GAR 2011

Chapter 8

Redefining development: the way forward

The City of Chongqing, China, during the 2010 flood of the Yangtze River.
Photo: iStockphoto®, © pkujlahe

Chapter 8 Redefining development: the way forward

The preceding chapters highlight key opportunities to reduce disaster risks and facilitate implementation of the Hyogo Framework for Action (HFA). This collected evidence allows decision-makers and their constituents to quantify the costs and benefits of investments in disaster risk management (DRM), and weigh the trade-offs between action and inaction. Fundamentally, the challenge is not to protect development, but to use it to address the underlying risk drivers.

Strategic investments must be taken, often with uncertainty and incomplete information, and this report makes a compelling case for action in four areas.

1. Addressing global risk drivers

2. Taking responsibility for risks

3. Leveraging existing development instruments

4. Strengthening risk governance capacities

8.1 Address global risk drivers

Primary responsibility for reducing disaster risks rests with individual countries, but progress also depends on international cooperation to address climate change and support adaptation, particularly in developing countries where risk is concentrated. In highly vulnerable, low-income countries, DRM and adaptation financing should be used to strengthen risk governance capacities. This will leverage mainstream development investment and help meet the Millennium Development Goals.

8.1.1 Invest in risk governance for highly vulnerable countries

There is a group of vulnerable low-income countries whose development paths are diverging from those of OECD countries and other low- and middle-income countries. Major development investments are needed to assist these countries to address the structural causes of poverty, upgrade informal settlements, build risk-reducing infrastructure, improve natural resource management and strengthen governance at all levels. These are indispensible conditions for improving risk governance capacities, including those needed for climate change adaptation.

Chapter 2 illustrated that economic development generally increases hazard exposure. A country's ability to develop with accompanying reductions in vulnerability is therefore critical to managing and reducing disaster risk. However, there will always be trade-offs between economic growth and risk reduction. For example, tourism development may generate employment and foreign exchange, but if not well planned and managed, it may increase both agricultural and hydrological drought risks and lead to the degradation of hazard-regulating coastal ecosystems. Similarly, policies designed to increase certain agricultural exports may overexploit water resources and concentrate drought risks among subsistence farmers.

Investment in strengthening governance is therefore particularly important. Countries with effective institutions, low levels of corruption and strong accountability will have a far greater capacity to address underlying risk drivers. High GDP per capita alone does not guarantee strong risk governance. Countries whose economies depend on energy exports, for example, are often characterized by high GDP per capita but weak risk governance (DARA, 2011). Therefore, efforts to strengthen risk governance must go hand in hand with economic development so increases in exposure are accompanied by reductions in vulnerability.

8.1.2 Adopt low-carbon development

Since the publication of the *2009 Global Assessment Report* (GAR09) (UNISDR, 2009), the UNFCCC Parties have failed to agree on a binding multilateral framework to reduce greenhouse gas emissions. Meanwhile, atmospheric CO_2 concentrations surpassed 391 ppm, and grew by 2.42 ppm in 2010 (Tans, 2011). This was one of the largest annual increases ever recorded, despite the growing momentum to adopt low-carbon energies and technologies in a number of countries and sectors. This trend must be reversed. Mitigating climate change is one of the few means by which the frequency and intensity of certain physical hazards can be reduced.

As highlighted in GAR09, the primary means to mitigate climate change is for countries to adopt low-carbon development paths. With the exception of large, rapidly growing economies such as China, India and Brazil, most low- and middle-income countries make small contributions to the global carbon footprint, meaning that climate change mitigation is largely out of their hands. These countries have contributed least to climate change but already

have the greatest difficulty addressing existing disaster risks. As those risks become magnified by climate change and increasing climate variability, these countries will have even greater difficulty managing disaster impacts.

In major greenhouse gas-emitting countries, climate change mitigation can also provide other important risk reduction benefits. For example, urban and regional development can be planned in a way that reduces flood risk and transportation-related CO_2 emissions. The UN-Collaborative Programme on Reducing Emissions from Deforestation and Forest Degradation in Developing Countries (UN-REDD) has been specifically designed to reduce emissions while simultaneously regulating hazards and supporting rural livelihoods and ecosystems.

8.1.3 Capitalize on political momentum for adaptation

Climate change adaptation is one issue on which the UNFCCC Parties made significant progress in 2010. At COP 16 in December 2010, the Cancún Adaptation Framework was adopted, inviting governments to link their implementation of climate change adaptation to other policies and processes, including the HFA. The Green Climate Fund was also established to provide direct financing for adaptation to developing countries. Given that most adaptation programming has been indistinguishable from DRM, these agreements will potentially increase the resources available for risk reduction in general.

There is growing momentum towards the integration of climate change adaptation and DRM into national development planning and investment. However, in most countries, institutional and programme mechanisms are managed separately and are only weakly coordinated. Both DRM and adaptation need to be integrated into national development planning and investment, local governance should be strengthened, and partnerships with civil society facilitated.

Additional resources for climate change adaptation and for DRM should be used to strengthen risk governance capacities including those accounting for disaster loss and assessing risk. These resources could then leverage the billions of development dollars that low- and middle-income countries invest each year to better address underlying risk drivers and reduce vulnerability. Such adaptation resources can provide the critical mass needed to address increasing risks in a context of climate change and provide a 'no regrets' strategy, particularly given the inherent uncertainty of future climate scenarios.

In addition, donors that provide budget support to low- and middle-income countries through overseas development assistance could learn from countries that are starting to factor disaster risk considerations into their public investment planning. They could then incorporate this learning into their dialogue with other recipient countries, in the context of OECD-DAC as one example.

8.2 Take responsibility for risk

Further progress in risk reduction will depend on governments taking decisive steps to explicitly recognize, and take full ownership of, and responsibility for, their stock of risk. This entails political risks, as it requires acknowledging the real costs and consequences of unmanaged risk. However, without owning their risks, countries remain effectively in denial, while experiencing unexpected disasters for which they are neither prepared nor able to manage. This continuously erodes their development potential, as the stream of recurrent losses from extensive disasters either absorbs public resources or is transferred to low-income households and communities.

Key elements for successful disaster risk management (DRM) across governance scales and development sectors identified in the *2011 Global Assessment Report on Disaster Risk Reduction*

TAKE RESPONSIBILITY FOR RISK

Invest in risk reduction
Use cost–benefit analysis to target the risks which can be most efficiently reduced and which produce positive economic and social benefits

Take responsibility
Develop a national disaster inventory system to systematically monitor losses and assess risks at all scales using probabilistic models

Anticipate and share risks that cannot be reduced
Invest in risk transfer to protect against catastrophic loss, and anticipate and prepare for emerging risks that cannot be modelled

INTEGRATE DRM INTO EXISTING DEVELOPMENT INSTRUMENTS AND MECHANISMS

Regulate urban and local development
Use participatory planning and budgeting to upgrade informal settlements, allocate land and promote safe building

Protect ecosystems
Employ participatory valuation and management of ecosystem services and mainstreaming of ecosystem approaches in DRM

Offer social protection
Adapt conditional cash transfer and temporary employment schemes; bundle micro-insurance and loans; consider social floor and poverty line

Use national planning and public investment systems
Include risk assessments in national and sector development planning and investment

BUILD RISK GOVERNANCE CAPACITIES

Show political will
Place policy responsibility for DRM and climate change adaptation in a ministry with political authority over national development planning and investment

Share power
Develop decentralized, layered functions; use principle of subsidiarity and appropriate levels of devolution including budgets and to civil society

Foster partnerships
Adopt a new culture of public administration supportive of local initiatives and based on partnerships between government and civil society

Be accountable
Ensure social accountability through increased public information and transparency; use performance-based budgeting and rewards

8.2.1 Account for disaster losses

The crucial first steps of taking responsibility for risk involve the systematic recording of disaster losses and impacts, and the institutionalization of national disaster inventory systems. Countries collect statistics on demography, employment, economic activity and many other development indicators to orient economic and other public policies, but without accurate accounting for disaster losses, such indicators form an incomplete picture. Comprehensively recording disaster losses and downstream impacts will allow governments to measure and value the costs of recurrent disasters and identify the underlying drivers of risk. Unless a country can calculate the cost of these losses, it is unlikely to be able to justify significant investments in DRM in the national budget.

Accounting for drought losses and impacts is a particular gap, even in those countries that have developed systems for recording losses from other physical hazards. National disaster inventory systems need to include criteria for measuring drought losses, not only in agriculture, but also in terms of impacts related to livelihoods, health and other economic sectors.

A number of countries have already established disaster inventory systems, many within the last few years. However, there remains significant room for improvement, as 90 percent of the countries that endorsed the HFA do not currently have functioning and institutionalized systems for recording disaster losses, and downstream impacts are currently only measured in isolated small-scale studies.

8.2.2 Quantify the risks

Countries not only need to know what they are losing, they must also estimate potential future losses for which they need to be prepared. A comprehensive probabilistic risk assessment that includes drought risk is the key to developing a cost-effective portfolio of disaster risk management measures. One method, using a 'hybrid loss exceedence curve', is highlighted in Chapter 5 of this report.

The capacity to apply probabilistic risk methodologies depends on accurate historical disaster loss data, and adequate capacity to assess vulnerability, for example by maintaining a functioning network of rainfall or seismic monitoring stations. This in turn requires strong institutional frameworks for hazard and risk assessment, which in many countries remain fragmented and poorly coordinated between a number of different and often competing institutions.

The formulation and adoption of international standards for disaster loss accounting and risk estimation may provide additional incentives for countries to take ownership of their risks. This could be especially important if such standards are used to prioritize financing for climate change adaptation and DRM.

8.2.3 Use cost–benefit analysis to guide disaster risk management investments

Systematically accounting for losses and comprehensively assessing risks help governments categorize and stratify their stock of both extensive and intensive disaster risks. Cost–benefit and other analyses can then be used to assess economic and political costs and benefits of different prospective, corrective and compensatory risk management approaches. A well-balanced portfolio of DRM investments can produce powerful incentives for governments, including the enhanced quality and sustainability of public spending, increased public safety and business continuity, strengthened financial protection and fiscal stability, and avoidance of political fallout in the event of a catastrophic disaster.

A balanced portfolio is likely to include investments in prospective risk management, through effective planning for example. Corrective risk management is often less cost-effective but is necessary to address existing concentrations of risk, particularly in the case of critical services and facilities such as hospitals. Compensatory risk management may include a mix of different instruments, such as national contingency funds, contingent credit, insurance and reinsurance. These mechanisms contribute to providing financial liquidity and fiscal stability after disasters, as well as more predictable recovery and reconstruction. If risk-transfer measures are linked to specific requirements and criteria for risk reduction, they can provide a powerful incentive for other DRM investments.

At present, drought risk management currently relies on forecasting, early warning and compensatory measures, including relief and insurance. Access to early warning information that can inform decisions on what crops to plant and when, and insurance to buffer losses, can significantly reduce the vulnerability and increase the resilience of subsistence farmers. Compensatory measures play an important role, but their penetration in low- and middle-income countries is at present still incipient, and unless they are used strategically, they can reinforce poor resource management. These measures need to be complemented by prospective drought risk management to ensure that all new development takes into account current and anticipated future water availability.

As the March 2011 nuclear crisis in Japan shows, governments should also invest time and resources in anticipating emerging risks. In general, while there is widespread recognition

of the potential magnitude of such risks, few governments or international organizations currently have policies to deal with them, and even fewer have translated any such policy into operational instruments. Developing scenarios of 'what might happen' and preparing appropriately means moving away from viewing future risks merely as an extension of the past. This is especially important with climate change, which may trigger hazards that have no historical antecedent in a particular location. It involves developing anticipatory capacities and tools such as scenario development and horizon scanning, and having the adaptive capacity to factor 'what might happen' scenarios into future policies and plans. In turn, this will require overcoming an aversion to risk and innovation that often characterizes both the public sector and international organizations.

8.3 Leverage existing development instruments and mechanisms

While DRM has conventionally been delivered through stand-alone projects and programmes, a number of governments are now adapting existing development mechanisms and instruments to reduce risks and strengthen resilience. These include public investment planning, social protection and ecosystem-based approaches. Although many of these innovations are incipient, they hold the promise of addressing underlying risk drivers, and simultaneously generating co-benefits for multiple stakeholders. These mechanisms may build on existing institutional capacities, which should offer powerful incentives for governments.

8.3.1 Factor disaster risk into public investments and development plans

Factoring disaster risk considerations into national planning and public investment decisions can radically scale up risk reduction. This is due to the large scale and targeted focus of public investment in many low- and middle-income countries and many low-income communities of other countries, making them a particularly strategic entry point for addressing risk drivers.

Co-benefits include enhanced social and economic development, such as fewer schools or roads damaged in floods and earthquakes, and improvements in the quality, coherence and sustainability of public spending. Whereas a number of countries have already factored disaster risk into the evaluation of public investment projects, far greater benefits could be achieved if it is also included further upstream in the national planning cycle, i.e., development, sector and land use planning.

Above all, it is essential that drought risk be fully factored into national development, requiring a high-level policy and planning framework that addresses the many competing uses of water and the decline of available water resources. Strengthened local governance, including partnerships between governments, the water sector and water users, is similarly vital to address conflicting demands for water at the sub-national level.

8.3.2 Employ social protection to reduce vulnerability and buffer losses

Many countries are already making huge investments in social protection through instruments such as structural conditional cash transfers and temporary employment programmes. They increase the disaster resilience of risk-prone households, and the criteria for receiving such cash transfers can be modified when a disaster is forecast or in areas that are exposed to recurring hazards. They could also be given to non-poor households that are likely

to become poor if they were to suffer disaster losses. Temporary employment programmes provide additional household income and can be used after disasters or to offset predicted events such as seasonal droughts. Bundling micro-insurance with micro-finance and other loans is an additional complementary source of social protection, and they can be adapted to generate specific incentives for DRM in businesses and at the household level. These instruments can reach out to millions of risk-prone households using existing institutional structures and mechanisms, reducing poverty and vulnerability at the same time.

8.3.3 Recognize the value of healthy ecosystems

For reducing disaster risk, the protection, restoration and enhancement of ecosystems such as forests, wetlands and mangroves can be much more attractive in terms of cost–benefit ratios than 'conventional' hard engineering solutions. Also, 'greening' cities – by planting trees and roof gardens, and increasing the permeability of paved surfaces – may be a more cost-effective means of reducing urban flooding than expensive investments that increase storm drainage capacity. In addition, such 'green' solutions can also improve groundwater availability and reduce summer temperatures, generating important energy savings during peak consumption periods. Similarly, restoring wetlands can be a less expensive way to mitigate flood hazard than constructing additional river defence walls, while also increasing the supply of water, improving biodiversity and providing livelihood opportunities in fishing and tourism.

Instruments and methods for using ecosystem management for DRM include protected area legislation, integrated planning, ecosystem accounting and payment for ecosystem services. At present, the principal obstacles against more widespread adoption of such instruments remain the undervaluation of ecosystem services and associated co-benefits, partly due to data scarcity and a lack of understanding by planners and professionals in the construction and engineering sectors.

8.3.4 Adopt a participatory approach to planning and regulations

Most low- and middle-income countries have policies, legislation and capacities related to urban planning, management and building regulations. However, using such instruments for DRM has proved to be a challenge, particularly where a large proportion of urban development occurs in the informal sector. What is required is the adoption of a culture of planning and regulation based on partnerships and joint ownership, between local and central governments, risk-prone households and communities and organizations that represent them.

National laws should stipulate local government responsibility for planning and control while ensuring adequate resources to plan and regulate development. Laws can be strengthened by explicitly acknowledging and endorsing the responsibilities of civil society, community representatives, and mechanisms that can be used to promote partnership and dialogue. These mechanisms include participatory budgeting in which low-income households, their organizations and other stakeholders are involved. Processes include establishing investment priorities, negotiation of more flexible planning and building standards appropriate to the needs of low-income households, negotiated processes to identify land and secure tenure, and joint planning and implementation of settlement and infrastructure upgrading. Regulations that require less government oversight and which become engrained in local planning and building practices represent another opportunity. For example, simple building codes and processes coupled with education on safe building practices can go a long way to improve the safety of housing.

In many low- and middle-income countries, a participatory approach should be adopted by necessity and not just by conviction. It represents the most cost-effective and sustainable mechanism for reducing urban risks, while at the same time facilitating poverty reduction, and a more constructive relationship between civil society and government.

8.4 Strengthen risk governance

Using development mechanisms and instruments for DRM requires a reform of many existing risk governance arrangements. This requires increased political authority and policy coherence in central government, competent and accountable local governments, and the willingness of governments to work in partnership with civil society, particularly with low-income households and communities.

8.4.1 Place responsibility for DRM within strong central institutions

In central government, overall responsibility for DRM and also climate change adaptation should be placed in a ministry or office with the political authority to ensure policy coherence across development sectors. The full integration of DRM into all sectors and local public investment must be ensured through assessments, planning and budgeting. Such arrangements would mean that the responsible body, such as a central planning or finance ministry, for example, is not also tasked with delivery. Practical disaster management may remain a responsibility of a civil protection or emergency management office, social protection would remain anchored in a social ministry, and so on.

National disaster risk reduction policy frameworks are rarely based on comprehensive national risk assessments, and thus do not provide the kind of focused goals, targets and benchmarks that assist in implementation, monitoring and enforcement. A national policy, if based on a stratification of DRM, can provide a broader framework for development planning and public investment decisions, including risk financing, social protection strategies, and sector policies, plans and programmes. If the policy framework is owned by an office or ministry with strong political and economic leverage, it will have a better chance of delivery.

8.4.2 Decentralize responsibility, capacities and resources in tandem

Competent and accountable local government is a precondition for effective DRM. Unless local governments have the capacities and resources to fulfil their functions, decentralization of responsibilities may be counter-productive. In decentralization processes, more attention needs to be paid to the appropriate layering of functions, where higher administrative levels financially and technically support local implementation. If the decentralization of relevant functions and resources cannot be fully realized due to extremely weak local capacities, an incremental approach may be the most effective way forward.

The deconcentration of functions without wholly devolving authorities and budgets can be a pragmatic first step towards full decentralization. Twinning of capacity-rich municipalities and regions with poorer or more risk-prone ones, and strategic partnerships between technical centres and civil society organizations, further complement incremental devolution.

8.4.3 Hold decision-makers and institutions accountable

Social demand for improved accountability mechanisms can galvanize political will to invest in DRM or reform risk-governance arrangements. For national policy and local delivery to function effectively, there needs to be an awareness of rights and obligations by all sides, supported by strong and transparent accountability mechanisms. Provisions in legislation and specific regulations of public office can clearly demarcate the liabilities of leaders and government officials. Where transparent contractual arrangements both for civil servants and private service providers are agreed upon, such liabilities can be linked to expenditure and budgets. This can be done through performance reviews within and across government departments or through social audits at a local or sector level.

The media and civil society play an important role in creating the social demand for strengthened accountability mechanisms,

not just for effective DRM but for public investments overall. This report presents evidence that such social accountability brings marginalized groups into the public arena, and significantly increases development effectiveness by improving service delivery at the local level.

Citizens must be aware of disaster risks if they are to hold governments to account, but the lack of public information and education was highlighted as a significant gap in the HFA Progress Review. The limited public awareness activities that do occur focus primarily on physical hazards or on the preparedness and response aspects of disaster management. Far more resources need to be devoted to increasing public awareness of risks and risk drivers at all levels and scales, and the need for a comprehensive approach that goes beyond disaster management. An important first step would be to ensure that citizens have access to national disaster loss inventories and comprehensive risk assessments. In a number of countries public access to disaster loss and risk information is not encouraged, which undermines accountability.

8.4.4 Partner with civil society

Effective local governance relies on adopting approaches to local planning, financing and investment that build on partnerships with civil society, particularly with risk-prone households and their representative organizations. This allows for the scaling up of community initiatives. Where community organizations have only limited capacity to reduce disaster risk and to hold governments to account, meso-level partnerships with other organizations, expert institutions and government bodies can improve the success of local and community-driven disaster risk reduction.

The enabling of such partnerships is an imperative, yet it must be done in a transparent manner based on clear terms of reference for each partner, and supported by an adequate legal framework. Where the roles and responsibilities of all partners are defined and well aligned, their joint action will provide the most effective means of addressing DRM challenges across scales. However, this may require a change in the culture of public administration and the adoption of new ways of working.

8.5 Build momentum for disaster risk reduction and management

Acknowledging and understanding the existence and importance of the stock of risk is the responsibility of every government. The HFA provides a general roadmap for achieving substantial reductions in disaster losses, but countries now need to set their own specific goals and targets. To do this, a number of tools are available to facilitate a process that is inclusive and transparent, and accountable to those most affected by disasters. These include the HFA Progress Review, national disaster loss monitoring systems, probabilistic risk assessments, and cost–benefit analyses.

This report has shown that there are many reasons why countries do not invest enough in disaster risk reduction, but there are no excuses for continuing to do so. The time for taking serious action is now. Fortunately, many of the policies discussed in this report will generate net savings for governments if adapted and adopted, by producing parallel development benefits. The evidence strongly suggests that cost-effective measures, if transparently developed, will also increase political as well as economic capital.

The process of compiling this report benefitted from the participation of more governments, technical experts, international organizations and civil society groups than were able to contribute to the 2009 report, indicating a growing momentum for disaster risk reduction. This needs to be harnessed and directed toward gaps in research and current knowledge. Known gaps include seismic risk, which was omitted from this report pending the finalization of new earthquake models, and an analysis of global drought risks just initiated. Disaggregated disaster impacts by gender and age need to be better understood, and the role of the private sector requires closer examination. Feedback loops between risk drivers must be examined as well as the cost-effectiveness of additional DRM measures. Closing such gaps will help in identifying the more cost-effective means of reducing disaster risks, and further build the case for more investment in DRM.