

RESILIENT CITIES

Reducing urban risk

Cities are growing rapidly. Urban areas are adding 1.4 million people every week, and more than half of the land projected to be urban by 2030 has not yet been developed. The decisions that cities make now about land use, investment, and infrastructure will cast a long shadow, affecting resilience for years to come. By helping cities avoid losses, and citizens avoid sliding into poverty, improved urban resilience can safeguard development gains for future generations.

WHAT WE DO

-  The program helps World Bank task teams work with cities to better manage ongoing stresses and prepare for, withstand, and recover from acute shocks, such as disasters.
-  The program helps develop tools and knowledge that help decision-makers and municipal leaders determine how to reform policies, and where and how to invest to increase their city's resilience
-  The program offers assistance that cuts across sectors, taking a broad, inclusive approach to the highly interrelated challenges that cities face.

90%

of urban growth is taking place in the developing world.

77 million

people could fall into poverty by 2030 without investment in urban resilience

\$1.1 trillion

The annual cost to make required urban infrastructure investments low-emissions and climate-resilient runs from \$400 million to \$1.1 trillion.

OUR APPROACH

Designing Tools, Sharing Knowledge

GFDRR develops new tools, methodologies, and knowledge on urban resilience for decision-makers. These knowledge products help municipal leaders decide how to invest resources and reform policies to best build and maintain resilience. They also fill gaps in our current global knowledge about how to approach the problems that growing cities face.

- » The **CityStrength Diagnostic** helps urban stakeholders understand what risks threaten their cities and how to reduce them. The diagnostic identifies the main risks in key sectors and helps decision-makers look across all sectors to prioritize investments and action.
- » Strong, well-enforced building codes can protect lives and property from both disasters and chronic, ongoing stresses. The **Building Regulation for Resilience Program** works to reduce risk by improving building standards and their implementation. The program partners with national and municipal stakeholders to determine how to improve building standards, better apply building codes, and encourage increased compliance.

Leveraging The World Bank

The initiative aims to increase the quantity and quality of World Bank engagements in urban resilience.

- » **Investing in Urban Resilience** is a joint GFDRR/World Bank Group report that sets out how the World Bank Group can facilitate and encourage greater public- and private-sector investment in urban resilience.
- » GFDRR provided an initial \$1.5 million to scale up the **City Resilience Program (CRP)**, which aims to consolidate the World Bank Group's urban engagements across sectors. By providing a platform for all city-level reforms and investments that build resilience, whether in infrastructure, governance, or finance, CRP aims to foster a more integrated, comprehensive approach. To better address significant investment needs, CRP also works to raise capital from sources beyond the World Bank Group, including private sector finance, institutional investors, other multilateral development banks, and donors.

Building Partnerships

Partnerships with other international organizations, cities, and operational partners are a key part of making cities around the world able to withstand shocks and stresses.

- » The **Medellin Collaboration** brings together 10 organizations, including GFDRR, the World Bank, UN-Habitat, UNISDR, the Inter-American Development Bank, and Rockefeller 100 Resilient Cities. Since 2014, these organizations have been sharing knowledge and coordinating their work to help cities boost their resilience.
- » **The Rockefeller Foundation's 100 Resilient Cities** initiative partners with participating cities to develop and implement a holistic strategy to build physical, social, and economic resilience. GFDRR's partnership helps ensure coordinated efforts in cities where both 100 Resilience Cities and the World Bank are engaged, and leverages our global experience to assist cities in their roadmap to resilience.
- » The **Cities Alliance** helps fund and implement a **Joint Work Program on Urban Resilience**, drawn up by the Medellin Collaboration, of resilience activities that members can pursue together. The Alliance has also helped the World Bank Group further develop, in partnership with the **C40 Cities Climate Leadership Group**, a **climate change action planning tool** for cities.

STORIES

Can Tho, Vietnam

With a growing population of more than 1.2 million, Can Tho sits on the banks of the Hậu River. The largest city and main commerce hub in Vietnam's Mekong Delta region, which is home to more than 17 million people. But increased industrialization and urbanization have placed greater stress on existing electricity and transportation systems, which are vulnerable to disaster, especially seasonal flooding, which can last for weeks. Can Tho's development is also threatened by rising sea levels and the potential that the land it rests on will sink in the coming years.



In June 2014, the city invited a team of World Bank specialists working with local officials, technical staff, and stakeholders, to carry out a CityStrength Diagnostic. The Diagnostic, which identifies priorities for investment and areas for action to build resilience, recommended ways for Can Tho to address both flooding and uncontrolled urbanization. By more proactively guiding urban growth to areas with lower flood risk, including the higher elevation areas near the heart of the city, Can Tho would be able to protect development progress and save lives.

The result was the \$250 million Can Tho Urban Development and Resilience project. The project aims to reduce flood risk, improve connectivity between the city center and the new, low-risk urban growth areas, and enhance the capacity of city authorities to manage disaster risk. With \$10 million in support from the Switzerland State Secretariat for Economic Affairs (SECO), Can Tho can build its capacity to manage risk and respond to disasters when they occur.

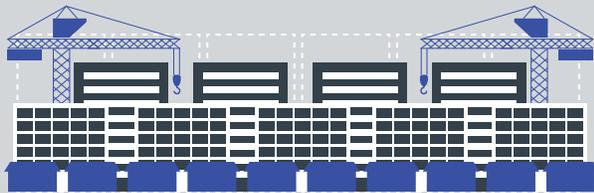
In addition to currently being part of the 100 Resilience Cities initiative, Can Tho continues to benefit from GFDRR technical support that aims to strengthen the city's resilience to climate change through improved flood risk management.



ACTIVE ENGAGEMENTS

ENGAGEMENT LEVEL

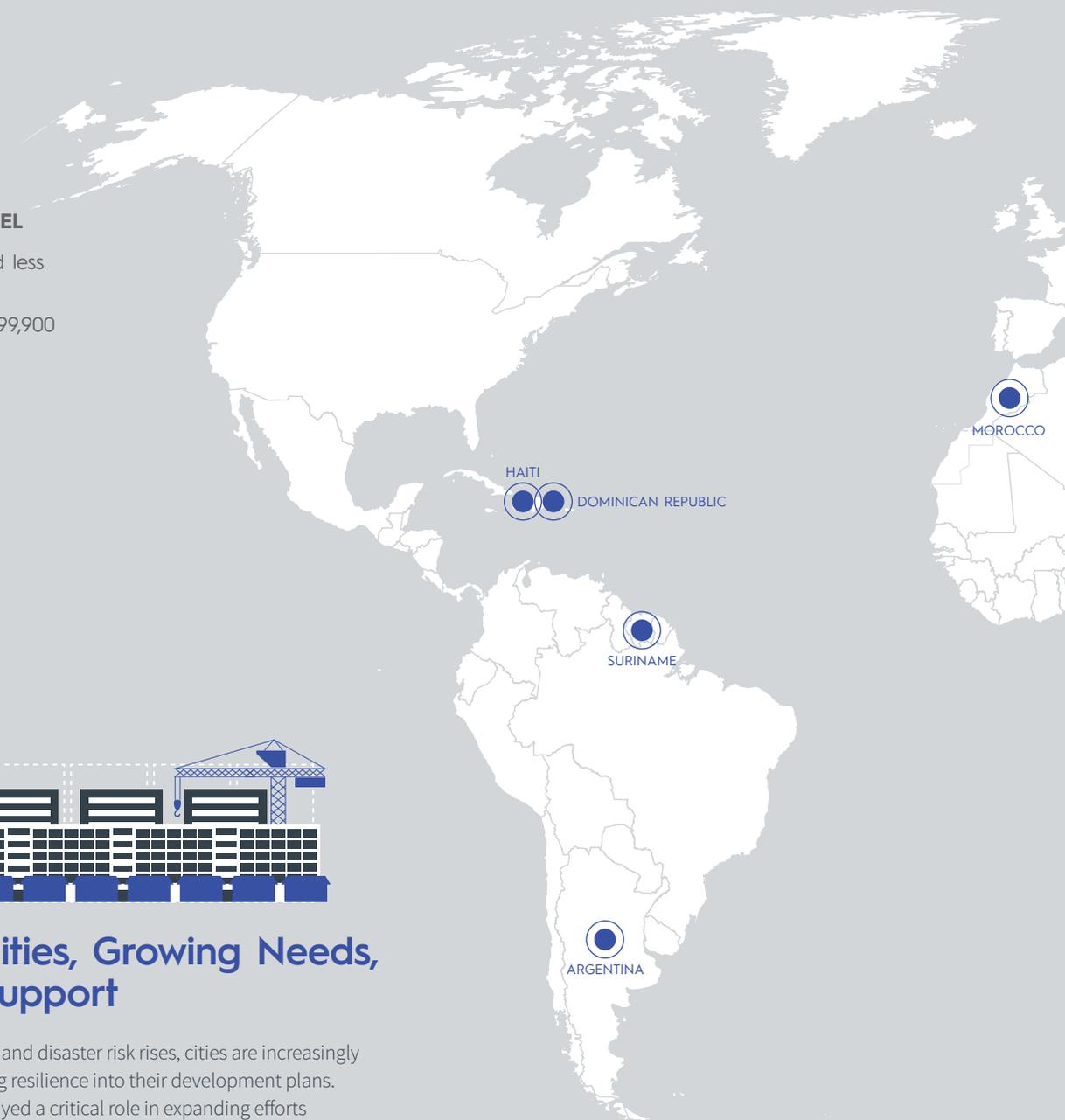
-  \$500,000 and less
-  \$500,100-\$1,499,900
-  \$1,500,000+



Growing Cities, Growing Needs, Growing Support

As urban areas expand and disaster risk rises, cities are increasingly interested in integrating resilience into their development plans. GFDRR support has played a critical role in expanding efforts to advance urban resilience as a critical element of sustainable development. Recently, a series of high-quality technical assistance and analytical work by GFDRR, along with continued demand from cities, has brought urban resilience into the spotlight.

As a result, the World Bank Group is doubling down on urban resilience, committing to more engagements and to leveraging private capital to expand resilience efforts. Preparations for operational engagements are currently underway in 12 cities. With GFDRR support, the World Bank has committed to leveraging \$10 billion in private capital to build urban resilience through comprehensive investment programs in 50 cities over the next decade.





Next Steps

- » Scale-up the **City Resilience Program Multi-Donor Trust Fund**: Starting with an initial contribution of \$9 million from the Switzerland State Secretariat for Economic Affairs (SECO), GFDRR will continue to work towards raising its \$50 million target in support of the City Resilience Program.
- » **Continue to support growing demand for technical assistance and knowledge products** through the City Resilience Program, the Building Regulation for Resilience program, and regional engagements.
- » **Highlight lessons learned** through the evaluation of previous projects, focusing on early results and factors enabling success.

STORIES

Dhaka, Bangladesh

Dhaka, Bangladesh's densely-populated megacity capital of 14.3 million, is not only vulnerable to floods and cyclones, but to earthquakes as well. About 350,000 migrants move to the city each year, leaving land-use planning regulation and emergency response lagging behind.

With technical assistance from GFDRR, more than 40 stakeholders from government ministries and agencies have come together to research the state of seismic risk and emergency response. These efforts laid the foundation for the Bangladesh Urban Resilience Project, a \$175 million World Bank-financed project that benefits approximately 17 million residents in Dhaka and Sylhet.

By assessing the vulnerability of critical infrastructure, the project is working to better guide investments in retrofitting. The project is tackling resilience from the planning stages, by improving construction practices to take disaster risk into consideration during development planning, and reforming the process for gaining clearance for land use, zoning, and new construction. New facilities and equipment are boosting the cities' capacity to respond in an emergency, so that when a disaster does strike, the government will not only be prepared, but ready to respond.

Dakar, Senegal

For low-income residents of Senegal's cities, flooding is a problem. As cities have expanded, informal settlements have sprung up in low-lying areas on their outskirts, built on soil with low rates of water absorption. Without drainage systems, and with access to sanitation services for only 39% of these settlements, flooding can be not only disruptive, but deadly.

In 2008, GFDRR supported a risk assessment and Senegal's first-ever Post-Disaster Needs Assessment (PDNA) to lay the groundwork for smart investments in resilience. The PDNA's recommendations resulted in the creation of the Storm Water Management and Climate Change Adaptation Project (PROGEP). With support and \$70 million in financing from the World Bank, the Nordic Development Fund, and the Global Environment Fund, PROGEP is tackling the causes of Senegal's flooding problem.

A drainage and reservoir system now protects nearly 100,000 people and more than 400 hectares from flooding, while a drainage master plan for near-urban areas covers more than 60% of Dakar's population. To reduce the underlying risk of floods, the project includes the design of drainage channels for year-round use, which will significantly lower the groundwater level.

With sea levels projected to rise up to one meter by the end of the century, putting more than 100,000 people at risk, GFDRR and Dakar are also looking ahead to the future. They are working together to integrate climate risks into urban planning and management, map out flood-prone areas, and empower locals and community groups to engage in flood-risk reduction measures and climate change adaptation.



Istanbul, Turkey

Istanbul's foundations, and its 15 million residents, rest on the North Anatolian Fault. In 1999, the 7.1 magnitude Marmara earthquake, with its epicenter in northwest Turkey, killed more than 17,000 people and caused \$5 billion in damage.

To prevent a similar disaster from decimating the city in the future, Istanbul has worked to increase its resilience to earthquakes, enhancing seismic preparedness and retrofitting and reconstructing critical public buildings. GFDRR technical assistance has been a key component in the Istanbul Seismic Risk Mitigation Project (ISMEP), a \$1.5 billion operation that brings together financing from the World Bank, European Investment Bank, the Council of Europe Development Bank, and the Islamic Development Bank.

Over the course of the project, more than 1,000 public buildings were made more resilient to earthquakes – including schools that serve more than 1.1 million students and teachers, and hospitals and clinics that serve nearly 8.7 million patients annually. In addition to strengthening infrastructure, the project also increased institutional and human capacity: Nearly 700,000 people were trained in disaster preparedness, more than 3,600 civil engineers were trained in Turkey's seismic retrofitting code, and 5.5 million citizens were reached through a Public Awareness and Neighborhood Community Volunteers program. These efforts put disaster resilience in the spotlight for ordinary citizens and officials alike.

“The ISMEP project’s holistic approach addresses many aspects of disaster management, including softer elements such as public awareness. Through this project, we have made great progress in Istanbul that would have been otherwise difficult.” —**Gökay Atilla Bostan**, Istanbul AFAD Director



GFDRR Engagement Notes

Urban Resilience

gfdr.org/urban-resilience

Contact

Josef Leitmann

jleitmann@worldbank.org

CITY RESILIENCE PROGRAM:

Marc Forni

mforni@worldbank.org

BUILDING REGULATION FOR RESILIENCE PROGRAM:

Thomas Moullier

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The Global Facility for Disaster Reduction and Recovery (GFDRR) is a global partnership that helps developing countries better understand and reduce their vulnerability to natural hazards and climate change.

GFDRR is a grant-funding mechanism, managed by the World Bank, that supports disaster risk management projects worldwide.

Working on the ground with over 400 local, national, regional, and international partners, GFDRR provides knowledge, funding, and technical assistance.