



Adaptation and Resilience: A Priority for Development and Poverty Reduction

The Challenge

Climate change and natural disasters increasingly affect people's well-being and development prospects. While fatalities from climate-related disasters have decreased, thanks to better risk management, economic losses have grown sevenfold globally since the 1970s.¹ Natural disasters push 26 million people into poverty every year, with long-term human capital and welfare impacts.²

Climate change and disaster impacts disproportionately affect the poorest and most vulnerable populations, especially in low- and middle-income countries. They may cause 216 million people to migrate in their own country by 2050,³ and push as many as 132 million people into poverty by 2030.⁴ Climate change will affect food prices and food security, health, and labor productivity, and bring more frequent and severe floods, droughts, and storms.

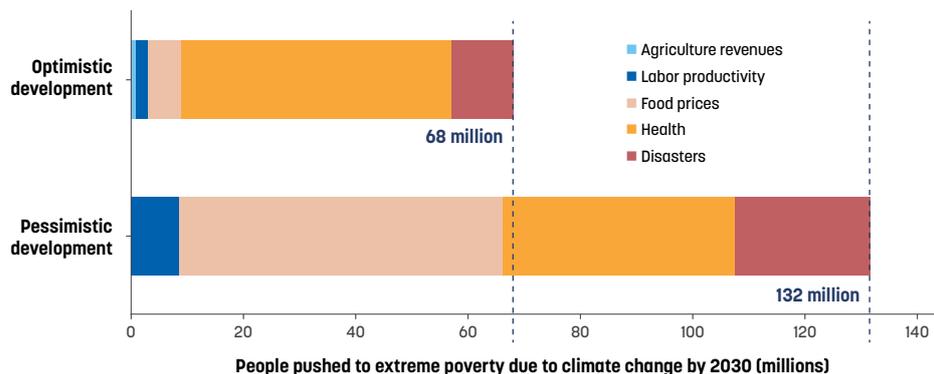
Investing in climate resilience presents an enormous economic opportunity: On average, \$1 invested in resilient infrastructure yields \$4 of benefits, with total net benefit of \$4.2 trillion over the lifetime of new infrastructure assets in low- and middle-income countries.⁵ Similar opportunities exist in other sectors, with benefit-cost ratios larger than 4 for early warning systems, and 2–10 in other sectors.⁶

Despite the demonstrable benefits in terms of lives saved⁷ and losses avoided,⁸ investments in adaptation and resilience are far from adequate. Too much public and private infrastructure is built following outdated standards and not designed to be resilient to current or future risks. New urbanization continues in flood zones.⁹ And while some innovation is occurring, it is not reaching those who need it most.¹⁰

What is Needed?

The poorer communities are, the more climate change will affect them. The converse is also true: as people come out of poverty, they are less vulnerable to climate impacts, thanks to higher savings, better education, and access to more resilient infrastructure services and health care. Therefore, a first response is to support rapid development and inclusive growth. As shown in Figure 1, in a scenario with rapid and inclusive development ("optimistic"), the impact of climate change on poverty by 2030 could be halved relative to a scenario with slower development progress ("pessimistic").¹¹ To meet communities' needs in a changing climate, however, rapid and inclusive development needs to be supported by targeted actions to boost resilience.

FIGURE 1: Rapid and inclusive development reduces the near-term (2030) impacts of climate change



The World Bank Group’s [Adaptation Principles report](#)¹² identifies four priorities for boosting resilience:

- » It is important that the **private sector** has the regulatory and policy environments needed to be able to adapt.
- » **Public investments, assets, and services** need to be better protected from climate impacts—for instance, through land use and infrastructure planning.
- » It is vital to invest in **preparedness**, such as early warning and emergency management systems, financial inclusion (including insurance), and strong financial and social systems.
- » Adaptation needs to be **mainstreamed in policy, planning, budgets, and monitoring**, and public finance needs to support resilience through a more robust tax base and [financial instruments](#) such as reserve funds, contingent finance, regional risk pools, and insurance schemes.¹³ A whole-of-the society approach, with iterative learning and evaluation, is essential to boosting adaptation at all levels.

How Is the WBG Contributing to Solutions?

The World Bank Group (WBG) is today the world’s largest financier of climate action in developing countries, accounting for over [two-thirds of adaptation finance](#) in 2020.¹⁴ In fiscal year 2021 alone, the WBG delivered about \$10.7 billion to support adaptation—over half of its total climate finance, in line with its target to have 50% of its climate finance support adaptation. The WBG is also contributing heavily through its knowledge work at global and country levels.

As part of its new [Climate Change Action Plan 2021–2025](#),¹⁵ the WBG is aiming to prioritize adaptation and resilience on several fronts. At the strategic level, this will entail working with client countries to support climate and development diagnostics, planning and policies to align their financial flows with the low-carbon and climate-resilient goals of the Paris Agreement.¹⁶ Key sectoral priorities include resilient infrastructure, climate-smart agriculture and food security, nature-based solutions

and the blue economy, resilient cities, supporting country governments to increase the resilience of key industries through business continuity planning, and reducing shocks and protecting livelihoods through hydro-meteorological services and early warning systems.

WBG support for solutions can be organized in three main areas:

- » Information, tools, and data for decision-makers to **spend better** by mainstreaming resilience and climate change in decisions and investments in a cost-effective way;
- » Investments and mobilization of private capital to **spend more** on physical resilience and adaptation; and
- » Policies and systems to boost **social and financial resilience** to cope with and recover from impacts that cannot be prevented.

Spend better by mainstreaming adaptation and resilience

The WBG informs decision-making by national governments or private sector parties. In Ethiopia, the WBG helped develop guidelines on climate and disaster risks that were applied in the 2021 national budget. As a result, projects are now subject to climate and disaster risk screening and appraisal. At the urban level, the [City Scan tool](#) visualizes and assesses the shocks and long-term stresses faced by cities to help identify priority actions and investments.¹⁷ Its applications have resulted in nine potential public-private partnerships and resilient infrastructure projects across eight African cities.

In our private sector investments, projects are screened for climate risks. Due diligence by the International Finance Corporation (IFC) on a forestry investment in Colombia, and by the Multilateral Investment Guarantee Agency (MIGA) on a rural transport investment in Kenya, both identified climate risks and mitigation measures that were then implemented, such as drought and wind-resistant planting material and enhanced flood control measures.

Tools and data for more resilient investments and decisions

Access to climate and multi-hazard meteorological data is critical for resilience planning and disaster prevention. The Bank is actively working with the World Meteorological Organization and others to support development of early warning systems, such as through an innovative financing initiative, the [Systematic Observations Financing Facility](#).¹⁸

To improve access to climate information and support adaptation, the Bank hosts an online climate data platform, the [Climate Change Knowledge Portal \(CCKP\)](#),¹⁹ which provides climate data and climate-risk information that users can use to define, understand, and communicate future climate change scenarios.

An accompanying [stress-testing method and tool \(RiST\)](#) helps integrate climate and disaster risks in the economic analysis of investments.²⁰ It can be used internally for WBG projects as well as by countries and private sector investors. And it supports the development of a [Resilience Rating System](#) that can be used to monitor and report on how disaster and climate risks are integrated in project design and appraisal, but also help drive investments toward the most resilient projects.²¹

Spend more on physical resilience and adaptation

The WBG supports increased adaptation investments through its financing. Examples include a major program in Kerala, India, that will reorganize the state's agriculture department along climatic and ecological zones. The program aims to boost the state's resilience by supporting urban and local governments with planning for unexpected shocks. In parallel, IFC Advisory Services are working with the Kerala Infrastructure Investment Fund to help incorporate climate resilience aspects in all infrastructure projects financed through the institution, and also to create the first diaspora bond in India. A core aspect of effective adaptation capacity building is support for communities themselves to control the funding and decision-making on investments. The Bank has a large portfolio of these [Community Driven Development](#) programs, including in the Philippines, Indonesia, Bangladesh, and Kenya, among others.²²



A stormwater drainage system that helped build resilience in Beira, Mozambique. Resilience-building interventions in the city, including implementing nature-based solutions, helped the city manage the impacts of Cyclone Idai in 2019. –PHOTO BY SARAH FARHAT / WORLD BANK

Mobilizing private finance is a key part of the effort to drive greater investment in resilience and adaptation. The WBG initiative “[Enabling Private Investment in Climate Adaptation and Resilience](#)” is advancing analytical efforts to better understand barriers to private sector investments in adaptation and to identify investable projects.²³ A core challenge with resilience investments is that, while large, the benefits typically come in the form of avoided impacts. This means they are not always visible or easy to monetize for those making the investment. In their private sector operations, IFC and MIGA work with clients to demonstrate the business case for climate resilience. Tools such as the [Resilience Rating System](#) and IFC's [Building Resilience Index](#)²⁴ can also give an edge to well-designed, resilient projects by making their quality more visible to decision-makers and investors.

Examples of IFC investments in climate resilience include the city of Izmir's water utility, where conserving water is increasingly critical in a context of growing demand and declining water supplies, and energy diversification in Zambia, where droughts are impacting hydropower production. Similarly, MIGA recently deployed a guarantee product to support the private sector financing of a flood protection system to enhance the climate resilience of the Special Economic Zone at Duqm.

Boost social and financial resilience

The WBG supports interventions to boost resilience, such as helping countries in the Sahel build shock-responsive adaptive social protection systems, including social registries and drought response cash transfer programs. In Mozambique, the Bank's Program for Results (PforR) supported the disaster risk management reform agenda by operationalizing and recapitalizing a Disaster Management Fund and enabling the purchase of sovereign catastrophe risk insurance. Other examples of agile instruments to crises include [Catastrophe Deferred Drawdowns](#)²⁵ or [Contingency Emergency Response Components](#),²⁶

which have been particularly effective for quickly providing resources when disasters strike and at the outset of the COVID-19 crisis.

Mainstreaming climate risks in the public and private financial sectors

The World Bank and the International Monetary Fund (IMF) developed a holistic approach to assess climate-related risks and opportunities for the financial sector in the Philippines.²⁷ The Bank is also supporting the Philippines' Central Bank and other financial sector authorities to implement identified priority actions to green the financial system. Tools to assess the impact of climate change on public financial systems and strengthen their capabilities have been prepared for Antigua and Barbuda, Belize, Dominica, Grenada, Guyana, Haiti, Jamaica, St. Lucia, St. Vincent and the Grenadines, and Uruguay. In St. Lucia, for instance, this exercise led to reforms in emergency budget procedures and the procurement of supplies that helped the government respond more effectively to COVID-19.

Finally, the WBG is supporting efforts to help vulnerable countries access financial markets and secure additional risk capital against climate shocks. An example is the establishment of regional sovereign catastrophe risk pools in the Caribbean, the Pacific, and Southeast Asia, which currently provide for catastrophe coverage in excess of \$1 billion; issuance of catastrophe bonds in excess of \$5 billion, including the recent cat bond for Jamaica; the establishment of agricultural (index-based) insurance programs backed by private reinsurance in Kenya, enabling around 450,000 farmers to access credit to boost productivity; and the design and launch of the state asset insurance program in Indonesia, which insures more than 4,000 assets, with a coverage value of \$2.3 billion. The WBG is also working with the Insurance Development Forum, a public-private partnership, to extend the use of insurance and related risk management capabilities to build greater resilience.

What Will Success Look Like?

There are many examples of successful actions to foster adaptation and resilience. The challenge now is to scale them up and mainstream them, so they can have a material impact on reducing vulnerability around the world. Success will be to transform what is today considered as best practice into a new normal, applied in all countries, for all decisions and investments. This is particularly important for the substantial ongoing investments in infrastructure and asset stocks in low- and middle-income countries, where the focus will be both on reducing existing risks and on preventing the creation of, and lock-in into, further risks.

In order for *all* decisions and investments—domestic and international, public and private—to be able to consider disaster and climate risks, decision-makers need access to high-quality data, tools, and methodologies, as well as standards to ensure the best and most-resilient projects are prioritized for finance and implementation. Working with its partners, the WBG is contributing to the creation and dissemination of data and tools, such as the [Climate Change Knowledge Portal](#) and the [Resilience Rating System](#), ensuring that they benefit low- and middle-income countries and facilitate their development.

Furthermore, success in adaptation and resilience requires boosting investments, with growing contributions from the private sector. Appropriate blending of concessional and non-concessional

resources can facilitate investments in resilience and adaptation and enable significant mobilization of private capital.

Finally, all people, firms, and national and subnational governments should be equipped with the tools they need to cope with and recover from the impacts and shocks that cannot (or will not) be avoided. The WBG contributes to this objective by supporting whole-of-government financial risk management strategies, as well as intervention toward financial inclusion and stronger social safety nets and adaptive social protection systems.

Through an appropriate balance between prevention and preparedness, all countries can become less vulnerable to climate change impacts, and more resilient to all shocks or crises. This will be a major contribution to achieving more robust and sustainable development and rapidly eradicating extreme poverty.

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