# Building Resilience: World Bank Group Experience in Climate and Disaster Resilient Development

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**Abstract** Concurrently addressing disaster risk and the effects of climate change delivers both immediate and longer term development gains, while also reducing fragmentation of the limited human and financial capacity found in many developing countries. Over the last few years, the World Bank Group has been systematically integrating climate and disaster resilience into its support to low and middle income countries. Early lessons indicate the need to pursue the disaster risk management pillars of risk identification, risk reduction, preparedness, financial and social protection, and resilient reconstruction. Institutional arrangements that bring together multiple sectors and stakeholders with support at the highest level of government is needed for sustained climate resilient development effort and outcomes. While investing in climate resilience often requires higher start-up costs, it is cost effective in the long-term. Spatial planning that considers short-to-long-term risks reduces the possibilities of stranded assets, with proactive management of at risk investments needed. Flexible and predictable financing as part of long-term development programmes can address climate and disaster risk, meet the needs of countries, and reduce poverty in the most vulnerable communities and countries.

**Keywords** Climate resilience • Disaster risk management • Climate resilient development

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# 1 Introduction

Weather-related disasters affect both developed and developing countries, with particularly high disaster impacts in rapidly growing middle-income countries, due to growing asset values in at-risk areas. However, low-income and lower middle-income countries have the least capacity to cope and, in general, suffer the highest human toll, accounting for 85 % of all disaster fatalities (Munich Re 2010). Climate-related impacts will continue to increase due to both development and climate drivers (IPCC 2013), and impacts will be felt most acutely by the poor and most marginalized populations, who commonly live in the highest-risk areas. They also have the least ability to recover from recurrent, low-intensity events, which can have crippling and cumulative effects on livelihoods. The impacts of climate change on poverty are expected to be regressive and differential, affecting most significantly the urban poor and highly vulnerable countries in sub-Saharan Africa and South Asia (Shepherd et al. 2013).

Unless measures are taken to reduce risks, climate change is likely to undermine poverty goals and exacerbate inequality for decades to come. Climate and disaster resilient development, therefore, makes sense from both the poverty alleviation and economic growth perspectives. The World Bank Group (WBG) has thus been supporting developing countries to manage these increasing risks through disaster risk management (DRM) focused on weather extremes and climate resilience that addresses the current and likely future changes in climate. It has brought together its extensive work on DRM and more recent experience from climate resilience to support countries on "climate and disaster resilient development." Early lessons learned, tools, instruments and approaches developed for such work are presented in this chapter.

# 2 World Bank Group Experience

## *2.1 Overview*

Box 1 provides a brief introduction to the WBG. WBG investment in resilient development is measured through the support provided to resilience/adaptation and DRM as part of development assistance. Using this definition, the share of projects with DRM co-benefits, in fiscal years[1] 2013 and 2014 were 11 % and 12 % respectively. This compares to about 9 % in fiscal year 1984. This upward trend is occurring across all regions and country income groups. The WBG has also committed nearly US$13 billion in investments that provide adaptation co-benefits over the past four fiscal years (2011–2014). This represents 8 % of the total lending commitments in

[1] Fiscal years for the WBG are 1 July to 30 June.

fiscal year 2013 and 7 % in fiscal year 2014; with adaptation support to low-income countries proportionally higher at 13 % and 10 % respectively.

In addition, the WBG facilitates access to a menu of climate finance instruments through external resources such as the Pilot Porgram for Climate Resilience (PPCR) within the Climate Investment Funds (CIF), the Global Environment Facility (GEF), and the Global Facility for Disaster Risk Reduction and Recovery (GFDRR). Funding from these sources for adaptation was $279 million in FY14 and close to a total of $850 million over the FY11-14 period. These dedicated climate funds provide technical assistance and capacity support for mainstreaming disaster and climate resilience into country development strategies and investments.

The WBG's private sector investment arm, the International Finance Corporation (IFC), has also been actively engaging with the private sector on climate and disaster resilience. IFC is increasing awareness of climate risks and has begun incorporating climate change into its policies and investments.

**Box 1: Introduction to the World Bank Group**

Since its inception in 1944, the World Bank mission has evolved from the International Bank for Reconstruction and Development (IBRD) as facilitator of post-war reconstruction and development to the present-day mandate of worldwide poverty alleviation. The WBG is currently composed of five development institutions: the IBRD, International Development Association (IDA), International Finance Corporation (IFC), Multilateral Guarantee Agency (MIGA), and International Centre for the Settlement of Investment Disputes (ICSID).

The WBG is a vital source of financial and technical assistance to developing countries around the world. It is not a bank in the ordinary sense but a unique partnership to reduce poverty and support development, owned by the governments of member nations. The WBG has set two goals for the world to achieve by 2030: end extreme poverty by decreasing the percentage of people living on less than $1.25 a day to no more than 3 %, and promote shared prosperity by fostering the income growth of the bottom 40 % for every country.

The WBG provides investment financing in the form of credits and grants to low-income countries through IDA, and as loans to middle-income countries through IBRD. Some lower-middle income countries qualify for a blend of the two. IFC provides investment, advisory, and asset management services to the private sector.

Climate change is a fundamental threat to sustainable development and the fight against poverty. The WBG is concerned that without bold action now, the warming planet threatens to put prosperity out of reach of millions and roll back decades of development. It is therefore stepping up its mitigation, adaptation, and disaster risk management work, and will increasingly look at all its business through a climate lens.

## 2.2 *Key Elements of Climate and Disaster Resilient Development*

Over the last decade or so, experience from countries that have integrated risks from climate change into the development planning process exhibits some common elements, as presented in Fig. 1. The process can start through different elements, but most have done so by strengthening institutions, identifying and assessing risks, and enhancing capacity and knowledge.

DRM experience since the 1970s also shows a process with elements overlapping that of climate resilient development, as illustrated in Fig. 2 and summarised in Box 2. The operational DRM framework is organized around five action pillars. Risk identification provides the base for all other actions: to reduce risk (by putting policies and plans in place that will help avoid the creation of new risk or by addressing existing risks); to prepare for the residual risk either physically (preparedness) or financially (financial protection); and to inform improved resilient reconstruction

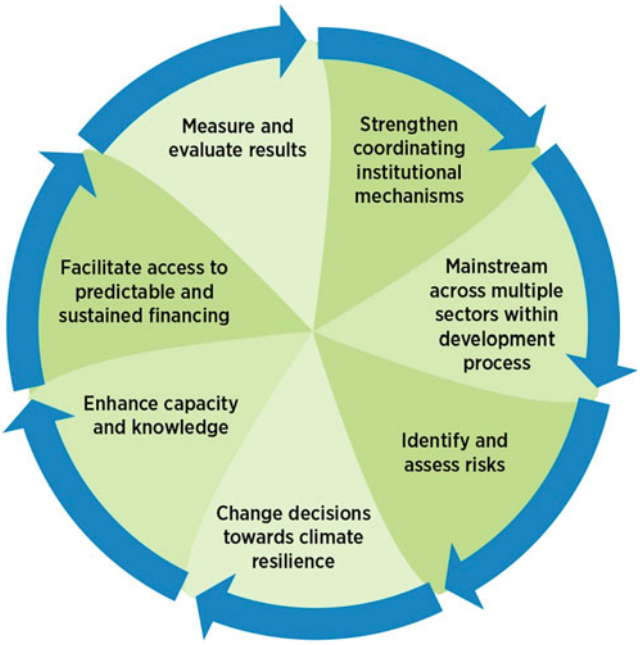


**Fig. 1** Process of integrating climate resilience into development (World Bank 2013a)

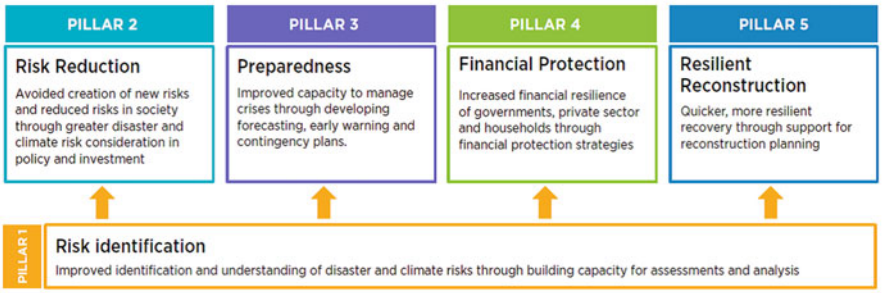


**Fig. 2** An operational framework for managing climate and disaster risk (World Bank et al. 2012)

design. The DRM community also recognizes that reconstruction programs provide opportunities to change the status quo and behaviours that contribute to underlying vulnerabilities.

**Box 2: Overview of the Pillars of Disaster Risk Management**

1. **Risk Identification**
   Risk assessments serve multiple purposes for various stakeholders, ranging from urban risk assessments for disaster preparedness, to multi-country financial risk assessments to support design of financial transfer mechanisms. They can also be used to understand where the greatest benefit to cost ratio investments can be made to reduce risk. Risk assessments are increasingly able to calculate risk under current and future climate and socio-economic scenarios, providing decision makers with additional impetus to act now on the underlying drivers of risk (GFDRR 2014a, b).
2. **Risk Reduction**
   The main driver of growing disaster losses is increasing exposure of people and assets, caused by rapid and unplanned urbanisation. Reducing new risk through anticipatory action is therefore critical, for example through improved territorial planning or building practices. Existing risks can also be addressed for example by retrofitting critical infrastructure or constructing flood protection systems.
3. **Preparedness**
   Considering the context of increasing uncertainty, "planning for the worst" must assume a central role in development. Preparedness forms an integral component of national strategic approaches, helping link disaster response with resilience building. WBG support targets strengthening early warning, national and local coordination, emergency response and civil protection structures, providing real-time impact analysis and enhancing financial preparedness.

(continued)

**Box 2:** (continued)

4. **Financial Protection**
   Financial protection allows for accelerated resource mobilization in an emergency or pre-emergency situation. Social protection programs and policies help buffer individuals from shocks and equip them to be able to improve their livelihoods.
5. **Resilient Reconstruction**
   Disasters often provide unique opportunities to promote climate resilient development. Politicians and donors alike are attuned to the issue, and the general public may be more amenable to the often-difficult trade-offs necessary for risk reduction. At the same time, accelerated development through multi-sectoral reconstruction investments can produce transformative effects on population and livelihoods dynamics (World Bank 2014a).

Although the approaches used for climate resilience and DRM originated from different disciplines, the two are increasingly converging, partially due to a high proportion of recent disasters being weather related. It is also clear that on the ground for affected areas and communities—particularly the poor—the approaches are indistinguishable; communities and households have to both increasingly consider weather extremes in their decisions and deal with the consequences of the changing climate and the new norms it brings. Details of some key elements are provided below.

### 2.2.1 Role of Institutions

The role of institutions in climate and disaster resilient development is arguably the single most important—yet the most difficult—part of the process. This is the case for both driving policy change and investment design. As climate change and disasters affect multiple sectors, countries where governance systems are divided across sectoral lines face a particularly complex challenge, since the institutions that have historically driven the climate change and DRM agendas are typically newer and weaker than the more established sectoral ministries, such as agriculture, transport and energy. Often, a leading agency is needed to mobilize and coordinate ministries and development partners, promote information sharing and knowledge management, and influence development planning and the budget in both the short and long terms. Such a lead agency needs to be able to convene decision makers from multiple agencies and levels of government, as well as the private sector and civil society. Emerging experience indicates that in order to have effective convening power, such an agency should be located at the highest possible level of government. While

the choice varies, several countries, such as Kiribati, Mexico, Mozambique, Morocco, Samoa and Zambia, have established coordinating agencies under finance and planning ministries, or offices of the President or Prime Minister.

### 2.2.2 Identifying Risks and Vulnerabilities

The ability of countries to increase their climate and disaster resilience is directly linked to their capacity to generate and analyse data to assess vulnerability (World Bank 2014b) and design appropriate resilience measures. The WBG and GFDRR have been supporting climate and disaster risk assessments through open geospatial data tools, the establishment of the Understanding Risk Community of Practice (now with about 3300 members worldwide), annual Code for Resilience challenges, development of simple climate and disaster risk screening tools, and through technical assistance to over 50 countries. A particular focus has been on promoting open data and information sharing between in-country agencies, the scientific community and decision makers in the field, and in supporting informed decision making for climate and disaster resilient development. As a consequence, access to risk information has improved for an estimated 40 million people in 24 countries that have access to the Internet, and several thousand datasets related to natural hazard risks have been shared.

In an effort to make risk data and analysis available, the Open Data for Resilience Initiative supports governments to develop open systems for disaster risk and climate change information (World Bank 2014c). Complimenting this initiative is the Climate Change Knowledge Platform, an online platform that draws together various international open sources of climate information with links to many of the resources for disaster risk.

Communication and use of risk information is key. As experienced in Tajikistan, direct investment support coupled with facilitation and training helped farmers assume responsibility for sustaining their livelihoods in financially and environmentally sound ways. Participatory planning along with village and household budget limits was an effective mechanism for villagers to prioritize and assess risks of various options, as well as allocate resources (World Bank 2012a). It should also be recognized that political economy realities can sometimes limit the use of strictly science-based approaches to decision support. For example in the Mekong River Basin, the premise that water resource management decisions could be based solely on scientifically derived targets and scenarios proved too constraining. Rather, models have been used to determine the winners and losers of proposed basin development and subsequent negotiations have focused on individual, rather than collective interests (World Bank 2012b).

### 2.2.3 Risk Reduction and Resilience

The WBG has been supporting a range of risk reduction activities such as improvements in safety standards and building codes, participatory spatial resilient planning and construction of protective and/or resilient infrastructure. In many case, dedicated climate and disaster funds are used for technical assistance to support design and preparation of development projects/programs. Such a process brings in needed and timely technical expertise for risk reduction and detailed resilience measures.

Some examples include a GFDRR-supported assessment of Vietnam's rural roads and national highways that led to climate resilient road designs applied in a nationwide IBRD-funded rural transport project. In Samoa, through PPCR support, the main road is being designed and upgraded to a climate and disaster resilient standard and community-led spatial planning is being implemented to reduce risk and enhance resilience through an integrated planning "ridge-to-reef" approach.

Following tropical storms Ondoy and Pepeng in 2009, the Philippines Department for Public Works and Highways developed the Metro Manila Flood Risk Management Master Plan, which prioritizes policy reform and structural risk reduction investments costing approximately US$8.6 billion. Studies have begun on a plan that proposes alterations for the upstream catchment area and the Laguna Lakeshore, and the government is in discussions with affected communities on new housing and resettlement options. Similarly, the city authorities in the Senegalese capital Dakar, designed a large-scale IDA investment program to protect communities from recurrent floods, improve drainage systems and develop an integrated urban flood risk and storm water management program in flood-prone, peri-urban areas.

For risk to be adequately addressed, stakeholders have to be part of the process and more importantly, own the process and the solutions. This is helping sustain programs as experienced in decentralized watershed management in Uttarkhand, India (World Bank 2014d), building on past experience where it was observed that while fiscal decentralization and community empowerment are necessary, they are not sufficient to promote improved community management of natural resources. It was concluded that more work is needed to strengthen local institutional frameworks and practical mechanisms are needed to tackle externalities arising from insecure property rights (IEG 2011).

Some experiences, for example from the Andes, shows that community-led efforts that have fully engaged the public can help development outcomes, such as improved basic infrastructure, while also contributing to resilience through ensuring functioning ecosystems (World Bank 2014b). Watershed management projects that take a livelihood focused approach perform better than those that do not, with projects combining livelihood interventions with environmental restoration enjoying high success rates, even though effects on downstream communities (such as reduced flooding and improved water availability) and social benefits in both upstream and downstream communities were in the past often not measured (IEG 2010). Such approaches, captured as "ecosystem-based adaptation" are being included in a range of investments such as in Zambia, Samoa, and the Solomon Islands. The sustainability of such efforts can be enhanced by including community

driven development as part of national-to-local government development processes.

### 2.2.4 Early Warning and Preparedness

In many countries, early warning and preparedness are often an entry point for climate and disaster resilient development. Weather, climate and hydrological monitoring and forecasting are essential to inform decision making for climate resilience and provide critical inputs to early warning systems. The WBG's portfolio of projects supporting hydro-meteorological investments have often employed regional approaches to support national capacity by linking with neighbouring regional and global centres of excellence for data, forecast and expertise sharing, for example through a system of "cascading forecasts".

Supply of forecasting services is however not enough. Unlocking strong demand for weather, hydrological, and climate information is necessary in order to sustain the political will to maintain hydrometeorological services (IEG 2012). Building capacity of the agencies involved across the end-to-end service delivery chain improves early warning and preparedness, as well as coordination and information exchange (Rogers and Tsirkunov 2013).

WBG and GFDRR are also supporting a number of countries and communities for enhancing their preparedness for climate and disaster risks. For example, the Senegalese Civil Protection Agency is strengthening its risk management capacity by setting up coordination mechanisms for early warning, preparedness and response. In Burkina Faso, the National Council for Disaster Management and Recovery is developing local contingency and emergency preparedness plans, linking the plans to the existing early warning system, and strengthening community-based preparedness planning, including drills and simulation exercises. In India, the WBG continues to support climate and disaster resilience in Odisha and Andhra Pradesh with the aim of extending early warning systems to the community level, building multi-purpose cyclone shelters and evacuation roads, and strengthening existing coastal embankments. Early indications reveal that project investments are contributing to India's larger efforts to help communities become more resilient to the impacts of natural disasters and the changing climate as shown in the 2013 storms in Odisha.

### 2.2.5 Financial and Social Protection

The WBG uses a series of instruments (Fig. 3) to support financial protection, which are tailored for national and often regional needs and varying risk profiles. Experience is showing that these need to be part and parcel of climate and disaster resilient development. Much of this work draws on the experience of the DRM community. For example, in 2007, the WBG helped establish the Caribbean Catastrophe Risk Insurance Facility (www.ccrif.org), a Caribbean-owned "parametric"

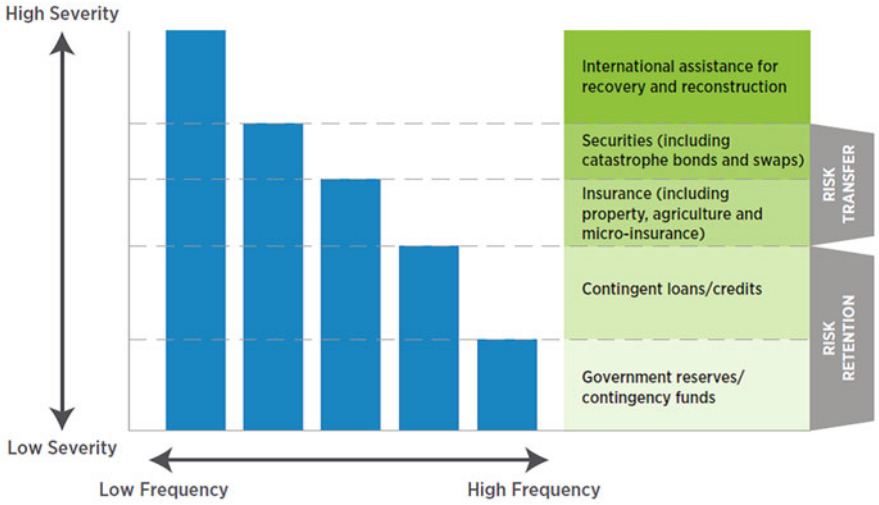


**Fig. 3** Financial protection instruments for climate and disaster resilience, developed by the World Bank Disaster Risk Financing and Insurance Team (World Bank and GFDRR 2013), based on Figure 7 in Ghesquiere and Mahul (2010)

insurance pool, which offers fast payout to its 16 member countries upon occurrence of pre-defined hurricane strengths and earthquake magnitudes within defined geographical locations. The Facility offers participating countries an efficient and transparent vehicle to access international reinsurance and capital markets, and is a self-sustaining entity, relying on its own reserves and reinsurance for its financing. The Pacific region has built on this experience in developing the Pacific Catastrophe Risk Assessment and Financing Initiative (PCRAFI) which is helping 15 Pacific Island countries to better understand and address climate-related risk.

The WBG has also expanded the use of its Catastrophe Deferred Drawdown Options, which provide countries with contingent credit lines that can be drawn upon in case of disaster, as the Philippines did in 2011, drawing US$500 million to support response and recovery after tropical storm Washi. Supported by this instrument, Costa Rica has been proactively reviewing the catastrophe risk exposure of public assets and infrastructure, which has helped it develop effective and affordable insurance programs to protect these assets. Results of preliminary work show that a proposed insurance vehicle would improve coverage with a net savings of at least US$50 million over 10 years.

WBG also supports efforts to improve risk transfer for households and individuals, recognizing the limitations to insuring the poorest sustainably. For example, assistance in Mongolia helped to create a livestock insurance pool to protect herders against harsh winters, as well as the Indian government to move towards market-based crop insurance, constituting the largest crop insurance program in the world with more than 25 million farmers insured. It should however be noted that the schemes that have enjoyed significant uptake have mostly required significant sub-

sidies, and that the products generally do not cover landless rural labourers (IEG 2012).

National safety net systems, which in regular times can help minimize the negative impact of economic shocks on individuals and families, can also be designed and funded to scale up in response to a disaster to prevent households from falling into poverty (World Bank 2013b). For example, Ethiopia's Productive Safety Net Program (PSNP)—supported by the WBG in partnership with a number of donors and agencies – was able to scale up its day-to-day activities to disburse $134 million to support 9.6 million food-insecure people during the 2011 Horn of Africa drought. Guidance on how to prepare social protection programs to respond to disasters and climate change can be found in "Building Resilience to Disaster and Climate Change through Social Protection Toolkit", amongst other resources (World Bank and GFDRR 2013).

With increasing climate-related shocks, social protection measures may also need to be complemented by other resilience measures. Community driven development approaches and actions are important elements of an effective poverty reduction and sustainable development strategy, promoting scalable models and approaches to empower poor communities to manage climate and disaster risk and to identify practical ways of getting climate and disaster risk finance directly to the people (World Bank 2013c). Scaling up and sustaining community-based resilience calls for bridging the gap between the local, subnational and national levels, and understanding the complementary roles of formal and informal institutions.

### 2.2.6 Resilient Reconstruction and Mainstreaming

Given the attention to post-disaster recovery and the increasing climate related disasters, there is increasing attention to resilient recovery. The WBG and GFDRR assist disaster-hit countries through support for Post Disaster Needs Assessments (PDNAs), technical assistance for post-disaster recovery planning and financing and building institutional capacities. PDNAs are country-led and supported by a partnership between the United Nations, the European Union and the WBG, providing a coordinated and credible basis for recovery and reconstruction planning that incorporates current and future climate change risks, risk-reduction measures and financing plans. A lighter version of the PDNA is increasingly used in countries suffering from extensive, recurrent climate-related disasters. In all cases recovery operations with substantial investments included resilient reconstruction or "build back better" principles.

Building back better and integrating resilient approaches into development planning come with upfront costs. However, if the action is well designed and proportionate to the risk, then the outcome will be cost effective and save money in the long run. Experience suggests that "building back better" typically costs between 10 and 50 % more than the cost of simply reconstructing original structures. In the case of transport or irrigation infrastructure that may need to be moved to safer areas, the cost can be several orders of magnitude higher. At the same time, it should be noted

that the rushed nature of emergency response projects makes them particularly vulnerable to design and institutional problems, also in terms of securing political buy-in for institutional reforms (IEG 2012).

To avoid creating new risks, a portfolio of measures need to be combined to most efficiently reduce climate and disaster risk. This can include spatial and strategic planning to reduce risks, and changes in standards and norms. These collectively would decrease the probability of having high cost assets (such as ports, dams, and tourism industries) not being able to function in a changed climate and thus being "stranded," and changing incentives and behaviours. This will ensure that the most cost-effective means of building resilient societies into the future will avoid creating new risks.

Elaboration of climate resilient construction codes does not have to be expensive. For example in Madagascar and Mozambique, expenses have ranged from US$160,000 to US$210,000, including for sensitization and training (in Madagascar). Strengthening infrastructure safety standards in Madagascar cost about US$100,000 (for transport) and US$50,000 (for irrigation infrastructure), with an additional US$120,000 envisaged for training. These costs do not include, however, the extensive time required to integrate the new norms into sectoral programs and ensure their effective compliance.

## 3 Lessons Learned

Some key lessons learned are presented here and are drawn from WBG and its partners' experiences. There is no clear delineation of lessons between those for policy support or for specific investments; much of the choices and trade-offs need to be made in the context of the development planning process. This avoids introduction of inadvertent and new risks, for example by focussing on increased agriculture production without considering the effects of potential run-off on coastal ecosystems and their functions or water availability under a changing climate.

(a) **Provide flexible and predictable financing**

Climate and disaster resilient development requires long-term and flexible programs, based on predictable financing. This allows institutional mechanisms to mature and transcend political cycles, and promotes a learning-by-doing, iterative and flexible approach to identify risks and incorporate resilience into development planning. The latter is particularly important in the face of uncertainties in climate change and development scenarios, which may require frequent adjustments. For this reason, robust monitoring and reporting is of critical importance, to allow programs to scale-up approaches that have been proven to work and to adjust those that have been less successful.

Long-term programs can benefit from an initial phase, focused on planning, institutional coordination and capacity building. Often, this process takes time—typically at least 18–24 months—and entails slow initial disbursements.

However it helps to build consensus and momentum and political will to scale up climate resilient development over the long term.

Finance sources have included grants, credits, loans, and a mixture of national and international funds. Long-term financing is also critical to counteract the perverse incentives that favour short-term disaster financing over long-term risk reduction. At the same time, longer timeframes help optimize opportunities to incorporate climate resilience and improved safety standards immediately after disasters, when public support for risk management is at its highest.

(b) **Foster robust decision-making**

Risk identification needs to be effectively linked to decision making, taking future uncertainties into consideration. By quantifying risks and anticipating the potential negative impacts of climate hazards and disasters, risk assessments can help governments, communities and individuals make better-informed decisions. Systematic screening of risks can also help determine the level of risks to people and assets and guide options for risk management.

Individual investments can themselves actually be less important than their role in catalysing community and national stakeholders and changing behaviours. Currently, the most effective actions appear to be those that combine development benefits in the near term with reductions in vulnerability over the longer term. However, concerted efforts need to be made to ensure that short-term solutions do not increase future risks. This is typically the case with flood protection dykes, which, over the long term, can create a false sense of security and inadvertently expand settlements in high-risk areas. To be robust, decisions should be "stress-tested" across a broad range of climate and socioeconomic conditions.

(c) **Share the responsibility of risk management**

Risk management requires complementary actions at various levels of responsibility—household, community, national and international. Local disaster risks, such as storms or moderate drought, can often be managed by individuals, communities and authorities at the local level, but as risks increase—for example, with major cyclones—national governments and the international community will have to play larger roles. While individuals are able to deal with many risks, they are inherently ill-equipped to manage large or systemic shocks, such as those that arise from climate change, since the past can no longer be considered a reliable predictor of the future (World Bank 2013b). As a result, climate and disaster resilient development needs to occur at different scales—individual, household, community, enterprise, national and international. These different actors have the potential to support climate risk management in different yet complementary ways.

(d) **Institution building and mainstreaming need to take incentives into account**

Capacity building for climate and disaster resilient development needs to be broad based and invest in professionals, especially in early to mid-career, to shield programs from political changes or high staff turnover. In addition, appropriate incentives are required to promote inter-sectoral planning: many

multi-stakeholder committees have failed because line agency participants perceive climate and disaster resilience to be an added responsibility to their already full agenda.

Lack of ownership explains why many stand-alone "adaptation" and DRM projects have not been successful in the past. If, by contrast, they are effectively mainstreamed into line ministries' own programs and budgets, staff are more motivated to perform. For example in Zambia, the Sixth National Development Plan led to the creation of a specific program within the public works sector that considered climate resilience in infrastructure planning, allowing public works staff to participate more actively in the activities of the multi-sectoral Secretariat for Climate Change (under the Ministry of Finance).

In many emerging climate and disaster resilience programs, stakeholder champions frequently emerge to lead and facilitate the process. The result has been the genesis of multi-sectoral and multi-stakeholder processes, which facilitate decisions on incorporating climate risk as part of development planning.

(e) **Stay focused on the poor and the vulnerable**

In the urgency to protect assets, climate and disaster resilient development programs should not lose sight of people. The complexity of most climate and disaster resilient development programs often requires multiple stakeholder meetings and consensus-based decisions, which consume time and resources. By the time decisions are translated into action on the ground, programs may lose sight of their most important objective—to diminish the risk to people and their assets, in particular for the poorest and most vulnerable. Continuously reemphasizing this focus will be critical to achieving climate resilience. Targeted actions will be needed to provide the poor and near poor with the resources, information and knowledge required to become more resilient. Support for community resilience, combined with well-designed social protection mechanisms that can be scaled up in response to disasters, could play a major role in reducing the impacts on the poor and the vulnerable from disasters and climate change.

(f) **Leverage partnerships and share knowledge**

National and regional governments, and international organizations that support them, have accrued a wealth of knowledge on approaches to integrate and mainstream climate and disaster resilience in development planning. International and regional partnerships and South-South knowledge exchange platforms provide opportunities for transboundary learning and cooperation on effective strategies to build long-term resilience. Such platforms are an effective tool to communicate the lessons listed above and share practical approaches for decision-makers at all levels, from national government to community-based organizations. Moreover, these partnerships can accelerate the learning required to invest in the human, institutional, and financial resources that support robust climate and disaster resilient planning.

## 4 Concluding Remarks

Key drivers—climate change, poorly planned development, poverty and environmental degradation—influence the risk of a climate event becoming a disaster. Thus, these factors need to be managed collectively. In the coming decades, disaster losses are expected to continue to rise due to the increasing exposure of populations and assets, and environmental degradation, compounded by climate change. Therefore, development paths must take the risks of climate change and disasters into account As such, climate and disaster resilience should form an integral part of development planning processes, particularly in the most vulnerable countries.

Given the close interactions between climate change and local/national drivers of vulnerability, it is important to ultimately strengthen all aspects of climate and disaster resilient development, including coordinating institutions, risk identification and reduction, preparedness, financial and social protection, and resilient reconstruction. Getting the institutions and incentives right are the most important issues in climate and disaster resilient development. They can overcome the challenges of limited capacity and reduce the likelihood of introducing new or additional risks. Although an integrated, multi-stakeholder and multi-sectoral approach takes time and may entail slow initial disbursements, it generally results in stronger buy-in from relevant stakeholders and is likely to be more sustainable over the long term. Political cycles favour short-term development decisions, and government employees often have little incentive to participate in inter-sectoral committees to address problems not viewed as part of their mandate. Changing this "culture" is easier when a flexible, learning-by-doing approach is pursued, and the process is relatively independent from political pressures.

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