-hydrological-services

## Disaster Risk Financing and Insurance

The Disaster Risk Financing and Insurance Program (www.gfdrr.org/disaster-risk-financing-and-insurance) is connected to Pillar 4 Financial Protection. This Program was established in 2010 as a partnership between GFDRR and the World Bank to improve the financial resilience of governments, businesses, and households against natural disasters. The program supports governments to strengthen financial resilience along four main priority areas that are aligned with key groups of beneficiaries: governments, farmers, homeowners and small businesses, and the poorest.

- **Sovereign Disaster Risk Financing and Insurance** aims to increase the financial response capacity of national and subnational governments to secure cost-effective access to adequate funding for emergency response, reconstruction, and recovery. In FY14, the program provided an actuarial analysis (see page 42) to help the multi-country risk pool **Caribbean Catastrophe Risk Insurance Facility's** 16 member countries understand the costs and benefits of a proposed expansion to Central America. This analysis estimated premium reductions for four different options and helped **Honduras** and **Nicaragua** commit to becoming members of the Facility. ■

- **Agricultural Insurance** aims to protect farmers and herders from losses arising from damage to their assets. Sustainable, scaled up agricultural insurance programs that benefit vulnerable farmers and herders require engagement, innovation, and action from both the public and the private sector. In FY14, the government of **Kenya** committed to implementing a public-private agricultural insurance program to insure more than 130,000 farmers (see page 42 for more information).

- **Property Catastrophe Risk Insurance** aims to protect homeowners and small and medium-sized enterprises against losses arising from property damage. Working with the Disaster Risk Financing and Insurance Program, the government of **Colombia** is implementing international best practices as it insures $38 billion of new road infrastructure built through public-private partnerships.

- **Disaster-Linked Social Protection** aims to protect the livelihoods of the poorest and most vulnerable by enabling social protection mechanisms to rapidly increase assistance to affected households immediately following disaster, or at the first sign of disaster, such as the beginning of a drought. This emerging field seeks to protect people from falling into poverty following a shock. The Disaster Risk Financing and Insurance Program is working closely with the World Bank to ensure humanitarian aid is a core component of development.



## Inclusive Community Resilience

The Inclusive Community Resilience Program (www.gfdrr.org/areas/CivilSociety) is a cross-cutting pillar initiative that promotes civil society engagement, community resilience, and gender considerations. GFDRR recognizes the critical role played by community leaders, civil society, and women in disaster risk management. Across GFDRR's FY14 portfolio, a fifth of its grants explicitly incorporated gender considerations in project design and implementation, while almost a third directly involved civil society. GFDRR is increasingly prioritizing engagement with these groups in its country-level investments, and is partnering with them to develop policy, create knowledge, and advocate for new practices.

Starting in FY12, GFDRR began implementing a pilot of its civil society partnerships strategy. A follow-up review delivered to its Consultative Group in May 2014 found that GFDRR has made substantial progress in making civil society an integral part of its disaster risk management and sustainable recovery country programs.

For example, from the beginning GFDRR's OpenDRI (Open Data for Resilience Initiative) program in Kathmandu, **Nepal**, relied on and involved participants from universities, professional groups, and civil society organizations to map schools and health facilities in Nepal's capital city, which is highly vulnerable to earthquakes. As a result, a group of participants established an NGO called the Kathmandu Living Labs, and is contributing much-needed risk data for a larger GFDRR, World Bank, and government project that is making education and health buildings more resilient to seismic risks.

Evidence repeatedly shows that empowering women to build community resilience to disaster is a must if it is to be sustainable and successful. A good start can be ensuring that women are included in disaster risk management efforts and that their needs are considered throughout projects. In **Rwanda**, for example, the team assisted the government to conduct a comprehensive nationwide risk assessment ensured that gender was considered in vulnerability assessments.

Building on lessons learned from the pilot phase, GFDRR's newly-established Inclusive Community Resilience Program will place a stronger emphasis on including civil society groups, community leaders, women, poor people, and other marginalized groups in disaster risk management initiatives that GFDRR funds. Although there is scarce funding to meet existing demands, GFDRR plans to start small—where resources allow—and scale up over time. Meanwhile, GFDRR, alongside the World Bank, will establish and execute a results framework specific to community resilience as a way to communicate progress and lessons learned for improved implementation and sustainable impact. In addition, the program will push for global and country-level policy decisions to recognize the importance of inclusive, community-led resilience measures.

# Challenges & Opportunities

**GFDRR's 20 Priority Countries are Burkina Faso, Djibouti, Ethiopia, Ghana, Haiti, Indonesia, the Kyrgyz Republic, Madagascar, Malawi, Mali, the Marshall Islands, Mozambique, Nepal, Panama, Papua New Guinea, Senegal, the Solomon Islands, Togo, Vietnam, and the Republic of Yemen. In FY14, Priority Countries received 71 percent of GFDRR's financial support.**

**El Salvador**

A plume of ash escapes the San Miguel volcano in El Salvador. A full eruption by this volcano would decimate surrounding communities.
Photo credit: NASA

# Sub-Saharan Africa

**Priority Countries: Burkina Faso, Ethiopia, Ghana, Madagascar, Malawi, Mali, Mozambique, Senegal, and Togo**

## Challenges

Sub-Saharan Africa faces a variety of natural hazards. Drought puts dozens of countries at risk, while the southern rain and cyclone seasons and the northern rainy season cause destructive flooding. Active volcanoes and earthquakes add to these hazards.

The region includes a large number of lower-income countries, several of which are classified as fragile and conflict-affected, including **Madagascar**, **Malawi**, **Mali**, and **Togo**—all GFDRR Priority Countries. Many of these countries have the world's most vulnerable and poor populations, who suffer the most from the effects of natural disaster and climate change—such as the destruction of entire villages due to flooding or the total loss of livelihoods by farmers because of extended drought. Indeed, many households are just one disaster away from a lifetime of poverty.

In Africa, limited capacity within agencies, a lack of information and coordination, and inadequate infrastructure create a critical need for building resilience within the region. In FY14, GFDRR supported several regional initiatives aimed at increasing the resilience of the most vulnerable people and households to disasters and, along with the World Bank, its work in the region is increasingly concentrated on improving drought resilience, early warning and emergency communication and management systems, flood management, building codes, and social safety nets. Going forward, GFDRR and the World Bank will continue to focus on the **Sahel Resilience Project**, along with an overall added emphasis in the region on building the capacity of national and regional institutions that play a part in disaster risk management. GFDRR will continue shifting from a technical assistance agenda to a wider investment strategy, taking advantage of new financial tools like Cat-DDOs.

## Opportunities

### Undergoing immediate disaster damage and loss analysis enables faster recovery from natural hazards

In assessing post-disaster needs in **Nigeria** during 2012,[6] a comprehensive analysis of damages and losses was performed across a wide spectrum of sectors. Teams identified the need for more than $7 billion in necessary recovery funding to enable government agencies to respond faster and more efficiently to the next disaster. Lessons learned showed that focused data enables a more rapid and effective response, that sustainable growth requires disaster risk management, and that partnerships are key to rapid, accurate assessments.

[6] https://gfdrr.org/stories-impact-series



# East Asia and Pacific

**Priority Countries: Indonesia, Marshall Islands, Papua New Guinea, Solomon Islands, Vietnam**

## Challenges

Rapid urbanization has created many economic opportunities for people and countries in East Asia and the Pacific. However, high population density and unplanned development make cities increasingly exposed and vulnerable to hazards in a region that is already the most disaster-affected one in the world.

Disasters in this region can quickly roll back hard-won economic and social development gains. For example, after Typhoon Haiyan hit **the Philippines** in November 2013, nearly half a million households were pushed into poverty, increasing the poverty rate from 41 percent to roughly 56 percent in some of the worst-affected areas. Additionally, the need to mainstream disaster risk management across sectors is necessary to increase resilience from the persistent storms and flooding in the region that disrupt livelihoods and halt economic production.

GFDRR is focused on building comprehensive disaster risk management programs in the East Asia and Pacific region that address the specific concerns of countries. In FY14, GFDRR grants in the region continued to focus on risk identification and reduction. A GFDRR risk analysis is leading to a $500 million World Bank flood management project in Ho Chi Minh City—**Vietnam's** largest city by population—while GFDRR support is flood-proofing roads in the countryside. In **Mongolia**, a newly launched disaster risk management program is strengthening the legal and institutional framework for such work, with GFDRR support.

In FY15 and beyond, GFDRR will focus on making critical infrastructure in the Philippines more resilient; supporting local governments in **Indonesia** to integrate risk considerations into land use planning; and establishing a regional disaster risk management plan to improve both early warning and post-disaster response efforts in **Pacific island countries**.

## Opportunities

### Conducting technical assistance across sectors is critical to mainstreaming DRM

Since 2012, GFDRR's technical assistance of $500,000 has been helping mainstream disaster and climate resilience into the transport sector through World Bank-financed projects totaling over $1 billion, including over $140 million in climate and disaster resilience investments. This has led to the construction of more than 450 kilometers of flood-resilient roads in Vietnam. Structural measures alone are not sufficient to tackle disaster risks. For example, road materials need to meet standards and make use of local resources, and an effective risk reduction strategy involves multiple sectors.

# Europe and Central Asia

## Priority Countries: Kyrgyz Republic

### Challenges

In Europe and Central Asia, flooding and landslides continue to be a significant challenge to almost all countries in the region. Meanwhile, in a trend unique to countries in Eastern Europe, many small cities are contracting in population as people leave for larger cities, putting added pressure on infrastructure that is often outdated and poorly maintained. In addition, there is a lack of data and understanding for risk identification measures.

In FY14, massive flooding in the Balkan region resulted in **Bosnia and Herzegovina** losing 15 percent of its GDP while **Serbia** lost 5 percent of it GDP and its former ranking in the Human Development Index. GFDRR-supported post-disaster needs assessments informed two World Bank projects for the countries, worth a total of $400 million. Earthquakes are a serious threat to many countries in the region, including Turkey, where 72 percent of its population lives in urban areas. In FY15, GFDRR will support a regional program in Central Asia focusing on earthquake risk reduction measures.

### Opportunities

#### Identifying risk and producing risk information can benefit people across a country

The lack of infrastructure and need to modernize structurally was a huge focus in past years where GFDRR largely provided support for early warning and preparedness activities in Europe and Central Asia. Now, however, it is shifting its focus to risk reduction efforts, including improved risk mapping and investments in risk reduction efforts. In Turkey, since 2005 with GFDRR support,[7] the country has been enhancing its seismic preparedness in Istanbul. As a result, 1,086 public buildings have been retrofitted or reconstructed, including schools that serve more than 1.1 million students and teachers, in addition to hospitals and clinics that serve about 8.7 million patients annually. Additionally, 662,000 people were trained in disaster preparedness and an estimated 5.5 million citizens reached. Setting up a strong, highly knowledgeable local team is key to successful implementation—projects have greater chances of success when they are implemented by local authorities, engineers, and managers with experience working on earthquake reconstruction projects, and who have extensive knowledge about city and national regulations. Also, increasing public awareness is critical to build public support for upgrading schools so that the communities are prepared and understand the benefits.

[7] https://gfdrr.org/sites/gfdrr/files/publication/GFDRR_Stories%20of%20Impact%20Istanbul%20Final.pdf



# Latin America and the Caribbean

## Priority Countries: Haiti and Panama

### Challenges

The Latin America and the Caribbean region has 9 of the top 20 countries ranked by economic losses due to extreme weather events in the past two decades. Many countries in the region are well advanced in disaster risk management and are enhancing their capacity to prepare and respond to disasters. Many smaller countries, especially those within the Caribbean and Central America that are hit by consistent disasters such as hurricanes, see the added value in working together to financially protect themselves through risk pooling initiatives.

**Haiti** is the largest recipient of GFDRR support in the region, with most grants going toward risk identification projects as well as integrating risk reduction approaches into key sectors, including public works and transport infrastructure. Going forward, the biggest challenge for GFDRR is assisting the government of Haiti to develop a coherent legal and institutional framework for disaster risk management.

Much of GFDRR's support in the Latin America and Caribbean region is for risk assessments that are then used to guide government decision making on types of disaster risk reduction infrastructure investments. For example, in FY14 many ministries of finance and some sector ministries in the region in countries like **Colombia**, **Costa Rica**, **Guatemala**, **Mexico**, **St. Lucia**, and **Uruguay** were seeking to understand how to better use disaster risk information for decision making. GFDRR has an opportunity to change development patterns across the region by supporting these ministries with targeted advice and knowledge services, helping them understand what disaster risk information to generate, how to access it, and how to use it. Latin American and Caribbean countries have suffered significant financial losses as a result of natural hazards, motivating ministries of finance to explore options for ex ante risk financing and insurance. This would increase governments' financial response capacity to adverse natural events and help mitigate their socioeconomic impact.

### Opportunities

#### Strong analytical processes to reduce risk has proven successful in Latin America and the Caribbean

In Belize,[8] the development of a national disaster risk management plan identified four priority regions where investment in the transportation sector would help reduce economic losses, ensure continued connectivity during floods, and protect vulnerable communities. Through this plan, the country will be able to prioritize investments to reduce risk and ensure the safety of its population. In order to do this, GFDRR, the government, and its partners determined that strong analytic work and a transparent decision-making process are critical to building stakeholder consensus. As well, developing national plans of scale requires comprehensive and iterative processes.

[8] https://gfdrr.org/sites/gfdrr/files/publication/GFDRR_Stories%20of%20Impact%20Belize%20Final%20ACP-EU.pdf

# Middle East and North Africa

## Priority Countries: Djibouti and the Republic of Yemen

### Challenges

While the number of natural disasters around the world has almost doubled since the 1980s, it has almost tripled in the Middle East and North Africa. Water scarcity, climate change, and rapid urbanization have aggravated the impact of natural hazards in a region where 3 percent of its surface area is home to 92 percent of the population. Moreover, conflict and fragility, socio-environmental degradation, lack of coordination across agencies, and insufficient data are increasing the exposure and vulnerability of millions across the Middle East and North Africa region.

With GFDRR support, **Algeria**, **Djibouti**, **Egypt**, **Lebanon**, **Morocco**, and the **Republic of Yemen** have been able to establish disaster risk management units within their central government, a critical step in a region that has historically approached disaster in an ad hoc manner. Often units are not equipped with the necessary technical and financial capacity to enact real change, or they lack the mandate to influence policy decisions. Thus, GFDRR is focusing work on improving coordination and data sharing between different levels and sectors within government, in addition to offering training tailored to specific hazards and government authorities.

In addition, GFDRR is expanding risk assessment, urban resilience, and risk reduction efforts in **Algeria**, **Djibouti**, **Egypt**, **Morocco**, **Saudi Arabia**, **West Bank and Gaza**, and **Yemen**; it is also increasing its support to the governments of **Kuwait** and **Lebanon**. Since 2007, GFDRR's grants to Middle East and North Africa countries have leveraged an estimated $650 million from other partners for risk management efforts in the region. In FY14, over 60 percent of GFDRR grants in the Middle East and North Africa focused on risk identification and reduction efforts.

### Opportunities

#### Providing access to data improves disaster coordination, preparedness, and response efforts

GFDRR support in Djibouti since 2012 has helped establish a reliable and systematized meteorological data collection system as part of a greater data management strategy. This strategy is helping with the dissemination of climate and disaster data while integrating DRM operations across ministries, relevant agencies, and other institutions. In the future, the country will be able to respond faster to disasters with the data now available.



# South Asia

## Priority Country: Nepal

### Challenges

South Asia has seen its annual number of disasters quadruple over the past four decades, and resulting damages have reached over $25 billion in the past five years alone. Despite the continuing increase in disaster risk in South Asia, public awareness and understanding of that risk—and how to manage it—remains low. For the development community, the challenge lies in demonstrating to the public and private sector the business case for developing the resilience of infrastructure, buildings, and social protection systems. Developing disaster risk financing and insurance strategies have become an important method for increasing awareness and opening realistic options for investment and meaningful policy change.

In **Bangladesh**, the tragic 2013 Savar building collapse in Dhaka showed the critical need for investment to address long-standing infrastructure weakness. Landslides in **Nepal** and northern **India** in August 2014 left hundreds dead and underscored the need for physical investment to stabilize slopes and reduce exposure and vulnerability. In **Sri Lanka**, nearly $500 million in unplanned expenditures resulting from flooding in 2010 and 2011 has strained government budgets and required reallocation from other planned development priorities.

To make the link between investment and return in disaster resilience, GFDRR will continue to assess the financial liabilities that countries face before these liabilities become real losses. In addition, financial risk analysis—including financial impact on both government and household budgets—will make it possible to provide post-disaster assistance to the poorest and most vulnerable by expanding on the cash transfer systems already used in existing social protection programs.

### Opportunities

#### Planning for disasters pays off

GFDRR has contributed $270,000 in India since 2011 to help implement the National Cyclone Risk Mitigation Project (NCRMP) in Odisha and Andhra Pradesh, improving the early warning systems, building risk mitigation infrastructure, and increasing capacity for vulnerability assessment. Successful disaster risk management initiatives in the country, including some with GFDRR support, enabled a 99.6 percent reduction in fatalities from a comparable cyclone in 1999. Odisha and Andhra Pradesh are adding 1,000 kilometers of new evacuation roads and 23 bridges to better connect communities, as well as 285 new cyclone shelters and 140 kilometers of improvements to existing coastal embankments. It is clear that successful disaster risk reduction can dramatically reduce causalities from natural hazards.

# Outreach & Partnerships

**GFDRR reaches out and develops partnerships to mobilize resources, increase opportunities for technical and operational collaboration, and share lessons learned from country-level work. Close cooperation with UN agencies is a cornerstone of this agenda.**

**Indonesia**

Community engagement is an essential part of effective disaster risk management. GFDRR works with hundreds of civil society organizations across all five pillars of action.
Photo credit: World Bank

## United Nations

During FY14 GFDRR continued its strong partnerships with UN agencies, particularly with UNISDR and UNDP, at both the global and country levels. After seven years and $30 million of funding through the World Bank's Development Grant Facility (DGF), GFDRR financing to UNISDR came to a completion in FY14. An independent evaluation of the UNISDR-implemented program shows that, as a result of the work financed by this partnership, there is now a stronger alignment between UN and World Bank disaster risk management activities.

Both the Millennium Development Goals (MDGs) and the Hyogo Framework for Action, which specifically addresses the issue of disaster risk, are set to expire in 2015. This presents an opportunity for the international community to ensure that the next generation of frameworks align and have a common set of indicators for measuring disaster risk reduction and resilience.

A key message that GFDRR, its partner governments, and other organizations support is the importance of building resilience throughout both the post-2015 Framework for Disaster Risk Reduction, which is set to be finalized in March 2015 in Sendai,[9] as well as the Sustainable Development Goals (SDGs), which are set to replace the MDGs in September 2015. GFDRR and its partners also note that having these frameworks adequately address resilient development will pave the way for mainstreaming disaster risk management across all levels of governments.

The international community is aware that disasters impact all development efforts and undermine progress towards achieving the MDGs. This is because effects from disasters are felt both directly (for example through the loss of lives, livelihoods, and assets) and indirectly (for example through the diversion of funds from development to emergency relief and reconstruction, or wider effects on economy and society). GFDRR and the United Nations, including UNDP and UNISDR, acknowledge that disaster and climate risk management needs to be integrated throughout the post-2015 development framework. This is because disasters disproportionately affect the poorest and most vulnerable populations, and hence not only impede the attainment of the MDGs concerned with poverty, hunger, health, and environmental status but also those pushing for improved gender equality and wider access to education.

GFDRR has been actively engaged with supporting the post-2015 agenda. In addition to providing technical inputs and participating in discussions on indicators, GFDRR is also co-authoring outreach and advocacy notes to highlight the importance of integrating disaster and climate resilience considerations into such international development frameworks. Given how closely linked GFDRR's mission is to the post-2015 processes, it will continue to be an active participant until these international frameworks are finalized.

[9] The DRM community is set to meet at the Third UN World Conference on Disaster Risk Reduction in Sendai, Japan, in March 2015.



## World Bank

In FY14, GFDRR continued to play a critical role in making disaster risk management a central part of World Bank operations. As part of the World Bank Group's reorganization last year, GFDRR is now hosted within the World Bank's newly-established Climate Change Group Vice Presidency. This new institutional arrangement recognizes the cross-cutting nature of disaster risk management, and will help ensure that it is included in World Bank initiatives across all practice areas.

GFDRR also played a major role in enabling the inclusion of disaster risk management in the next three-year programming cycle of the IDA, called IDA-17. Under IDA-17, the World Bank has committed to incorporating disaster and climate risk considerations into country partnership frameworks, and make them part of the monitoring and evaluation process for World Bank projects.

During FY14, with GFDRR support, the World Bank increased its financial commitments to disaster risk management operations and financial instruments for developing countries seeking to minimize the cost of disaster. Over 80 percent of the World Bank's active country assistance or partnership strategies now incorporate disaster and climate risk analysis, up from 70 percent in FY11, and 44 percent in 2006. Growth was particularly relevant in low-income countries that receive funding from IDA, with 63 percent of the World Bank's disaster risk management portfolio funded through the association.[10]

## Japan

In FY14, GFDRR launched the Japan-World Bank program to improve disaster risk management in developing countries. Activities under this $100 million program will have a strong focus on strengthening resilience, including risk identification, risk reduction, preparedness, and financial protection and will aim to connect Japan's knowledge with global expertise to support development planning and investment. To help meet this goal, GFDRR established the Tokyo Disaster Risk Management Hub in FY14 to manage the day-to-day operations of the program. The Tokyo Hub is coordinating closely with Japan and the World Bank to modernize hydrometeorological services in select countries, support the Pacific Catastrophe Risk Assessment and Financing Initiative, and include more private sector involvement in disaster risk management.

A first round of projects funded through the program have already begun, including a school retrofitting initiative in **Peru**, and a program for resilient infrastructure in South Asia. During May 2014, the hub organized a series of consultations, with Japanese civil society and regional organizations, to include civil society in its disaster risk management programming within the World Bank's strategy. In FY14, the hub arranged for authorities from **India's** Uttarakhand state to travel to Japan. The Uttarakhand officials learned how Japan prepares for and responds to frequent slope failures and landslides. Since then a number of collaborations have been established with Japanese organizations, such as Tohoku University.

[10] For the second year in a row, GFDRR completed a rigorous analysis tracking how much money went to disaster risk management in every World Bank activity. In FY14 it presented its findings to the World Bank and International Monetary Fund (IMF) governing body, the Development Committee, delivering on its commitment made during the Sendai Dialogue in FY13. The full report can be found here: http:// search.worldbank. org/ devcomm?_foldid_ exact=Documentation

## European Union

The European Union (EU) continues to be a leading partner of and the largest donor to GFDRR. In FY14, a large part of this collaboration occurred through the ACP-EU Natural Disaster Risk Reduction Program (see page 77 for more information). The EU also made a commitment to contribute an additional EUR 40 million ($51 million) starting in FY15 to continue improving disaster resilience in Sub-Saharan Africa. This brings the EU's total contribution to GFDRR to EUR 100 million.

The dialogue between GFDRR and the EU is now focusing on disaster risk financing and climate adaptation agendas, and on fostering cooperation at country and regional levels, beyond the scope of the ACP. The EU also joined GFDRR's advisory group on the Civil Society and Gender Strategy, bringing its knowledge and expertise to the goal of developing a strategy for including civil society in GFDRR-supported disaster resilience initiatives.

The EU continues to play an important role in promoting disaster risk management on the global stage. In FY14, it co-hosted or supported a number of GFDRR flagship events, including the Resilience Dialogue series, which are organized in partnership with the government of Japan and USAID as part of the World Bank Group-IMF Annual and Spring Meetings. The EU also provided financial support to GFDRR's annual Understanding Risk Forum (see page 56 for more information). GFDRR, in turn, participated in EU-hosted meetings and events, including the first EU Resilience Forum, held in Brussels in April 2014.

During FY14, GFDRR, along with the EU and UNDP, worked on finalizing *The Post-Disaster Needs Assessment Guide* and the *Disaster Recovery Framework Guide*, both of which were launched in FY15 at the Second World Reconstruction Conference.

FY14 saw the EU, GFDRR, the World Bank, UNDP, and other development partners continue to help governments conduct post-disaster assessments and develop recovery frameworks, many of them in the wake of floods and cyclones. Countries that received this support last year include **Bosnia and Herzegovina**, **Burundi**, **the Philippines**, **Serbia**, **the Solomon Islands**, and **Tonga**, as well as countries in the **Eastern Caribbean region**.



## Technical Experts, Academia, and Think Tanks

GFDRR works alongside international and local consultants, firms, and other technical experts to design, implement, monitor, and evaluate its programs. For example, DARA International's evaluation report[11] of GFDRR's program in a number of different countries presents the effectiveness of GFDRR's approach to improve DRM in countries where it operates.

[11] www.gfdrr.org/sites/gfdrr/files/publication/Evaluation_Report_GFDRR_Low_Res_June%2B2014.pdf

The Facility also works with a multitude of academic institutions to prepare students and communities for natural hazards. During FY14, for example, GFDRR collaborated with dozens of universities and think tanks to develop UNISDR's *Global Assessment Report 2015*, in addition to working with institutions such as the London School of Economics and the Overseas Development Institute to provide technical expertise on how to address poverty with a climate and disaster-resilient approach. GFDRR also works with many universities around the world, such as Tulane University and the University of **Djibouti,** to develop e-learning courses and in-class curricula to foster the next generation of disaster risk management experts.

## Private Sector

GFDRR recognizes that private sector involvement is critical to achieving sustainable results across the five pillars of disaster risk management. Businesses can provide not only financial resources, but also technical know how and innovative practices, and GFDRR—particularly through its thematic programs—found numerous ways in FY14 to connect this experience to disaster risk management initiatives in developing countries. GFDRR worked closely with technology companies such as Google to make information about hazard and risk more broadly available. The Understanding Risk Community continues to bring together thousands of practitioners and experts from the risk identification field, many of them from private sector companies. For example, during the 2014 Understanding Risk Forum, Google and Airbus committed to creating a higher resolution digital elevation model of the Earth, which is critical to understanding water-related risks. Insurance brokerage Willis and catastrophe risk management modeling and analytics firm Risk Management Solutions, Inc. (RMS), along with geospatial information company Esri and Google, partnered to host the forum.

Additionally, GFDRR's work in disaster risk financing and insurance relies on cooperation with insurance and reinsurance companies and professional associations to help countries build sustainable risk financing and insurance initiatives. Finally, GFDRR's Safer Schools Program engages engineering firms for expertise on safer design and building practices.

## Civil Society Organizations and Citizen Engagement

GFDRR works with hundreds of civil society organizations across all five pillars. For example, an FY14 GFDRR community-based flood resilience initiative in **Nepal's** Kosi Basin is now benefiting at least 70,000 people thanks to a $600,000 grant from the International Federation of Red Cross and Red Crescent Societies. GFDRR's Code for Resilience initiative hosted a series of hackathons around the world, bringing together technology and DRM experts with the goal of finding better ways for communities to address risks from natural disasters.

Through its Inclusive Community Resilience initiative, GFDRR will continue to leverage country investment programs that work directly with poor communities; support civil society and broader citizen engagement in disaster risk management for accountability; and continue to use GFDRR's and the World Bank's role as conveners to ensure the voices of the world's most vulnerable are part of national and global DRM dialogues.

## Media and Outreach

GFDRR's engagement with international media has increased over the last year, with several strategic relationships developed with Reinsurance Magazine, Devex, and other major news agencies covering development issues. Targeted campaigns were launched, often jointly with partners, around major events including the Understanding Risk Forum and Resilience Dialogue series. These campaigns featured media advisories, press releases, and exclusive interviews with experts.

Additionally, during FY14, GFDRR was mentioned in nearly 70 external publications, including The New York Times, CNN, The Guardian, and USA Today. This increased interaction with media is part of GFDRR's efforts to strengthen overall communications and outreach. These efforts also included the launch of a redesigned GFDRR website and a continuous social media presence on Twitter, Flickr, and external blogs that showcase GFDRR experts and knowledge across a range of DRM issues and topics.



# Focus on the ACP-EU NDRR Program

### Strengthening Disaster Risk Management in African, Caribbean, and Pacific Countries

The **African, Caribbean, and Pacific (ACP)-European Union (EU) Natural Disaster Risk Reduction Program** was launched in 2011 as an initiative of the ACP Group of States, funded by the EU and managed by GFDRR. Its main objective is to contribute to sustainable development and poverty eradication by reducing the burden of disasters on the poor and the most vulnerable through improved disaster risk reduction. It is funded by a six-year, EUR 54.5 million ($75.6 million) EU grant.

The program has financed a wide spectrum of disaster risk management activities, including risk assessments for **Lesotho**, **Rwanda**, **Sierra Leone**, **Timor-Leste**, and the **Caribbean region**; community-based resilience initiatives in **Liberia**, **Niger**, and **the Solomon Islands**; land use planning in **the Dominican Republic** and **St. Lucia**; risk financing, through both the Pacific Catastrophe Risk Assessment and Financing Initiative and a similar mechanism for Indian Ocean islands; and technical assistance to support preparedness and early warning systems in **Sierra Leone** and **Vanuatu**.

### Selected FY14 Results

Thanks to the Community-Based Disaster Risk Reduction Project, implemented by Oxfam in **Niger**, more than 3,000 community members—a third of them women—were trained in disaster risk reduction, including the collection and analysis of early warning data.

In **Belize**, the ACP-EU NDRR Program helped the government bring together NGOs and the private sector to draft a national climate resilience investment plan to flood-proof roads in four areas of the country, reducing economic losses and protecting vulnerable communities.

The **Southwest Indian Ocean Risk Assessment and Financing Initiative** was launched in April 2014. It will support **Indian Ocean countries** to better understand and manage the fiscal costs of disasters, and address the region's high vulnerability to disaster losses from cyclones, floods, earthquakes, and tsunamis.

The program financed post-disaster assessments in **Burundi**, **St. Lucia**, **St. Vincent and the Grenadines**, and **the Solomon Islands**, and provided technical assistance for recovery efforts in **Tonga**. These projects have been used to secure and inform substantial recovery investment programs, including a $12 million World Bank cyclone reconstruction initiative in Tonga and a $40 million World Bank risk reduction project in St. Vincent and the Grenadines.

In total, more than **400 government officials from 11 countries** have been trained on post-disaster needs assessments methodology since the program was launched.

**For more information** on the ACP-EU NDRR Program, please visit ⓘ www.drrinacp.org or email ⓘ infoacpeu@worldbank.org.

**Vanuatu**

The island nation of Vanuatu is one of the recipients of technical assistance from GFDRR through programs supported by ACP-EU in the Pacific Island region that strengthen preparedness and early warning capacity. Photo credit: The World Bank


# International Events

**In FY14, GFDRR promoted partnerships and collaboration through a number of wide-ranging international events, bringing together hundreds of representatives from government, development partners, academia, the private sector, and civil society to find solutions for climate and disaster risk.**

**United Kingdom**

"A Conversation with Champions for Disaster Resilience" at the 2014 Understanding Risk Forum. From left: Ngaire Woods (Professor of International Political Economy, Director of the Global Economic Governance Programme, Dean of the Blavatnik School of Government at University of Oxford), Kristalina Ivanova Georgieva (European Commissioner for International Cooperation, Humanitarian Aid, and Crisis Response), Justine Greening (U.K. Secretary of State, U.K. Department for International Development), Helen Clark (Administrator, UNDP), Rachel Kyte (World Bank Group Vice President and Special Envoy for Climate Change), and Cesar V. Purisima (Secretary of Finance, Republic of the Philippines). Photo credit: The World Bank

## 2013

### July

**Workshops:** A series of trainings on multi-hazard early warning systems were held in July and October 2013 at the Shanghai Meteorological Service in China. These workshops were delivered to participants from Cambodia, Ethiopia, Ghana, Indonesia, Lao People's Democratic Republic, Mozambique, Nepal, the Philippines, Sri Lanka, Vanuatu, and Vietnam—including 20 senior officials from national hydrometeorological services and disaster risk management agencies of 10 GFDRR priority countries. ⓘ www.gfdrr.org/shanghai-training-multi-hazard-early-warning-systems-through-south-south-cooperation

### October

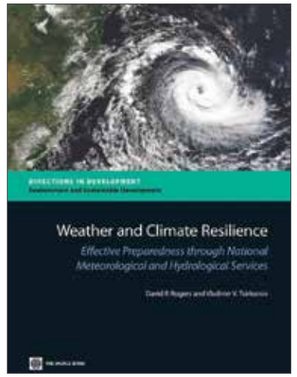
**Book Launch:** On October 21, the World Bank, Los Andes University, and GFDRR launched *Probabilistic Modeling for Disaster Risk Management, The Case of Bogota, Colombia.* The book contains risk analysis case studies undertaken in Bogota over the past 15 years and the resulting improvements made in disaster risk management. ⓘ www.worldbank.org/en/events/2013/10/08/disaster-risk-management-bogota-colombia



**Resilience Dialogue—Poverty Reduction in a Time of Extremes: Shared Prosperity through Resilience:** On October 11, 2013, policy makers attending the 2013 Annual Meetings of the World Bank and IMF convened for the fifth round of the Resilience Dialogue series. Speakers, including ministers of finance from Colombia, Japan, and Thailand, highlighted the critical need to invest in disaster resilience if countries hope to successfully reduce poverty. ⓘ www.gfdrr.org/resiliencedialogueam13

### November

**Fall Consultative Group Meeting:** The 14th GFDRR Consultative Group Meeting took place on November 13-14, 2013, in Washington, DC. The group took stock of progress over the last six months and provided a platform for discussion on key priorities, including GFDRR's new monitoring and evaluation framework.




**Book Launch:** GFDRR launched *Weather and Climate Resilience: Effective Preparedness through National Meteorological and Hydrological Services.* Faced with the growing risks of weather and climate disasters to economic and social development, the global community needs to act quickly to strengthen National Meteorological and Hydrological Services (NMHSs). ⓘ http://www.gfdrr.org/sites/gfdrr/files/publication/Weather_and_Climate_Resilience_2013.pdf

### December

**Live Chat:** On October 12, 2013, a Category 4 cyclone struck the coast of Odisha, India, the largest storm to hit India in 14 years. On December 18, the South Asia World Bank Disaster Risk Management team, with GFDRR support, organized a live chat with the World Bank team leader of the India National Cyclone Risk Mitigation Project (ⓘ www.worldbank.org/en/news/feature/2013/10/17/india-cyclone-phailin-destruction-preparation) to discuss how, through years of massive disaster risk mitigation and preparation efforts, the country avoided mass casualties and widespread destruction. ⓘ live.worldbank.org/how-india-weathered-cyclone-phailin-live-chat

## 2014

### January

**Code for Resilience Series:** GFDRR hosted a series of hackathon events and a competition to create a software application for communicating information about disasters. Events were held in Pakistan, Japan, Bangladesh, Haiti, India, Vietnam, and Indonesia throughout the beginning of 2014, with winners announced in June. ⓘ www.codeforresilience.org/

### February

**Japan-World Bank Hub:** Japan and GFDRR launched the Tokyo Disaster Risk Management Hub, as part of the $100 million Japan-World Bank Program. ⓘ www. worldbank.org / en/news/press-release/2014/02/03/world-bank-and-japan-partner-to-improve-disaster-risk-management-in-developing-countries

### April

**Resilience Dialogue—Saving Lives, Protecting Livelihoods: Building Resilience in a Changing World:** The World Bank, GFDRR, the government of Japan, the European Commission, and USAID hosted the sixth round of the Resilience Dialogue series as part of the 2014 World Bank and IMF Spring Meetings. ⓘ www.gfdrr.org/resiliencedialoguesm14


### May

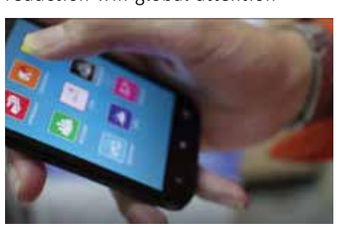
**Spring Consultative Group Meeting:** The 15th GFDRR Consultative Group Meeting took place in Oslo, Norway, on May 15-16. The group discussed GFDRR priorities, including monitoring and evaluation, the new trust fund architecture, and civil society and gender strategies. ⓘ http://blogs.worldbank.org/climatechange/sustainable-development-gains-require-greater-climate-and-disaster-resilience

### June

**Understanding Risk Forum:** In late June, 800 stakeholders gathered in London to collaborate on innovative approaches to creating and communicating disaster risk. Participants were part of a global community of over 2,900 experts and practitioners in the field of disaster risk assessment. ⓘ www.understandrisk.org/2014URFORUM

**Third Flood Risk Management and Urban Resilience Workshop:** Over 70 representatives from 12 countries in East Asia, the Pacific, and Africa convened from June 3-5 in Manila, to share and discuss best practices on integrated flood risk management and disaster resilience in cities. The workshop is part of a regional program supported by GFDRR, the World Bank, and the Republic of Korea. ⓘ www.worldbank.org/en/news/press-release/2014/06/02/philippines-policymakers-tackle-flood-risk-management-urban-resilience-in-manila

**Code for Resilience Grand Prize Winners:** The Code for Resilience global initiative connects technologists with mentors and sector specialists to create tech-based tools that help reduce disaster risk. Three teams won grand prizes for building innovative disaster resilience apps. The winners had the opportunity to pitch their tools to over 800 experts at the Understanding Risk Forum in London in June 2014 and participate in a study tour with major technology companies. ⓘ www.codeforresilience. org/blog/innovative-apps-disaster-risk-reduction-win-global-attention



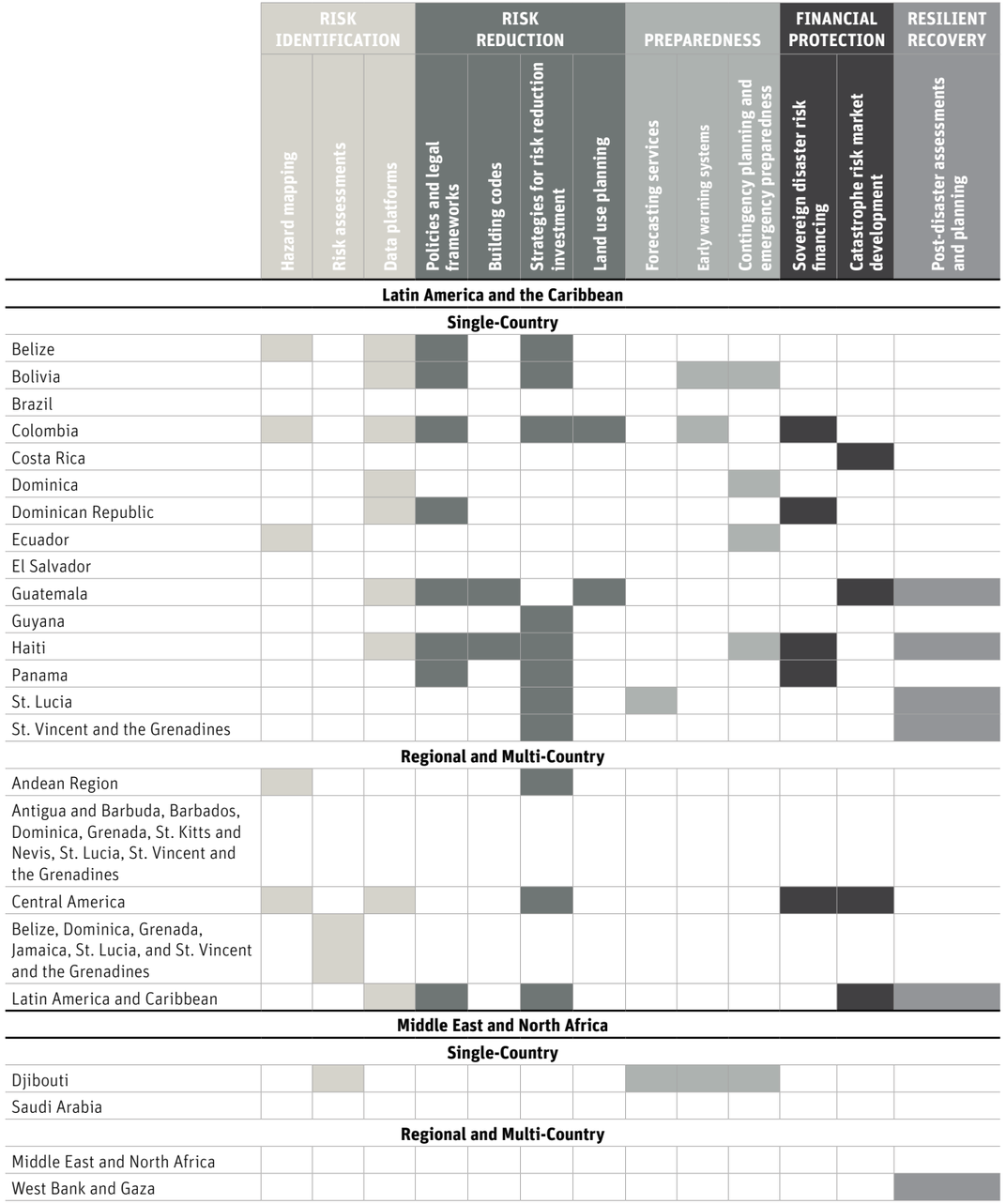
# Annexes

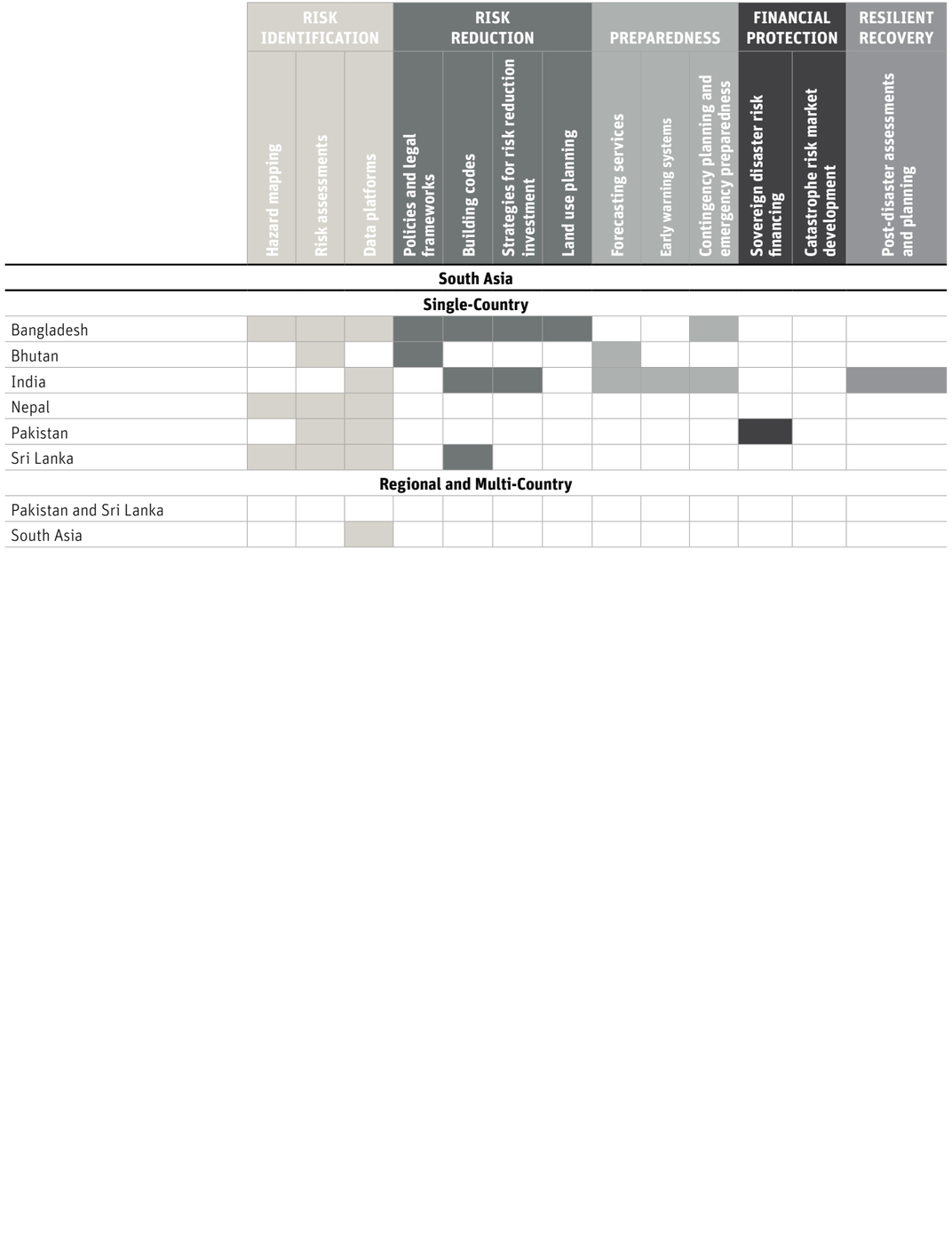
# Annex 1. Results Report

The following table summarizes the results delivered in each country that GFDRR supported in FY14.

| | RISK IDENTIFICATION | | | RISK REDUCTION | | | | PREPAREDNESS | | | FINANCIAL PROTECTION | | RESILIENT RECOVERY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Hazard mapping | Risk assessments | Data platforms | Policies and legal frameworks | Building codes | Strategies for risk reduction investment | Land use planning | Forecasting services | Early warning systems | Contingency planning and emergency preparedness | Sovereign disaster risk financing | Catastrophe risk market development | Post-disaster assessments and planning |
| **Africa** | | | | | | | | | | | | | |
| **Single-Country** | | | | | | | | | | | | | |
| Burkina Faso | | | | | | | | | | | | | |
| Burundi | | | | | | | | | | | | ■ | ■ |
| Comoros | | | | | | | | | | | | | |
| Ethiopia | | | | ■ | | ■ | | | | | | | |
| Gambia, The | | | | | | | | | | | | | |
| Ghana | | | | | | | | | | | | | |
| Lesotho | | | | | | | | | | | | | |
| Liberia | | | | ■ | | | | | | | | | ■ |
| Malawi | | | | ■ | ■ | ■ | ■ | | | | ■ | | ■ |
| Mali | | | | ■ | | | | | | | | | |
| Mozambique | | | | ■ | ■ | ■ | ■ | | | | | | |
| Namibia | | | | | | | | | | | | | |
| Niger | | | | | | | | | | | | | |
| Nigeria | | | | | | | | | | | | | ■ |
| Rwanda | | | | | | | | | | | | | |
| Senegal | | | | ■ | | | | | | | | | |
| Seychelles | | | | ■ | | | | | | | | | ■ |
| Sierra Leone | | | | | | | | | | | | | |
| Sudan | | | | | | | | | | | | | ■ |
| Tanzania | | | | | | ■ | | | | | | | |
| Togo | | | | | | ■ | | | | | | | |
| **Regional and Multi-Country** | | | | | | | | | | | | | |
| Burundi, Djibouti, Eritrea, Ethiopia, Kenya, Rwanda, Somalia, Sudan, Tanzania, Uganda | | | | | | | | | | | | | |
| Comoros, Madagascar, Malawi, Mozambique | | | | | | | | | | | | | |
| Djibouti, Eritrea, Ethiopia, Kenya, Somalia, Sudan, Uganda | | | | | | | | | | | | | |
| Indian Ocean Countries | | | | | | | | | | | ■ | ■ | |
| Sahel Region | | | | | | ■ | | | | | | | |
| Sub-Saharan Africa | | | | | | | | | | | | | ■ |

| | RISK IDENTIFICATION | | | RISK REDUCTION | | | | PREPAREDNESS | | | FINANCIAL PROTECTION | | RESILIENT RECOVERY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Hazard mapping | Risk assessments | Data platforms | Policies and legal frameworks | Building codes | Strategies for risk reduction investment | Land use planning | Forecasting services | Early warning systems | Contingency planning and emergency preparedness | Sovereign disaster risk financing | Catastrophe risk market development | Post-disaster assessments and planning |
| **East Asia and Pacific** | | | | | | | | | | | | | |
| **Single-Country** | | | | | | | | | | | | | |
| Fiji | | | | | | | | | | | | | |
| Indonesia | | | | | | ■ | ■ | | | | | ■ | |
| Kiribati | | | | ■ | | ■ | | | | | | | |
| Lao PDR | | | | | ■ | | | | | | ■ | | |
| Mongolia | | | | ■ | | | | | | | | | |
| Papua New Guinea | | | | | | | | | | | | ■ | |
| Philippines | | | | | ■ | ■ | | | | | ■ | | |
| Solomon Islands | | | | | | | | | | | | | |
| Timor-Leste | | | | | | ■ | | | | | | | |
| Tonga | | | | | | | | | | | | | |
| Vanuatu | | | | | | ■ | | | | | | | |
| Vietnam | | | | ■ | ■ | | | | | | | | |
| **Regional and Multi-Country** | | | | | | | | | | | | | |
| Asia and Pacific Regions | | | | | | | | | | | | | |
| Pacific Islands | | | | | | ■ | | | | | | | |
| East Asia and Pacific | | | | ■ | | ■ | ■ | | | | ■ | ■ | |
| **Europe and Central Asia** | | | | | | | | | | | | | |
| **Single-Country** | | | | | | | | | | | | | |
| Albania | | | | | | | | | | | | | |
| Armenia | | | | | | ■ | | | | | | | |
| Bosnia and Herzegovina | | | | | | | | | | | | | |
| Kyrgyz Republic | | | | | | | | | | | | | |
| Moldova | | | | | | | | | | | | | |
| Serbia | | | | | | | | | | | | | |
| Turkey | | | | ■ | ■ | ■ | | | | | | | |
| **Regional and Multi-Country** | | | | | | | | | | | | | |
| Central Asia | | | | | ■ | | | | | | | | |
| Europe and Central Asia | | | | | | | | | | | | | |
| **Global** | | | | | | | | | | | | | |
| Global | | | | ■ | | ■ | | | | | ■ | | ■ |


RISK IDENTIFICATION
RISK REDUCTION
PREPAREDNESS
FINANCIAL PROTECTION
RESILIENT RECOVERY
Hazard mapping
Risk assessments
Data platforms
Policies and legal frameworks
Building codes
Strategies for risk reduction investment
Land use planning
Forecasting services
Early warning systems
Contingency planning and emergency preparedness
Sovereign disaster risk financing
Catastrophe risk market development
Post-disaster assessments and planning
Latin America and the Caribbean
Single-Country
Belize
Bolivia
Brazil
Colombia
Costa Rica
Dominica
Dominican Republic
Ecuador
El Salvador
Guatemala
Guyana
Haiti
Panama
St. Lucia
St. Vincent and the Grenadines
Regional and Multi-Country
Andean Region
Antigua and Barbuda, Barbados, Dominica, Grenada, St. Kitts and Nevis, St. Lucia, St. Vincent and the Grenadines
Central America
Belize, Dominica, Grenada, Jamaica, St. Lucia, and St. Vincent and the Grenadines
Latin America and Caribbean
Middle East and North Africa
Single-Country
Djibouti
Saudi Arabia
Regional and Multi-Country
Middle East and North Africa
West Bank and Gaza


RISK IDENTIFICATION
RISK REDUCTION
PREPAREDNESS
FINANCIAL PROTECTION
RESILIENT RECOVERY
Hazard mapping
Risk assessments
Data platforms
Policies and legal frameworks
Building codes
Strategies for risk reduction investment
Land use planning
Forecasting services
Early warning systems
Contingency planning and emergency preparedness
Sovereign disaster risk financing
Catastrophe risk market development
Post-disaster assessments and planning
South Asia
Single-Country
Bangladesh
Bhutan
India
Nepal
Pakistan
Sri Lanka
Regional and Multi-Country
Pakistan and Sri Lanka
South Asia

# Annex 2. Financial Report

**Table 1. Sources and Uses of Funds** (in US$ millions)

| | Cumulative FY07-FY14 | FY14 | FY13 | Change FY14 - FY13 |
|---|---|---|---|---|
| **Opening Balance** | | **130.3** | **117.4** | |
| Total Contributions Received | 400.5 | 95.7 | 49.8 | |
| *Track II, Track III, ACP-EU, and Japan-World Bank Trust Funds [1]* | *369.5* | *95.2* | *47.8* | |
| *World Bank Group-DGF [2]* | *31.0* | *0.5* | *2.0* | |
| World Bank Administration Fees | (14.9) | (3.4) | (2.0) | |
| Investment Income | 4.0 | 0.4 | 0.4 | |
| **Net Sources of Funds [3]** | **389.6** | **92.8** | **48.1** | **+93%** |
| Total Project Disbursements | 187.9 | 33.0 | 31.4 | |
| Secretariat Program Management and Administration | 16.2 | 4.7 | 3.7 | |
| **Total Uses of Funds** | **204.1** | **37.7** | **35.1** | **+7%** |
| **Ending Balance** | **185.5** | **185.5** | **130.3** | |
| Cumulative Undisbursed Grant Commitment [4] | 99.7 | 99.7 | 75.4 | |
| **Fund Availability (All Tracks) [5]** | **85.8** | **85.8** | **54.9** | **+56%** |
| ACP/EU SDTF | 33.2 | | | |
| Japan-World Bank SDTF | 18.0 | | | |
| Track II MDTFs | 23.5 | | | |
| Track II SDTFs | 5.2 | | | |
| Track III MDTFs | 5.8 | | | |

*(1) Track II Multi-Donor Trust Funds (MDTFs) include: (i) Core Funds and (ii) South-South Cooperation Funds; Track II Single-Donor Trust Funds (SDTFs) include: (i) Australia SDTF, Japan SDTF, and Spain SDTF; and Track III Multi-Donor Trust Funds (MDTFs) include: (i) Technical Assistance (TA) Fund and (ii) Callable Fund.*

*(2) World Bank Group-DGF (Development Grant Facility) grants are received from the World Bank Group and are disbursed directly to partners.*

*(3) Net Sources of Funds = Total Contribution Received – World Bank Administration Fee + Investment Income.*

*(4) Cumulative Undisbursed Grant Commitments is the difference between Total Grant Commitments and Total Grant Disbursements.*

*(5) Fund Availability refers to the uncommitted resources available for GFDRR to finance new grants, and is the difference between the Ending Balance and Cumulative Undisbursed Grant Commitments.*

**Table 2. Contribution Received and Receivable by Donor, FY07-FY14** (in US$ millions)

| Country | FY07 – FY14 Contribution Received | | | FY15-FY20 Contribution Receivable (Est.) | Total Pledged Contributions [1] | % Share of Total Contributions |
|---|---|---|---|---|---|---|
| | FY14 | FY07- FY13 | Total | | | |
| Japan | 20.0 | 12.0 | 32.0 | 80.0 | 112.0 | 24.0% |
| European Union | 15.0 | 64.1 | 79.1 | 6.0 | 85.1 | 18.3% |
| United Kingdom | 41.2 | 31.9 | 73.0 | 0.2 | 73.2 | 15.7% |
| Australia | 4.1 | 33.1 | 37.2 | – | 37.2 | 8.0% |
| Sweden | – | 32.2 | 32.2 | – | 32.2 | 6.9% |
| Denmark | 3.7 | 12.7 | 16.3 | 10.0 | 26.3 | 5.7% |
| Germany | 5.4 | 18.6 | 24.1 | – | 24.1 | 5.2% |
| Norway | 2.9 | 11.6 | 14.5 | – | 14.5 | 3.1% |
| Spain | – | 10.0 | 10.0 | 0.3 | 10.3 | 2.2% |
| Netherlands | – | 8.7 | 8.7 | – | 8.7 | 1.9% |
| Switzerland | 0.9 | 7.6 | 8.5 | – | 8.5 | 1.8% |
| Luxembourg | 0.4 | 7.4 | 7.8 | – | 7.8 | 1.7% |
| Italy | 0.7 | 6.8 | 7.5 | – | 7.5 | 1.6% |
| United States | – | 5.0 | 5.0 | – | 5.0 | 1.1% |
| Canada | – | 3.1 | 3.1 | – | 3.1 | 0.7% |
| Austria | – | 3.1 | 3.1 | – | 3.1 | 0.7% |
| Ireland | 0.8 | 1.7 | 2.6 | – | 2.6 | 0.5% |
| Brazil | – | 1.7 | 1.7 | – | 1.7 | 0.4% |
| France | – | 1.6 | 1.6 | – | 1.6 | 0.3% |
| South Korea | – | 0.9 | 0.9 | – | 0.9 | 0.2% |
| India | 0.2 | 0.2 | 0.3 | 0.2 | 0.5 | 0.1% |
| **Total Member Contributions** | **95.2** | **274.2** | **369.5** | **96.6** | **466.1** | **100.0%** |
| World Bank Group-DGF | 0.5 | 30.5 | 31.0 | – | 31.0 | |
| **TOTAL** | **95.7** | **304.7** | **400.5** | **96.6** | **497.1** | |

*(1) Total Contributions = FY07-FY14 Contributions Received + FY15-FY20 Contribution Receivable.*

**Table 3. GFDRR Grant Commitments for Program Activities,[1] DGF Grant, and Secretariat Program Management and Administration, FY07-FY14** (in US$ millions)

| Grant Commitments | FY07-FY10 | FY11 | FY12 | FY13 | FY14 | Cumulative FY07-FY13 |
|---|---|---|---|---|---|---|
| Program Activities | **65.6** | **46.0** | **36.1** | **40.5** | **61.3** | **249.4** |
| ACP/EU SDTF | – | – | 2.2 | 19.1 | 10.3 | 31.7 |
| Track II MDTFs | 50.1 | 35.5 | 27.2 | 16.5 | 21.7 | 150.9 |
| Track II SDTFs | 5.4 | 2.3 | 4.7 | 3.2 | 0.3 | 16.0 |
| Track III MDTFs | 10.1 | 5.8 | 2.2 | 1.7 | 29.1 | 48.9 |
| Track III SDTF | – | 2.3 | (0.3) | – | – | 2.0 |
| World Bank Group-DGF Grants | **20.0** | **4.3** | **4.3** | **2.0** | **0.5** | **31.0** |
| Secretariat Program Management and Administration | **4.6** | **1.5** | **4.6** | **10.7** | **1.8** | **23.3** |
| **TOTAL** | **90.2** | **51.7** | **45.0** | **53.2** | **63.6** | **303.7** |

*(1) Grant Commitments for Program Activities refer to grants awarded to GFDRR implementing partners, including World Bank operational task teams and recipient countries, after GFDRR review and subsequent completion of World Bank's grant funding request process.*

**Table 4. GFDRR Grant Disbursement[1] for Program Activities, DGF Grant, and Secretariat Program Management and Administration, FY07-FY14** (in US$ millions)

| Grant Disbursements | FY07-FY10 | FY11 | FY12 | FY13 | FY14 | Cumulative FY07-FY13 |
|---|---|---|---|---|---|---|
| Program Activities | **37.4** | **24.5** | **33.1** | **29.4** | **32.5** | **156.9** |
| ACP/EU SDTF | – | – | 0.6 | 2.9 | 6.0 | 9.5 |
| Track II MDTFs | 28.1 | 17.1 | 25.7 | 20.7 | 20.4 | 111.9 |
| Track II SDTFs | 2.4 | 1.4 | 1.8 | 3.2 | 3.4 | 12.3 |
| Track III MDTFs | 6.8 | 5.8 | 3.3 | 2.5 | 2.7 | 21.1 |
| Track III SDTF | – | 0.2 | 1.8 | – | – | 2.0 |
| World Bank Group-DGF Grants | **20.0** | **4.3** | **4.3** | **2.0** | **0.5** | **31.0** |
| Secretariat Program Management and Administration | **4.0** | **1.6** | **2.2** | **3.7** | **4.7** | **16.2** |
| **TOTAL** | **61.4** | **30.3** | **39.6** | **35.1** | **37.7** | **204.1** |

*(1) Grant disbursement refers to the actual expenditure incurred by implementing partners to deliver the agreed output and outcomes.*

**Table 5. GFDRR Secretariat Expenditures, FY07-FY14** (in US$ millions)

| Expense Type | FY07-FY10 | FY11 | FY12 | FY13 | FY14 | Total |
|---|---|---|---|---|---|---|
| Staff Costs [1] | 2.8 | 1.2 | 1.8 | 3.4 | 3.1 | 12.4 |
| Travel [2] | 0.7 | 0.3 | 0.3 | 0.1 | 0.5 | 1.9 |
| Other Expenses [3] | 0.5 | 0.1 | 0.1 | 0.2 | 1.0 | 1.9 |
| **TOTAL** | **4.0** | **1.6** | **2.2** | **3.7** | **4.7** | **16.2** |

*(1) **Staff Costs** included salaries and benefits for GFDRR staff and Extended Term Consultant and Extended Term Temporary.*

*(2) **Travel** included travel expenses of GFDRR staff, candidates/interviewees for GFDRR positions, Annual Meeting participants, and other participants in GFDRR-sponsored events.*

*(3) **Other Expenses** included overhead expenses, the use of short-term consultants and other contractual services (e.g. editing, graphic design, translation, publishing and printing, representation, hospitality).*

## Acronyms

| | |
|---|---|
| ACP | African, Caribbean, and Pacific |
| Cat-DDO | Catastrophe Deferred Drawdown Option |
| CCRIF | Caribbean Catastrophe Risk Insurance Facility |
| DGF | Development Grant Facility |
| DRM | Disaster risk management |
| EU | European Union |
| FY | Fiscal year |
| GDP | Gross domestic product |
| GFDRR | Global Facility for Disaster Risk Reduction and Recovery |
| HFA | Hyogo Framework for Action |
| HOT | Humanitarian OpenStreetMap Team |
| IDA | International Development Association |
| IMF | International Monetary Fund |
| JICA | Japan International Cooperation Agency |
| MDG | Millennium Development Goals |
| MDTF | Multi-Donor Trust Fund |
| NGO | Non-governmental organization |
| OpenDRI | Open Data for Resilience Initiative |
| PCRAFI | Pacific Catastrophe Risk Assessment and Financing Initiative |
| SDTF | Single-Donor Trust Fund |
| SDGs | Sustainable Development Goals |
| WMO | World Meteorological Organization |
| UN | United Nations |
| UNDP | United Nations Development Programme |
| UNFCCC | United Nations Framework Convention on Climate Change |
| UN-HABITAT | United Nations Human Settlements Programme |
| UNISDR | United Nations Office for Disaster Risk Reduction |
| USAID | United States Agency for International Development |

GFDRR is committed to creating a world where resilient societies manage and adapt to emerging disaster risks and the human and economic impacts of disasters are reduced.

— GFDRR's Vision Statement, 2013-15 Partnership Strategy


www.gfdrr.org

The Global Facility for Disaster Reduction and Recovery (GFDRR) helps high-risk, low-income developing countries better understand and reduce their vulnerabilities to natural hazards, and adapt to climate change. Working with over 300 partners—mostly local government agencies, civil society, and technical organizations—GFDRR provides grant financing, on-the-ground technical assistance to mainstream disaster mitigation policies into country-level strategies, and a range of training and knowledge sharing activities. GFDRR is managed by the World Bank and funded by 25 donor partners.