



RESILIENT RECOVERY

An Imperative for Sustainable Development

◀ **COVER PHOTO**

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RESILIENT RECOVERY:

AN IMPERATIVE FOR SUSTAINABLE DEVELOPMENT

The Way Forward for Strengthening Recovery Systems and Integrating Disaster Risk Reduction into Post-Disaster Recovery

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About the Authors and Contributors

This paper has been prepared by GFDRR's Resilient Recovery Team (Track III) in partnership with the institutions and persons listed below. The team would like to individually thank each of the authors below who prepared and shared their written contributions for this paper, or otherwise shared their experiences in the area of resilient recovery and the incorporation of disaster risk reduction in recovery initiatives around the world. We would also like to thank our partners from World Bank Group's regional teams, the United Nations Development Programme, and the International Recovery Platform for contributing to this report.

Technical Input Papers

Disaster as opportunity? Building back better in Aceh, Myanmar and Haiti

Building it Back Better to reduce risks after multiple disaster events

The private sector approach of business continuity management helps demonstrate the benefits of institutionalization

Institutionalizing PDNA system and recovery planning in Kyrgyz Republic

REKOMPAK Updates: 2 year review of Rebuilding Indonesia's Communities After Disasters

Post-Disaster Recovery: A tool for Sustainable Development

Pre-disaster recovery planning in Central America, concepts, advances and the way forward

Learning from Disasters: A case study of risk-sensitive disaster recovery and rehabilitation in Gujarat

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Foreword

Cyclone Phailin, the strongest cyclone in more than a decade, made landfall in Odisha, India, in October 2013. Three-meter storm surges and sustained wind speeds of well over 200 kilometers per hour battered the coastline. But amazingly, fewer than 50 lives were lost—a dramatic reduction from historical precedent. The Odisha State Disaster Management Authority, established after a similar storm in 1999, coordinated with national and local authorities to evacuate over a million residents from vulnerable areas. These efforts saved countless lives, and illustrated the power of advanced planning to help communities mitigate the impact of adverse natural events.

While disasters are always tragic, they also provide a unique opportunity to prevent future suffering. The recovery and reconstruction process can enable communities to build back to more resilient standards; establishing new systems at local and national levels to protect against similar adverse natural events; and more fundamentally to change processes that have led to particular vulnerabilities.

Since 2007, the Global Facility for Disaster Reduction and Recovery (GFDRR) has worked with more than 50 countries to deal with disasters. In partnership with the European Union, United Nations Development Programme, and other partners, GFDRR is helping governments define national action plans for post-disaster recovery, improve policy and technical guidelines for reconstruction, and prioritize initiatives to strengthen community and economic resilience.

This report, *Resilient Recovery: An Imperative for Sustainable Development*, was produced as an input to 2015 *Global Assessment Report*. The report documents the challenges in planning and implementing post-disaster recovery; examines good practice in building disaster resilience; and shares lessons learned in strengthening disaster recovery systems.

In a context where the intensity and frequency of disasters continue to rise, we hope that this report can inform paths towards resilient recovery, and strengthen the ability of communities to recover faster and better from disasters.



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Abbreviations

<i>BBB</i>	Build Back Better
<i>BNPB</i>	National Agency for Disaster Management - Indonesia
<i>CEPREDENAC</i>	Central American Coordination Center for Natural Disasters Prevention
<i>CI</i>	Core Indicator
<i>DRR</i>	Disaster Risk Reduction
<i>DRM</i>	Disaster Risk Management
<i>ERRA</i>	Earthquake and Reconstruction Authority
<i>EU</i>	European Union
<i>FEMA</i>	Federal Emergency Management Agency
<i>GAR</i>	Global Assessment Report
<i>GFDRR</i>	Global Facility for Disaster Reduction and Recovery
<i>GDP</i>	Gross Domestic Product
<i>GSDMA</i>	Gujarat State Disaster Management Authority
<i>HFA</i>	Hyogo Framework of Action
<i>HRF</i>	Haiti Reconstruction Fund
<i>M&E</i>	Monitoring and Evaluation
<i>NDRF</i>	National Disaster Recovery Framework
<i>NGO</i>	Non-Governmental Organization
<i>ODI</i>	Overseas Development Institute
<i>PA</i>	Priority for Action
<i>PDNA</i>	Post Disaster Needs Assessment
<i>SARRC</i>	South Asian Association of Regional Cooperation
<i>UNDP</i>	United Nations Development Program
<i>UN ISDR</i>	United Nations International Strategy for Disaster Reduction



Executive Summary

Introduction, scope and methodology

This report, *Resilient Recovery: An Imperative for Sustainable Development*, documents the challenges and progress around the world in integrating disaster risk reduction measures into post-disaster recovery and rehabilitation. More importantly, it recommends policies and practices for strengthening disaster recovery systems that will help countries protect their hard-earned developmental gains.

The report was developed in support of the *Global Assessment Report on Disaster Risk Reduction*, a publication released every two years that monitors and spotlights progress, trends, and challenges in the disaster risk reduction arena. Specifically, the *Global Assessment Report* documents the progress made and challenges faced by the 168 signatory countries working to implement the disaster risk reduction priorities and actions agreed upon under the 2005 Hyogo Framework of Action (HFA).

The findings and recommendations of this report are based on qualitative and quantitative analyses of recovery experiences, drawn from a myriad of sources. Such sources include Regional Hyogo Framework for Action Monitors from Africa, Asia and the Pacific, Latin America and the Caribbean, and Europe; HFA country reports from Barbados, Indonesia, and Italy; input papers from Australia, Central America, India, Indonesia, the Kyrgyz Republic, and Pakistan; knowledge notes from Japan; and nine field-based case studies and four additional desk-based studies.

Key findings from HFA Monitor

The United Nations Office for Disaster Risk Reduction (UNISDR)¹ has determined that “the main progress made in living up to the expectations of the HFA in recent years has been qualitative, grounded in policies, legislation, and planning that lay the foundation for more quantitatively measurable achievements in the future.” An analysis of progress made by signatory countries in the five priority areas for action suggests that changing laws and policies is less challenging than successfully integrating disaster risk reduction measures into development patterns.

Using a ranking system of 1 to 5 to measure progress from minor to comprehensive, 34 of the 168 signatory nations scored themselves on average just over 3.0 on progress achieved for integrating disaster risk reduction measures into recovery processes. This score indicates that an institutional commitment exists to integrating disaster risk reduction into disaster recovery measures—but that the achievements are neither comprehensive nor sustainable (5.0). Many governments have reported little overall improvement in their ability to integrate disaster risk reduction into national recovery policy and operations since 2007, as evidenced by a score of 3.0 to 3.1 over the course of six years of self-assessment.

Not surprisingly, financial constraints were identified as the number one challenge, with roughly a third of reporting countries listing financing as a primary limitation on their ability to integrate disaster resilience into reconstruction efforts. Financial constraints were closely followed by a

lack of expertise, which about a quarter of reporting countries identified as a serious impediment. While financial and expertise constraints cannot entirely be solved by a well-structured recovery process, a planned, sequenced, and prioritized recovery can help alleviate these challenges by properly allocating funding throughout the process.

Key findings from country case studies

Qualitative analyses of country experiences in disaster recovery suggest that there are four progressive stages for a country to achieve the successful integration of disaster risk reduction into disaster recovery measures: (a) integrating disaster risk reduction into recovery needs assessments; (b) sustained commitment to disaster risk reduction during recovery planning; (c) incorporating disaster risk reduction in the design and implementation of recovery programs; and (d) translating the gains of resilient recovery into sustainable development.

Increasingly, post-disaster needs assessments (led by national governments, and financially and technically facilitated by the international community) include detailed diagnostics of pre-existing institutional and policy frameworks for disaster risk reduction. These assessments also identify building back better factors to ensure that disaster risk reduction is captured during needs quantifications and integrated in recovery strategies. However, anecdotal evidence suggests that these recommendations are successfully implemented only when followed by sustained and systematic recovery planning efforts, such as through national recovery frameworks.

Building longer-term post-disaster resilience

The growing incidence of recurring and high-impact disasters in recent years has prompted countries to place greater emphasis on rebuilding for longer-

term resilience, rather than simply restoring what existed before the disaster. Recovery and reconstruction methods are increasingly viewed as part of a strategic disaster risk reduction continuum, inseparable from preparedness, response, mitigation and sustainable development.

A wealth of historical and contemporary examples demonstrate how countries have incorporated disaster risk reduction considerations in the design and implementation of disaster recovery programs. For example, in Mexico, the government has adopted an approach called business continuity management, which calls for risk reduction and risk mitigation measures designed to optimize the speed, quality, and coordination of private sector business recovery in a post-disaster situation. These measures ensure that small businesses can resume operations more quickly following a disaster.

Following the 2005 earthquake, Pakistan created a public subsidy program to support conditional cash transfers for housing reconstruction. By providing an enabling environment for compliance with “build back better” standards, the project resulted in more than 90 percent of new housing meeting seismic resistant construction requirements. The program was operated through an empowered central agency, the Earthquake Reconstruction and Rehabilitation Authority (ERRA).

In over 50 disaster-affected countries since 2007, post-disaster needs assessments—led by national governments with support from the Global Facility for Disaster Reduction and Recovery, World Bank Group, and international development partners—have provided a foundation and financial impetus for implementing immediate and longer-term disaster resilient recovery measures, like those in Mexico and Pakistan. These assessments, which identify opportunities to integrate disaster risk reduction and build back better, help countries realize the potential of using recovery and



reconstruction to reduce vulnerability to future shocks and natural hazards.

Obstacles to achieving development gains through recovery

In many developing countries, recovery momentum is increasingly lost to time gaps between recovery planning and implementation, donor fatigue, and declining resource commitments. The absence of coordination mechanisms, clear planning guidelines, and defined roles, responsibilities, and institutional mandates decreases efficiencies across the post-disaster assessment, recovery planning, and implementation phases of disaster response. As post-disaster responses increase in time and cost, donor attention is quickly diverted to the next disaster.

Since 2007, progress on the HFA's resilient recovery indicator has been minimal, as demonstrated by the

average country self-assessment of about 3.0 out of 5.0. Generally speaking, this outcome may indicate a poor enabling environment for sizeable disaster risk reduction efforts. However, it is also important to note that disaster recovery received comparatively little priority in the Hyogo Framework for Action.

The language of the HFA's resilient recovery indicator must be improved upon in the post-2015 framework for disaster risk reduction. The HFA's indicator on integrating disaster risk reduction measures into recovery and reconstruction does not provide the means for measuring progress, or guiding the operations and actions of disaster risk managers, policy makers, and politicians. The successor post-2015 framework for disaster risk reduction must place greater emphasis on anticipatory recovery planning measures, and developing recovery frameworks in post-disaster situations that establish mechanisms for financing,



Photo Credit
Ira Peppercorn

monitoring, and management of recovery. Finally, the phrasing of the post-2015 framework for disaster risk reduction must be based upon an agreed-upon definition of resilient recovery with a corresponding set of results indicators.

Recommendations for strengthening recovery systems

Recent global knowledge exchanges, including the second World Reconstruction Conference, UNISDR regional platforms, and the Third UN World Conference on Disaster Risk Reduction, demonstrate the growing international consensus in favor of strengthening resilient recovery in the post-2015 framework for disaster risk reduction and beyond.

To successfully integrate disaster risk reduction measures into recovery processes, countries must strengthen recovery systems, which is sometimes

referred to as the “institutionalization” of recovery. Furthermore, countries must develop national recovery frameworks in an anticipatory manner. By establishing policies, institutional arrangements, and financing mechanisms for recovery, governments can avoid the post-disaster political pressures, financial constraints, knowledge gaps, or confusion of responsibilities that so often impedes the recovery process.

To this effect, GFDRR has developed a comprehensive strategic approach to ensure that governments have the capacity to recover from disasters before they strike. The approach has five service areas that will help to strengthen disaster recovery. The five service areas are briefly described below.

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Improving national and local capacities for recovery assessment and planning

An important first step is the collection, or expansion, of baseline data for social, physical, an productive infrastructure and services before a disaster. In addition to collecting baseline data, a country must also review and improve its national damage assessment guidelines, and systematically incorporate the use of post-disaster needs assessments in the recovery process. Finally, to improve the efficiency and accuracy of post-disaster needs assessments, it is essential to develop the capacity of government staff, private sector companies, and civil society to conduct assessments and formulate recovery plans, and to formally delineate the roles and responsibilities of all actors engaged in the assessment.

Strengthening central policy frameworks and sector strategies for recovery

Governments must develop national or subnational policy standards to guide the recovery process, as well as sector level recovery strategies, based on international experiences. These policy standards improve the predictability and success of recovery strategies for disasters of various types, scales, and impacts. At the national and subnational levels, risk reduction should be integrated into all development policies and planning, including in strategies to reduce poverty or adapt to climate change. At the sector level, these policies might include building codes, with regulations and incentives to encourage compliance.

Strengthening institutional frameworks for recovery

In addition to policies, countries must strengthen their overall institutional frameworks for recovery. Following a disaster, it is important to assess

existing government capacity for conducting post-disaster recovery, and to appoint a lead agency for recovery and reconstruction. Developing mechanisms to improve collaboration between public, private, and civil society organizations might also help to ensure a more inclusive and well-coordinated recovery, in which all actors are aware of their responsibilities and objectives during the recovery process.

Strengthening financial systems for recovery

In the aftermath of a disaster, it can be difficult to quickly allocate resources to the sectors that need it most. Countries must ensure financial predictability and transparency when integrating risk reduction into the recovery process. International financial institutions can contribute both technically and financially toward the creation of contingency funding mechanisms in less-developed countries, and advanced risk transfer mechanisms in more developed or transition economies.

Performance management systems for recovery

Finally, to monitor the success of the recovery process, a country should adapt international performance management tools to their national and local recovery contexts. Examples of these tools include risk and accountability frameworks, rapid procurement systems, monitoring and evaluation systems, and grievance redress systems. With actionable and measurable indicators, countries can monitor the progress of implementation and achievement of disaster risk reduction-related recovery goals.

The way forward

The second World Reconstruction Conference and UNISDR regional platforms, leading up to the Third UN World Conference on Disaster Risk Reduction, recommended several policy and institutional

actions for national governments, international development partners, and development cooperation forums for strengthening recovery systems. These recommendations, based on global consensus, are intended to establish formal policies, institutional arrangements, financing mechanisms, and planning frameworks to ensure resilient recovery is a means to sustainable development. At the second World Reconstruction Conference, 37 governments and international development actors recommended the following actions to strengthen disaster recovery systems:

- Promote and ensure efficient, inclusive, and effective recovery and reconstruction interventions and measures through the institutionalization of post disaster needs assessments and recovery frameworks.
- Building greater financial resilience and predictability within government to manage and respond to disaster triggered by natural hazards, and formalized strategic and resource commitments towards recovery planning, implementation and performance management.
- Strengthening mechanisms for cooperation with services in areas of recovery and reconstruction that include sharing rosters of experts, capacity building, tools, bi-lateral support between countries, progress monitoring; and standardized approaches for post-disaster assessments and recovery planning frameworks.
- Strengthening capacity for recovery planning and monitoring at the national, local, and community level, and establishing clear roles and responsibilities for all actors in a recovery setting.

The Third UN World Conference on Disaster Risk Reduction, to be held in March 2015 in Sendai, Japan, will produce a post-2015 framework for disaster risk reduction. The conference presents an opportunity to strengthen the role of resilient

recovery in the post-2015 framework, building upon this growing consensus from regional platforms and preparatory committee sessions, as well as the second World Reconstruction Conference.





Introduction

The *Global Assessment Report on Disaster Risk Reduction* is a biennial assessment of disaster risk reduction, and a comprehensive review and analysis of the natural hazards that affect humanity. Every two years, more than 100 participating governments assess their progress and challenges in achieving the disaster risk reduction priorities and actions agreed under the 2005 Hyogo Framework for Action (HFA).

The *Global Assessment Report* brings together governments, donors, international development agencies, academia, civil society organizations, and global practitioners to assess how disaster risk affects social and economic development, and attempts to consolidate political and economic support for disaster risk reduction measures. The United Nations Office for Disaster Risk Reduction (UNISDR) coordinates the production of the *Global Assessment Report*, in collaboration with a wide range of stakeholders, including UN agencies, governments, academic and research institutions, donors, technical organizations, and experts in various fields of specialization.

Scope and objectives

This report documents progress and challenges around the world associated with the integration of disaster risk reduction measures in recovery planning. This report specifically analyzes progress made by signatory countries toward Core Indicator 5 under the HFA's Priority for Action 4, which states: "Disaster risk reduction measures are integrated into post-disaster recovery and rehabilitation processes."

This report demonstrates the essential role of recovery for implementing long-term disaster risk reduction measures, and proposes a systematic framework-led approach to disaster recovery. To this end, the report shares examples from countries that have successfully integrated disaster risk reduction in disaster recovery, and developed comprehensive disaster recovery frameworks. Finally, the report provides a revised framework of indicators that are needed in the post-2015 framework for disaster risk reduction, and introduces GFDRR's way forward for integrating disaster risk reduction into recovery processes.

Methodology

The findings and recommendations of this paper are based on detailed qualitative and quantitative analyses of recovery experiences around the world. Sources include the Regional Hyogo Framework for Action monitors from Africa, Asia and the Pacific, Latin America and the Caribbean, and Europe; country reports from Barbados, Indonesia, and Italy; input papers from Australia, Central America, India, Indonesia, the Kyrgyz Republic, and Pakistan; knowledge notes from Japan; nine field-based case studies from Bangladesh, Haiti, Indonesia, Lao PDR, Mozambique, Pakistan, the Philippines, Senegal, and the Republic of Yemen; and four additional analytical studies from Chile, China, Iran, and Turkey.

These sources provided the following types of information:



- Hyogo Framework for Action self-assessment reports submitted by approximately 100 countries, including data related to the integration of disaster risk reduction in recovery processes;
- Various country recovery and thematic case studies prepared during the development process of the *Disaster Recovery Framework Guide*²;
- Technical papers contributed by a range of stakeholders and partners associated with disaster recovery, including the Central American Coordination Center for Natural Disasters Prevention, the Gujarat State Disaster Management Authority, the International Recovery Platform, the Queensland Reconstruction Authority, UNDP, UNISDR, and the World Bank Group; and
- A GFDRR internal diagnostic of 20 post-disaster needs assessments, which took stock of recommended resilience-building measures and the impact of post-disaster needs assessments.

This variety of sources provides a comprehensive look at the progress made in integrating disaster risk reduction measures

in recovery programs, and in strengthening recovery management practices in advance of disasters. While the quantitative data analysis of the HFA monitor is revealing, it hides a wealth of information about the innovations taking place on the ground. The technical inputs and qualitative analyses augment the HFA monitor by providing examples from specific projects and interventions. These initiatives range from recovery policy reforms in the Kyrgyz Republic to the Betterment Fund in Queensland, which has allowed the local government to compete for matching funds for risk reduction measures such as retrofitting roads, bridges, and waterways.

Progress, challenges, and achievements toward resilient recovery

Country progress (2007-13) in integrating disaster risk reduction in recovery

UNISDR³ has determined that “the main progress made in living up to the expectations of the [Hyogo Framework for Action] in recent years has been qualitative, grounded in policies, legislation, and planning that lay the foundation for more quantitatively measurable achievements in the future.” In other words, progress on disaster risk reduction goals has been greater in terms of policy actions and planning rather than the actual implementation of measures to reduce underlying risk factors. The country self-assessment scores reported in the Hyogo Framework for Action Monitoring and Progress Review bolsters this conclusion. In particular, progress in implementing reforms that change planning and management of human settlements or social and economic investment activities has been far more difficult to attain.

An analysis of progress made by signatory countries shows that changing laws and policies is less challenging than changing development patterns. This holds true for Core Indicator 4.5, which measures progress in integrating disaster risk reduction measures into post-disaster recovery and rehabilitation processes. Some of the lowest scores reported by governments between 2007 and 2013 are those associated with Priority for Action 4, which called for the reduction of underlying risk factors. This priority is among the most operational of all the Hyogo Framework for Action indicators, focused on long-term disaster prevention and mitigation, and has seen the lowest level of achievement compared to the other priorities. Among the six indicators under Priority for Action 4 (see Table 1), participating governments rated themselves the lowest for Core Indicator 4.3, with a similarly low score for Core Indicator 4.5.

By scoring themselves just over 3.0 on Core Indicator 4.5, governments report that an institutional commitment exists to integrating disaster risk reduction into disaster recovery measures—but that the achievements are neither comprehensive nor sustainable [5.0].

Figure 1 Average levels of achievement according to individual Hyogo Framework for Action Priorities, 2007-13

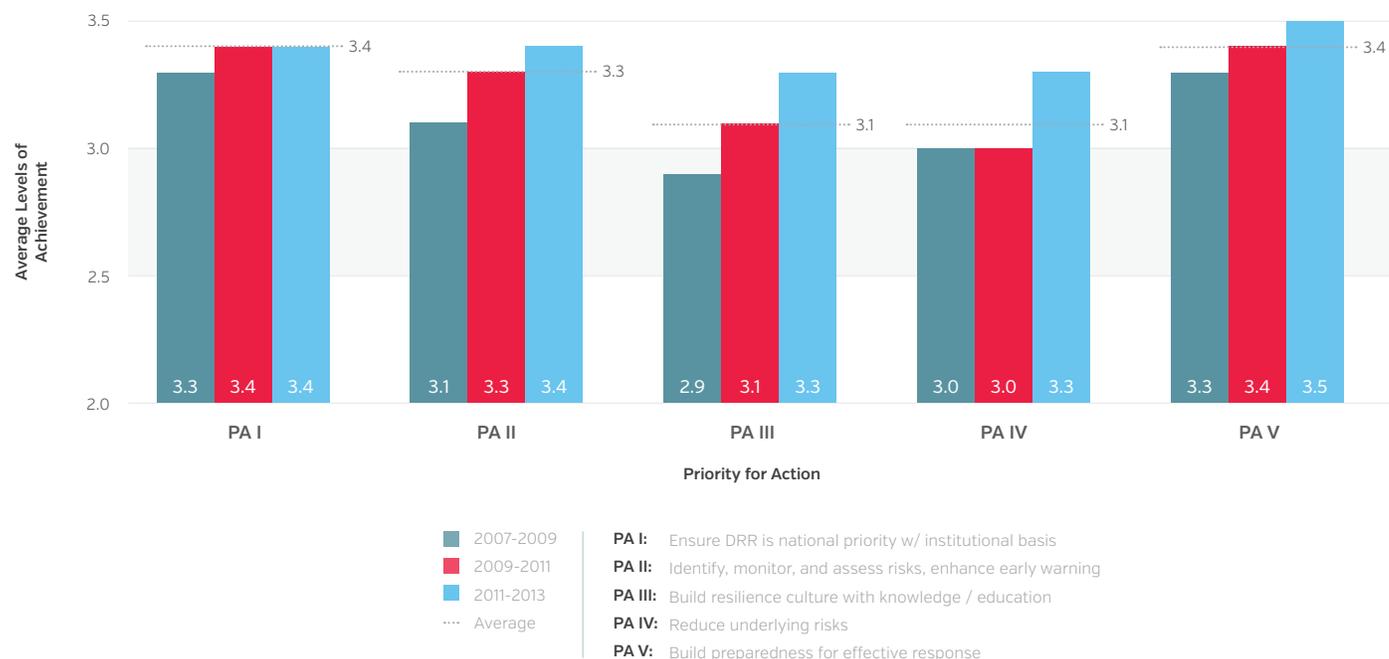


Table 1 Priority for Action 4

PRIORITY FOR ACTION 4	
Reduce the Underlying Risk Factors	3.3
Core indicator 4.1 Disaster risk reduction is an integral objective of environment related policies and plans, including for land use, natural resource management and adaptation to climate change.	3.5
Core indicator 4.2 Social development policies and plans are being implemented to reduce the vulnerability of populations most at risk.	3.2
Core indicator 4.3 Economic and productive sectorial policies and plans have been implemented to reduce the vulnerability of economic activities.	3
Core indicator 4.4 Planning and management of human settlements incorporate disaster risk reduction elements, including enforcement of building codes.	3.1
Core indicator 4.5 Disaster risk reduction measures are integrated into post disaster recovery and rehabilitation processes.	3.1
Core indicator 4.6 Procedures are in place to assess the disaster risk impacts of major development projects, especially infrastructure.	3.9

Table 2 Hyogo Framework for Action Indicator Score Definitions

SCORE	DEFINITION
1	Minor progress with few signs of forward action in plans or policy.
2	Some progress but without systematic policy and/or institutional commitment.
3	Institutional commitment attained but achievements are neither comprehensive nor substantial.
4	Substantial achievement attained but with recognized limitations in capacities and resources.
5	Comprehensive achievement with sustained commitment and capacities at all levels.

Relative to the other indicators under Priority for Action 4, Core Indicator 4.5 experienced both low average scores as well as little growth year over year. Of the six Core Indicators, countries reported the highest level of progress for putting in place procedures to assess the disaster risk of major development projects, especially infrastructure.

The poor performance in integrating disaster risk reduction into recovery processes indicates that countries generally struggle to take advantage of recovery efforts to operationalize risk reduction. These results may partly be due to the difficulty of measuring progress related to disaster recovery during a given reporting period, since disasters

occur sporadically. However, even countries with recent disasters reported low scores. Qualitative evidence collected separately suggests that disaster recovery efforts that are not based on strategic planning and implementation are more likely to fail in meaningfully incorporating disaster resilience in reconstruction, resulting in a missed opportunity.

A total of 168 countries agreed to the HFA, but not all 168 countries reported to the HFA monitor, upon which our analysis is based. From 2007 to 2013, only 34 of the 168 countries that signed the Hyogo Framework for Action provided self-assessments each period to UNISDR for the indicator measuring the integration of disaster risk reduction into

Figure 2 Average levels of achievement according to individual Hyogo Framework for Action Core Indicators under Priority for Action 4, 2007-13

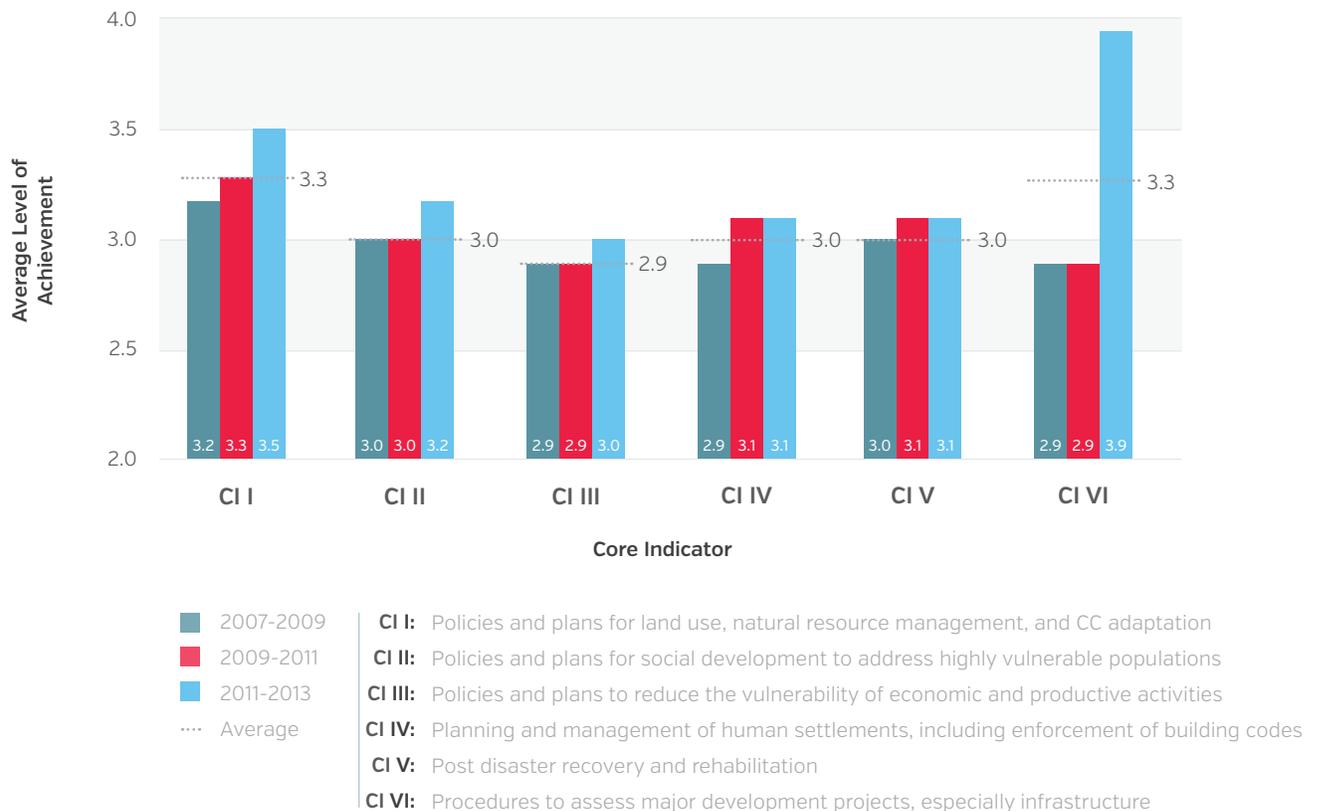
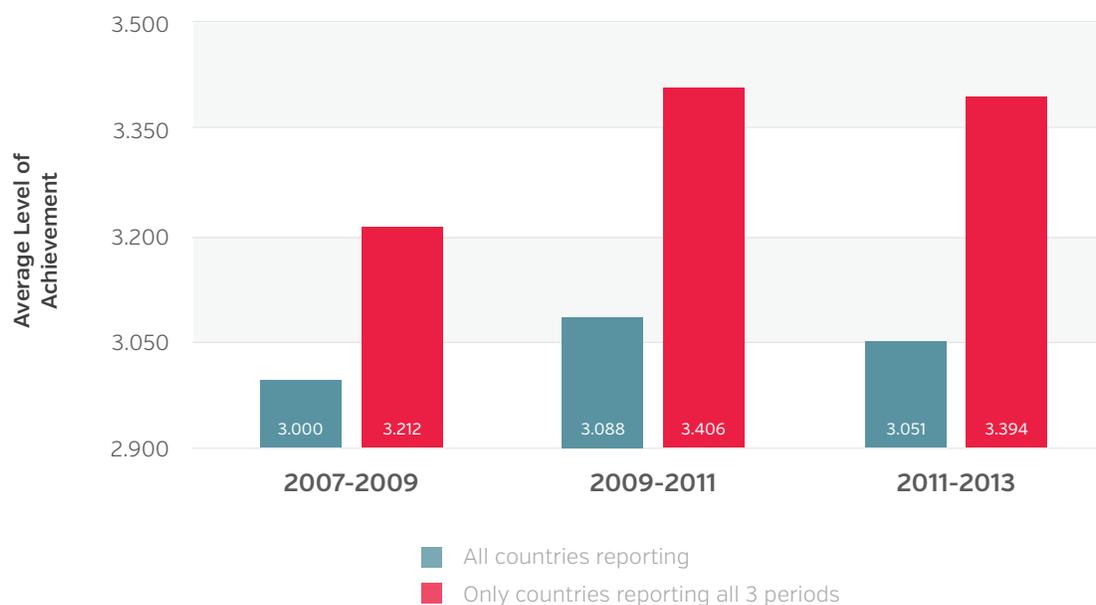


Figure 3 Average CI 4.5 Assessment, 2007-2013



the recovery process. This group, perhaps coincidentally, assesses its performance against this indicator relatively higher on average than countries that reported only once or twice. For these 34 countries, the average self-assessment scores provided for the three reporting periods were 3.21, 3.40, and 3.39, respectively.

Of these 34 countries, five reduced their self-assessment from the first to the third reporting period, including Armenia, the Czech Republic, Peru, Sweden, and Yemen; 14 reported no change; and 15 assessed their performance as improved. Only four countries and one territory rated their performance a 5.0 in 2013, indicating a “*Comprehensive achievement with sustained commitment and capacities at all levels.*” These countries included Costa Rica, the Republic of Korea, Hungary, Italy, and the Turks and Caicos Islands. Of these five countries, only Costa Rica reported for all three periods.

Challenges of integrating disaster risk reduction into the recovery process

Not surprisingly, countries identified financial limitations as a major impediment to successfully integrating disaster risk reduction into the recovery and reconstruction process. In fact, roughly a third of countries listed financing as the number one challenge when asked to provide additional insight into their self-assessment under Core Indicator 4.5. Respondents were allowed to describe as many constraints as they felt appropriate. (See Figure 4.)

Financial constraints were closely followed by expertise constraints, with about a quarter of reporting countries listing a lack of knowledge and human resources as a major impediment to achievement

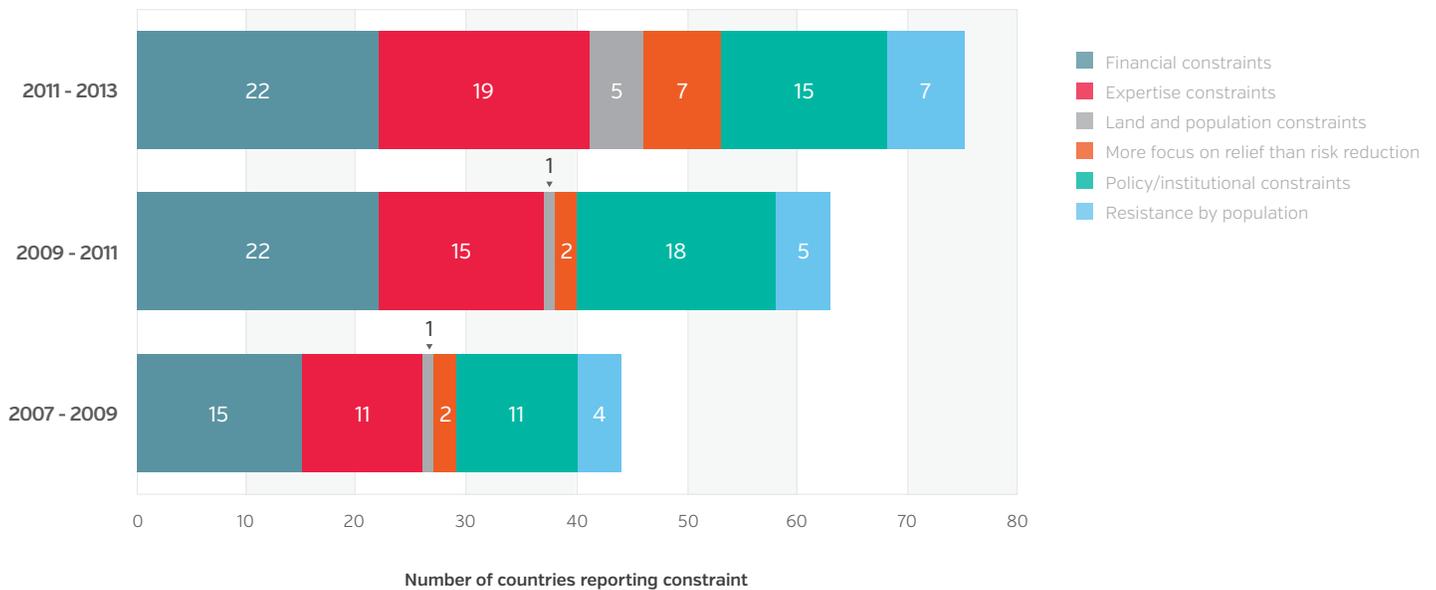
levels in Core Indicator 4.5. Since these two factors account for the majority of self-reported constraints by countries, it is clear that the current model of donors pushing for and funding initiatives to incorporate disaster risk reduction into reconstruction efforts is ineffective and not sustainable. Anticipatory investments in recovery and reconstruction are necessary in order to overcome financial and technical resource limitations, and ensure that disaster risk reduction measures are sustainably mainstreamed in post-disaster recovery policies and plans.

A well-structured reconstruction process that is planned, sequenced, and prioritized can help alleviate financial and expertise constraints. Countries can greatly benefit from an approach that comprehensively allocates financial and human resources across sectors with an explicit aim for resilient recovery and

reconstruction. The strengthening of recovery systems can also alleviate expertise constraints, as the need for experts to “reinvent the wheel” decreases with each reconstruction effort. In this way, predictable funding shows great promise for improving the integration of disaster risk reduction in recovery processes.

The recovery experience following the 2011 floods in Queensland, Australia, illustrates the power of predictable and easily accessible financing for ensuring the incorporation of disaster risk reduction measures in the recovery process. While a provision for betterment works had been in place under Australia’s national disaster recovery funding arrangements since 2007, the process for applying for betterment, such as disaster-resilient improvements to roads and bridges, was often slow and unwieldy. After three successive years of multi-

Figure 4 Constraints reported by countries under Core Indicator 4.5, 2007-13



billion Australian dollar disaster events—including major flooding in 2011 and 2012, and Tropical Cyclone Oswald in 2013—the Queensland and Australian governments launched the Queensland Betterment Fund, a joint fund of AUD\$80 million to finance reconstruction of critical assets including bridges, service roads, and a pumping station.

Announced in February 2013, the Betterment Fund applies global good practice in disaster reconstruction as it seeks to improve the resilience of Queensland communities to natural disasters. Under the Fund, local governments are qualified to receive funding to rebuild so-called grassroots assets—such as water supply infrastructure, roads, bridges and drainage systems—that provide maximum benefit in terms of resilience and risk reduction for a relatively minimal investment of public funds. This approach embraces the rationale that an upfront increase in investment costs will provide significant future savings in terms of rebuilding or replacement costs, and in preventing consequent economic losses, in the event of the next major natural disaster.

Box 1 Examples of disaster risk reduction-led recovery in Queensland, Australia

Australia's AUD\$80 million Queensland Betterment Fund provides financing for betterment projects to facilitate post-disaster reconstruction that incorporates disaster risk reduction measures. Some 220 projects have been financed by the fund, including:

- *Gayndah Water Supply Intake Station project.* After experiencing nearly \$4 million in damages due to disaster events, including tropical cyclone Oswald in 2011, the pumping station was relocated and redesigned according to flood-resilient guidelines, allowing it to quickly return to normal operations after extreme weather conditions.
- *George Bell Crossing project.* Reconstruction of Queensland's George Bell Crossing following flooding in 2011 was completed one month prior to major floods in 2013, which washed away the crossing. Floodwaters also caused severe scouring and erosion to the eastern approach, resulting in the crossing's complete demolition. The \$1.7 million betterment project has rebuilt the crossing according to more disaster resilient standards; for example, by replacing the causeway with a pre-cast concrete bridge. This upfront investment will prevent future damage from washout, prevent communities from isolation, and minimize financial losses from future disasters.
- *Gayndah-Mundubbera Road project.* Gayndah-Mundubbera Road is an essential freight and transport link for the North Burnett region of Queensland. The road was reconstructed following floods in 2011, but approximately two kilometers of the road was subsequently washed away by tropical cyclone Oswald in 2013, causing the road to be closed for three months. The \$8.9 million betterment project is relocating the road and introducing new measures for road protection, ensuring resilience against future disasters.
- *Round Hill Road project.* The Round Hill Road was severely damaged by the 2011 floods. The road was repaired at an estimated cost of \$1 million, only for it to be damaged again in 2013, closing the town road for two weeks and forcing the community that depends on it to access essential supplies by air and sea. The \$2.5 million betterment project will install flood-resilient measures to protect the road from future flooding.
- *Upper Mount Bentley Road project.* Located on Palm Island, a remote aboriginal community, the road provides the only on-ground access to a vital radio telecommunications tower located at the peak of Mount Bentley. This road has been damaged eight times by weather events between January 2008 and January 2013, significantly reducing the ability of people to safely access the community's only radio tower. The \$800,000 betterment project included the construction of concrete surfacing for the steepest and most vulnerable sections of the road, allowing technicians to quickly access the tower and repair it following a disaster.

Four stages of integrating disaster risk reduction into the recovery process

Recent global experience suggests that integrating disaster risk reduction in the recovery process often includes four progressive levels of achievement:

- The integration of disaster risk reduction considerations in post-disaster recovery needs assessments;
- A sustained commitment and continued focus on disaster risk reduction in recovery planning by the government, including developing recovery policies and strategies, as well as establishing institutional, financial, and operational arrangements for the recovery process;
- The incorporation of disaster risk reduction measures in the design and implementation of recovery; and
- Translating resilient recovery gains into resilient development gains.

Many countries reported achievement in the first two stages. The real test, however, lies in whether such planning culminates in the actual incorporation of risk reduction measures in the design and implementation of recovery efforts. The

most desirable long-term result of this integration is for risk reduction to become a fundamental part of national recovery systems, in order to realize sustainable development gains that are resilient to future shocks.

This section of the report shares examples of post-disaster countries that have attempted to integrate disaster risk reduction into the recovery process, with varying levels of success. Examples are classified according to four levels of achievement.

Basic level of achievement: Integration of disaster risk reduction into recovery needs assessments

Contemporary post-disaster needs assessments led by national governments and facilitated by the international community increasingly include detailed diagnostics of pre-existing disaster risk reduction institutional and policy frameworks in post-disaster countries. These needs assessments also increasingly articulate building back better factors and disaster risk reduction requirements



to strengthen resilience across all sector recovery strategies.

For example, an internal GFDRR analysis of 20 post-disaster needs assessment conducted in 16 countries between 2004 and 2011 found that roughly half of the analyzed needs assessments included central disaster risk reduction frameworks or guiding principles for recovery that promote the integration of risk reduction measures into the recovery process. These principles included addressing disaster risk reduction considerations within government institutions and the built environment, improving emergency preparedness and management, and integrating risk management into all sectors and levels of governance. Almost all recent post-disaster needs assessments provided recommendations for the integration of disaster risk reduction activities into sector-specific recovery strategies. These recommendations included ensuring that damaged social and physical infrastructure, particularly

schools, health facilities, houses, and transportation networks, were rebuilt to improve and reinforce disaster-resilient standards.

**Moderate level of achievement:
Sustained commitment and
continued focus on including
disaster risk reduction
measures in recovery planning**

Anecdotal evidence from various countries suggests that the recommendations made by post-disaster needs assessments are usually implemented successfully only when supported by sustained and systematic recovery planning efforts or national recovery frameworks that specifically operationalize their disaster risk reduction-related provisions.



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Sudipto Das

Box 2 Defining “Building Back Better”

“Recovery efforts should, at minimum, ensure that communities become safer than they were before the disaster. We must bear in mind that each brick laid in the recovery process can either contribute to risk reduction or become an enabler for the next big disaster.”

– William J. Clinton, *Key Propositions for Building Back Better: Lessons Learned from Tsunami Recovery* (2006)

Natural disasters expose the underlying weaknesses and vulnerabilities in a community. Crumbled buildings might reveal a need for stronger building codes or relocation, while flooded roads may call for elevation or drainage. By restoring damaged infrastructure to more disaster-resilient standards – that is, better able to adapt to and recover from natural hazards – communities will suffer fewer losses when the next disaster strikes. This concept is known as “building back better,” a term introduced during the 2004 Indian Ocean Tsunami recovery efforts in Aceh, Indonesia.

Building back better is often defined as the reconstruction or retrofitting of public assets to meet safer standards – for example, incorporating disaster risk reduction measures into the reconstruction of hospitals, schools, and houses. However, the term can also encompass the governance and social sectors, promoting equitable and community-driven recovery through enhanced planning and preparedness, strengthened recovery institutions, greater coordination among local governments and donors, and full participation of affected populations in the recovery process.

Building back better is associated with an initial increase in reconstruction costs. According to recent studies by the World Bank Group, building back better generally costs about 10 to 50 percent more than simply replacing the original structures. Yet in the long term, the benefits of building back better greatly outweigh the costs, in terms of both economic losses avoided and lives saved. A study of 5,500 disaster risk mitigation grants by the U.S. Federal Emergency Management Agency (FEMA) – including earthquake, flood, and wind hazards – found a benefit-to-cost ratio of 4:1^a.

Around the world, countries are building back better to reduce the costs of property damage, business interruption, emergency response, and societal losses. For example, following the 2005 earthquake in Pakistan, more than 90 percent of the 460,000 homes destroyed were reconstructed in compliance with seismic-resistant standards. Significantly, homeowners led the building process, aided by training in seismic-resistant reconstruction and housing grants. During Cyclone Ian in January 2014, the largest cyclone ever recorded in Tonga, many recently built homes were severely damaged or destroyed, while homes constructed to climate-resilient standards in the 1980s withstood the Category 5 winds. In the reconstruction process, all homes will be built according to these cyclone resilient standards, with priority given to the speedy construction of homes for the most vulnerable members of the community.

Note:

a. Adam Rose et al, “Benefit-Cost Analysis of FEMA Hazard Mitigation Grants,” *Natural Hazards Review* (November 2007)

Indonesia’s experience following the 2010 earthquake and tsunami in Mentawai and the eruption of Mount Merapi provides a good example. A damage and loss assessment conducted by BNPB (National Agency for Disaster Management) included recommendations to prioritize activities and allocate resources for various sectors for recovery. The government of Indonesia heeded the recommendations with disaster mitigation measures such as legislation (Housing and Residential Areas Law, Disaster Mitigation in Coastal Areas and Small Islands), the relocation of affected populations from disaster prone areas, and the conversion of affected areas into conservation areas.

Similarly, following the 2005 earthquake in Pakistan, an assessment conducted by the Asian Development Bank and the World Bank Group emphasized the inclusion of disaster risk reduction principles in a central reconstruction strategy for almost all affected sectors including education, health care facilities, water and sanitation infrastructure, and private housing. The damage and needs assessment set forth guiding principles that were mutually formulated by the government to ensure strategic consistency in recovery planning activities, which included focus on livelihood regeneration and building back better, setting up institutional frameworks, establishing efficient financing mechanisms for recovery, as well as governance, accountability, and supervision processes for the reconstruction program.

Technical recommendations made during post-disaster assessments easily fall to the wayside when countries lack the technical capacity or expertise to follow their advice.

The concept of building back better has become the most frequently invoked term when talking about resilient reconstruction. It is noted as an objective of many international, national, and sub-national reconstruction plans, and features prominently in policy discussions on recovery. However, the goals of building back better are often difficult to achieve,

and the term is at risk of becoming an empty slogan for raising funds, rather than leading to meaningful results related to disaster risk reduction.

For example, while building back better was a slogan used widely during the post-2010 Haiti earthquake recovery process, the actual implementation of disaster risk reduction measures quickly fell apart, particularly in relation to the construction and provision of shelter for the 1.3 million people who lost their homes. Nevertheless, the creation of new entities, such as the Unit for the Coordination of Public Buildings and Housing (UCLBP), the Haiti Reconstruction Fund (HRF), and the Cooperation for Foreign Development Aid (CAED), has facilitated the government's ability to address recovery and development needs, both on a sector level and a national level. Improved governance systems in relation to disaster risk reduction and recovery processes have improved donor coordination, strengthened information sharing between government authorities and recovery and reconstruction actors, established better land use and urban planning, and developed clearer processes for resolving land title issues. However, on a national scale, the central government did not systematically adopt most of the recommended build back better approaches to their recovery process.⁵

The concept of build back better is further complicated by confusion around or oversimplification of its meaning. While building back better may be commonly understood as a post-disaster opportunity to improve physical, social, and economic conditions through the reconstruction and recovery process, the term has been defined many ways. An Overseas Development Institute (ODI) report found that without a disciplined and strategic focus, the humanitarian community and country governments reduce the idea of building back better to building standards and the technical design of shelters. Additionally, there was little common agreement on what building

back better meant, or what it implied in terms of funding. As a result, international agencies, donors, and government authorities operated largely through existing frameworks and programmatic interventions. In other words, the recovery process rarely included any kind of substantive change from previous processes. ODI argues that given the multiple dimensions addressed by the building back better concept, including technical, political, and cultural matters, there is a risk that donors interpret its use in a recovery program according to their own priorities instead of those perceived by governments. Such a scenario can often undermine long-term national disaster risk reduction goals.

This lack of clarity surrounding the building back better concept has undermined disaster risk reduction measures during reconstruction in various countries. An ongoing analysis by GFDRR and the Earthquake Engineering Research Institute reveals that building back better as a simple policy admonition may have lacked both specificity and coherence. Depending on who is using the term, it has been viewed as anything from an overarching principle for the recovery process, a housing strategy for improved construction standards, a phrase that refers to the recovery process in general, or one that describes the recovery "end state." This confusion makes it impossible to determine whether disaster risk reduction measures have been implemented across disparate reconstruction efforts and are contributing to building back better. The report concludes that the ambiguous use of the term has introduced new and unwanted complications to the reconstruction process.

Box 3 Resilient Recovery in Action: Integrating disaster risk reduction measures into the 2011 Typhoon Haima recovery process in Lao PDR

In 2011, tropical storms Haima and Nok Ten hit central Lao PDR within two months of each other and with devastating effects. Haima caused widespread flooding in five provinces, including its capital city of Vientiane, affecting approximately 73,000 people and causing an estimated US\$174 million in damages. The government of Lao PDR mounted a significant response and recovery operation with support from the international community. The response included investments in disaster risk mitigation measures during the reconstruction process, particularly in the infrastructure sector (e.g. roads, irrigation, public buildings and assets). The storms prompted a comprehensive review by the government and the World Bank Group of existing building codes and technical standards for the design, construction, and maintenance of public buildings and infrastructure.

Rehabilitating roads to withstand the effects of future natural hazards

Lao PDR's network of roads was in critical need of flood proofing and an ongoing maintenance action plan. The widespread damage to road surface, drainage, culverts, and river bank protection roads following 2011's tropical storms provided an opportunity for the government and the World Bank Group to tackle this longstanding problem. The major challenges of similar rehabilitation in the past included both a lack of funds and the necessary planning and implementation to make it happen, in addition to donor and government financing restrictions on the scope of recovery projects.

In recognition of these issues, the World Bank Group in 2012 provided financing for disaster resilient upgrades to sections of the national road network through the Lao Road Sector Project, including slope stabilization to reduce the likelihood of landslides and flood-proof surface treatments. The project has also helped to increase the government's emergency road contingency fund and developed standard operating procedures for the fund's use. A separate World Bank Group initiative is helping to improve the government's ability to audit the maintenance of the roads.

Lao PDR's response to Typhoon Haima in 2011 demonstrates how international coordination strengthened resilient recovery by enhancing investments in disaster risk mitigation and inter-agency contingency plans. The government of Lao PDR used the devastation of Typhoon Haima as an opportunity to address technical and financial resource gaps, and the perennial flooding of critical road networks. By improving technical standards, financing mechanisms, and road drainage and slope stabilization, Lao PDR's recovery and reconstruction helped to increase the disaster resilience of government institution and roads.

Substantial level of achievement: Incorporation of disaster risk reduction measures in the design and implementation of recovery programs

Many historical and contemporary examples demonstrate how post-disaster countries variously incorporated building back better and disaster risk reduction considerations into the design and implementation of recovery programs. This particular agenda received a boost in the aftermath of the 2004 Asian Tsunami, which caused colossal damage and loss of human life. Most affected countries introduced a strong emphasis on disaster risk reduction in the design of their recovery interventions. By the time a devastating earthquake hit Pakistan in 2005, this increased focus on resilient recovery had gathered momentum, and both the people and government of Pakistan, as well as the international community were ready to take drastic action and make significant investments by incorporating disaster risk reduction considerations in the recovery process.

Pakistan, operating through a robust reconstruction framework and an empowered central agency, the Earthquake Reconstruction and Rehabilitation Authority (ERRA), was able to substantially implement disaster risk reduction objectives in its 2005 earthquake recovery process. The organization's flagship initiative, a rural housing reconstruction program, prioritized building back better recommendations—in this case, rebuilding homes according to seismic-proof standards—as a central feature. The program's owner-driven approach proved highly successful, with over 90 percent of reconstructed houses compliant with the new standards.



ERRA's successful leadership of this effort demonstrated the need for disaster-prone Pakistan to institutionalize a central agency to lead post-disaster reconstruction efforts. As a result, the National Disaster Management Authority was formed in 2007. The deputy chairman of ERRA was brought over to lead the new agency and hopes were high. Unfortunately, the gains made and lessons learned following the 2005 earthquake recovery could not be fully translated into an institutional and policy framework for recovery due to nebulous and conflicting mandates, legislative confusion, and an ineffective effort to transfer institutional knowledge to government ministries. With the reconstruction mandate divided across ministries, no central agency was able to form and pursue an implementable recovery framework to lead reconstruction following the 2010 nationwide floods in the country. The Pakistan example illustrates how the strengthening of resilient recovery processes in government can be derailed.

Desirable level of achievement: Translating a resilient recovery into gains for resilient development

Contrary to the above Pakistan example, there is no dearth of instances where gains made from resilient recovery were transferred into longer-term risk reduction and resilient development initiatives. For example, the post-disaster needs assessment prepared by the government of the Philippines after Typhoons Ondoy and Pepeng hit the country in 2009 recommended the establishment of a contingency financing mechanism to manage the increasing fiscal burden arising from recurring disasters. This led to the development of a risk financing strategy, with analytical support from the World Bank Group and GFDRR, and to the country gaining access to



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Arnold Jumpay

a World Bank Group contingent loan facility, the Catastrophe Deferred Drawdown Option. The Philippines accessed this financing for the first time following Typhoon Washi in late 2012.

Financial predictability has proven to be a key factor for successfully incorporating risk reduction into recovery activities. Established in the late 1990s as a mechanism to support the rapid rehabilitation of federal and state infrastructure, Mexico's Fund for Natural Disasters (FONDEN) helped to ensure that adequate financial resources were immediately available in the aftermath of a natural disaster to finance the reconstruction of public infrastructure and low income housing. By creating two complementary budget accounts, the FONDEN Program for Reconstruction and the FOPREDEN Program for Prevention, FONDEN streamlined recovery and reconstruction processes without compromising existing budgetary plans and approved public programs. This anticipatory budgetary tool has evolved into an essential element of Mexico's disaster risk management strategy, and has helped to finance disaster risk reduction activities through the reconstruction of infrastructure at higher

standards, and the relocation of public buildings and low-income communities to safer zones.

The 2001 Gujarat earthquake recovery and reconstruction program is a good example of how to establish a virtuous cycle between the integration of disaster risk reduction measures and the strengthening of recovery systems. With widespread damages affecting both public and private sector assets—including homes, irrigation infrastructure, schools, health facilities, and telecommunication and electricity infrastructure—the government and international donors decided to rebuild using improved multi-hazard resistant standards. Within weeks of the post-disaster response, the Gujarat State Disaster Management Authority was established to provide institutional oversight and coordinate a large-scale and multi-faceted recovery program. A primary function of the new authority was to ensure that recovery programs included risk reduction components that strengthened long-term disaster preparedness. To do this, the authority spearheaded numerous disaster risk reduction initiatives that contributed to reforming policy and legal frameworks, modifying building codes and construction regulations, training engineers

Table 3 Recent policies codifying resilience in development in Indonesia

MINISTRY/AGENCY	POLICY	SCOPE
NATIONAL AGENCY FOR DISASTER MANAGEMENT (BNPB)	<ol style="list-style-type: none"> 1. General guidelines for Post-Disaster Rehabilitation and Reconstruction Program 2. General guidelines for Disaster Resilient Village 3. Guidelines for the implementation of the Safe School from Disaster initiative 4. Technical guidelines for Post-Disaster Settlement Rehabilitation and Reconstruction 	<ol style="list-style-type: none"> 1. Adoption of community empowerment approach 2. Mainstreaming resilience into village development construction and planning 3. Codifying earthquake-resilient standards for school rehabilitation 4. Adoption of community-driven housing reconstruction in post-disaster recovery process
MINISTRY OF FINANCE	Decree on Budgeting Mechanism for Disaster Management	Inclusion of community-driven reconstruction of housing
MINISTRY OF PUBLIC WORKS	Set of guidelines on the implementation of REKOMPAK	Codification of REKOMPAK process into standard operating procedures and guidelines
MINISTRY OF EDUCATION AND CULTURE	Guidelines for implementation of Special Funding Allocation for Education	Inclusion of earthquake-resistant standards and school-managed construction in the school rehabilitation process

and masons on better building practices, and revising the syllabi of engineering colleges to include lessons on seismic-proofing buildings and infrastructure.

As a result of the authority's success, the government of India advised all of its state governments to establish similar organizational structures for disaster management. At the national level, the government established the National Disaster Management Authority, and successful initiatives from the Gujarat experience formed the foundation for several national policies. In particular, Gujarat's comprehensive legislation on disaster management led to the formation of similar legislation at the federal and state level.

Similarly, Indonesia's 2004 post-tsunami Community-based Settlement Rehabilitation and Reconstruction Project, also known as REKOMPAK, grew from a housing project into a larger government reconstruction program, and gradually into development practice. Following the 2004 Aceh tsunami, the government of Indonesia enacted the REKOMPAK, employing a community-driven reconstruction approach so that affected communities could undertake construction work themselves, manage project financing, lead project planning, and execute reconstruction with assistance from government agencies and technical specialists.

The implementation of community-driven resilient investment is gradually mainstreamed into other sectors, as well. The Ministry of Education and Culture has since 2012 adopted a school-managed construction approach in its national school rehabilitation program, where school committees are empowered to undertake necessary resilient measures including identifying disaster vulnerabilities in the school areas, preparedness and structural retrofitting

Box 4 Lessons from the Great East Japan Earthquake

Both the successes and challenges associated with Japan's national disaster risk management system are reflected in the lessons drawn from the Great East Japan Earthquake in 2011. The Great East Japan Earthquake catalyzed a variety of impacts that included an earthquake, tsunami, a nuclear power plant accident, power supply failure, and a large-scale disruption of supply chains. Faced with these complex challenges, Japan chose to prepare for future disasters by investing in preventative structural and nonstructural measures during the reconstruction and recovery process. These measures included strengthening buildings and infrastructure for future disasters; enhancing disaster risk education and risk-related finance and insurance; improving disaster risk management regulation, legislation, and enforcement; and strengthening cooperation between government agencies and ministries, the private sector, and local, national, and international actors.

Japan possesses a strong culture of knowledge and learning from past disasters, demonstrated by the resilience of its financial management system after the Great East Japan Earthquake. Through the institutionalization of business continuity practices, financial institutions continued to operate in a stable manner immediately after the earthquake. Ensuring the stability of financial services provides a basic lifeline in a post-disaster society. Effective cooperation between disaster-resilient private sector players helps ensure a resilient and sustainable civil society, and reduces national and regional economic damages.

for earthquake resistance, and regular safety exercises. Furthermore, the approaches developed under REKOMPAK have continuously evolved in Indonesia since the 2004 tsunami. Mechanisms and processes of building resilient communities and settlements have been codified by the Ministry of Public Works as guidelines and standard operating procedures. To scale up the resilient village beyond PNPM and urban areas, the National Agency for Disaster Management (BNPB) launched a Resilient Village program in 2010 (See Table 3 for more recent policies in Indonesia.).

In Mexico, the government is helping small businesses to prepare for disasters through a process called business continuity management, ensuring that their services are available to support recovery. Business continuity management is an “organized series of risk reduction and risk mitigation measures designed to optimize the speed, the quality, and the coordination of organizations’ recovery in a post-disaster situation.”⁶ Begun as a private sector concept, business continuity management is increasingly seen as a complementary component to disaster risk management and critical to maintaining the continuity of private and public sector core operations.

In particular, business continuity practices demonstrate the benefits of recovery readiness. Often institutionalized as planning procedure

before disaster hits, business continuity management supports the formation of contingency arrangements and the delegation of essential management responsibilities required to ensure agencies have the capacity to continue delivering core services. Its central function, business continuity planning, is an organized series of activities and procedures that have been used to guide post-disaster response, recovery, and reconstruction processes.

Following the 2011 Great East Japan Earthquake, business continuity arrangements were an essential component to the financial sector’s resilient recovery. The Japanese banking and insurance systems had already strengthened longstanding disaster recovery and management systems, which ensured that payments and insurance settlements remained constant. As a result, these financial systems’ organizational and institutional resilience helped stabilize local communities and had a significant and positive effect on recovery efforts. Overall, Japan’s pre-disaster planning, including the identification of priority infrastructure, the legislation of post-disaster funding sources and financial arrangements, and other examples of recovery planning enabled prompt emergency response operations and facilitated a quick and resilient rehabilitation in the aftermath of the Great East Japan Earthquake and Tsunami.⁷





Policy challenges & successful practices for building post-disaster resilience

In recent years, post-disaster recovery response has been increasingly plagued by significant time gaps between planning and implementation, a lack of continuous attention by international and national partners, and declining resource commitments. Often, recovery momentum tends to slow following post-disaster assessments, making it hard to plan and implement later stages of disaster response. This can impede the pace, and even the viability of a recovery program, resulting in suboptimal to very little recovery in extreme cases. Even with numerous international agencies engaged in capacity building and training, nations still face serious limitations in terms of planning and implementing recovery processes. However, countries and international development stakeholders that have undergone large scale recovery efforts have knowledge and experiences that can help governments bridge this gap through the creation of user-friendly knowledge products and tools.

Many other factors determine the outcomes and impact of the post-disaster recovery process. For example, while a post-disaster needs assessment may help provide a solid strategic and financing platform for shaping and realizing post-disaster recovery, an assortment of factors can influence and

possibly diminish disaster risk reduction-related outcomes. These can include political instability or political crisis; a lack of coordination across national and subnational tiers of government; the lack of an enabling policy environment; the inherent shortcomings of existing institutions and governance structures; fiscal and budgetary constraints including donor fatigue in financing recovery; lack of donor coordination; competing developmental priorities; and competing or diverging donor priorities.

While opportunities for mainstreaming longer-term resilience are perhaps the ripest in the aftermath of a disaster, countries have not always been able to capitalize fully on these opportunities. A particularly important precondition for recovery to guide and lead to sustainable development is for the recovery process itself to be effective. Thus, in cases where post-disaster recovery did not work or was not implemented, the chances of it being able to promote resilience in longer-term development efforts are bleak. However, even where recovery works, transitional arrangements between the reconstruction and development phases must be instituted to ensure that policy mandates, strategic gains, and strengthened capacities resulting from the recovery process translates

into (a) the mainstreaming of risk reduction in regular development legislation, policies, and plans; and (b) the strengthening of government disaster management systems based on recovery experiences.

Historical evidence suggests that the following factors lead to either little or short-lived translation of the principles and gains of resilient recovery into resilient development and growth: (a) a lack of formalized policy and strategic linkages across recovery and regular development processes; (b) insufficient or ineffective institutional coordination and transition arrangements between recovery and reconstruction agencies, as well as successor and regular development institutions; and (c) an inadequate systemization of lessons learned from recovery experiences into future recovery strategies, standards, and performance management tools.

Successful practices for building post-disaster resilience

The growing incidence of both recurring and high-impact disasters in recent years has made countries place greater emphasis on recovery processes that lead to longer-term disaster resilience. For example, countries in the Latin America and Caribbean region are leading the way in achieving financial resilience through contingent risk financing and transfer mechanisms. Countries in less developed regions, such as countries hit by the 2004 Asian Tsunami and others in the Asia Pacific and South Asia that have faced a recent spate of serious disasters, have been pursuing a more strategic risk reduction agenda across the recovery and development spectrums.

In these countries, initial post-disaster needs assessments led by national governments and international development partners have provided an important platform and financial impetus for building immediate and longer-term

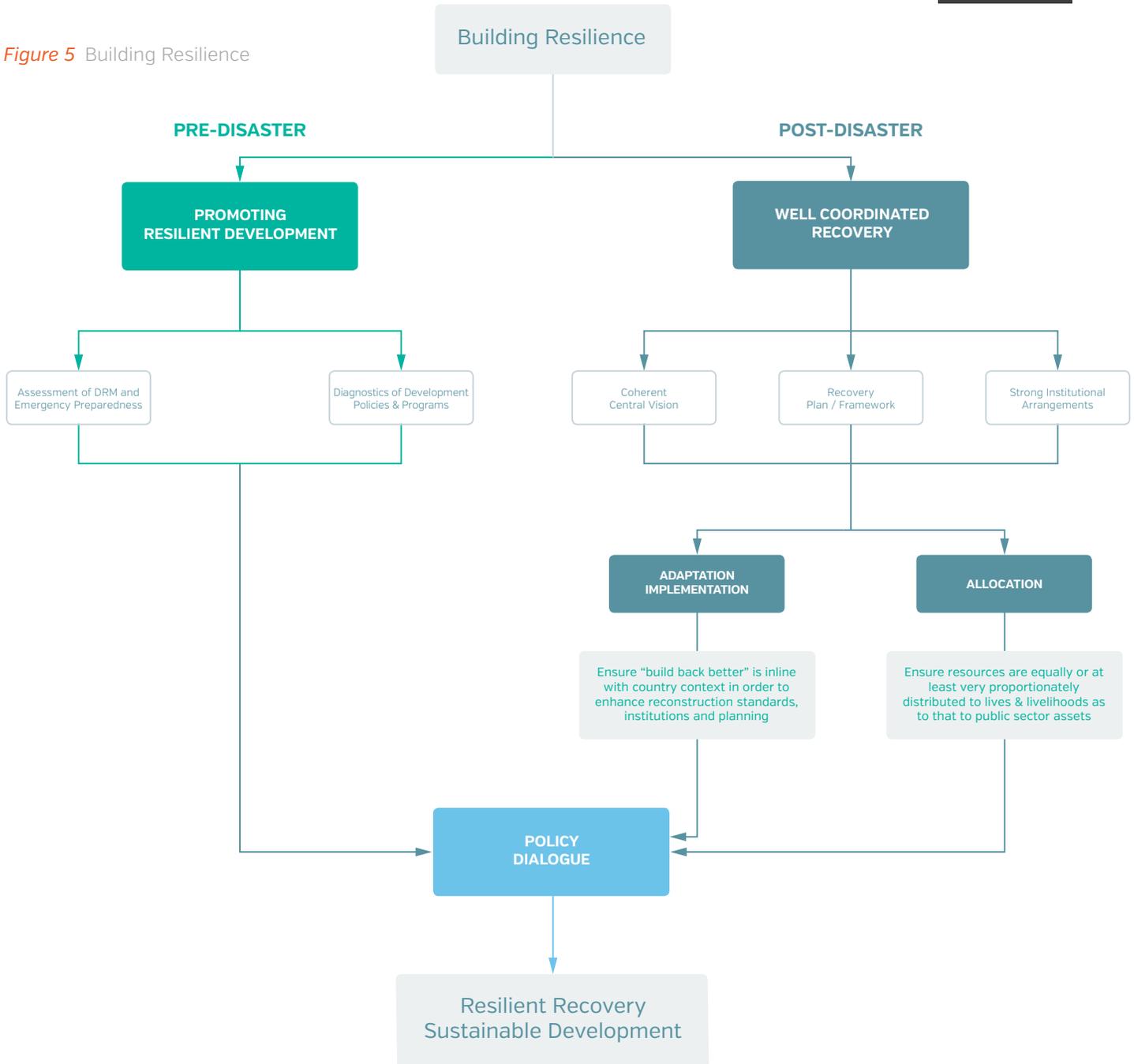
disaster resilience. This helped countries realize the potential of resilient recovery as a means to sustainable development. As shown in Figure 5, the act of building resilience is operationalized through two different means of development:

For example, after the 2005 earthquake, Pakistan coordinated resilient recovery around a central disaster risk management framework and strengthened national sustainability by integrating disaster risk reduction measures into various sector development policies, including the development of building codes for enhancing seismic safety. Similarly, after Cyclone Sidr hit Bangladesh in 2008, the country utilized the disaster as an opportunity to promote resilient development by investing heavily in structural mitigation interventions, the strengthening of early warning systems, systematic risk assessments, and other risk reduction and preparedness programs. More recent examples from Haiti, Indonesia, Lao PDR, and the Philippines also illustrate how far-reaching policy dialogues and developmental impact, in terms of structural, financial, and community resilience, can be achieved by making informed and systematic use of opportunities created by large-scale disasters.

The U.S. National Disaster Recovery Framework promotes the incorporation of sustainability practices into recovery processes, as well. The framework calls for the restoration, redevelopment, and revitalization of the health, social, economic, natural and environmental fabric of the community following a disaster to rebuild a more resilient nation. One of its nine core principles includes resilience and sustainability.

Formally launched by U.S. President Barack Obama in 2009, signaling the highest possible level of political ownership, the National Disaster Recovery Framework defines how federal agencies should operate to promote effective recovery and to support communities affected by a disaster.

Figure 5 Building Resilience



Box 5 Recovery-led disaster risk reduction in Mozambique

Droughts, floods, cyclones, and earthquakes regularly hit Mozambique, making it one of the most disaster-prone countries in the world. Following massive flooding in 2007, the government took advantage of the recovery process momentum to incorporate disaster risk reduction measures as part of its Master Plan for Disaster Prevention and Mitigation. Recovery, resilience, and development efforts led to an improvement in overall resilience. Farmers were introduced to drought-resistant crops, small-scale rainwater catchment systems using local materials were constructed, and riverbanks were reforested. In subsequent years, the number of people affected by heavy rains decreased considerably, until major floods in 2012 and 2013 revealed the need for additional disaster risk reduction initiatives.

Subsequently, the government assigned the National Institute for Disaster Management to coordinate the resettlement of internally displaced people living along the banks of the Zambezi River, in the absence of a housing ministry. An estimated 8,000 families benefitted from government and international support in the construction of houses, schools, and clinics on higher ground using more resilient materials. At the same time, the government recognized the importance to livelihoods of structures closer to the river.

Furthermore, 776 community-level committees have since been trained to use a flood alert system for evacuating vulnerable populations. Meanwhile, disaster preparedness and prevention have become institutionalized under the leadership of the National Institute for Disaster Management. Aside from the resettlement program, responsibility for disaster recovery blends into development plans under other government institutions. Nonetheless, the government of Mozambique has built a solid foundation for integrating disaster recovery readiness into longer-term risk reduction and prevention measures.

It is directed at a broad set of stakeholders, including local government executives, private sector and nongovernmental organization leaders, emergency managers, community development professionals, and disaster recovery practitioners. Both pre- and post-disaster responsibilities for management, coordination, communications, implementation, and recovery support are defined for government, the private sector, NGOs, and other community organizations. The framework allows for local governments and communities to call on institutional staff and technical resources from across the federal government to support specific recovery functions depending on the nature of the disaster and the capability of local authorities.

Recognizing that disasters rarely respect national boundaries, cross-boundary and regional organizations for cooperation on disaster risk reduction can be used as a platform to galvanize national efforts among member nations to institutionalize recovery and promote the principles of disaster risk reduction in the recovery process. The contrasting examples of South Asia and Central America highlight the potential of regional partnerships. In South Asia, a region of high risk exposure and growing disaster vulnerability, “no headway [has been] made in attempting a trans-boundary disaster recovery framework either by developing a framework or developing institutional mechanisms.”⁹⁹ Despite a growing tendency in the region to include disaster resilience measures among the aims of national post-disaster reconstruction efforts, countries have often failed to successfully institutionalize good reconstruction practices that facilitate risk reduction measures in post-disaster reconstruction.



In contrast, Central America exemplifies how regional agreements on disaster management can serve as a mechanism for introducing framework-led recovery into national strategies. The case of the Central American Coordination Center for Natural Disasters Prevention (CEPREDENAC), is particularly instructive.

Following the impact of Tropical Depression 12E, which left 90 people dead, 800,000 affected, and caused over \$1 billion damages, CEPREDENAC, in partnership with AusAID, UNISDR, and the International Recovery Platform, successfully created a new regional disaster risk reduction plan in addition to proposals for national recovery frameworks in all six focus countries: Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua, and Panama.

These efforts have resulted in the creation of a national-level Committee for Rehabilitation and Reconstruction and risk management fund in El Salvador, and the definition of institutional roles and responsibilities for sector led recovery strategies for infrastructure, health, water and sanitation, housing, food security, education, livelihood,

and security. National loss databases were also developed or in the process of being developed in all six countries, which is helping governments and other stakeholders to more effectively adapt and focus recovery planning.

Recovery in the Hyogo Framework for Action and international dialogues on risk reduction

While governments around the world have made notable progress in some disaster risk reduction priority areas under the Hyogo Framework for Action, progress on the resilient recovery indicator since 2007 has been minimal, as evidenced by country self-assessments. While a general explanation might be that most recovery programs do not provide an enabling environment for sizeable disaster risk reduction, it is also recognized by international practitioners and agencies, including UNISDR, that the Hyogo framework gave insufficient attention and priority to recovery.

With only a single indicator related to recovery, the framework is not an effective tool for properly articulating the necessary actions under this priority area, nor does it provide enough instruction for tangibly measuring progress made by countries in integrating disaster risk reduction measures in their recovery processes. The post-2015 framework for disaster risk reduction must make resilient recovery a major priority for action. Going forward, recovery must be viewed as part of an integrated continuum, inseparable from preparedness, response, mitigation, and development, with an acknowledgement the critical role it can play in moving countries toward a state of greater resilience.

The language of the resilient recovery indicator can be considerably improved upon in the post-2015 framework for disaster risk reduction. This is partly because the indicator is based on a set of questions that are in some cases irrelevant to resilient recovery—for example, a question as to whether “measures [are] taken to address gender based issues in recovery”¹⁰. While this question is important for ensuring social equity and equality within a recovery response, it does not help to determine whether disaster risk reduction measures have been integrated in reconstruction processes or if disaster recovery is enhancing social, economic or physical resilience. Furthermore, resilient recovery lacks a confirmed definition and a corresponding set of results indicators. Phrases such as “build back better” do little to clarify the concept, and even the term “resilience” lacks specificity.

Given the importance of integrating disaster risk reduction in the recovery process, it is urgent that indicators be developed that are operational and actionable, allowing disaster risk managers, policy makers, and politicians to understand the specific outcomes they should be aiming for. The Hyogo framework’s scoring methodology has a quantitative ranking scale that, for the most part, does not match

the subjective follow-up explanations provided by countries. Instead, there should be a requirement to independently validate self-assessments, or to check them against other sources of similar information.

International agencies should work with governments to develop actionable and measurable indicators to monitor the progress of implementation and the achievement of recovery goals related to both specific recovery programs and to anticipatory recovery planning frameworks.

Indicators could include the provision of sufficient financial reserves and predictable financing mechanisms for managing and responding to disasters; the institutionalization of post-disaster needs assessments and recovery frameworks across regions and all levels of government; standardized approaches to post-disaster assessments and recovery planning; and the strengthening of mechanisms for cooperation between governments, civil society, the private sector, and international agencies and reconstruction actors.



Conclusion: Furthering Resilient Recovery

This report, *Resilient Recovery: An Imperative for Sustainable Development*, documents the challenges and progress around the world in integrating disaster risk reduction measures into post-disaster recovery and rehabilitation, based upon the priorities outlined by the Hyogo Framework for Action (2005-2015), and recommends policies and practices for achieving resilient development gains through the recovery process.

This final section examines the next steps for furthering resilient recovery, from knowledge exchange and political will to concrete steps that countries can adopt to strengthen their capacity for recovery.

The chapter begins by examining recent global knowledge exchanges towards building political consensus and leveraging policy actions for

strengthening country systems for resilient recovery. Next, it expands upon GFDRR's approach for strengthening recovery systems, building the capacity of governments to develop policies, frameworks, and enabling mechanisms for efficient and effective recovery and reconstruction. Finally, the chapter concludes with a four-step results framework that can help countries plan and monitor their progress on improving and strengthening their recovery systems.

These commitments, tools, and frameworks for resilient recovery represent the way forward for sustainable development and mainstreaming disaster risk reduction.



Building Political Will Through Knowledge Exchange

For many years, planning for recovery was often delayed until it was too late. Through stronger dialogue and knowledge exchange, countries can learn from recovery experiences around the world, and take action so that future generations—and hard-fought development gains—are less vulnerable to the next disaster. The GFDRR-hosted World Reconstruction Conference, UNISDR regional platforms, and the Third UN World Conference on Disaster Risk Reduction demonstrated the growing political will for resilient recovery.

Second World Reconstruction Conference

In September 2014, the Global Facility for Disaster Reduction and Recovery (GFDRR) hosted the second World Reconstruction Conference, in partnership with the European Union and UNDP. The three-day conference at the World Bank in Washington, DC, drew more than 500 participants from over 60 countries. Participants represented government agencies, multilateral organizations, and leading private sector and civil society groups.

During 26 plenary and technical sessions, participants shared challenges and good practices, and deliberated on the next steps to advance the resilient recovery agenda in the post-2015 framework for disaster risk reduction, and beyond. The sessions explored a range of topics, including: how the political economy shapes development and recovery goals; the challenges of bridging humanitarian and development efforts; recovery in conflict and fragile situations; strategies for efficient and effective reconstruction; and accelerating housing recovery.

The conference featured the launch of several knowledge products, jointly produced by the European Union, UNDP, GFDRR and the World Bank Group. These documents further resilient recovery by outlining proven strategies and guidelines to help countries recover more efficiently and effectively after a disaster, and include:

- *Disaster Recovery Framework Guide:* A tool to assist governments in planning, prioritizing, financing, and implementation recovery programs to ensure resilience in recovery and development.
- *Post-Disaster Needs Assessment Guide:* The European Union, United Nations, and World Bank Group standard for the government-led exercise to quantify disaster induced economic damages and losses, and identify need associated with disaster recovery.
- *Case studies on disaster recovery in nine countries:* The Disaster Recovery Framework Guide draws from detailed case studies of Bangladesh, Haiti, Lao PDR, Mozambique, Pakistan, the Indonesia, Yemen, and Senegal.

While countries and communities follow unique paths to recovery, several commonalities emerged from the conference and case studies. First, ex-ante recovery planning—that is, putting in place policies, standards, and institutional arrangements for managing recovery before a disaster strikes—can help ensure a more efficient and effective recovery process. (See later section, “Strengthening Recovery Systems,” for more details.) Second, post-disaster recovery must be linked to poverty alleviation and long-term development objectives, with improved service delivery and livelihood generation for vulnerable groups. Third, recovery should be well-coordinated and inclusive, with established roles and milestones for actors at all levels of government, the private sector, and civil society. Finally, building the capacity to conduct post-disaster needs assessments will provide information on baseline conditions,

Box 6 Conference Statement

The conference statement proposed five actions for strengthening resilient recovery in the post-2015 framework for disaster risk reduction, based on deliberations throughout the course of the conference:

- Promote and ensure efficient, inclusive, and effective recovery and reconstruction interventions and measures through the institutionalization of post-disaster needs assessments and recovery frameworks across regions and all levels of government. This would enhance risk governance, strengthen coordination, and empower communities and marginalized groups.
- Provision for sufficient financial reserves and resources within government to manage and respond to disasters triggered by natural hazards, and formalized strategic and resource commitments toward equitable recovery planning, implementation, and performance management; promoting more dependable and predictable international financial mechanisms for financing recovery.
- Strengthening mechanisms for cooperation with services in areas of recovery and reconstruction that include standardized approaches for post-disaster needs assessments and recovery planning frameworks, and other support services such as sharing of information, databases and rosters of experts, best practices, capacity building, tools, bilateral, regional and multilateral support to countries, and progress monitoring.
- Strengthening readiness and capacity for recovery planning, implementation, and monitoring across regions and all levels of government, and establishing clear roles and responsibilities for all actors in a recovery setting.
- Consider further consultations in the development of a “Draft Voluntary Commitment in Support of Recovery and Reconstruction in the Post-2015 Framework for Disaster Risk Reduction” [Annex I] at Second Preparatory Committee Meeting and the Third UN World Conference on Disaster Risk Reduction to be held in Sendai, Japan, in March 2015.

Supporting participants included Australia, Asia Dalit Rights Forum, Bangladesh, Chile, Centro de Coordinación para la Prevención de los Desastres Naturales en América Central (CEPREDENAC), Costa Rica, El Salvador, Global Facility for Disaster Reduction and Recovery (World Bank Group), Global Network for Disaster Reduction, Grameen Development Society, Guatemala, Haiti, Honduras, Indonesia, InterAction, International Recovery Platform, Japan, Kyrgyz Republic, Lao PDR, Malawi, Mexico, Madagascar, Mozambique, Nepal, Nepal National Dalit Social Welfare Organization, Nicaragua, Organization of Islamic Cooperation, Panama, Philippines, Senegal, Tajikistan, Uganda, Yemen, and United Nations Development Programme.

and help to identify recovery priorities that lead to sustainable development.

In the closing session of the second World Reconstruction Conference, 37 governments, parliamentarians, international agencies, NGOs, and civil society organizations issued a statement in support of strengthening resilient recovery and reconstruction in the post-2015 framework for disaster risk reduction and beyond.

The statement emphasized the importance of recovery as an opportunity for introducing measures that not only restore lives, homes, and livelihoods, but build them back better. Furthermore, “recovery must be viewed as part of a continuum, inseparable from preparedness, response, mitigation, and sustainable development.”

To be successful, recovery and reconstruction programs require commitment at the highest levels of government. In issuing this joint statement, the conference marked a milestone in building consensus on the role of resilient recovery for sustainable development and poverty reduction.

“Disasters will continue to strike, and in their wake we have the chance to move in a new direction toward resilient recovery and reconstruction. The aftermath of a disaster is a critical and delicate moment where the right policies and decisions can turn adversity into opportunity.”

-Dr. Jim Yong Kim, World Bank Group President, at the second World Reconstruction Conference in Washington, DC [September 10, 2014]



Growing global consensus on resilient recovery as the way forward

The Hyogo Framework for Action (HFA), introduced at the 2005 World Conference on Disaster Risk Reduction in Hyogo, Japan, was a 10-year plan that outlined necessary steps for reducing disaster losses. The 2004 Indian Ocean Tsunami, which had occurred only weeks prior, served as a call to arms for the international community.

With reference to recovery, the HFA advocated that governments address disaster risks “in sector development planning and programmes, as well as in post-disaster situations.” The document recommended that countries “incorporate disaster risk reduction measures into post-disaster recovery and rehabilitation processes and use opportunities

during the recovery phase to develop capacities that reduce disaster risk in the long term, including through the sharing of expertise, knowledge, and lessons learned.”

Over 2013-14, as the Hyogo Framework for Action approached its conclusion, the United Nations Office for Disaster Risk Reduction (UNISDR) began facilitating consultations with countries and organizations around the world to determine a new way forward. In particular, at UNISDR regional platforms for disaster risk reduction in Ecuador, Nigeria, and Thailand, countries called for greater emphasis on resilient recovery.

For example, more than 30 governments and 35 organizations contributed to a June 2014 input paper about the Asia-Pacific region, which is highly prone to natural hazards. Contributors called for a shift in focus from reducing vulnerability to building the overall resilience of communities and the economy. In particular, the paper states that the

Box 7 Recovery Provides Impetus for Strengthening Disaster Preparedness in Yemen

A tropical storm hit Yemen in October 2008, turning the governorates of Hadramout and Al-Mahara into declared disaster areas. Flooding and heavy rain destroyed 2,826 houses and huts, and partially damaged an additional 3,679 houses. Some 25,000 people were displaced as a result, seeking temporary shelter in mosques and schools or with host families. The impact on agricultural land and people's livelihoods was particularly devastating, and damages to physical assets were estimated at US\$874.8 million.

After the disaster hit, the government of Yemen—with support from GFDRR—carried out probabilistic risk assessments as part of the recovery process. The risk assessments provided the necessary information to design comprehensive risk management strategies at the national, provincial, and local levels, enabling long-term disaster risk reduction planning and mitigation measures. This catastrophic risk modeling allows public decision makers, like the government of Yemen, and private decision makers, such as insurance companies, with the ability to estimate in advance the impact of a particular kind of disaster on national accounts and operations, as well as expected post-disaster resource and liquidity gaps. Risk modeling strengthens pre- and post-disaster recovery planning, such as emergency response planning, cost benefit analyses of risk mitigation investments, planning for fiscal impact on the government budget, and decisions on insurance, including insurance portfolio risk analyses and whether to pool risks.

prevailing ad hoc and project-centered approach to recovery must be replaced by an institutionalized, multisector approach, guided by a resilience framework with prioritized actions that contribute to sustainable development.

Similarly, the participants of the Fourth Session of the Regional Platform for Disaster Risk Reduction in the Americas in May 2014 endorsed the need to better “define the roles, responsibilities, resources, and inter-institutional coordination for recovery,” and it encouraged countries to “develop anticipatory planning processes surrounding recovery, including institutional budgets that ensure the avoidance of reconstructing risk and generating new risks.”¹¹ This was further emphasized at the 5th African Regional Platform for Disaster Risk Reduction in May 2014, where participants from 44 countries and partners called for the gains from recovery to be translated into resilience through the development of financial protection strategies and resilient recovery plans.

The Third UN World Conference on Disaster Risk Reduction in March 2015 presents an opportunity to mainstream resilient recovery in the global thinking and policy discourse on disaster risk reduction. This could build upon the specific actions on which consensus was reached at the regional platforms and preparatory committee sessions, as well as the second World Reconstruction Conference (refer to WRC Outcome Statement).

At the conference, GFDRR and UNISDR will jointly organize a ministerial roundtable with the title of “Reconstructing after Disaster: Build Back Better.” Forty ministers and senior officials from the World Bank Group, United Nations, and civil society will deliberate on voluntary commitments for recovery to be included in the post-2015 framework. The roundtable represents the rising political demand for resilient recovery and building back better, and the willingness of governments to join together towards strengthening their disaster recovery systems.



Recommendations from recent global forums on recovery

The second World Reconstruction Conference and UNISDR regional platforms produced several recommended policy actions for national governments, international development partners, and development cooperation forums that deliberate on disaster-related policy. These recommendations, based on global consensus, are intended to institutionalize the integration of disaster risk reduction measures in recovery programs through the establishment of formal policies, institutional arrangements, and recovery frameworks.

First, stakeholders must develop national and international policy standards for planning and implementing recovery strategies.

Governments can develop national policy standards for guiding the post-disaster recovery process by

gathering and cataloging past country experiences, existing legal provisions, and contemporary international practices. These efforts will allow governments to respond to disasters predictably and appropriately, in accordance with international good practices, depending upon the type, scale, or impact of a disaster.

National and international policy standards must incorporate resilience-building and risk reduction measures, while considering affordability, technical viability, and the local context. Other considerations include the maximization of local public and private goods and services, social inclusion and equity, and the importance of equally distributing aid across affected communities. The availability of policy standards prior to a disaster will improve the efficiency and applicability of post-disaster needs assessments and their recommendations, as well.

Second, governments and partners must formalize commitments to recovery planning and implementation. Today, there is a national and international tendency to making commitments to disaster recovery that begin and end with post-disaster needs assessments. It is critical that commitments include other facets of recovery planning and implementation, as well. In particular, the implementation stage requires sustained international support to maintain momentum throughout the recovery process.

The development of a recovery strategy must take place immediately after the completion of—or even during—a post-disaster needs assessment, but seldom does. Governments must establish formal policy commitments to fully implementing a recovery process, as well as formal strategies for engaging with international development agencies,

civil society organizations, and local stakeholders for help in creating a recovery framework.

To deliver upon commitments, countries also require greater financial resilience and capacity for responding to the budget shock of natural disasters. Countries should develop disaster risk financing strategies, including adequate budget reserves and risk transfer solutions, that take into account the entirety of the recovery process.

Third, countries must develop national recovery frameworks to ensure the integration of disaster risk reduction measures. A well-coordinated recovery process, guided by a national recovery framework, is more likely to be inclusive and resilient, and development gains made during the process have a better chance of being sustainable in the long term. To successfully implement risk reduction in a post-disaster setting,

Photo Credit
Jason Dixon



countries must establish the required policies, plans, and partnerships in an anticipatory manner.

Such planning frameworks should include recommendations and resource requirements for the following four areas:

- *Institutional Frameworks for Recovery.* It is necessary to agree on an institutional framework that lays out the roles and responsibilities of various tiers of government for establishing and implementing standards for resilient recovery. In addition, a legal framework for recovery should be developed that establishes legally mandated institutions and good governance mechanisms for recovery. Such frameworks can also provide formal coordination and resource sharing mechanism across public, private, and civil society organizations.
- *Recovery Policy and Planning.* The policy framework for recovery must lay out standards and parameters for recovery planning and implementation. These should include improved construction standards for the rebuilding process for various types of public and private assets and infrastructure. Additionally, it should develop policy guidelines for including disaster risk reduction measures in needs assessments and recovery plans; identify data sources required for recovery planning and ensure their availability; and designate “rebuild” and “no-rebuild” zones, based on risk considerations.
- *Recovery Financing.* A recovery framework must ensure that disaster risk reduction measures receive priority in terms of funding during the recovery process. The framework must require the tracking of recovery funds, especially those related to disaster risk reduction spending; provide for central government subsidies and incentives for the incorporation of disaster risk reduction into the recovery process; create multi-donor funding arrangements or coordination

platforms to ensure that disaster risk reduction measures are integrated into funding provided by international aid programs; and create emergency cash transfer systems for affected households, as well as grants that incentivize disaster risk reduction measures at local government and individual levels.

- *Recovery Management and Monitoring.* A recovery framework should establish quality control and enforcement mechanisms for the implementation of disaster risk reduction measures in accordance with planning and design standards. It should also build the capacities of national, subnational, and local governments to design and implement resilient recovery interventions that are based on the build back better model. Finally, a recovery framework should develop monitoring and evaluation systems, including tangible indicators for the integration of disaster risk reduction measures into the recovery process.

Fourth, stakeholders should document, develop, and share knowledge on disaster recovery. Countries must document their experiences in disaster recovery and share lessons with other countries affected by disasters. International development agencies should showcase these country good practices and translate them into knowledge products and tools for resilient recovery. These actions will ground the resilient reconstruction agenda in concrete experiences and help to move it forward. Furthermore, the post-2015 framework for disaster risk reduction should encourage and reward the institutionalization of recovery, and better define and measure outcomes for resilient recovery and build back better processes.

A Proposed Approach for Strengthening Recovery Systems

Political commitments, as illustrated by the World Reconstruction Conference and UNISDR regional platforms, are essential for implanting the resilient recovery agenda in global public sector developmental programing. Yet to further resilient recovery, national governments must have the capacity to deliver on their commitments, and develop policies, frameworks, and enabling mechanisms that balance the speed and quality of recovery and reconstruction efforts. Additionally, recovery programs require predictable technical and financial resources for planning, implementation, and performance management. According to the 2007-2013 HFA Monitor, while many countries have demonstrated institutional commitment to

integrating disaster risk reduction into recovery planning, they often encounter difficulties in implementation.

In response to these challenges, GFDRR has developed a program to ensure that governments have the capacity to recover from disasters before they strike. This program has five service areas that will help to develop and institutionalize disaster recovery frameworks in national or subnational – ranging from strengthening data readiness to managing recovery performance.

Improving national and local capacities for recovery assessment and planning

An important first step is the collection, or expansion, of baseline data for infrastructure and



services before a disaster. For example, a country might collect data regarding the number of hospitals and universities in a city, kilometers of roads, hectares of farmland, kilometers of pipelines, kilometers of power lines, or number and operating capacity of power plants. This data must then be stored in a central repository, where it can quickly and easily be accessed and communicated. In both developed and developing countries, disaster-related data can be fragmented, unreliable, or held by a variety of sources, which hinders its usefulness and availability.

In addition to collecting baseline data, a country must review and improve its national damage assessment guidelines, and systematically incorporate the use of post-disaster needs assessments in the recovery process. A post-disaster needs assessment is a government-led exercise that brings together government authorities, international donors, and other stakeholders to coordinate recovery efforts. The assessment collects comprehensive information on economic damages and losses, and identifies recovery priorities.

To improve the efficiency and accuracy of post-disaster needs assessments, it is essential to develop the capacity of government staff, private sector companies, and civil society to conduct assessments and formulate recovery plans, and to formally delineate the roles and responsibilities of all actors engaged in the assessment. Stakeholders may also consider developing rapid assessment methodologies to expedite post-disaster assessments, to allow greater time for planning a recovery strategy, or expanding national and regional training programs that simulate actual field conditions.

Strengthening central policy frameworks and sector strategies for recovery

Governments must also develop national or subnational policy standards to guide the recovery

Box 8 Institutionalizing the Post-Disaster Needs Assessment System in the Kyrgyz Republic

Until recently, despite its frequent encounters with natural disasters and emergency situations, the Kyrgyz Republic did not possess any officially institutionalized procedures for assessing disaster losses and recovery needs. Consequently, post-disaster recovery planning was not based on systematic needs assessments, and failed to incorporate longer-term disaster risk reduction measures.

With financial and technical support from the World Bank Group, the Kyrgyz Republic sought to strengthen its disaster recovery system through the institutionalization of context-specific post-disaster needs assessment methodologies and recovery frameworks. Working with the National Platform for Disaster Risk Reduction, relevant line ministries, and local governments, the government created a national action plan that identified necessary actions for improving the country's needs assessment structure and methodology, as well as recovery planning standards and provisions. Training workshops, guidance manuals, and similar capacity development measures were conducted to build expertise in conducting needs assessments, and the process was incorporated into the country's disaster response system. This institutionalization of a key aspect of recovery planning created an avenue for incorporating disaster risk reduction measures into reconstruction policies. Training for needs assessment staff prioritized the principles of building back better towards investing in future resilience initiatives.

process, as well as sector level recovery strategies. Policy standards improve the predictability and consistency of recovery strategies for disasters of various types, scales, and impacts. The early development of an overall vision for recovery at the highest levels of government creates momentum for the post-disaster recovery process.

At the national and subnational levels, resilient recovery should be integrated into all development policies and planning, including in strategies to reduce poverty or adapt to climate change. At the sector level, these policies might include building codes, with regulations and incentives to encourage compliance. In the development of any policy, governments must strengthen coordination across recovery, risk reduction, and regular development processes, and take into account gender, equity, environmental protection, and climate change adaptation.

Strengthening institutional frameworks for recovery

In addition to policies, countries must strengthen their overall institutional frameworks for recovery. Following a disaster, it is important to assess existing government capacity for conducting post-disaster recovery, and to appoint a lead agency for reconstruction. For example, a country could establish a dedicated institution for coordination and policy guidance on resilient recovery.

The capacity to manage contracts and procurements is critical, especially where third party contractors are the primary implementers of reconstruction. Developing mechanisms to improve collaboration between public, private, and civil society organizations might also help to ensure more inclusive and well-coordinated recovery, in which all actors are aware of their responsibilities and objectives during the recovery process.

Strengthening financial systems for recovery

In the aftermath of a disaster, it can be difficult to quickly allocate resources to the sectors that need it most. Countries must ensure financial predictability and transparency when integrating risk reduction into the recovery process. For example, countries can use risk assessments to aid in budgetary planning and establishing financial risk-sharing mechanisms that can be deployed in the event of a disaster.

International financial institutions can contribute both technically and financially toward the creation of contingency funding mechanisms in less-developed countries, and advanced risk transfer mechanisms in more developed or transition economies. This will require cooperation on the international level between donors and aid agencies to ensure that government budgeting of recovery factors in the availability of such contingency financing mechanisms.

Performance management systems for recovery

Finally, to monitor the success of the recovery process, a country should adapt international performance management tools to their national and local recovery contexts. Examples of these tools include risk and accountability frameworks, rapid procurement systems, monitoring and evaluation systems, and grievance redress systems.

With actionable and measurable indicators, countries can monitor the progress of implementation and achievement of disaster risk reduction-related recovery goals.



GFDRR's Program for Strengthening Recovery Systems

Implementation Approach

The proposed program aims at strengthening the capacity of governments to recover from disasters.

Develop a broad strategic approach

As a first step, a broad strategic approach and technical assistance options for strengthening recovery systems has been developed by GFDRR's Resilient Recovery Team. This will be in the form of a training manual on how to implement the institutionalization of recovery in national and local government systems.

On-demand technical assistance

The next step would be to provide on-demand technical assistance to interested countries that request support for improving their disaster recovery systems. Such assistance will be based on the findings of diagnostics of existing country recovery systems and will be tailored to the specific demand placed by an interested client government. The major expected outcome will be the (ex-ante) development and institutionalization of disaster recovery frameworks in national or subnational government systems.

Description of Services

The following menu of services shall be available under the program to Bank teams and clients to choose from:

 <p>Service Area 1: Improving National and Local Capacity for Recovery Needs Assessment and Planning:</p> <p><i>This could include:</i></p> <ul style="list-style-type: none"> A. improvement of pre disaster infrastructure and service delivery baselines for various sectors; B. development of central repositories for hosting and communicating baseline data; C. review and improvement of national damage assessment guidelines including damage classification systems: and, D. development of institutional mechanisms for conducting post disaster needs assessments and recovery planning. 	 <p>Service Area 2: Strengthening of Central Policy Frameworks and Sector Strategies for Recovery:</p> <p><i>This could include:</i></p> <ul style="list-style-type: none"> A. development of national or subnational visions and policy standards for recovery; B. development of sector level recovery strategies; and, C. strengthening policy and institutional coordination across recovery, risk reduction and regular development processes. 	 <p>Service Area 3: Strengthening Institutional Frameworks for Recovery:</p> <p><i>This could entail:</i></p> <ul style="list-style-type: none"> A. country diagnostics for improving institutional frameworks for recovery; B. support for strengthening institutional coordination and oversight mechanisms for recovery; and, C. developing public-private-civil society collaboration mechanisms for recovery. 	
	 <p>Service Area 4: Strengthening Financial Systems for Recovery:</p> <p><i>This could include:</i></p> <ul style="list-style-type: none"> A. country diagnostics for improving cross and intra sector prioritization of recovery needs and corresponding resource allocation (budgetary) processes; and; B. support for simplified public financial management systems for recovery. 	 <p>Service Area 5: Performance Management Systems for Recovery:</p> <p>This would entail adapting international performance management tools to specific national and local recovery contexts, such as: risk and accountability frameworks, rapid procurement systems, monitoring and evaluation systems, grievance redress systems, etc.</p>	

Results Framework for Resilient Recovery

GFDRR has developed a four-stage results framework to help countries benchmark and monitor their progress and performance on strengthening their disaster recovery systems, illustrated below.

I

Prepare for recovery in advance by institutionalizing recovery functions in national and local governance systems

<i>a.</i> Prepare for recovery in advance by institutionalizing recovery functions in national and local governance systems	<i>b.</i> Ensure financial predictability for integrating risk reduction into the recovery process	<i>c.</i> Promote the use of post-disaster needs assessments and recovery frameworks to guide recovery processes	<i>d.</i> Strengthen coordination between recovery actors to avoid gaps and increase focus on recovery interventions that reduce risk
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II

Ensure financial predictability for integrating risk reduction into the recovery process

<i>a.</i> Strengthen capacity for recovery planning and monitoring at all levels (national, sub-national, and local) and make capacity building activities more open and available to all.	<i>b.</i> Establish clear roles and responsibilities for all actors in a recovery setting, including national and local governments, the private sector, academia, and civil society organizations.	<i>c.</i> Standardize approaches for post-disaster assessments and recovery planning frameworks.	<i>d.</i> Implement, reform, and improve institutional, legislative, and financial arrangements for recovery in advance of disasters.
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III

Promote the use of post-disaster needs assessments and recovery frameworks to guide recovery processes

<i>a.</i> Ensure financial predictability for integrating risk reduction into the recovery process.	<i>b.</i> Develop financing strategies that identify fiscal and financial mechanisms to deploy in the event of a disaster.	<i>c.</i> Use comprehensive risk assessments to aid in budgetary planning processes and establishment of contingency financing mechanisms in the case of a disaster.	<i>d.</i> Establish agreements and mechanisms to ensure coordination of donor recovery financing with government recovery plans.	<i>e.</i> Adopt budget management and post-disaster budget execution mechanisms before natural disasters occur.
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IV

Strengthen coordination between recovery actors to avoid gaps and increase focus on recovery interventions that reduce risk

<i>a.</i> Strengthen coordination between recovery actors to avoid gaps and increase focus on recovery interventions that reduce risk.	<i>b.</i> Ensure that governance models for recovery establish roles and responsibilities for all actors, including mechanisms to hold all stakeholders accountable.	<i>c.</i> Use the recovery planning process to align all actors with the government's risk reduction agenda.	<i>d.</i> Develop actionable and measurable indicators to monitor the progress of implementation and achievement of disaster risk reduction-related recovery goals.
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Input Paper 1

REKOMPAK Updates: 2 year review of Rebuilding Indonesia's Communities After Disasters

Iwan Gunawan et al., The World Bank Group

Indonesia's Community-based Settlement Rehabilitation and Reconstruction Project, also known by its Indonesian acronym, REKOMPAK, has proven communities affected by disaster are able to actively participate in the restoration of homes and livelihoods. For example, following the devastating 2004 tsunami in Aceh that killed more than 200,000 people and completely wiped out a number of settlements, more than 15,000 homes were built and repaired by the affected community themselves. Participants not only applied earthquake-resistant standards to the new buildings but were careful to consider future risks when deciding where to rebuild.

The term Kompak in Bahasa Indonesia means "unified" or "one voice." REKOMPAK's approach to housing reconstruction places the responsibility for rebuilding and fund management directly into the hands of the people and communities affected by disaster. In the beginning of its application, following the Indian Ocean Tsunami, there were doubts about the approach since never before had government and donors entrusted such a large amount of money in the hands of affected populations. Putting the beneficiaries in charge of the construction project

of their own homes was a new idea and seemed to carry much greater risk than the usual approach of contracting experienced construction firms.

REKOMPAK's approach combines the application of owner-driven reconstruction—in which local construction workers are hired to rebuild, for example—and community-driven reconstruction, where organized groups of people from the affected community participate in project planning and execution with the help of government agencies, specially-hired facilitators, and engineers who provide the necessary technical assistance.

This combined approach is often referred to as "collective owner-driven reconstruction," with the community also overseeing and carrying out small infrastructure rehabilitation projects, settlement planning, and disaster risk reduction measures in addition to housing construction. This kind of approach not only led to a faster physical, social, and economic recovery for disaster-affected communities, but also introduced disaster risk reduction practices into the village-level development process.

Table 4 REKOMPAK in figures

NO	DESCRIPTION	ACEH 2004*	YOGYAKARTA 2006	MERAPI 2010*
1	Village Assisted	126	310	106
2	Number of Beneficiaries	79,000	543,161	257,665
3	Physical Output	7,964 houses reconstructed, 6,999 houses rehabilitated, 185 road segments, 171 irrigation segments, 2057 units of Water and Sanitation	15,199 houses reconstructed, 4,652 unit of infrastructures including road	2,489 housing units* in 19 new settlements infrastructure reconstructed including roads, drainage, irrigation, and clean water facility

Table 5 Recent Policies Codifying Resilience in Development

NO	MINISTRY/AGENCY	POLICY	SCOPE
1	National Agency for Disaster Management (BNPB)	<ul style="list-style-type: none"> Decree of BNPB Head No. 17/2010 on General Guidelines for Post Disaster Rehabilitation and Reconstruction Program Decree of BNPB Head No 1/2012 on General Guidelines for Disaster Resilient Village Decree of BNPB Head No. 4/2012 on Guidelines for the Implementation of Initiative of Safe School from Disaster Decree of BNPB Head No. 4/2013 on Technical Guidelines for Post Disaster Settlement Rehabilitation and Reconstruction 	<ul style="list-style-type: none"> Adoption of community empowerment approach Mainstreaming resilience into village development Codifying earthquake resilient standard for school rehabilitation Adoption of community-driven housing reconstruction in post disaster
2	Ministry of Finance	Ministry of Finance Decree No. 105/2013 on Budgeting Mechanism for Disaster Management	Inclusion of community-driven reconstruction for housing
3	Ministry of Public Works	Set of Guidelines on the Implementation of REKOMPAK	Codification of REKOMPAK process as standard operating procedures and guidelines
4	Ministry of Education and Culture	Ministry of Education Decree No. 61/2012 on Guidelines of the Implementation of Special Funding Allocation for Education	Inclusion of earthquake resistant standard and school-managed construction for school rehabilitation

REKOMPAK Achievements

Since its beginnings during the reconstruction efforts in Aceh following the 2004 tsunami, REKOMPAK has evolved from a housing reconstruction project into a government program and finally, today, a development practice. REKOMPAK is based on the government of Indonesia’s National Program for Community Empowerment, which sets out the mechanisms, standards, and procedures for community-driven village development. REKOMPAK codified and adapted some of the mechanisms and procedures to support both the reconstruction of privately owned housing units as well as public buildings and infrastructure. REKOMPAK’s approach was later applied in the reconstruction of settlements following the 2006 Yogyakarta and Central Java earthquake, and to a limited extent after the 2009 West Sumatra earthquake. More recently it was used after the 2010 Merapi volcanic eruption (see Table 4).

From Reconstruction Project to Development Policy and Practice

Today, REKOMPAK’s disaster risk reduction approach is being integrated into the village development process in Indonesia, and is being carried out by the government with support from the Global Facility for Disaster Reduction and Recovery (GFDRR). A pilot program, called the National Program for Community Empowerment in Urban Areas, is being applied in 1,189 urban wards and villages considered high risk. The Ministry of Public Works has codified REKOMPAK mechanisms and processes for building resilient communities and settlements into guidelines and standard operating procedures. In 2010, Indonesia’s National Agency for Disaster Management launched its Resilient Village Program to scale up efforts beyond the pilot project communities.

The implementation of community-driven resilient investment is gradually being mainstreamed into other sectors as well (see Table 5).

Input Paper 2

Learning from Disasters: A case study of risk-sensitive disaster recovery and rehabilitation in Gujarat

Pramod K. Mishra, Former Director General, Gujarat Institute of Disaster Management

Overview of the Gujarat Earthquake and Recovery Process

This paper analyzes how a risk-sensitive disaster recovery and rehabilitation program, implemented in the aftermath of the Gujarat earthquake of 2001, could lead not only to the sustainable rehabilitation of lives, livelihoods, and infrastructure, but also laid the foundation for the successful implementation of the Hyogo Framework for Action in the Indian state of Gujarat. In fact, in spite of some gaps, the Gujarat Earthquake Recovery Programme is one of the most successful examples of how disaster risk reduction measures are and can be integrated into the post-disaster recovery and rehabilitation process.

The January 26, 2001, earthquake caused enormous damage to life and property in Gujarat, which had a population of over 60 million at the time. Over a million homes were damaged or destroyed and it caused widespread damage to economic and social infrastructure. The Gujarat government organized large-scale rescue and relief operations with the assistance of the federal government, civil society, governments of other countries, and UN organizations.

Even though reconstruction needs were massive and urgent, from the very beginning there was a serious focus on disaster risk reduction, including the longer-term aspects of mitigation and preparedness.

In order to bring about effective coordination and implementation of the recovery program—which required the involvement of several departments and agencies—a new organization, the Gujarat State Disaster Management Authority (GSDMA), was set up within two weeks of the earthquake. It performed well and garnered acclaim both nationally and internationally.

Gujarat Recovery Achievements

A number of initiatives contributed to the overall success and sustainability of Gujarat's recovery from disaster while laying the groundwork for further risk reduction and disaster management measures:

- A damage and need assessment, conducted jointly with multilateral organizations, provided for the recovery project's design. The report covered sectors such as housing, health, education, irrigation, water supply, municipal infrastructure, power, transport infrastructure, telecommunication, industry, agriculture, and the service sector. Hundreds of thousands of houses were inspected and assessed.
- Various schemes relating to housing, livelihoods, social rehabilitation, infrastructure, and disaster risk reduction were prepared, including assistance for housing construction, commercial loans, and tax exemptions for establishing industries in the affected areas.

- The necessary funds were raised in a systematic way from the federal government, multilateral organizations, donor countries, industry, and NGOs; significantly, there was no overlap in terms of how and where the funding was used.
- A system of checks and balances—including an external audit and periodic reports to the Gujarat government and funding agencies—and a commitment to delegating power ensured that recovery schemes were transparent and effective. For example, damage assessment teams for private buildings included an engineer, a revenue department official, and a local school or member of an NGO. Village councils were regularly consulted about recovery policy decisions, in addition to committees consisting of representatives from the government, academia, private sector, and NGOs.
- Hundreds of thousands of bank accounts were opened within a short time, expediting cash assistance to the affected populations; additionally, a professional accounting system was put in place that included a daily internal audit.
- The Polytechnic M.S. University, Vadodara and the Gujarat Institute of Development Research, Ahmedabad conducted social impact assessment studies to provide real-time feedback from affected people about the recovery process, and measures were taken based on that feedback.
- An international consultancy firm performed a monitoring study on the delivery of benefits, especially to the poorest and most vulnerable.

The Gujarat recovery experience has, overall, been one of the most influential recovery programmes on both a national and global level. In recent years, the disaster risk reduction initiatives taken and successfully implemented through the Gujarat Earthquake Recovery Programme have led to a

number of national-level initiatives. These include the adoption of new policy and legal frameworks, the modification of building bylaws and regulations controlling development, the training of engineers and masons, the inclusion of seismic-proofing measures and disaster management courses in school curriculums, and the introduction of licensing for engineers and insurance providers.

Gujarat was the first state in India to enact a comprehensive legislation on disaster management, and the so-called Gujarat Act was adopted as a model for similar legislation by other Indian states. The 2003 Gujarat Act was also the starting point for a similar federal act. Then, in the aftermath of the Asian Tsunami of 2004 and the Kashmir earthquake of 2005, some of the affected countries attempted to model their recovery programs on the approach and framework of the Gujarat Earthquake Recovery Programme.

A Willingness to Try New Methods and a Commitment to Long-Term Recovery

While the GSDMA drew on the support and experience of the UN system, other international organizations, and earlier reconstruction programs in both India and other countries, the GSDMA had the willingness to accept ideas from others, adapt those ideas to the local situation, and approach recovery activities in new and innovative ways. The Gujarat government was also committed to supporting the long-term measures necessary to achieve sustainable recovery, which prepares communities for the next disaster while recovering from the most recent one. The GSDMA's adoption of the owner-driven approach to housing reconstruction is an example of this openness, vision, and commitment.

Input Paper 3

Pre-Disaster Recovery Planning in Central America: Concepts, Advances, and the Way Forward

CEPREDENAC, IRP, UNDP, and UNISDR

Overview of Risk and Recovery Planning in Central America

Central America is classified as a region highly vulnerable to disasters, due to a geography that is exposed to multiple natural hazards, as well as rapid population growth and poorly planned development. As a result, the region is regularly hit by disasters, which have set back hard won development gains. Over the past five years, awareness about disaster risk has improved, with leaders now considering disaster risk reduction a regional priority and taking steps to fully integrate it into development efforts and budget planning.

Worldwide there has been limited investment in capacity building for recovery, with most disaster planning focusing on contingency planning and emergency response. As a result, poor management of the recovery process has led to extended humanitarian interventions and an exacerbation of the environmental, economic, and social effects of disasters. This is particularly true in regions like Central America that are prone to several risks.

Following Tropical Depression 12E in October 2011, which left 90 people dead, 800,000 affected, and caused over \$1 billion damages in El Salvador, Guatemala, Honduras, and Nicaragua, the Australian government made a commitment to support recovery efforts in Central America. As part of this commitment, AusAID and UNISDR agreed to

cooperate on a new project in coordination with the International Recovery Platform (IRP), with support from the Central American Coordination Center for Natural Disasters Prevention (CEPREDENAC, for its Spanish acronym) and UNDP at the regional level. At the national level, under the leadership of UNISDR and in coordination with CEPREDENAC, IRP, and UNDP, six countries have developed or are in the process of developing proposals for national recovery frameworks.

Regional and National Achievements

As a result of this initiative, CEPREDENAC developed a new regional disaster risk reduction plan, as well as proposals for national recovery frameworks in all six focus countries: Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua, and Panama. National loss databases were also developed, or are in the process of being developed, in all six countries. Initial results indicate that, in terms of loss and damages, the Central American region is most affected by extensive risk due to hydrometeorological hazards. Such information is helping governments and other stakeholders to more effectively adapt and focus recovery planning.

Recent advances related to the management of pre-disaster recovery planning include:

- El Salvador, based on recovery experiences from Hurricane Ida and Tropical Depression



12, has created a national-level Committee for Rehabilitation and Reconstruction and a risk management fund.

- Guatemala has created the Commission for Recovery within the National Commission for Disasters Risk Reduction (CONRED, by its Spanish acronym) and defined roles and responsibilities in eight sectors: infrastructure, health, water and sanitation, housing, food security, education, livelihood, and security itself.
- In Panama, a document of national recovery framework has been prepared within the Risk Management National Platform. The Ministry of Presidency has been proposed as the entity responsible for the overall coordination of recovery processes, and the roles and responsibilities of public institutions, municipalities, civil society, and the private sector have been defined.

The Way Forward for Pre-Disaster Recovery Planning

If countries are to effectively recover from disasters, it is critical that they invest in pre-disaster recovery preparedness initiatives, especially those that build more resilient societies during the development process. Such recovery preparedness may include the enforcement of recovery planning and implementation at all levels of government and society—including regional cooperation—and across all sectors. Countries must also consider the complexity of social, economic, institutional, and environmental vulnerability factors and involve a wide range of public and private stakeholders.

Input Paper 4

Building It Back Better to Reduce Risks after Multiple Disaster Events

Graeme Newton, Former CEO, Queensland Reconstruction Authority (Queensland, Australia)

Overview of the Queensland Betterment Approach

The “betterment” approach to reconstruction is predicated on the potential for long-term cost savings. Evidence has shown that an increase in infrastructure investment before natural disaster strikes will provide significant future savings in terms of rebuilding or replacement costs, and consequent economic losses. For example, a study of 5,500 mitigation grants approved by the United States Federal Emergency Management Agency between 1993 and 2003 reports an overall benefit-cost ratio of 4:1. Betterment has been applied in a number of international natural disaster events in the last decade, including the devastating Indian Ocean Tsunami in 2004, the Kashmir earthquake in Pakistan, Hurricane Katrina in the United States in 2005, Cyclone Nargis in Myanmar in 2008, and the Haiti earthquake in 2010.

The Queensland Betterment Fund is an initiative born out of successive years of natural disasters that have damaged infrastructure and devastated communities around the state. By investing a little more into building resilience in the immediate aftermath of disaster, longer-term risks can be mitigated, future reconstruction costs can be reduced, and the harmful impact of future natural disasters on the health, safety, and well-being of people and society can be lessened.

The Queensland Reconstruction Authority is currently managing an AUD\$14 billion disaster reconstruction program following consecutive years of major flood and cyclone events that have affected much of this large Australian state. In an Australian first, the Queensland Betterment Fund was announced in February 2013 following Tropical Cyclone Oswald, a disaster that caused AUD\$2.4 billion in damage to many public assets that had been repeatedly damaged and restored following earlier disasters in 2011 and 2012.

Queensland Betterment Fund Achievements

A joint agreement between the Queensland and central Australian governments established the AUD\$80 million fund, with money specifically earmarked for making public assets more disaster resilient. Specifically, local government assets would receive funding, with a special focus on “grassroots” assets like roads, bridges, and water supply infrastructure that would provide maximum benefit in terms of resilience and risk reduction for a relatively minimal investment of public funds.

Eligible local government authorities were asked to identify key local infrastructure that had been repeatedly damaged in disaster events that would benefit from a more resilient reconstruction solution. In all, 48 local governments applied for approximately \$1 billion worth of betterment projects.

Table 6 Queensland Betterment Fund Achievements

ASSET TYPE/TREATMENT	AMOUNT
Bridge upgrade or repair	21
Flow and drainage	113
New bridge	7
Other	6
Pedestrian bridges	2
Recreational reserve	2
Road realignment	3
Road resurfacing	61
Water treatment or sewerage	5
TOTAL	220

As of January 31, 2014, the government has approved 220 betterment projects, with work underway across the state. These projects, which include improvements to water supply infrastructure, roads, bridges, and drainage systems, have an estimated total cost of approximately AUD\$150 million, which includes AUD\$80 million in betterment funding and local government contributions of more than AUD\$11 million. The infrastructure is often vital to both lives and livelihoods.

For example, one current project will supply new equipment for a water intake station, and cover the cost of relocating it to a more flood-proof location. The Gayndah Water Supply Intake Station on Queensland’s Burnett River provides the town of Gayndah with its only supply of water, in addition to surrounding industries, including dairy farms. The government rebuilt the station for the cost of AUD\$1.22 million after it was severely damaged by flooding in 2011. The station was severely damaged again in 2013 by Tropical Cyclone Oswald. By investing in a more resilient water station—at the cost of AUD\$3.8 million, of which \$1.2 million is paid for by the Queensland Betterment Fund—Gayndah’s water supply will be more likely to survive future severe weather events.

The Link Between Recovery and Mitigation

The betterment provision provides the link between immediate recovery needs and the mitigation of future disasters. With recovery costs of natural disasters in Australia and around the world escalating, a commonsense and effective means of reducing the impact of these events is to increase investment in more robust infrastructure that can withstand repeated impacts from natural disasters. Such investment has the potential to reduce the financial and social costs of disaster recovery, in addition to minimizing the amount of time that critical assets and infrastructure are unusable. This provides a strong incentive for governments at all levels to adopt betterment as a standard recovery and reconstruction concept following a natural disaster.

With construction of AUD\$150 million worth of betterment projects underway around Queensland, the future benefits of this innovative approach will be revealed in time. Queensland, with its history of natural disasters and the near certainty of future disasters, is in a unique position to showcase the practical and successful application of betterment in the reduction of risk from future and multiple natural disaster events.

Input Paper 5

The Private Sector Approach of Business Continuity Management Helps Demonstrate the Benefits of Institutionalization

Alessandro Caillat, The World Bank Treasury, Associate Member of the Business Continuity Institute (AMBCI)

Adapting the Business Continuity Approach to Pre-Disaster Planning

Business continuity planning helps an organization to prepare for worst case scenarios. These pre-defined contingency plans are activated in the event of a disruption, and instruct an organization how to recover its organizational functions and continue offering its services, despite an environment that may be chaotic.

The private sector's approach to managing business continuity, with its phased approach, should be used as a model by governments and organizations when developing disaster recovery frameworks. By following this approach, pre-disaster planning can be an inclusive and participatory process that maximizes community involvement in decision-making, and ensures that the community's interests will be prioritized during the reconstruction process. The necessary phases include:

1. **Awareness and Participation:** Planning for disaster recovery requires that emergency responders, private businesses and industries, local and central governments, and residents work together to build a shared vision for the community, identify new and existing approaches, and maximize long-term benefits for the community.
2. **Hazard, Exposure, and Vulnerability Analysis:** The pre-planning process begins with the identification of hazards facing the community, as well as the risks they pose to life and properties. The assessment includes hazards such as extreme weather events, floods, earthquakes, wild fires, and storm surges, and notes their likelihood of occurring, as well as where they are most likely to hit. The next step is to develop an analytical model, or risk atlas, that cross-references building stock with population data. After the data model is developed, recovery planners can develop what-if scenarios for selected hazards and quantify the estimated losses based on hazard intensity.
3. **Recovery Strategies:** Recovery planners should use these models to develop strategies to reduce and mitigate the identified vulnerabilities within defined budget priorities. These "building back better" strategies help to break the cycle of disaster mismanagement by preventing future and repeated damage and reconstructions.
4. **Recovery and Reconstruction Plan:** The adoption of pre-event disaster recovery plans and organizational models is essential to accelerating the recovery process.
5. **Plan Exercise and Review:** Pre-disaster recovery planning should include a program for periodic plan review and revision to allow the community to assess progress in its implementation.



Examples of Successful Continuity Plans

In the United States, a recovery planning pilot project in the state of Florida has become a success story that can be implemented in other countries and regions around the world. In 2007, Florida adopted legislation that required all coastal jurisdictions to prepare post-disaster redevelopment plans. Between 2007 and 2010, Florida implemented a pilot program across five counties and a municipality to develop guidelines and identify best practices for recovery planning. In 2010, the state government published a guidebook that describes lessons learned from the pilot projects and recommends planning processes. The guidebook includes lessons learned from previous disasters, how that research was applied in the drafting of a long-term post-disaster redevelopment planning process, and the results of testing that planning process through a series of pilot projects.¹¹

Similarly, in 2011, the United States Federal Emergency Management Agency released a national disaster recovery framework that included a continuity plan. Subsequently, a state-level

framework and several city-level frameworks were published, based on the national framework, offering decentralized pre-disaster recovery planning processes. The frameworks define pre-disaster strategies and goals, short-term recovery objectives, and roles and responsibilities for leaders after a major natural disaster.

Lessons Learned

The ultimate goal of post-disaster reconstruction is to achieve resilience and sustainability. In a disaster-related context, resilience refers to the community's ability to recover from future natural disasters with minimum loss of life, property, and impact on society and the economy. When establishing a pre-disaster planning framework, countries should learn from the private sector's business continuity planning, and follow a phased approach including awareness building, risk analysis, recovery planning, and review. With continuity plans in place, communities will bounce back more quickly after a disaster, with minimal disturbance to normal functions.

Input Paper 6

Summary of Disaster as Opportunity: Building back better in Aceh, Myanmar, and Haiti

Lilianne Fan, Overseas Development Institute, Humanitarian Policy Group

The Background and Definition of “Build Back Better”

By insisting that humanitarian assistance in response to crisis should somehow do more than “simply” saving lives and alleviating suffering in advance of the next terrible event, the “building back better” approach is the latest iteration of a longstanding concern to link immediate relief with longer-term processes of recovery and development. Humanitarian actors and their donors have developed a whole host of concepts, theories, and approaches to express this ambition, from Linking Relief, Rehabilitation and Development (LRRD) to “early recovery,” “capacity-building,” “disaster risk reduction,” “sustainable development,” and, most recently, “resilience.” That the aid sector has felt the need to think up so many related concepts is testament to the stubborn persistence of the problems that these ideas and approaches were meant to address.

On the face of it the aspiration to build back better—to use the opportunity of a disaster response to leave societies improved, not just restored—is common sense; after all, who would want to build back worse, or simply reinstate conditions of inequality, poverty and vulnerability if the chance for something better was at hand? Plainly, if some countries (Japan, say) survive earthquakes much

better than others exposed to similar hazards (Haiti, say), then there must presumably be structural reasons why many more people die in some places than in others, and interventions blind to these structural problems will only end up perpetuating them.

At the same time, however, build back better also raises a whole host of uncomfortable questions that the humanitarian community has yet to properly address. What exactly does “better” look like? Better for whom, where, and how? Who decides—agencies, donors, governments, or affected communities—and how can these decisions be translated into meaningful programming? What are the implications of investing in build back better if it distracts attention and money away from the urgent and often overwhelming need to feed, treat and shelter people who have nothing but the clothes they stand up in, and for whom “better” may well be a luxury for tomorrow, not today? Is it better to build one earthquake-proof home, when for the same money we could build 10, 12, or 20 that meet people’s immediate need for a roof over their heads, but could be deathtraps when the next earthquake strikes? Is it right for humanitarian agencies to think in these ambitious, transformative terms at all? Do they have the skills, knowledge, organization and experience to engage in the long-haul complexity of social, political and economic change? Is it ethical in humanitarian terms to exploit people’s vulnerability



after a disaster to drive social change? And to what extent can questions of inequality be addressed by humanitarian aid at all?

Disasters can, perhaps, help raise attention to problems that need addressing, but does that necessarily mean that the post-disaster response itself is the right time to take action on these problems? Discussions of build back better have provided neither the tools to help address these critical questions, nor the criteria against which agencies can assess the pros and cons of adopting a build back better approach.

“Building Back Better” in Aceh, Myanmar, and Haiti

This report takes a look at how the term “build back better” was used and interpreted in three different recovery processes. For example, while the term was used widely in Aceh, Indonesia, following the devastating 2004 Indian Ocean Tsunami, it meant vastly different things to different actors. For the government of Indonesia, build back better was not only about reconstructing safer housing and improved infrastructure; it was also about peace between Jakarta and the Free Aceh Movement (GAM), as well as building trust between the

central government and the local authorities and local communities. For the Rehabilitation and Reconstruction Agency (BRR) of Aceh-Nias—a special agency established by the President of Indonesia shortly after the tsunami hit—build back better also meant reforming governance in Indonesia through institutional innovations that put transparency, effective delivery, and accountability at the center. For humanitarian agencies, it was conceived of not so much in terms of physical reconstruction, but more in terms of the empowerment of local communities through a wide range of programmatic interventions.

In many cases, though, there was nothing distinctly new about what was called build back better, and actual interventions were largely built on existing good practices in the humanitarian sector. The massive amounts of funding available at once created opportunities to go beyond standard life-saving response, but also subjected agencies to intensive pressure to spend large amounts of money quickly, providing the time neither for deeper analysis nor for longer-term program implementation and exit strategies that might have ensured a higher level of sustainability.

The rhetoric of build back better was much less in evidence in the response to Cyclone Nargis, which struck Myanmar's Ayeyawardy Delta in May 2005. When the term was used, however, it often referred to already-established areas of work under the headings of disaster risk reduction and livelihoods, rather than signifying much in the way of new or innovative approaches. Even so, there were attempts to make some of the same kinds of transformation, albeit on a very different scale, and ASEAN, the central actor in the process of international political change, did sometimes use the language of build back better to describe its role in using the response to create a political bridge between Myanmar and the outside world. Indeed, the atmosphere of greater cooperation brought about in the wake of Nargis also made possible a dialogue on the sensitive and long-standing issue of rural poverty, and Myanmar's institutional links with the region were deepened and expanded through its participation in regional mechanisms for disaster risk reduction and response.

Following the 2010 earthquake in Haiti, there were hopes that build back better would mean "doing things differently." The problem was that it was not entirely clear how to do things differently given the requirements and architecture of the international aid system, and build back better as a concept did not help to elucidate priorities or potential ways forward.

Haiti never experienced the kind of political commitment to build back better that was seen in Aceh and Myanmar. More so than in Aceh and Myanmar, the post-disaster recovery effort in Haiti was dominated by the international humanitarian system. While the national government led the response in Aceh, and ASEAN took the lead in Myanmar—in cooperation with the government—in Haiti the recovery effort was largely driven by international humanitarian actors. This shaped the conditions through which build back better was conceived, articulated, and deployed in the aftermath of the earthquake.

Deciding When to "Build Back Better"

Like its conceptual predecessors, build back better has been welcomed as an important advance in efforts to link humanitarian assistance and broader developmental objectives in disaster-affected countries. In all three case studies looked at here, respondents agreed with the intentions that underpinned it, and all saw its value in enhancing the longer-term effects of humanitarian assistance. This is curious as the case studies also reveal that there was no common agreement on what build back better meant, or what it implied in terms of programming. Although the phrase was widely employed by humanitarian agencies in all three studies, there was little analysis of what "better" might mean in specific circumstances, and agencies largely operated through existing frameworks, methodologies, and programmatic interventions.

A key lesson, then, is that, rather than embracing build back better uncritically in post-disaster recovery efforts, humanitarian actors need to be aware that it has multiple dimensions, both technical and political, and may not be possible or advisable in every post-disaster context; there are many actors involved in almost all recovery efforts, and each will interpret build back better according to their priorities; and humanitarians need to understand their specific role within the overall effort. This means that, while in some cases it might not necessarily be the role of humanitarians themselves to engage in build back better, they should at least be "build back better-aware," and thus cognizant of the potentially transformative effects of their assistance, in much the same way as the principles of "do no harm" call for an awareness of the potentially detrimental effects of aid. This paper argues that build back better's most important dimension is the transformation of political relationships. If that is the case, then humanitarians should know the implications of embracing it, and make an informed choice about whether or not to do so.



Input Paper 7

Institutionalizing the Post-Disaster Needs Assessment System and Recovery Planning in the Kyrgyz Republic

Disaster Risk Management, Urban, and Water Supply Teams, World Bank Group

Overview of Disaster Recovery in the Kyrgyz Republic

A post-disaster needs assessment estimates the damage and losses due to disaster events, as well as the impact of disasters on livelihoods and incomes, to fully define the needs for recovery and reconstruction. As such, it is an important tool in efforts to “build back better,” often describing how risk reduction measures can be integrated into the reconstruction and recovery process and related investments.

The Kyrgyz Republic provides an example of how resilient recovery can be promoted through institutionalizing the post-disaster needs assessment and recovery planning system. A GFDRR-funded project in the Kyrgyz Republic has been implemented in close collaboration with government counterparts to improve the country’s damage and needs assessment system for recovery planning, based on international best practices. This paper describes how resilient recovery can be enhanced through institutionalizing post-disaster needs assessments and recovery planning, and provides useful lessons learned through this process.

The Kyrgyz Republic is a landlocked mountainous country located in Central Asia and has a very

high probability of seismic hazards, including earthquakes, land and mudslides, and avalanches. The structural integrity of most buildings has declined, owing to the depreciation of the building stock in the region. Recent research estimates that a powerful earthquake affecting the capital city of Bishkek could kill as many as 34,000 people and injure another 90,000.

Despite the frequency and scale of natural disasters and emergency situations in Kyrgyz Republic, the country did not have any officially institutionalized procedures or guidelines to assess disaster damage, loss, and recovery needs. The existing systems of post-disaster assessment were outdated and arbitrary, and did not provide a holistic view of the financial and economic impact of damaged infrastructure and lost livelihood opportunities. Therefore, post-disaster recovery planning was not based on systematic needs estimates. Furthermore, disaster recovery and reconstruction efforts usually did not include measures for longer-term disaster risk reduction.

Before the project, roughly eight different government organizations and agencies could be involved in developing a post-disaster needs assessment, such as sector specific assessments

produced by the country's different ministries for education, agriculture, and transportation.

Steps for Institutionalizing the Post-Disaster Needs Assessment Process

Working with the Ministry of Emergency Situations, the National Platform for Disaster Risk Reduction, and relevant line ministries and regional and local governments, the process of institutionalizing the post-disaster needs assessment system was implemented through the following steps:

1. *Development of a national action plan for improving post-disaster assessment and recovery planning*

The Ministry of Emergency Situations and the National Platform for Disaster Risk Reduction of the Kyrgyz Republic led the development of a national action plan, which articulates the required steps to improve its needs assessment structure and methodology, as well as recovery planning standards and provisions. It also identifies necessary actions, key players, and a timeframe. This process was fully

supported by the World Bank Group and GFDRR, and included a range of development partners, such as UNOCHA and UNDP.

2. *Formation of a technical working group*

Based on the national action plan, the government established a technical working group including all 18 line ministries and agencies involved in emergency response, reconstruction of physical assets, and provision of social services. The main task of the group was to help develop, test, and review a guidance manual for post-disaster recovery and reconstruction, based on the global post-disaster needs assessment methodology, but modified to the context of the Kyrgyz Republic.

Each member of the technical working group reviewed the existing methodology, and provided input to the chair on how disaster resilience and risk reduction could be incorporated in recovery planning for each sector. The group received technical assistance from a team of local and international consultants supported by the World Bank Group and GFDRR.



3. *Development of a guidance manual*

The technical working group developed a guidance manual by customizing the post-disaster needs assessment methodology to fit the country's context. The prime users of this guidance manual are civil protection commissions at the local level, which have legal responsibility for conducting post-disaster damage assessments. This short manual includes scenarios and explanations that introduce concepts that were new to these commissions: assessment of social and economic losses; needs for restoring livelihoods; and needs for improving disaster resilience. The guidance manual also provides sector-specific guidelines to estimate damage, losses, and recovery needs.

4. *Pilot testing the new approach using the guidance manual*

The manual was pilot tested over a two-day period with members of the civil protection commissions of Bishkek city and the Chui region, as well as sector specialists from various line ministries and agencies. This pilot testing used disaster scenarios designed specifically for the local context. Lessons learned from this testing were used to update the guidance manual.

5. *Approval by the National Technical and Scientific Council and Inter-Ministerial Commission on Civil Protection*

The new post-disaster needs assessment system for recovery planning was endorsed by the National Technical and Scientific Council of the Kyrgyz Republic, as well as the Inter-Ministerial Commission on Civil Protection, which is the highest entity in the country for disaster response and emergency preparedness. The commission's primary recommendation was that a nationwide training for civil protection members and the Ministry of Emergency Situations key staff should be conducted. The new post-disaster needs assessment

system will be included in the curriculum of the trainings that are given regularly at the Ministry of Emergency Situations training center.

Lessons Learned from the Kyrgyz Republic Experience

The Kyrgyz Republic demonstrated that several factors contributed to institutionalizing post-disaster needs assessment systems and mechanisms: strong leadership at the highest levels of government, the participation of a variety of organizations in assessments (especially the end-users of assessment tools), learning from international experience in conducting post-disaster needs assessments, and a guidance manual considering the local context with local examples.

The key element for the success of this project—and the greatest challenge—was to adapt the international post-disaster needs assessment experience and methodology to the local context. The post-disaster needs assessment process is designed to respond to large scale, high impact disasters, but is less suited to disasters that typically occur in the Kyrgyz Republic, which are small scale and greater in frequency. Therefore, the post-disaster needs assessment system for the Kyrgyz Republic had to be customized to ensure that concise formats and templates were readily available at local offices and could be quickly completed by local staff.

Finally, the concept of “building back better” was explained using illustrative examples and scenarios from the country context (using real past or imagined disaster situations), which helped the participants understand the content far better than definitions or explanations.

Input Paper 8

Post-Disaster Recovery: A Tool for Sustainable Development

Prof. Santosh Kumar, Director, SAARC Disaster Management Center

Overview of Post-Disaster Recovery in South Asia

Disaster recovery is necessary for ensuring sustainable development. A disaster can hinder not only a country's GDP growth, but also its development gains related to poverty and human development. To restore economic and development growth and to avoid future losses, disaster recovery must be implemented with inbuilt risk reduction mechanisms. This resilient recovery approach has helped to build institutions, policies, and programs in South Asia, and has led to many long-term interventions and policy shifts in countries including Bangladesh, India, the Maldives, Pakistan, and Sri Lanka. Experience has shown that long-term disaster recovery is a good entry point for making investments in mitigating risk and making disaster risk management more systematic. Such investments, in turn, help to ensure sustainable development.

South Asia is one of the fastest growing regions in the world in terms of GDP. At the same time, the region is one of the most disaster-prone in the world. Natural disaster losses have slowed down economic growth in the region, and as a result of haphazard development practices, risk exposure is increasing, making disaster resilient development a huge challenge.

There has been a noticeable increase in high impact disasters in South Asia over the past four decades, including earthquakes, floods, and cyclones. These disasters have led to substantial social, economic and environmental losses to the region and the affected countries in particular. The effects of climate change will further increase the intensity and frequency of hydrometeorological events.

As a result, it has become increasingly important to design pre- and post- disaster strategies in a more comprehensive manner that integrates development agendas and climate change adaptation and disaster risk reduction measures.

The South Asia Experience: Key Findings

Thus far, 80 to 90 percent of all recovery programs in the region are funded through loans and grants by either by the World Bank Group or the Asian Development Bank, with the remainder funded by United Nations agencies and country donors. Consequently, these funding agencies have been able to influence government policy and at times use disaster risk mitigation as one of their loan conditions, which has worked well in favor of resilient recovery.

In the absence of external funding support, countries in the region often do not attempt to implement long-term recovery strategies. The

creation of a recovery fund by governments would ensure that countries take action. In fact, in South Asia, the mishandling of immediate and long-term disaster recovery programs has led to the collapse of government structures, while efficient recovery programs have improved people's confidence in government.

The paper provides case studies from Bangladesh, India, Pakistan, and Sri Lanka. Two of these include:

1. *India's Gujarat Earthquake recovery*

India's recovery program after the 2001 Gujarat earthquake was focused on a build back better approach that included community-led recovery, leading to a number of reforms in the manner the project was implemented. From the beginning, the government's decision to fund the recovery program was non-negotiable, and led to new national legislation and disaster management institutions, such as a central government authority and a seismology research institute. The program revamped building codes and the overall disaster response system was overhauled, from new technology to improved human resources.

2. *Sri Lanka's recovery from the Indian Ocean Tsunami*

Unprecedented destruction caused by the 2004 tsunami reconfirmed the need for multi-sector, inter-institutional, and multi-disciplinary approaches to managing disaster risks in Sri Lanka. As a result, the government, civil society organizations, and international agencies have acted collectively to develop a comprehensive and proactive disaster risk management framework, rather than one that only emphasizes post-disaster relief efforts. The government enacted the Sri Lanka Disaster Management Act No 13 of 2005, providing a solid legislative and institutional arrangement for disaster risk management. The Sri Lanka experience demonstrates a direct link between post-disaster

recovery and the inclusion of disaster risk reduction measures into institutions, policies, and programs.

Disaster risk reduction initiatives in the region have illustrated two lessons: First, in the absence of a large disaster event in the recent past, governments and donor agencies are unlikely to make proactive investments in disaster risk reduction. Second, in the aftermath of a disaster, there is often a large surge in disaster risk reduction investments, either in the form of immediate recovery or long-term recovery measures that include money set aside for mitigation measures. Thus, post-disaster recovery efforts in South Asian countries have led to a paradigm shift in the approach to disaster management.

Challenges and Opportunities

Countries must develop their own financial mechanisms or tools so they are not dependent on the support of the World Bank Group, Asian Development Bank, and other donor agencies. This will not only ensure that funding gaps are covered, but that all recovery programs in the region are financed, regardless of support from international donors. In order to have a long-term impact, recovery programs should be seamlessly integrated into ongoing development programs, as well.

Furthermore, while recovery programs have attempted to be more inclusive and gender sensitive, program benefits are still not evenly distributed among the affected communities, with the poor and marginalized often missing out. Future disaster recovery frameworks must address inclusiveness as a guiding principle.

Finally, disaster risk management agencies and policies have largely been responsible for managing recovery programs, but it is important to integrate recovery into the climate change adaptation and sustainable development agendas, as well.

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Glossary

Adaptation:	the adjustment in natural or human systems in response to actual or expected climatic or other stimuli or their effects, which moderates harm or exploits beneficial opportunities.	Disaster:	a serious disruption of the functioning of a community or a society involving widespread human, material, economic or environmental losses and impacts, which exceeds the ability of the affected community or society to cope using its own resources.
Basic needs:	the items that people need to survive. This can include safe access to essential goods and services such as food, water, shelter, clothing, healthcare, sanitation, and education.	Disaster risk management:	The systematic process of using administrative directives, organizations, and operational skills and capacities to implement strategies, policies and improved coping capacities in order to lessen the adverse impacts of hazards and the possibility of disaster.
Build Back Better:	an approach to reconstruction that aims to reduce vulnerability and improve living conditions, while also promoting a more effective reconstruction process.	Disaster risk reduction:	The concept and practice of reducing disaster risks through systematic efforts to analyse and manage the causal factors of disasters, including through reduced exposure to hazards, lessened vulnerability of people and property, wise management of land and the environment, and improved preparedness for adverse events.
Build Back Smarter:	an approach to reconstruction that aims to reduce vulnerability and improve living conditions, while taking the opportunity to examine the suitability of reconstructing in the same location and making a home warmer, drier and cheaper to run.	Disaster risk reduction plan:	A document prepared by an authority, sector, organization or enterprise that sets out goals and specific objectives for reducing disaster risks together with related actions to accomplish these objectives.
BCM:	is an "organized series of risk reduction and risk mitigation measures designed to optimize the speed, the quality and the coordination of organizations' recovery in a post-disaster situation.	Early recovery:	a process which seeks to catalyze sustainable development opportunities by generating self-sustaining processes for post-disaster recovery. It encompasses livelihoods, shelter, governance, environment, and social dimensions, including the reintegration of displaced populations, and addresses underlying risks that contributed to the crisis.
Capacity:	the combination of all the strengths, attributes and resources available within a community, society or organization that can be used to achieve agreed goals.		
Capacity building:	A process by which individuals, institutions and societies develop abilities, individually and collectively, to perform functions, solve problems and set and achieve their goals.		
Community:	a group of households that identify themselves in some way as having a common interest or need as well as physical space. A social group that resides in a specific locality.		

Early warning: The provision of timely and effective information, through identified institutions, that allows individuals exposed to a hazard to take action to avoid or reduce their risk and prepare for effective response.

Efficient Recovery: steadying lives and livelihoods back to normalcy, and rapidly restoring critical social, physical and productive infrastructure and service delivery.

Effective Recovery: normally refers to achieving the intended outcomes of medium to long term recovery such as the rehabilitation and reconstruction of damaged infrastructure and recreating sustainable livelihood and income generating opportunities.

Ex ante measures: actions taken in advance of a disaster in the expectation that they will either prevent, or significantly reduce the impact of a possible disaster.

Ex post measures: actions taken after a disaster has occurred to seek to make good all related damage caused by the disaster.

Exposure: People, property, systems, or other elements present in hazard zones that are thereby subject to potential losses.

Financial resilience:

Housing: the immediate physical environment, both within and outside of buildings, in which families and households live and which serves as a shelter.

Housing-sector assessment: an assessment that collects information such as demographic data, housing types, housing tenure situations, settlement patterns before and after the disaster, government interventions in the housing sector, infrastructure access, construction capacity, and market capacity to provide materials and labor for reconstruction.

Infrastructure: systems and networks by which public services are delivered, including: water supply and sanitation; energy and other utility networks; transportation networks for all forms of travel.

Institutional Frameworks: The roles and responsibilities of various tiers of government for establishing standards and implementing resilient recovery.

Key performance indicators (KPIs): Quantitative and qualitative measures of project outputs and outcomes used to evaluate the progress of success of the project.

Livelihoods: the ways in which people earn access to the resources they need, individually and communally, such as food, water, clothing, and shelter.

Loss assessment: analyzes the changes in economic flows that occur after a disaster and over time, valued at current prices.

Mitigate/mitigation: the use of reasonable care and diligence in an effort to minimize or avoid injury; to take protective action to avoid additional injury or loss. The lessening of the adverse impact of hazards and disasters.

Monitoring: System that permits the continuous observation, measurement and a valuation of the progress of a process or phenomenon with a view to taking corrective measures.

Needs assessment: a process for estimating (usually based on a damage assessment) the financial, technical, and human resources needed to implement the agreed-upon program of recovery, reconstruction, and risk management.

Policy: is a principle or protocol to guide decisions and achieve rational outcomes.

Post-disaster needs assessment (PDNA): A multi-sectoral assessment that measures the impact of disasters on the society, economy, and environment of the disaster-affected area.

Preparedness: the knowledge and capacities developed by governments, professional response and recovery organizations, communities, and individuals to effectively anticipate, respond to, and recover from the impacts of likely, imminent or current hazard events or conditions.

Prevention: The outright avoidance of adverse impacts of hazards and related disasters.

Preliminary Assessment: an assessment that provides immediate information on needs, possible interventions, and resource requirements. May be conducted as a multi-sectoral assessment or in a single sector or location.

Reconstruction:	the restoration and improvement, where possible of facilities, livelihoods, and living conditions of disaster-affected communities, including efforts to reduce disaster risk factors. Focused primarily on the construction or replacement of damaged physical structures, and the restoration of local services and infrastructure.	Risk:	The combination of the probability of an event and its negative consequences.
Recovery:	The restoration, and improvement where appropriate, of facilities, livelihoods and living conditions of disaster-affected communities, including efforts to reduce disaster risk factors.	Risk Assessment:	A methodology to determine the nature and extent of risk by analyzing potential hazards and evaluating existing conditions of vulnerability that together could potentially harm exposed people, property, services, livelihoods and the environment on which they depend.
Recovery framework:	is a pragmatic, sequenced, prioritized, programmatic, yet living (and flexible) action plan that ensures resilient recovery after a disaster.	Risk transfer:	the process of formally and informally shifting the financial consequences of particular risks from one party to another, whereby one party (a household, community, enterprise, or state authority) will obtain post-disaster resources from another party in exchange for ongoing or compensatory social or financial benefits.
Rehabilitation:	A set of measures aimed at restoring normal living conditions through the repair and reestablishment of vital services interrupted or degraded by a disaster or emergency. [CRID]	Scoping:	of or involving an investigation or discussion to determine the effect of a proposed policy or project would have on a community or the environment.
Relief:	the provision of assistance or intervention immediately after a disaster to meet the life preservation and basic subsistence needs of those people affected.	Sustainable development:	development that meets the needs of the present without compromising the ability of future generations to meet their own needs.
Relocation:	a process whereby a communities housing assets and public infrastructure are rebuilt in another location.	Vulnerability:	the characteristics and circumstances of a community, system or asset that make it susceptible to the damaging effects of a hazard. Characteristics of a person or group in terms of their capacity to anticipate, cope with, resist and recover from the impact of a natural or human-induced hazard.
Resilience:	The ability of a system, community or society exposed to hazards to resist, absorb, accommodate to and recover from the effects of a hazard in a timely and efficient manner, including through the preservation and restoration of its essential basic structures and functions.	Vulnerable groups:	groups or members of groups particularly exposed to the impact of hazards, such displaced people, women, the elderly, the disabled, orphans, and any group subject to discrimination.
Resilient Recovery:	builds resilience during recovery and promotes resilience in regular development. Resilient Recovery is a means to sustainable development. See also Resilience, Disaster Risk Management and Disaster Risk Reduction.		
Response:	is the provision of emergency services and public assistance during or immediately after a disaster in order to save lives, reduce health impacts, ensure public safety and meet the basic subsistence needs of the people affected.		



Recovery and reconstruction are increasingly viewed as an essential part of a strategic disaster risk reduction continuum. When countries rebuild after a disaster with long-term resilience goals in mind, and incorporate disaster risk reduction measures into their policies, institutions, and recovery planning, they will suffer fewer losses when the next disaster hits, and progress further along the path to sustainable development.

Drawing from country self-assessments, field-based case studies, and technical papers from stakeholders and partners, this report analyzes the successes and challenges experienced by countries around the world in integrating disaster risk reduction measures into post-disaster recovery and rehabilitation processes. Evidence from Australia, Indonesia, Mexico, Pakistan, Japan and other countries suggests that recovery presents a crucial opportunity for mainstreaming disaster risk reduction principles in development planning. To ensure a well-coordinated and resilient recovery, this report advocates for the development of national recovery frameworks to establish institutional, financial, and operational arrangements before a disaster strikes.

ABOUT GFDRR The Global Facility for Disaster Reduction and Recovery (GFDRR) helps high-risk, low-income developing countries better understand and reduce their vulnerabilities to natural hazards, and adapt to climate change. Working with over 400 national, community level, and international partners GFDRR provides grant financing, on-the-ground technical assistance helping mainstream disaster mitigation policies into country level strategies, and thought leadership on disaster and climate resilience issues through a range of knowledge sharing activities. GFDRR is managed by the World Bank Group and funded by 25 donor partners.

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